METAPHORICAL LANGUAGE IN SECOND LANGUAGE LEARNERS' ESSAYS: PRODUCTS AND PROCESSES

By

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ABSTRACT

This two-phase project investigated metaphorical language use in second language learners' essays from both perspectives of products and processes. The first phase relied on text analysis to examine the patterns of metaphorical language use in 396 undergraduate essays at four different year levels, focusing on the metaphoricity and the phraseology of their metaphorical language. The study has shown that there were differences in metaphorical language use at different year levels. Metaphorical language use was also found to correlate with writing grades. Conventional metaphorical language use, in particular, significantly explained writing grades.

The second phase explored the learners' thoughts behind their written production of metaphorical language using data from computer-logged keystrokes and stimulated retrospective interviews. It was found that there was a relationship between the locations and durations of the pauses and the metaphoricity and phraseology of the metaphorical language the participants produced. The study has shown that learners had low awareness of the metaphorical nature of the language they used, and that the underlying thoughts behind their metaphorical language use involved more non-metaphoric than metaphoric thinking.

The project has added new knowledge to current scholarship of metaphor in second language learning and has significant implications for the teaching of L2 vocabulary and writing.

Keywords: *metaphorical language; metaphor production; metaphoricity; metaphor processing; second language writing; writing proficiency; phraseology; cognitive linguistics*

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To the great teachers
I have had in my life.

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CHAPTER 1 – INTRODUCTION

Despite its long history, metaphor remains an elusive reality. Each time humankind twist the kaleidoscope of their thinking, metaphor is displayed differently - multi-coloured, multi-faceted, and more alluring. Yet our understanding of metaphor – particularly metaphor production – is still limited. Our knowledge of how metaphors are produced by second language (L2)[1] learners is even more scanty. This thesis aims to partly address this gap.

It is common to think of metaphors as the icing on the cake of writing. However, as we look closely enough, writing actually starts with the metaphors that writers use to conceptualize their writing and grows with the metaphorical language that writers use. An ever-growing body in cognitive linguistics has provided unequivocal evidence that metaphor structures our thoughts and behaviours and defines the way we make meaning. As such, metaphorical language is the tool of communication that everyone inherits from his or her existence as a 'thinking being'.

L2 learners may not know of this asset of metaphorical language, but it is only natural that they use it in L2 production, which is confounded by a range of linguistic, cognitive and socio-cultural factors. How do these variables affect L2 learners' metaphorical language production? Currently, we have more questions than answers.

This thesis is a two-phased exploratory project on L2 learners' written production of metaphorical language. The first phase examines L2 learners' metaphorical language as textual products; the second phase investigates the underlying processes of metaphorical language production among L2 learners. The decision to investigate L2 learner metaphorical language as both products and processes has been informed by the process writing paradigm, which sees writing as "a complex, recursive, and creative process or set of behaviours" (Silva, 1990, p. 15). Viewing written metaphorical language use within the context of the writing process would allow for rich and contextualized data elicitation, discussions and implications that directly address the issues that learner-writers have in producing metaphorical language in their writing.

The organization of the thesis is as follows:

Chapter 2 provides a briefing of the background knowledge on metaphor in general and reviews the literature on metaphor and L2 learning. The chapter highlights the need for more research on L2 speakers' metaphor production.

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[1] The term *second language* in this thesis is used in its broad sense to include second language, foreign language, and additional language.

Chapter 3 reports on the first phase of the project (Study 1 henceforth), which addresses two research questions:

1. What are the patterns of metaphorical language use in L2 learners' written texts?

2. What are the relationships between these learners' metaphorical language use and (a) their general language proficiency as reflected by their year levels and (b) their writing proficiency as reflected by their writing grades?

Chapter 4 reports on the second phase of the project (Study 2 henceforth), which seeks to answer two research questions:

1. Does the use of metaphorical language incur additional cognitive efforts in the writing process?

2. In what ways do the L2 learners account for their use of metaphorical language in their compositions?

Chapter 5 presents the pedagogical implications of the project with a special focus on the teaching of L2 vocabulary and writing.

Finally, Chapter 6 addresses the limitations of the study and makes recommendations for future research.

CHAPTER 2 – METAPHOR AND L2 LEARNING

This chapter presents the theoretical background of the project and reviews the literature on metaphor and L2 learning. In this chapter, the Topic of a metaphor refers to what is being talked about and the Vehicle refers to what is being used to talk about the Topic. For example, the metaphor *Life is a journey* has the Topic *life* and the Vehicle *journey*.

Approaches to Metaphor

Early Views of Metaphor

Aristotle (384–322 BC) is believed to have been the first critic to theorize on the concept of metaphor. In the *Poetics*, Aristotle (1982) defined metaphor as:

> the application to one thing of the name belonging to another. We may apply (a) the name of a genus to one of its species, or (b) the name of a species to its genus, or (c) the name of one species to another of the same genus, or (d) the transfer may be based on a proportion.[…] The meaning of metaphor by analogy is that when among four things the second is related to the first as the fourth is related to the third, one may substitute the fourth for the second or the second for the fourth. And sometimes the term related to the proper term in the analogy is added to the metaphor, thus: *The wine cup is to Dionysus as the shield is to Ares*, and therefore one may call a wine cup "*the shield of Dionysus*" and the shield "*the wine cup of Ares.*" (pp. 67–68)

In this light, metaphor seems to be implied analogies or elliptical similes (Gibbs, 1994). Mahon (1999), however, claims that misinterpretation, or a limited reading, of Aristotle has resulted in him being wrongly associated with a simple view of metaphor as merely ornamental or decorative. Kittay's (1987) analysis of Aristotle's approach to metaphor has also shown that he "*almost* hit upon" (pp. 2–4, italicized in the original) the cognitive role of metaphor. Along similar lines, Cameron (1999b) points out that Aristotle's view of metaphor is both essentially cognitive (metaphor involves the substitution in discourse of one idea for another to create new understanding) and socially contextualised (metaphor is employed to achieve particular interactional goals in the genre of political rhetoric). It can also be seen in the *Rhetoric* (Aristotle, 1909) that Aristotle did not necessarily see metaphor as a deviation from regular language use, but in his work there was no discussion of literal versus figurative and why people use metaphor in particular. According to Leezenberg (2001), Aristotle's discussion of different kinds of metaphor is too brief to identify him with a specific school of metaphor such as referentialist/conceptualistic or semantic/pragmatic.

Aristotle's sketches of a metaphor theory based on the comparison of similarities to be used in rhetoric had left metaphor with the status of a rhetorical device for a long part of its history. Metaphor was considered a peripheral phenomenon of language use which deviated from the norm of literal language (see reviews in Black, 1962; Camac & Glucksberg, 1984; Lakoff & Johnson, 1980; Tourangeau & Sternberg, 1982).

Max Black (1962, 1993) rejects the comparison view of metaphor and presents the Interaction view. Black argues that metaphor operates at a deeper level than word meaning and emphasizes the novelty created by metaphor and the cognitive content that metaphor carries. In his view, metaphor interpretation does not mean comparing the Topic and the Vehicle for existing similarities. Rather, it involves construing the similarities between them in a projected selection process, which produces new meaning. Thus, the one-way transfer is replaced with a process whereby features of the Topic and the Vehicle interact with and map each other. Although the processes involved are not detailed, which makes the approach unsatisfactory for its critics (e.g., Johnson, 1987; Kittay, 1987), Black's notion of *interaction* has been adopted in subsequent descriptions of metaphor (Lakoff & Johnson, 1980; McGlone & Manfredi, 2001; Ortony, 1979a; Tourangeau & Sternberg, 1981, 1982).

The Conceptual Metaphor Theory

Metaphor was connected with human cognition thanks to the cognitivists (Honeck & Hoffman, 1980; Lakoff & Johnson, 1980; Ortony, 1979b). Within cognitive linguistics, the term metaphor refers to a conceptual phenomenon rather than a linguistic instance used metaphorically. In *Metaphors We Live By*, Lakoff and Johnson (1980) presented the Conceptual Metaphor Theory, which asserts the pervasiveness and systematicity of metaphorical language and thought. The key aspects of the theory were subsequently elaborated in later works (M. Johnson, 1987; Knowles & Moon, 2006; Kövecses, 2010; Lakoff, 1987b, 1990, 1993; Lakoff & Johnson, 1999; Sweetser, 1990).

In this view, "[t]he essence of metaphor is understanding and experiencing one kind of thing in terms of another" (Lakoff & Johnson, 1980, p. 5). A conceptual metaphor consists of two conceptual domains (coherent organizations of experience), in which specific elements or features of one domain – the source domain – are mapped onto another – the target domain. Lakoff and Johnson (1980) describe a domain as "a structured whole within our experience that is conceptualized as what we have called an *experiential gestalt*" (p. 117, italics in the original). So in the conceptual metaphor

TIME IS MONEY,[2] the source domain MONEY, with its properties of being a valuable commodity, a limited resource, etc. are projected onto TIME, allowing us to talk about *budgeting time, saving time, using time profitably* or *losing time*. These expressions are called *linguistic metaphors*, the instantiation of conceptual metaphors. Conceptual metaphor can also be instantiated non-linguistically as art forms, pictures, music, or movies (Forceville & Urios-Aparisi, 2009; Gibbs, 2008; Trim, 2011).

Conceptual metaphors are not based on similarities but on the ontological correspondences or mappings across conceptual domains. These mappings are grounded in, or motivated by, our bodily, physical, and cultural experiences as we live in the world (Gibbs, 1994; M. Johnson, 1987; Kövecses, 2010; Lakoff, 1987b; Lakoff & Johnson, 1980). Lakoff (1987b) postulates that mappings are realized from one 'idealized cognitive model' (structures of thought) in one domain to an 'idealized cognitive model' in another domain.[3] The conceptual mappings that give rise to metaphor have been proved psychologically real with evidence of the systematicity of the mappings, the gestures motivated by metaphorical understandings in spoken language, and the consistencies in image schemas (see Grady, 2007).

Mappings observe the Invariance Principle (Lakoff, 1990, 1993), one that dictates the relevant structure of the source domain to be projected onto the target domain in a way that is consistent with the inherent source domain structure; i.e., the mappings cannot breach the structure of the target domain. This explains why mappings are partial: the selective features of the source domain that are mapped onto the target domain are highlighted while the unmapped features are hidden (Lakoff & Johnson, 1980, pp. 10–14). In the metaphor TIME IS MONEY, when a person *has saved a lot of time* or *has invested three months in a project*, the features of time as a resource to be saved and invested are highlighted while other aspects do not seem to be activated. The elaborations of the metaphor, however, are open-ended. TIME IS MONEY entails that TIME IS A VALUABLE COMODITY, which entails that TIME IS A LIMITED RESOURCE. We therefore can talk of *have, give, treasure, lose* time and *use, use up, have enough of, run out of* time. Different elements of the source domain are highlighted in different metaphors, allowing for the possibility of multiple mappings. One source concept can apply to many target domains, e.g., the concept of Journey can

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[2] Conceptual metaphors are capitalized as per cognitive linguistics conventions.
[3] Lakoff (1987b) describes five basic types of 'idealized cognitive models' in the conceptual system: propositional, image-schematic, metaphoric, metonymic and symbolic models.

apply to Love, Life, or Relationships.[4] On the other hand, it takes several source domains to understand an abstract concept target fully because each source can only structure certain aspects of a target. For example, the abstract idea of *Love* can be understood via the concept of *Journey, War,* or *Fire*. Each source domain generates a certain mapping focus onto its target domain(s). These metaphorical entailments, through the metaphorical linguistic expressions, construct coherent systems of the metaphorical networks that powerfully frame daily thought and language and govern human reasoning and behaviours.

Joseph Grady (1997a, 1997b) points out that mappings are at times poor, inconsistent, short of experiential basis, and incompatible with linguistic instances. He proposes the Primary Metaphor, which emerges from independent experiential motivation and exists independently of linguistic evidence. Primary metaphors appear in simple patterns and source from simple concepts like *up, down, hot, cold, backward, forward*. All metaphors are either primary metaphors or composed of primary metaphors. Primary metaphors have helped to refine the mapping system, disentangle the many overlapped mappings of the conceptual metaphor and allow for the logic behind creative metaphors. The conceptual metaphor LIFE IS A JOURNEY, for example, is thus derived from a much more basic and general primary metaphor CHANGE OF STATE IS CHANGE OF PLACE (Lakoff, 1993). Primary metaphors are also seen as input providers for conceptual integration (Grady, 2005; Grady, Todd, & Coulson, 1999) and grass-root embodied representations in the human mind (Bergen, 2005; Bergen & Feldman, 2008; Gibbs, 2006a; Gibbs & Matlock, 2008).[5]

Essentially, the Conceptual Metaphor Theory sees metaphor as conceptual and "thoroughly at odds with the view that metaphors are just linguistic expressions" (Lakoff, 1993, p. 209). Most significantly, the theory holds that the human mind is metaphorical by nature and that metaphor is the mechanism to comprehend abstract concepts via a more concrete entity. Conceptual metaphors thus give rise to the existing system of conventional metaphors, which serve as the premise for idiomatic expressions (Gibbs, 1993; Gibbs, Bogdanovich, Sykes, & Barr, 1997; Gibbs & O'Brien, 1990), polysemy (Lakoff, 1987b; Sweetser, 1990; Tyler & Evans, 2003), and creative metaphorical language use (Gibbs, 1994; Gibbs & Steen, 1999; Lakoff, 1993; Lakoff & Johnson, 1980). Conceptual metaphors are also the foundations of abstract concepts. For

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[4] Kövecses (2000) calls this the *scope of metaphor*, which is "[…] simply the full range of cases, that is, all the possible target domains, to which a given specific source concept […] applies." (p.80)
[5] See Semino (2006) for an account of additions to primary metaphor.

example, the concept of time has been consistently found to be conceptualised in terms of space, even in different cultural communities (Boroditsky, 2001; Casasanto & Boroditsky, 2008; Núñez & Sweetser, 2006; Tenbrink, 2007). In Gibbs' (1994) words, "figuration is not an escape from reality but constitutes the way we ordinarily understand ourselves and the world in which we live" (p. 454).

Lakoff and Johnson's theory has since offered a theoretical framework to investigate metaphorical language and thoughts across disciplines (Aubusson, Harrison, & Ritchie, 2006; Carver & Pikalo, 2008; Gibbs, 2008; Tay, 2013). It has also been further advanced in several directions.

The Blending Theory, developed by Fauconnier and Turner (1994, 1996, 1998), treats metaphors as products of a cognitive operation of conceptual integration (or blending) which includes four "mental spaces" – "small conceptual packets constructed as we think and talk, for purposes of local understanding and action" (Fauconnier & Turner, 1996, p. 113). From a cognitive-pragmatic perspective, Tendahl and associates (Gibbs & Tendahl, 2006; Gibbs, Tendahl, & Okonski, 2011; Tendahl, 2009; Tendahl & Gibbs, 2008) introduce a hybrid theory of metaphor which connects Sperber and Wilson's (Sperber & Wilson, 1995; Wilson & Sperber, 2006) relevance principle and Lakoff's (1990, 1993) Invariance Principle. Tendahl finds it non-satisfying that the Invariance Principle requires the relevance of structure mappings but does not prescribe the details of this selective mapping. He maintains that metaphorical utterances serve to communicate not only several implicatures, but also several explicatures (Tendahl, 2009), allowing metaphor users to consciously combine cognitive and linguistic resources to serve different communication purposes in addition to the unconscious use of metaphorical language as driven by the experientially-motivated primary metaphors. Metaphor is also approached from the complex systems perspective (Cameron, 2007, 2008; Cameron et al., 2009; Cameron & Deignan, 2006; Gibbs & Cameron, 2008). These authors claim that the approach can fully reflect the dynamics of metaphor in use since it emphasizes metaphor activity rather than metaphor as a tool or an object that is put to use. In this view, metaphor, be it conceptual or linguistic, "becomes processual, emergent, and open to change" (Cameron et al., 2009, p. 67), allowing for a flexible system of mappings which is emerging yet stable as part of the interconnecting systems of mediated language use and cognitive activity. Finally, Lakoff (2008) calls for a neural version of the Conceptual Metaphor which confirms the physical presence of metaphoric processing in the brain.

The Linguistic Side of Metaphor

Although it is claimed that conceptual metaphor exists independently of language, the evidence used to prove its presence has been mostly linguistic (e.g., Gibbs, 1994; Kövecses, 2010; Lakoff & Johnson, 1980; Lakoff, 1990). The emphasis on embodied and conceptual aspects of metaphor and downplaying of the role of metaphorical expressions has instigated strong criticism against the Conceptual Metaphor Theory.[6] Applied linguists, especially, argue for the importance of metaphorical expressions as such. Indeed, it has been shown that metaphorical linguistic expressions and their grammatical stability and frequency not only support the existence of the conceptual metaphors but also exhibit their independence of the conceptual metaphors (Casasanto, 2009; Deignan, 2005, 2006, 2008a). These applied analyses have demonstrated that the Conceptual Metaphor Theory fails to account for the social dimensions of language in use (Cameron et al., 2009; Cameron & Low, 1999; Low, Todd, Deignan, & Cameron, 2010; Zinken & Musolff, 2009). An additional criticism is that the linguistic metaphors used to exemplify conceptual metaphors have often been invented and decontextualized (Cameron & Deignan, 2003; Deignan, 2005, 2008a, 2008b; Haser, 2005; Murphy, 1997; Shen & Balaban, 1999), which has triggered an increasing bulk of metaphor research that relies on corpora for authentic data of real-world language use (Cameron & Deignan, 2003; Charteris-Black, 2004; Deignan, 1999a, 2005, 2008a, 2008b; Hanks, 2004, 2006; Koller, 2006; Littlemore & MacArthur, 2012; O'Halloran, 2007; Philip, 2008; Sanford, 2008; Sardinha, 2008; Semino, 2006; Stefanowitsch & Gries, 2003; Sznajder, 2010; Vereza, 2008).

Through the advancement of discourse and corpus approaches to metaphor, researchers have produced findings that are contradictory to the assumptions and claims of the Conceptual Metaphor Theory (e.g., Musolff & Zinken, 2009; Zanotto, Cameron, & Cavalcanti, 2008). These studies have examined metaphor as a multi-faceted, situated and emergent phenomenon in naturally occurring discourse, taking into account the linguistic dimension of metaphors while acknowledging them as cognitive, sociocultural and affective (Cameron et al., 2009; Cameron & Deignan, 2006; Charteris-Black, 2004; Deignan, 2010). They call into question the assumed systematicity of metaphorical language patterns (Deignan, 2005, 2006; Semino, 2005), the categorization of metaphor

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[6] Other scholars have questioned the circularity of conceptual metaphors (Ritchie, 2003), the experiential basis of the domains (Vervaeke & Green, 1997; 2004), the validity of conceptual mappings in understanding conventional expressions (Gentner & Bowdle, 2001; Glucksberg, Brown, & McGlone, 1993; Glucksberg & McGlone, 1999; Keysar, Shen, Glucksberg, & Horton, 2000), the level of specificity of mappings (Tendahl, 2009) and the reliability of making inferences about people's conceptualization based on metaphorical expressions (McGlone, 1996, 2007; Murphy, 1997).

into image and conceptual (Caballero, 2003; Deignan, 2007; Zinken, 2007), the validity of the claims that metaphoric understanding is generic and abstract (Zinken, 2007), and even the core argument of Conceptual Metaphor Theory that metaphor use is determined by bodily experience (Charteris-Black, 2004).

The findings and arguments above have not been intended to undermine the Conceptual Metaphor Theory. While they have convincingly staged the importance of linguistic metaphors, they have also elaborated on the Conceptual Metaphor Theory in depth, informed the theory at different levels and presented metaphor and language in a dialectic relationship. The methodological shift in metaphor data sampling and identification, which insists on fine-grained exegesis of metaphor in discourse and in corpora in adherence with the conceptual side of metaphor, reflects the researchers' "contextualization commitment" to metaphor in use and people who use it (Zanotto, Cameron, & Cavalcanti, 2008b, pp. 2–3), marking the social turn in cognitive linguistics (Harder, 2010). In effect, many researchers have tried to keep a balance between the conceptual and linguistic aspects of metaphor. Goatly (2002), for example, calls for attention to textual and discoursal data on the part of psychologists and methodological rigour for psychological realities of text processing on the part of linguists. Cameron and Low (1999) advocate "a working distinction" (p. 79) between linguistic metaphor and conceptual metaphor which involves a close examination of the semantic, pragmatic and discoursal features of the linguistic metaphor. Similar considerations have been voiced in distinguishing between linguistic metaphor identification and conceptual metaphor interpretation (e.g., Cameron, 2003; Charteris-Black & Musolff, 2003; Charteris-Black, 2004; Müller, 2008; Steen, 2007; Zinken & Musolff, 2009).

The Role of Metaphor in L2 Learning

In education, metaphor is known to lead to a change in knowledge. New knowledge is acquired by means of metaphor when there is an analogical transfer of conceptual schemes (Duit, 1991; Petrie & Oshlag, 1993) or conceptual restructuring (Cameron, 2003; R. Evans & Evans, 1989). In the process of learning, metaphor works as a tool of communication and thought, providing learners with a gateway to knowledge (Cameron & Low, 2004) as well as a scaffolding system to comprehend knowledge and deepen the understanding of learning content (Sticht, 1993). Metaphor also facilitates the memory in comprehension (Whitney, Budd, & Mio, 1996), retention and future recall (Cameron, 2003). According to Gentner and Wolff (2000), this is made possible because metaphor can highlight, project, re-represent, and restructure.

Metaphor is also a powerful tool to blueprint the many aspects of the hidden

world of learners, teachers and related parties in education (see Cameron & Low, 1999; Low, 2008; Wan, Low, & Li, 2011 for reviews). Further reading about the role of metaphor in different sectors of education in general can be found in Aubusson, Harrison, and Ritchie (2006), Berendt (2008), Wormeli (2009) and Zanotto, Cameron, and Cavalcanti (2008a). This section deals with the literature of metaphor as the research object, not as a research tool, and L2 learning.

Metaphor Awareness

Because metaphor has gained its present status due to cognitive linguistics, it is not surprising that the majority of studies that attempt to connect language teaching and metaphor are based on cognitive theories.[7] One central principle of cognitive linguistics is that language is motivated, i.e., the relations between form, meaning and use are not arbitrary. Instead, language can be explained with links (or motivations, in cognitive linguistics terms) to bodily or conceptual experiences. For example, *to show someone the ropes* acquires the meaning of *to teach someone how to do something, especially a job* thanks to its original domain of *sailing* where an experienced sailor would teach an apprentice how to handle the ropes of a mast. Learners who are aware of the motivated nature of language are more likely to learn it in a cognitively, affectively and pragmatically effective way (Boers & Lindstromberg, 2006, 2008c). This is because learners are encouraged to analyse the relationship between form and meaning of input, which results in deep processing and an increased learning gain (Boers, 2013).

Boers (2004) sees metaphor awareness as the ability to recognize the ubiquity, underlying themes, non-arbitrary nature, cross-cultural differences and cross-linguistic variety in the linguistic instantiations of metaphorical expressions. Metaphoric awareness research points to the metaphorical underpinnings of language and claims that awareness-raising activities can facilitate vocabulary learning. Kalyuga and Kalyuga (2008) suggest raising metaphor awareness by presenting vocabulary in metaphorical chunks in conjunction with activating learners' prior knowledge to reduce a potential cognitive overload. Enhanced metaphoric awareness via activities that help participants to establish the associations between the metaphorical expression and its more concrete senses can lead to higher retention rate of vocabulary (Boers, 2000a, 2000b, 2001; Guo, 2007). Discussing and comparing metaphors in the first and target language are also effective in improving learners' metaphor comprehension and

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[7] For detailed accounts of the applications of cognitive linguistics in language learning, see Achard and Niemeier (2004), Bielak (2011), Boers and Lindstromberg (2008b), de Knop, de Rycker, and Dirven (2009), Holme (2004, 2009), Littlemore (2009), Pütz and Sicola (2010), Robinson and Ellis (2008) and Tyler (2012a).

production (Deignan, Gabrýs, & Solska, 1997). In Csábi's study (2004), learners who were exposed to metaphor-awareness instruction outperformed their peers in comprehension and retention of the polysemous verbs *hold* and *keep*. In another study, Gao and Meng (2010) organized metaphorical expressions by theme for the experimental group and found similar results. Metaphor awareness-raising activities can also aid L2 learners in the reading of literature both in immediate and delayed interpretation, as shown in Picken (2005, 2007). These activities, when incorporated in translation classes, can enhance cross-linguistic awareness, translation competence, metaphoric competence, learner autonomy, interactive learning and critical thinking (Sacristán, 2009).

Awareness-raising activities are generally found to be more effective than rote learning activities because they call learners' attention to the metaphoric nature of language. However, Zyzyk (2011) found that teaching idioms based on metaphor awareness did not yield any significant learning gain over teaching idioms with the traditional method of organizing idioms by their main verb. In Boers' study (2000b), the experimental group did not perform any better than the control group in dealing with novel multi-word verbs. Thus, Boers (2000b) warns that the success of metaphor awareness activities ultimately depends on the transparency of the idioms and distance between the first and target language and learners' proficiency. It stands to reason that a one-off learning experience is often not sufficient to turn metaphor awareness into a long-term strategy or future skill transfer (Beréndi, Csábi, & Kövecses, 2008; Boers, 2004) or help learners overcome obstacles caused by intercultural and cross-linguistic differences (Hu & Fong, 2010). Language learners are actually aware of figurative language in use (Chen & Lai, 2012); what they need is explicit meta-cognitive instructions of the underlying conceptualization and the metaphorization of the items. The scope of the metaphor awareness studies, however, has not been extended beyond vocabulary instruction.

The Conceptual Metaphor Theory as a Pedagogical Approach

Research that promotes the Conceptual Metaphor Theory in the L2 classroom assumes that the universality of conceptual metaphor can contribute to the process of language learning. This is because using the Conceptual Metaphor Theory can draw learners' attention to the metaphorization processes of language, facilitating the comprehension of unfamiliar figurative language. For example, participants in Kövecses and Szabó's study (1996) performed better in gap-filling tasks and were able to use metaphorical motivation for the completion task (with the target phrasal verbs *up* or

down). Yasuda's (2010) experiment with Japanese students on phrasal verbs yielded similar findings. Conceptual Metaphor Theory-based instruction can also foster learners' engagement, motivation and productivity when learning idioms (Csábi, 2004; Kömür & Çimen, 2009), thus implying a potential alternative or complementary option to vocabulary teaching. Beréndi et al. (2008), for example, found that explicit representation of polysemy and idioms in connection to their underlying conceptual metaphors can enhance comprehension and retention. Their experiments showed significant difference in learners' performance in both immediate and delayed post-tests (correct key words rather than full phrase counted as correct answers). In another study, Skoufaki (2008) conducted an experiment that examined two methods of presenting idioms: conceptual metaphor grouping vs. conceptual metaphor grouping plus a meaning guessing task. The latter proved to be more effective as the participants performed better in both the after-task cloze test and the comprehension test. Li (2009) also found that the intended application of conceptual metaphors in a series of experiments with 394 Chinese learners of English led to higher scores in recall post-tests in the experimental group.

Inspired by these findings, many researchers (e.g., Li, 2009; Yasuda, 2010) have called for explicit instruction of conceptual metaphors in the classroom. Conceptual Metaphor Theory-based instruction relies on the interactive properties between the source and target domains of metaphors and gives students a rationale to ponder upon why the phrases mean what they mean, which likely explains the learning gain. Swain (2006) calls this 'languaging' – a "process of making meaning and shaping knowledge and experience through language" (p. 98). Schmitt's (2008) review of instructed L2 vocabulary learning also clearly shows that 'engagement' with target vocabulary fosters learning. The difference between the 'normal' word list that Hoey (2000) critiques and a metaphor-based word list is that the latter allows learners to understand what motivates its origination. A metaphor-based word list encourages deep processing, which has been shown to aid successful recall, as words which are semantically processed via elaborative rehearsal and deep processing are more accurately recalled (cf. Craik & Lockhart, 1972; Craik & Tulving, 1975).

However, it is not clear whether the encouraging findings in the Conceptual Metaphor Theory-based approach to language presentation in these studies are due to the theory itself or other factors involved in the learning process. As Boers and Lindstromberg (2008c) note, the learning gain can be attributed to the neat organization of the lexical items under a theme, which generally makes it easy to learn and

remember. It would be interesting to find out whether a metaphor-based vocabulary lesson is more conducive to learning than one that is based on a theme or a story line. The relationship between explicit teaching of conceptual metaphors and their use by learners is not causal – the presence of conceptual metaphors in the mind does not automatically lead to their active use (Kövecses & Szabó, 1996). Many important questions need to be addressed. For example, which conceptual metaphors should be introduced to the L2 learners and in which order? When introducing conceptual metaphors, should teachers consider the learners' cultural and linguistic background, the discipline, the topic of the lesson, the objective of the task, or an intuitive judgement based on what they like to teach most or students like to learn most? Also, when using conceptual metaphors to introduce new vocabulary, which source domain should be brought to attention first? Kövecses (2001) suggests that the most common and frequently-used idioms are based on the source domain of the human body and should be taught first and predominantly, but which part of the body? For instance, should the abdomen-centring cultural group be introduced first to the gut-related idioms, the heart-centring group to the heart-related ones, and the mind-centring group to the mind-related ones? What about dualistic groups who stress heart and mind equally (Sharifian, Dirven, Yu, & Niemeier, 2008)? Should the teaching start with space, the ground of cognition and language (Mix, Smith, & Gasser, 2010; Tenbrink, 2007; Tyler & Evans, 2003) instead? That is to say, the implication of the Conceptual Metaphor Theory for the language classroom is by no means direct. A hasty application of the theory can lead to misinterpretation and an oversight of the many factors involved in language in use (e.g., genres, O'Halloran, 2007).

Metaphor and Skill Development

Metaphor is said to be integral to many dimensions of language use (Low, 1988). First, metaphor can aid the development of reading skills. For instance, Carter and McCarthy (1988) encourage the kind of figurative language competence that native speakers have and point out that an over-reliance on literal readings may lead learners to overlook the evaluative or connotative aspects of figurative language. Treating texts as allegories is a useful way to build students' critical appraisal of the texts and helps foster debate in the language class, which enhances their critical literacy skills (Holme, 2004). Empirically, Boers (2000a) found that students who had access to the literal use of the figurative vocabulary (trading) were better at figuring out the author's opinion than those provided with synonyms of the target language items. Apparently, activities that draw learners' attention to metaphor benefited their reading comprehension.

The relationship between metaphor and vocabulary learning is a particularly well-researched area. Metaphor has been shown to play an important role in vocabulary acquisition in terms of extending lexical relations (Lewis, 1993; MacLennan, 1994; Mahpeykar & Tyler, 2014; Sweetser, 1990; Taylor, 2003). Working with metaphorical language, learners can understand the making of meaning and senses, and thus can acquire an effective way of learning to learn. The topics researched vary from prepositions and particles (Boers, 2000b; Boers & Demecheleer, 1998; Cho, 2010), polysemous content lexis (Boers, 2000b; Csábi, 2004; Lindstromberg & Boers, 2005a; Lindstromberg, 1991; Verspoor & Lowie, 2003) to idioms (Kömür & Çimen, 2009; Kövecses, 2001; Kövecses & Szabó, 1996). In a sustained effort to investigate the cognitive linguistic motivations of figurative expressions, Boers and his colleagues have explored innovative techniques such as etymological elaborations (Boers, 2000b, 2001; Boers & Demecheleer, 1998; Boers, Demecheleer, & Eyckmans, 2004a; Boers, Eyckmans, & Stengers, 2007), phonological elaborations (Boers & Lindstromberg, 2005, 2008d; Boers, Lindstromberg, & Eyckmans, 2012; Boers & Stengers, 2008; Lindstromberg & Boers, 2005b), pictorial elucidation (Boers, Demecheleer, & Eyckmans, 2004b; Boers, Lindstromberg, Littlemore, Stengers, & Eyckmans, 2008; Boers, Piquer-Piriz, Stengers, & Eyckmans, 2009; Boers & Stengers, 2008) and total physical response (Lindstromberg & Boers, 2005a). Similarly, Li (2009) and Morimoto and Loewen (2007) have examined image schemas and vocabulary learning.

Metaphor use in English for Specific Purposes (ESP) discourse has also attracted a large amount of research interest, particularly the language of economics (Boers, 2000a; Charteris-Black, 2000; Charteris-Black & Ennis, 2001; Charteris-Black & Musolff, 2003; Herrera & White, 2000; H. Wang, Runtsova, & Chen, 2013; White, 2003). Other disciplines investigated include engineering (Roldán-Riejos & Mansilla, 2013), medicine (Salager-Meyer, 1990), and architecture (Caballero Rodriguez, 2003). These studies have contributed valuable pedagogical recommendations *vis-à-vis* the use of metaphor to teach ESP (Caballero Rodriguez, 2003; Charteris-Black, 2000; Cortés, 2007; Lindstromberg, 1991; Pablos, 2009; Salager-Meyer, 1990; H. Wang et al., 2013).

Metaphorical Competence (MC)

The notion of MC, or the ability to understand and use metaphor, has been examined in the English as a first language (L1) literature (e.g., Pollio & Smith, 1980) before it was introduced to L2 pedagogy by Danesi (1986). Danesi (1993) later developed MC into *conceptual fluency* , a cognitive mapping operation underlying "the programming of discourse in metaphorical ways" as a basic feature of native-speaker

competence (p. 493). This was later revised as "the ability to give appropriate structural form to all kinds of meanings, literal and non-literal that constitute the semantic system of the L2" (Danesi, 2008, p. 233). Danesi's book (2003) presents the idea of conceptual competence, which is comprised of *meta-formal competence* (the ability to use the conceptual system of a language appropriately in speech), *reflexive competence* (the ability to transform concepts into language categories), and *associative competence* (knowledge of how concepts are interconnected in cultural terms). In these publications and in other studies (e.g., Danesi, 2008), Danesi has argued for the importance of conceptual fluency in language learning. This is echoed in studies that investigate the role of conceptual fluency in the acquisition of formulaic expressions (Kecskés, 2000; Wray, 2002), phrasal verbs (Matlock & Heredia, 2002), and idioms (Bortfeld, 2002, 2003; Cooper, 1999).

Other scholars, however, have different ideas about MC. According to Low (1988), MC includes the ability to construct plausible meanings, the knowledge of the boundaries of conventional metaphor, the awareness of acceptable Topic and Vehicle combinations, the ability to interpret and control 'hedges', the awareness of 'socially sensitive' metaphors, the awareness of 'multiple layering' in metaphors and the interactive awareness of metaphor. Holme (2001) critiques this point of view, saying that in this way metaphor becomes another load of language knowledge that L2 learners have to bear, which does not reflect the nature of either metaphor or competence (2004, 2009). Littlemore (2001a), on the other hand, suggests that MC consists of four components: the original character of metaphor production, the mastery of metaphor comprehension, the ability to figure out the meaning of a metaphor and the speed in doing so. Littlemore and Low (2006a) describe MC as "an individual's ability to understand and produce metaphors" (p. 79), a definition employed also by Azuma (2004). Azuma, however, interprets MC as the recognition of metaphorical expressions in receiving discourse, use of metaphorical expressions in producing discourse and understanding of the underlying concepts of metaphors in both L1 and L2. Finally, taking a translation point of view, Andersen (2000) sees MC as a macro-strategy, the lack of which causes translators to rely on their intuition or micro-strategies, which are insufficient for the translating process.

Although researchers seem to differ about the composition of MC, they agree on the significance of this 'competence' in language learning. The competence is claimed to be inextricably intertwined with all components of Bachman's model of communicative competence (Littlemore & Low, 2006b, 2006a; Littlemore, 2001b) or

part of Cook's multi-competence (Bromberek-Dyzman & Ewert, 2010; Littlemore, 2010). Danesi (1986, 1993) considers "the ability to metaphorize" in the target language the true sign of proficiency. Littlemore (2001b) goes as far as to propose "metaphoric intelligence", which is a component of the multiple intelligence which operates on the psychological processes of loose analogical reasoning and divergent thinking. The construct is believed to play a positive role in the overall level of language learners' communicative competence.

The literature that advocates MC and conceptual fluency asserts that learners produce non-native-like and literal discourse because they have difficulty with conceptualization (Danesi, 1993, 2008; Kecskés & Cuenca, 2005; Kecskés & Papp, 2000) as conceptual competence "*serve*[s] *as a basis* for grammatical and communicative knowledge" (Kecskés & Papp, 2000, p. 104, italics in the original). It is argued that L2 learners have trouble acquiring the conceptual system of the target language, which results in a high degree of literality (Danesi, 1993; Hashemian & Talebi Nezhad, 2007) and strange collocations (Kathpalia & Heah, 2011; Philip, 2005a, 2006) in their discourse, even after years of learning. Danesi (2008) calls these *conceptual errors*, which occur when learners activate the wrong source domain of a metaphor due to the interference of the L1 (but see Philip, 2005b mentioned below).

There have been calls for this competence to be fostered as part of the L2 learning process by working on metaphoric extension processes of associative fluency, analogical reasoning and image formation skills (Littlemore, 2008) or by systematically incorporating it in L2 textbooks and teaching methods (Hashemian & Talebi Nezhad, 2007). Danesi (2008) found that his participants, who were trained conceptually, used more non-literal concepts and were able to apply the desired metaphorical meanings in the production tasks. He thus stresses that conceptual fluency should be taught explicitly; otherwise, learners would either avoid metaphors or use them with the L1 conceptual system in mind. In addition, there are proposals for conceptual syllabi that raise metaphoric awareness and approach metaphors and idioms through conceptual domains (Andreou & Galantomos, 2008; Lazar, 1996). For example, according to a detailed proposal drafted by Andreou and Galantomos (2008), metaphor should be taught in a product-oriented conceptual syllabus whose specific goal is the development of L2 learners' conceptual fluency or MC.

As seen previously, there has been little consistency in what constitutes MC. Littlemore (2001a) only found weak relationships between the components of the construct. The question of how strong the correlation is between MC and

communicative competence is another inconclusive issue. Littlemore (2001a) admits a difference between the tests used to measure MC and communicative language ability. Furthermore, what has been labelled as MC might just be an individual learner's metaphorical preference (Littlemore, 2010). The extent to which conceptual fluency may determine linguistic competence probably is not as strong as suggested (Littlemore, 2001a). Philip's (2005b) preliminary data reveals that the unnaturalness found in learner language is caused more by linguistic (ill-formed phraseology in this case) than conceptual reasons. Most importantly, there seems to be an assumption of a magic short-cut to L2 figurative language development via the introduction of MC and conceptual fluency. Is the acquisition of metaphorical language item learning or system learning? What if the mastery of L2 metaphorical language were largely item learning where learners have to battle with myriads of conventionalized expressions? More research is needed to reach a comparative consensus of what MC is, and issues of learnability (Valeva, 1996) and testability (Azuma, 2004) should also be addressed before this competence can be introduced to the classroom.

Metaphors as Challenges to L2 Learners

In line with studies that highlight the importance of metaphor in L2 learning, another line of research demonstrates how difficult it is for language learners to grasp metaphors in the target language. For instance, Low (1988) hypothesises that learners may have difficulties with the transfer between the Topic and the Vehicle of a metaphor. It is suggested that despite their knowledge and experience of the target language, L2 learners generally have problems processing figurative language due to the lack of what Littlemore and Low (2006a) call "native speaker competence" (p. 3), which consists of awareness of cultural conventions, cultural connotations and figurative language repertoire.

According to Littlemore (2001c), there are two types of metaphor comprehension difficulties: *misunderstanding* and *non-understanding*. In this study, 90% of the confusion that the participants had with lectures delivered in English resulted from misinterpretations of metaphorical language, and 145 of 180 of these items were difficult for them. Focusing on problematic language items, Littlemore, Chen, Koester, and Barnden (2011) found that about 42% of the words or phrases that a student found difficult to understand were used metaphorically. Even when the items were composed of familiar words, the participants failed to understand 41% of them. What is more pressing is the fact that they were aware of only four percent of the problematic items.

When this finding is juxtaposed against the fact that metaphor is commonly used by native speaker lecturers to impart new knowledge and convey evaluative values (Camiciottoli, 2005; Corts & Pollio, 1999; Littlemore, 2001c, 2003b; Low, Littlemore, & Koester, 2008), it is not difficult to see the grave situation that international students face. There have been suggestions that lecturers can help these students by developing their awareness of the metaphors they use in lectures (Camiciottoli, 2005; Low et al., 2008) or providing metaphor supporting tools such as metaphor signalling language and appropriate gestures (Littlemore, Holloway, MacArthur, & Cienki, 2013). However, if international students are exposed only to structured (and unnatural) communication situations in an academic environment, they might be more likely to have problems behaving in a culturally appropriate way in real life.

L2 Metaphor Production

While the amount of research on metaphor and language learning is booming, most of the time, metaphor is seen as "a channelling device to comprehend, store, and reproduce figurative language input" (Boers, 2004, p. 217). As seen above, scholarship has focused primarily on receptive skills while ignoring how learners actually produce metaphors in their L2. Most scholars tend to be cautious regarding learners' production of figurative language. The defending argument has been that L2 learners often need to comprehend metaphors more than produce them (Littlemore & Low, 2006a; Low, 2008). The ability to produce metaphors in L2 is seen to be "of less immediate necessity" (Littlemore, 2010, p. 296). Kecskés and Papp (2000) even explicitly caution learners against the use of metaphors because this is a communicative risk.

The irony is that L2 learners are often encouraged to produce metaphors to serve different purposes of metaphor research. For example, Hashemian and Talebi Nezhad (2007) use learners' written paragraphs to investigate metaphorical competence development and metaphorical density in support of the theory of conceptual fluency. Kathpalia and Heah (2011) also rely on learners' tutorial writing to examine metaphorical competence in the light of Bachman's communicative model. Generally, the metaphors that learners produce are said to be unidiomatic (Kathpalia & Heah, 2011), causing a high degree of literalness and "no sign of the conceptual system in English" (Hashemian & Talebi Nezhad, 2007, p. 51) in learner written discourse. At other times, L2 learners are reported to tend to avoid figurative language (Irujo, 1993; Kecskés, 2007; Philip, 2005a). This avoidance is not because they cannot produce figurative language, but because they are either worried about communication breakdowns (Kecskés, 2007) or because their metaphorical language is in an unnoticed

or inactive status in the mental lexicon (Littlemore, 2009).

Thus, Fiona MacArthur's (2010) paper is significant because it expresses a strong interest in learners' productive metaphors. She contends that when learners have a relatively impoverished stock of words, metaphor is the most powerful tool to make meaning from many everyday words. The benefits of encouraging metaphor production, as she notes, are:

> insights into how the first (L1) and second language (L2) systems interact, how the privilege of access to two linguistic and conceptual systems may favour, rather than necessarily hinder, the bilingual's metaphoric production, and to what extent the resulting metaphors are felicitous in the context of inter-cultural communication. (p. 156)

When piloting with English language teachers to find out the extent to which native speakers tolerate atypical metaphorical language use, Boers (2004) found that novel metaphors were likely to be accepted as correct rather than deviant. This finding promises the feasibility and practicality of raising metaphor awareness in productive language learning. The communicative 'risk' of producing metaphors that Kecskés and Papp (2000) discuss may be present due to the cross-linguistic variety of linguistic instantiations of a given conceptual metaphor or the L1 interference (Boers, 2004). Alternatively, there might be some unknown causes. Apart from studies that relate cognitive style to learners' metaphor comprehension (discussed below), little is known about L2 learners' mental operations during the process of metaphorical language production.

Given that L2 learners enter the target language realm equipped with a fully figurative mind, it is surprising that learners' productive use of metaphor has not been given due attention. Significantly, Nacey (2013) has found that metaphor is ubiquitous in both native and non-native learners' English written discourse. Metaphor production in L2 learners can also be an indicator of their proficiency (Littlemore, Krennmayr, Turner, & Turner, 2012; 2014). In an analysis of cued conversations between non-native speakers, MacArthur and Littlemore (2011) found that the density of metaphorically used words is up to ten per cent. Like native speakers, non-native speakers do produce metaphors while conversing and their use of metaphor is similarly affected by the topic and context of the conversation. The authors voice their concern that although English has been recognized as the *lingua franca*, non-native speakers' use of metaphors remains under-researched.

Metaphor Processing in L2 Research

Steen (1994) distinguishes *metaphor processing* (processing linguistic metaphors*)* from *metaphoric processing* (a mode of processing which activates a two-way analogizing). While metaphor processing, or the processing of metaphorical language, can be rapid and automatic, metaphoric processing is a special mode of processing which involves a conscious search for metaphorical meaning – an intentionally selected strategy of reading, especially among readers trained to read literary texts. When readers activate such a process, the outcome is metaphoric processing, regardless of the metaphoricity for the material (Gibbs, 1999). Cameron (2003), for example, reports that school children misused lexical senses and engaged in metaphoric processing to comprehend linguistic expressions which were non-metaphorical. Cameron terms this *process metaphors* (2003). In this section, the term *metaphor processing* is used in its broad sense to refer to the general mental process underlying metaphor use.

A Brief Overview of Metaphor Processing

In terms of the order of access, current scholarship generally rejects the traditional view which holds that literality plays an essential part in the initial stage, i.e., literal meaning needs to be accessed and analysed first and if rejected, metaphorical meaning will be activated (e.g., Sadock, 1993; Searle, 1993; see Gibbs, 1994 for a review). However, there are differences in the order in which literal and figurative meanings of metaphor are activated. Several psychological experiments have suggested that both literal and figurative meaning, which are stored in and retrieved from the mental lexicon as individual vocabulary items, are compulsory and are activated simultaneously and in the same manner (Glucksberg, 2001; Glucksberg, Gildea, & Bookin, 1982), regardless of context conditions (Turner & Katz, 1997). Literal meanings enjoy an advantage of processing only in the case of poor (inapt) metaphors (Blasko & Connine, 1993; Glucksberg, 2001). However, the Direct Access hypothesis proposes that the literal meaning needs not be present for the figurative meaning to be activated during metaphoric processing (Gibbs, 1994, 2002a; Gibbs & Beitel, 1995; Inhoff, Lima, & Carroll, 1984). Cacciari and Tabossi (1988), for example, show that the moment a recognition point of an idiom (the key word of an idiomatic phrase) is specified, a configuration of lexical items of the idiomatic string emerges without the remaining lexical items being accessed literally. On the other hand, Giora and associates (Giora, 1997, 2002, 2003; Giora & Fein, 1999a, 1999c; Peleg, Giora, & Fein, 2001) put forward the Graded Salience Hypothesis, maintaining that the features of both the

source and target domains that are most salient are automatically accessed in figurative language processing. To be salient, the meaning needs to be coded in the mental lexicon and enjoys prominence due to its conventionality, frequency, familiarity, or prototypicality. Context may affect comprehension, but it is secondary to salient meaning and cannot prevent the activation of the salient meaning from the initial stages of figurative language comprehension. Generally, as Gibbs and Colston (2012) have shown, the role of literal meaning in figurative language understanding has not been made clear in the literature.

A number of dimensions have been identified to explain the processing of metaphorical language; one of these dimensions is imagery. Thanks to its fluidity, imagery fosters associative thinking and is said to be essential to metaphor comprehension and recall. For instance, metaphors which invite mental imagery are normally considered more apt and more comprehensible (Harris, Lahey, & Marsalek, 1980; Hoffman & Honeck, 1987; Katz, Paivio, Marschark, & Clark, 1988; Reichmann & Coste, 1980). Paivio and Walsh (1993) particularly stress the importance of images in their dual coding theory, according to which images construct integrated informational structures analogous to the integrated representation that appears in metaphor comprehension. Gibbs and associates, in another line of research, have demonstrated that people make use of mental imagery to make sense of metaphorical expressions (Gibbs & Bogdonovich, 1999; Gibbs & O'Brien, 1990) and engage in mental scenes of actions to interpret metaphorical action phrases (Gibbs, 2006a, 2006b; Gibbs, Gould, & Andric, 2006; Gibbs & Matlock, 2008). The utility of specific and consistent mental images and imagery scenes in metaphorical language understanding, according to these researchers, indicates a direct connection between images and conceptualization of embodied experiences.

Another important dimension is the degree of familiarity/aptness (i.e., the degree of metaphoricity) of the expressions and the context in which they appear. Familiar idiomatic expressions are comprehended more quickly than comparable literal expressions and their variants (McGlone, Glucksberg, & Cacciari, 1994; Turner & Katz, 1997). Novel metaphors usually require longer processing time than familiar metaphors (Blasko & Briihl, 1997; Blasko & Connine, 1993; Pexman, Ferretti, & Katz, 2000). When similar expressions are used ironically, they are processed initially in both literal and figurative senses and require equal processing time (Giora & Fein, 1999a, 1999b). When reading times are measured at the end of the target phrases rather than at the end of the sentences in which the phrases appear, metaphorical phrases require longer

processing time than the same phrase used literally (Janus & Bever, 1985). However, there are no differences in the comprehension speed of literal and figurative words when these words are placed at the end of (simple) sentences (McElree & Nordlie, 1999).

An overview of metaphor processing is beyond the scope of this project (see Gibbs & Colston, 2012 for more reviews). The order of access, the role of imagery and the degree of metaphoricity are mentioned here because they serve as background information for a limited line of research that deals with metaphor processing in L2 reviewed below.

Metaphor processing involves more than receiving a metaphor and activating the right procedure to 'get it'. It also requires activating the right procedure to produce a metaphor for different purposes of communication (cf. Cameron & Stelma, 2004; Kimmel, 2010; Ponterotto, 2000). It could be to use a metaphor to start a conversation, to change topic, to maintain the course of communication, or to 'kill' (i.e., literalize) a metaphor, as in, *I'm not going to kick the bucket next year, even though my wife deliberately leaves buckets everywhere in the house.* Müller's book, *Metaphors, Dead and Alive, Sleeping and Waking: A Dynamic View* (2008), has demonstrated that a focus on the production side of metaphor processing is essential to achieving a satisfactory understanding of metaphorical meaning and of meaning in general. This is an inviting research avenue that deserves more attention in both L1 and L2.

Metaphor Processing in an L2

Mechanisms. According to the cognitive linguistics point of view, metaphoric processing occurs as a result of cross-domain mappings of conceptual structures.[8] The L2 learners therefore will need to activate the knowledge of the source and target domains in order to process a metaphor. This process would mean the mobilization of the learned source and target domains of the target language while activating and/or suppressing features of the source and target domains of their L1 at the same time.

Littlemore and Low (2006a) claim that L2 learners' ability for metaphor comprehension analytically involves five psychological processes: noticing, activation of source domain knowledge, associative fluency, analogical reasoning and image formation (see also Littlemore, 2008). In their opinion, these processes should help learners to better focus on the relationship between the source and target domains, which aids them in understanding how metaphor (comprehension) works. Citing Pitts,

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[8] Glucksberg and McGlone (1999) and Jackendoff (2002), however, argue that senses may be directly retrieved from the lexicon and there is no need for an intermediary basic sense in the understanding of a metaphorical concept.

Smith, and Pollio (1982), the authors suggest a non-analytic spontaneous processing mechanism for metaphor production, admitting that current scholarship suffers a serious imbalance with most research efforts placed on metaphor comprehension.

One line of research compares native speakers' and non-native speakers'/learners' processing of idiomatic expressions, yielding mixed findings. A number of studies found that the two groups process figurative language in more or less the same manner. In a reading experiment, Conklin and Schmitt (2008) found that both groups processed figurative and literal meaning faster than novel phrases and that there were no processing differences between figurative and literal meaning in either group. Using eye-tracking, Underwood, Schmitt, and Galpin (2004) compared fixation counts and fixation durations for the same lexical item which appears in an idiomatic phrase and in a sentence among native and non-native speakers. It was shown that L2 speakers demonstrated the same type of processing advantage as L1 speakers when processing terminal words although the latter were at an advantage in reading, as shown by fewer and shorter fixations. However, other studies suggest that there is a difference in the way idiomatic meanings are represented in the mental lexicon of the native speakers and the non-native speakers. In a priming study with lexical decision tasks, Cieślicka (2006a) revealed that the L1 participants responded faster to targets related to the literal meaning than to those related to figurative meaning, suggesting a difference in their processing of literal and figurative meaning. Examining the ability to process prosodic contrasts between idiomatic and literal meanings of ambiguous sentences, Vanlancker-Sidtis (2003) found that L1 speakers were able to differentiate between idioms used figuratively and literally, whereas even highly proficient L2 speakers were unable to do so. Similar results were observed in Siyanova-Chanturia, Conklin, and Schmitt's (2011) eye-tracking study. L1 speakers were shown to have a processing advantage for idioms over novel phrases while L2 speakers, even proficient ones, processed the two at a similar speed. The L2 speakers also required more time to process figurative meanings of idioms than literal ones despite cued context, which was not observed in native speakers. These studies add to the body of research that attributes the advantage of figurative language processing to language dominance as early bilinguals are faster than late bilinguals in identifying figurative meaning (Matlock & Heredia, 2002) and literal meaning is more salient to L2 speakers (Cieślicka, 2006a; Cieślicka & Heredia, 2011; Cieślicka, Heredia, & Olivares, 2014; Kecskés, 2000; Liontas, 2002).

Another approach to underpin L2 learners' metaphor processing considers the strategies learners use to process metaphors. Bulut and Celik-Yazici (2004) reported

that L2 learners engage in the same heuristic approach to comprehend different types of L1 figurative expressions by applying a variety of strategies and relying heavily on contexts. Cooper (1999) has identified two main types: preparatory strategies and guessing strategies. Following Poulisse's taxonomy, Littlemore (2003a) has listed four groups of strategies: substitution, substitution plus, reconceptualization and functional reduction, with reconceptualization being the most communicatively effective. It was found that strategies favoured by ectenic learners, who need conscious control of what they are learning, are more communicatively effective than those favoured by synoptic learners, who tend to rely on their intuition and pre-conscious processing. In another study, Azuma (2009) found that Japanese students rely on intuition, context guessing, L1, mental image association and analogical reasoning to process metaphors. Generally, the less proficient learners use more L1 strategies, while the more proficient learners use more L2 strategies (Irujo, 1986; Jin, 2011). Transfer from L1 to the target language has proved to be an effective strategy, especially when the two languages share many features (Boers, 2000b; Irujo, 1986). Relying on L1 can yet be counter-effective, especially when learners over-generalize the effectiveness of the strategy and risk erroneous direct translation (Azuma, 2009; Boers, 2000b; Mäntylä, 2004).

With this insight into learners' strategy use, it has been suggested that learners should be trained to process figurative language (Irujo, 1993; Littlemore, 2004, 2009). This is part of the claim that metaphor can help learners build a strategic competence (Holme, 2004; Littlemore & Low, 2006a, 2006b), enabling them to draw on the linguistic resources available. Littlemore (2004), for example, trained learners in metaphoric extension strategies, which helped learners figure out the metaphorization of word formation and meaning. These strategies require learners to activate their associative fluency and analogical reasoning to make available as many meanings as possible for the core meaning of a word and as many links as possible between this meaning and the surrounding context. Although the effectiveness of these strategies depends on different factors, Littlemore's findings suggest that the training is worthwhile in helping learners understand new vocabulary, especially with highly imageable words and for students who have an 'imager' cognitive style, and prefer to process information in images.

Due to the differences in theoretical and methodological approaches, it is difficult to draw conclusions about L2 learners'/users' speed and mechanism of metaphoric processing in the target language. Yet it is clear that the process is subject to a great number of variables; the most well-researched ones are discussed below.

Variables

L1 and culture. A learner's L1 knowledge and culture may influence metaphor processing in the L2; however, the extent, dimensions, causes and effects of this influence are largely unknown. Interestingly, learners' MC in the L1 has been found to correlate with their MC in the L2 (Littlemore, 2010). In terms of L2 learners' metaphoric processing, L1 knowledge seems to be the most-used strategy (Azuma, 2009; Cooper, 1999; Mäntylä, 2004).

Cieślicka (2006b) has also revealed that L1 figurative knowledge is actively used in Polish learners' processing of English figurative expressions despite the typological distance and the learners' awareness of this distance. L1 is generally employed via an indirect process similar to the traditional view of metaphoric processing; in other words, the literal meaning is accessed and rejected before the activation of figurative meaning (e.g., Sadock, 1993; Searle, 1993). Nevertheless, among L2 speakers, the second stage of rejecting the literal meaning in favour of a figurative meaning does not happen automatically, but depends on a number of issues, such as learners' proficiency.

The influence of an L1 in metaphoric processing has been explained as the result of the cultural background and expectations of that language, which affects the way learners conceptualize the target language (Sharifian, 2007; N. Yu, 2007) and process metaphors in the target language (Boers, 2003; Kövecses, 2004). It is important that learners discern the way figurative language is used in a particular culture because learning a language means learning about a culture (Bailey, 2003) and becoming culturally accepted by a cultural group (Atkinson, 1999). Language learners can gain linguistic and non-linguistic knowledge from the way a group conceptualises and instantiates their culture within which metaphors emerge. As a means of cultural transmission (Charteris-Black, 2003; Littlemore, 2003b), metaphors can raise learners' awareness of the relationship between language, thought and culture (Charteris-Black & Musolff, 2003; Niemeier, 2003, 2004) and intercultural communication (Taki, 2011). Because metaphor is both universal and culturally specific (Kövecses, 2005; Sharifian et al., 2008), a number of configurations of the relationship may occur between conceptual metaphor and metaphorical linguistic expressions between two languages (Boers, 2003; Deignan et al., 1997; Kövecses, 2003). Differences in cultural-ideological characteristics and assumptions may often result in the differences in the linguistic instantiations of a conceptual metaphor that may be shared between two languages (Kövecses, 2003), however subtle (Charteris-Black & Ennis, 2001).

A number of studies have investigated these cross-linguistic variations in L2 teaching. For example, Irujo (1986) examined whether advanced Spanish learners of English use L1 knowledge to comprehend and produce L2 idioms in comprehension and production tests. The results showed that identical idioms were the easiest to comprehend and produce for these participants. Idioms that were similar in the two languages were equally easy to understand but were also influenced by the L1 interference in the production task, while idioms that were completely different in both languages were the hardest to comprehend. In addition, participants most correctly understood and produced idioms of high frequency, high transparency and accessibility. Charteris-Black (2002) found similar results in his study of L2 figurative proficiency in English and Malay. Malay English learners performed best with figurative expressions that had an equivalent conceptual basis and linguistic form between the two languages. The most difficult figurative expressions for them were those with an equivalent linguistic form but a different conceptual basis and those with a different conceptual basis and a different linguistic form. Charteris-Black concludes that there is intra-lingual confusion between higher and lower frequency L2 figurative expressions, which he explains is due to the typological distance between L1 and English. The pattern also applies to Chinese learners in Chen and Lai's study (2013). Finally, cultural differences may cause the L2 learners to misinterpret metaphors in the target language, as in the case of the Bangladeshi participants in Littlemore's studies (2001c, 2003b). These participants tended to arrive at inappropriate connotations of the metaphors the British lecturers used, resulting in their misunderstanding the main points of the lecture and misinterpreting the lecturer's stance towards the topic of the lecture.

Proficiency. It is generally assumed that learners' proficiency can influence their ability to process metaphorical language in an L2. It has been suggested that beginners will have difficulty with figurative language due to the lack of lexical knowledge; advanced learners, who are more skeptical of the acceptability of their interlanguage, will be more hesitant about producing figurative language while learners at intermediate level are those who may actually produce figurative language (Boers, 2004). Of the empirical investigations, Johnson and Rosano (1993) found that proficiency was not related to metaphor interpretation. On the contrary, Trosborg (1985) observed a direct proportion between language proficiency and metaphorical ability, which was consistent in both preference and production tasks. Jin's (2011) analysis of spatial metaphors in Chinese students' writings and Littlemore et al.'s (2012, 2014) investigation of metaphors in German and Greek students' essays also display a developmental trend in

metaphor use across proficiency levels. In addition, there is a positive correlation between learners' proficiency and the accuracy in the use of formulaic sequences (Boers, Eyckmans, Kappel, Stengers, & Demecheleer, 2006), and between learners' vocabulary knowledge and their metaphorical competence (Azuma, 2004, 2009).

Cognitive style. Cognitive style is defined as "people's preferred modes of processing information, and hence preferred ways of learning" (Hawkins, 1998, p. 52). Cognitive style has been shown to have an impact on learners' way of metaphor interpretation (J. Johnson & Rosano, 1993) as well as the speed of interpretation (Littlemore, 2001a).

One dimension of cognitive style under examination is the scale of the holistic and analytic style of cognition. Learners who prefer a holistic style tend to treat the source and target domains of a metaphor as an integrated entity, while learners who prefer an analytic style see them as separate (Boers & Littlemore, 2000). Littlemore (2001a) maintains that holistic thinkers have a higher metaphoric competence in terms of speed and possible interpretations because the holistic cognitive style is associated with loose analogical reasoning and divergent thinking. Another continuum of the cognitive style is the preference of modality: some people have a predisposition for thinking in mental pictures (imagers) while others prefer to process information verbally (verbalisers). Boers and Littlemore's (2000) experiment shows that imagers were more likely to activate stereotypical mental imagery to explain conceptual metaphors. Boers, Eyckmans, and Stengers (2006) have also found that high-imager participants generally outperformed their low-imager peers in multiple-choice and gap-filling tasks on L2 idioms. Similarly, Boers et al. (2008) observed consistent positive correlations between high-imagers' learning gain and their imagery processing ability while verbalisers had an advantage when information was presented to them propositionally. High-imagers, who are more successful in creating relevant interactive images, are more likely to adopt metaphoric extension strategies; verbalisers, on the other hand, were more successful in using contextual clues (Littlemore, 2004).

This correlation, however, seems to be unilateral. Littlemore (2004) notes that the presence of image information (the imageability of the metaphorical items) does not necessarily facilitate meaning processing, nor does the presence of verbal information automatically trigger learners to use the contextual cues (pp. 21–22). It is thus difficult to apply these findings in the formal teaching of metaphorical language or language in general. It requires too much on the teacher's part to be feasible: paying attention to the individual learner's hidden aptitudes while catering to a normally large and mixed class

with the same set of material. Learners actually need the kind of training that can help them recognize which kind of information is presented to them so that they can autonomously apply the needed knowledge to the right task.

Conclusion

A compelling issue in research on the interrelationship between metaphor and L2 learning is how this metaphor knowledge can directly contribute to language learning. As seen in the review above, despite its vigorous growth, research on metaphor and L2 education remains scarce, and the practical applications of this knowledge for language teaching have not been explored. There have been calls to present metaphor and figurative expressions explicitly in language teaching materials. Reviews by Lindstromberg (1997), Bailey (2003), and Littlemore and Low (2006a), however, have shown that language teaching materials make little reference to metaphor. An important study by Skorczynska Sznajder (2010) reveals only a slight overlap between metaphors used in a business English textbook and those found in a professional corpus of English business (two or three items depending on the source domain). Findings like these should be alarming to those who are concerned about bridging the gap between teaching and research as it shows that teaching and researching remain worlds apart.

Suggestions for classroom activities can be found in many studies (e.g., Boers & Demecheleer, 1998; Boers & Lindstromberg, 2008c, 2009; Lennon, 1998; Lindstromberg, 2001; McCarthy, O'Keeffe, & Walsh, 2010), but the findings of current literature on metaphor have not been presented in a way that is systematic and teacher-friendly enough for a metaphor-based teaching approach to be implemented to the full. It is perhaps unrealistic to expect busy teachers to read monographs (e.g., Holme, 2004, 2009; Littlemore, 2009) and apply the theoretical suggestions to the classroom. Teachers need awareness-raising and hands-on workshops before they can confidently implement a metaphor-based activity or lesson (see Gießler, 2012). Additionally, many claims that associate metaphor with construction learning and the affective side of language learning (Holme, 2004, 2009) and feedback (Holme, 2004) need to be empirically investigated.

In terms of methodology, the representativeness of the data can be seen as questionable in some studies. One small group of participants cannot speak for all L2 learners. One or two items of a few tropes do not constitute figurative competence; one test of one type of lexis does not constitute metaphorical competence. In a review of 17 studies on cognitive linguistic-based vocabulary learning, Boers (2013) has pointed out

that in the majority of studies under examination, "the target vocabulary was poorly contextualised, so the input was lacking in cues regarding common usage patterns" (p. 217). This means that more research is needed to pinpoint the usage-based account of language use promoted by cognitive linguistics, especially research that employs learners' natural language production in natural settings. Longitudinal, corpus-based and process-oriented approaches are still not popular.

The review above has highlighted the role of metaphor in L2 learning and the need to exalt the field in order to benefit L2 education. The review has also shown a dearth of studies in L2 speakers' productive metaphor use and in L2 speakers' underlying mechanisms in producing metaphorical language. This project thus aims to contribute to current understanding of L2 learners' metaphorical language production. The two studies presented in the next two chapters examine L2 learners' metaphorical language use as both products and processes as embedded within the writing process.

CHAPTER 3 – METAPHORICAL LANGUAGE IN L2 LEARNER-WRITERS'
ESSAYS: PATTERNS AND PROFICIENCY

This chapter reports on the first phase of the project which examines metaphorical language use in 396 essays written by undergraduate Vietnamese learner-writers. The chapter addresses two research questions:

1. What are the patterns of metaphorical language use in L2 learners' written texts?

2. What are the relationships between these learners' metaphorical language use and (a) their general language proficiency as reflected by their year levels and (b) their writing proficiency as reflected by their writing grades?

Research Method

This section first addresses the methodological issues of identifying metaphorical language in a learner corpus and then presents the details of the data collection and preparation procedures. Unless stated otherwise, the examples used in this section are taken from the data corpus. Information about the examples, including the year level of the learner-writers and the sample number, is provided in brackets at the end of each example, e.g., Y1–1 stands for Year 1 – Participant 1.

Identifying Metaphorical Language in a Learner Corpus

Metaphor Identification Procedure (MIP) vs. Vehicle Identification Procedure (VIP). Although metaphor understanding is a common mental operation and people need not identify a metaphor to understand it (Gibbs, 2002b), a procedure is required to identify metaphor in discourse because metaphor research practice that relies on intuition (e.g., Cortazzi & Jin, 1999; Gwyn, 1999) – or even 'informed intuition' (e.g., Deignan, 1999a) – is not satisfactory. Relying on intuition to interpret data is part of a heuristic enquiry (Patton, 2002) while using intuition to invent or identify data is subject to criticism. The practice of intuition-based data identification inherently entails inconsistency in data analysis, both within and between analysts. Sinclair (1991) also warns that intuition is a fallible means of corpus investigation in many aspects, e.g., frequency, typical meaning, pattern. One may be a gifted native user of a language, but one's conscious mind cannot retrieve every detail of daily language use (Hanks, 2013). Particularly, the intuitions of the native speaker researcher may not be applicable to the language that L2 learners produce because learners may or may not do so on an intuitive basis (Read & Nation, 2004). For metaphor research, the issue is more serious when the corpus is constituted of naturally occurring data, when the corpus is large or when the corpus is from a special variety of English. In any of these cases, a wide and wild range

of metaphors will be on display, causing bias and confusion among the analysts.

In the literature, metaphors have been operationalized and identified quite liberally, depending on the research purposes and agendas. The two influential procedures of metaphor identification in discourse are Metaphor identification procedure (MIP) and Vehicle identification procedure (VIP).

MIP – Indirectness and non-literal similarity. A precursor to MIP was introduced in *Language and Literature 11* (Steen, 2002). Metaphors were identified based on a three-level approach: surface linguistic expression, metaphorical proposition and cross-domain mapping. The level of metaphorical proposition was claimed to bridge language use and conceptual mappings (Crisp, 2002). The proposal, however, did not prove a satisfying approach to metaphor identification because embodied metaphorical mappings cannot be captured in propositions and in fact, resist propositional analyses (Gibbs, 2002b). According to Gibbs (2002b), the procedure was paradoxical because of the fact that the analysts would use their knowledge of conventional [conceptual] metaphors to identify linguistic metaphors, i.e., there would be a conflict at the levels of operationalization. From the applied linguistics perspective, Low and Cameron (2002) commented that proposition-based metaphor identification would be unfriendly to language learners because learners do not need to engage in high-level knowledge of senses before using a word. Furthermore, the procedure did not take into account multi-word units which make up a large part of the learners' knowledge of the target language.

In 2007, the Pragglejaz Group introduced MIP.[9] The group put forth a juxtaposition between the contextual meaning and the basic sense of a word in order to reveal potentially metaphorical words because the basic sense will then be incongruous with the surrounding context. This method reflects the spirit of cognitive linguistics in general which holds that the relations between basic and extended senses are essential to the production and comprehension of novel uses of existing linguistic and conceptual patterns. These metaphorically-used words are used indirectly to evoke another referent than the one designated by their basic meaning. The meaning of such a word arises when two domains are involved in the understanding of a word or concept. The procedure operates on indirectness, "the cornerstone of the cognitive-linguistic definition of metaphor" (Steen, 2007, p. 67). This criterion of indirectness has allowed

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[9] The group was such named after its members' first names: Peter Crisp, Ray Gibbs, Alan Cienki, Graham Low, Gerard Steen, Lynne Cameron, Elena Semino, Joe Grady, Alice Deignan, and Zoltán Kövecses.

for the identification of metaphors that are conventionalized to the extent that they would become visible only to those familiar with them, as in the cases of 'dead' metaphors and prepositional metaphors, creating one of the strengths of MIP.

MIP requires first of all an understanding of the text in general and then the identification of all lexical units in the text. For each lexical unit, the analyst establishes its contextual meaning, searches for its more basic meaning and then contrasts the two meanings. If a word has a contextual meaning that contrasts with the basic meaning but can be understood in comparison with it, it is metaphorical (Pragglejaz Group, 2007). For instance, *attack* in a context of argumentation is metaphorical because it has to do with a verbal exchange while its basic meaning is related to a physical exchange. When a word is used in a non-conventionalized manner, its situation-specific contextual sense will be contrasted with its basic sense for a decision. In short, words are used metaphorically if their meanings come from different domains but their understanding can be obtained via a process of comparison.

The Pragglejaz Group (2007) states that MIP has not been created to identify conceptual metaphors, conceptual mappings or to study metaphoric processing (p. 2). This is a pragmatic decision that has improved the generalizability and reliability of the procedure compared to its predecessor. It is indeed easier to reach an agreement about whether a word is being used metaphorically than to decide to which conceptual domain it belongs. The procedure is claimed to be able to capture all relevant aspects of linguistic metaphors: "direct or indirect language use, presence or absence of signalling, restriction or extension across discourse units, and implicitness or explicitness of source and target domain" (Steen, 2007, p. 331). Because the indirectness criterion on which MIP relies does not clearly demarcate metonymy and metaphor (both, and other non-literal language phenomena, have indirect meanings), an additional criterion – nonliteral similarity – is added. Although Lakoff and Johnson (Lakoff, 1993; Lakoff & Johnson, 1980, 1999) are against a similarity-based definition of metaphor, MIP uses similarity as a conceptual basis for finding metaphor, seeing no essential difference between similarity and comparison (Steen, 2007).

Regarding the unit of analysis, the procedure still ignores metaphor use at other text levels in favour of a consistent quantitative analysis of data based on words. Steen (2007) argues that units of measurements at different text levels would have different effects on cognition. In his opinion, word-level measurements apply to all types of metaphor processing because all metaphors at this level require fast online formulation whereas measurements at sentence or text level can probably only capture deliberate,

novel, extended, and signalled metaphors. This remark on the effect of units on cognitive processing, however, has not yet been investigated. With this unit of analysis at word level, the procedure has obviously failed to account for the metaphoricity of multi-word units such as metaphorical sayings, idioms, and similes. It is counter-intuitive to break these units down into words to consider which is used metaphorically in the context. When operating at word level, MIP cannot bring out the complete pictures of the systematicity of metaphor use at discourse level such as clusters of metaphors (cf. Cameron & Stelma, 2004; Cameron, 2011a; Corts & Meyers, 2002). According to Grady (1997a), because metaphor involves a transfer between two domains, "whatever linguistic metaphors are, they are not isolated lexical usages; […] they must at least be acknowledged as parts of broader networks of metaphorical transference" (p. 7). One question thus emerges: to what extent can an MIP-based metaphor analysis account for its representation of thought, communication, culture and society when its own linguistic properties are not adequately represented?

Recently, Steen et al. (2010) have introduced MIPVU (VU stands for *Vrije Universiteit* - Amsterdam), an elaboration of MIP, which operates on *lexical units*. Although the procedure adopts a largely conservative perspective on the question of metaphoricity in multi-word units, its unit of analysis has been extended to include a number of non-single word units. For example, polywords, short fixed expressions such as *a good deal, of course, even if*, are taken as single words on the basis that they are perceived as one word. Phrasal verbs (e.g., *look up*, *turn on*) are also treated as single units as they refer to one action, process, state or relation in discourse. This criterion, however, is not always observed in the procedure. Units like *keep an eye on*, which practically refers to one entity, is decomposed down to *keep, eye, on* under the category of ambiguous cases (Kaal, 2012). In the same vein, nominal compounds (of the English language) are treated as single words based on their lexicalization and their stress pattern. In order to be counted as a single word, the first item of the compound must carry the primary stress (e.g., *jet lag*, *snail mail*). On the same principle, *New York* is two units; *United Kingdom* is two units while *Labour Party* is one unit (Steen et al., 2010, pp. 26–32). In practice, when relying on stress patterns in dictionaries to identify metaphors, the analysts are bound to face a number of problems such as what is counted by the lexicographers as compounds, whether the particular edition contains stress marks, and whether it includes stress marks for the single word or for the compound.

As an improvement, MIPVU distinguishes between indirect metaphor and direct metaphor. Indirect metaphors are words used indirectly to evoke a referent different

from the one expressed in their basic meaning. Direct metaphors, on the other hand, occur when direct uses of words trigger a cross-domain mapping, e.g., in cases of simile and analogy. In these cases, the stretches of language are broken down into smaller units and words within them are considered separately for their metaphoricity. Here is the example from Steen et al. (2010):

> In systems development nothing is more fundamental than assessing user requirements. (…) but many system developers are unable to assess requirements properly. They seem to think that you can ask a businessman what his requirements are and get an answer that amounts to a draft system specification. *A doctor doesn't ask his patient what treatment to prescribe. The patient can explain only what the problem is. It is the doctor that provides the remedy. (…)* a user may have a deep knowledge of business problems, but knowing little about computers, has no idea how they should be tackled. Yet analysts are heard asking time and again. "Tell me what you want. (…)" But of course the users don't know what they want, so they end up getting another duff system. An effective analyst provides the same service the business as *the doctor provides to the patient*. (p. 57, italics in the original)

In this analogy of a doctor and his patients, only *to* in *provides to* is used metaphorically because its contextual meaning is abstract. In the rest of the analogy, content words are tagged as a direct expression of indirect conceptualization (p. 58). MIPVU also recognizes implicit metaphors such as *it* in this example, "Naturally, to embark on such a step is not necessarily to succeed immediately in realising *it*" (p. 39, italics in the original).

MIP has been used widely in metaphor research and has brought about the expected reliable results (Dorst, 2011a; Kaal, 2012; Koller & Semino, 2009; Krennmayr, 2011; MacArthur & Littlemore, 2011; Philip, 2009; Semino & Koller, 2009). It has also been applied in metaphor research in languages other than English (Pasma, 2012).

VIP – Incongruity and context-based transfer of meaning. VIP was developed within a discourse dynamics approach to metaphor which emphasizes the interactional nature of metaphor in use. In this approach, metaphors are examined in a three-fold dynamic of their linguistic manifestations, their communicative functions and their conceptual representations. VIP relies on an approach to metaphor description that is grounded in cognitive linguistics tenets of family resemblances and fuzzy categories (Cameron, 1999a, 2003), the central point of which is the notion of prototypicality. That

is to say, some metaphors are more 'metaphorical' than others and the most typical metaphors are at the centre of their categories. Cameron and colleagues (Cameron, 1999a, 2003, 2008, 2010, 2011a; Cameron et al., 2009; Cameron & Maslen, 2010; Gibbs & Cameron, 2008) have advanced this perspective on metaphor identification in the direction of complex systems theories, maintaining that not seeing metaphors as something concrete and clear-cut also would allow for an extended approach to the phenomenon. As its name indicates, VIP aims to identify metaphor vehicle terms. While MIP deals with metaphorically-used words, VIP tackles *stretches of text*. In terms of the underlying conceptualization, VIP is based on incongruity (instead of indirectness).

The notion of incongruity goes back to Kittay (1984, 1987) in her perspectival account of metaphor.[10] Incongruity refers to the tension or anomaly which occurs due to the explicit or implicit co-presence of two conceptual domains in one stretch of text. According to Cameron, incongruity is a graded feature that "depend[s] on the immediately previous discourse, participants' background knowledge, and their shared knowledge" (Cameron, 1999b, pp. 20–21). This happens when the source domain goes against accepted practice or violates the discourse expectations related to the default semantic and communicative frames. Cameron (2003) distinguishes between linguistic, pragmatic and cognitive incongruity. Following Kittay (1984, 1987), Cameron considers incongruity a necessary condition and the first step in metaphor identification.

According to this procedure, the analyst first needs to search through a text for incongruous language stretches, which may include idioms, metonymy, and other figurative language types. Metaphoricity is then decided based on a domain incongruity and a context-based transfer of meaning. Steen (2007) believes that the view is 'loose' because "much conventional metaphor *is* accepted practice and part of the default frame of expectations regarding a particular topic" (p. 279, italics in the original). Adherents of the approach argue, in contrast, that VIP allows for a more 'liberal' approach to metaphor in terms of the unit of analysis, which can be of any discourse level. This indeed gives VIP the ability to handle the phraseological nature of metaphor. The procedure therefore better reflects the processes of talking-and-thinking in discourse because it removes the difficulties in deciding the boundary of linguistic metaphors (Cameron, 2007). It has also been applied widely in metaphor research (Caballero, 2006; Cameron, 2003, 2011a; Cameron & Stelma, 2004; Vereza, 2008).

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[10] In Kittay's (1987) perspectival account, "metaphor involves a transfer of [syntagmatic and paradigmatic] relations across semantic fields" (p. 289), which entails that metaphor is linguistically incongruous and is a kind of 'second order' meaning, determined through the relationship between the Vehicle and the text in which it appears.

As seen above, MIP and VIP have their own strong points, which have encouraged many researchers to adopt a midway position of combining the robustness of MIP and the flexibility of VIP in their studies (Chapetón-Castro & Verdaguer-Clavera, 2012; Kimmel, 2010; Low et al., 2008). In this study, metaphorical language will be identified with a procedure that is conceptualized on incongruity (similar to VIP) and materialized on context-based semantic transfer (similar to VIP) with the assistance of objective tools (similar to MIP). Before introducing the identification procedure, I will present the unit of analysis that I have adopted for this study.

The Unit of Analysis in This Study – The Metaphorical Unit (MU). Words would not make an appropriate candidate for a measurement unit if we are to examine *metaphorical language* produced by the learners. As a matter of fact, what *word* means as a unit of analysis is not at all clear-cut (Allwood, Hendrikse, & Ahlsén, 2009; Hanks, 2013; Sinclair, 2004, 2007) and the *lexical unit* employed by Steen and associates (Dorst, 2011a; Kaal, 2012; Pasma, 2012; Steen et al., 2010) is not as consistent as a first glance might suggest, as shown above. In addition, metaphorical language and multi-word units are inseparable (see further discussion below). The procedure developed for this study will instead identify *metaphorical units* in text.

This unit of analysis refers to a stretch of text which expresses one discrete and self-contained metaphorical meaning.[11] An MU is thus required to be discrete at the conceptual level but does not have to occur in a fixed linguistic unit, i.e., it can be of any discourse length. Due to the transient-yet-stable nature of learner language as a developing variety (cf. Ellis & Larsen-Freeman, 2009; Larsen-Freeman, 2006), the form and usage patterns of the MUs were added to the picture. An MU in text is thus operationalized as the result of an inter-play between the metaphorical meaning, the form and the usage pattern of a stretch of text in a given context.

Metaphorical meaning of the MUs. Indirectness in Steen and associates' procedures (Steen, 2007; Steen et al., 2010) seems to be a criterion stemming from a different processing perspective – that of text producers. From the perspective of text readers, i.e., appraisers of metaphorical language, in a normal reading condition, one seldom asks oneself whether the words or phrases are being used directly or indirectly. Sometimes a metaphor is recognized before it is understood (Gibbs, 2002b), and this is not because the reader realizes the indirectness in its use; rather, it is the something-strange reaction to the text.

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[11] Williams-Whitney, Mio, & Whitney (1992) used the term *metaphorical idea* in their study of metaphorical production. However, it is not clear from the study how this construct was operationalized.

In other words, it is the anomaly of the language in point that triggers the quest for comprehension in readers, which activates a metaphoric interpretation in the context. This suggests that an incongruity-based procedure would be more intuitively suited to identify metaphorical language from the perspective of text readers. Steen et al. (2010), in fact, acknowledge that in their procedure, "metaphorically used words are identified on the basis of *referential incongruity*" (p. 92, italics added). It should be emphasized that there is a difference in what incongruity means in a 'normal reading condition' and in the identification procedure in a cognitive-linguistic study of metaphor. In normal language use, most of the time, metaphorical language is so entrenched and automatized that it does not 'stick out' to require an additional cognitive effort to process it on the part of its users. For example, *in my childhood* contains the metaphorical word *in* but the word is so fittingly congruent with the context that it is not even thought of as metaphorical. Through the cognitive-linguistic lens, researchers are equipped with an epistemological device that can bring to light the concealed metaphorical properties of language use and highlight the fact that they are actually non-congruent.

As shown in Chapter 2, metaphor is psychologically real and is itself a conceptual entity that emerges out of a cognitive process in which features of one conceptual entity (the Vehicle) provide access to and activate another conceptual entity (the Topic). This transfer has been considered in terms of analogies (Robins & Mayer, 2000), associations (Danesi, 2003), similarities (Bartsch, 2002; Steen et al., 2010), properties (Glucksberg & Keysar, 1990; Warren, 2002), relations (Kittay, 1987), concepts (Danesi, 2004) or meanings (Charteris-Black, 2000, 2004; Charteris-Black & Ennis, 2001; Charteris-Black & Musolff, 2003). Within the cognitive linguistic approach, the identification of metaphor based on the distinction of literal-metaphorical has been deemed mere convenience (Danesi, 2008; Gibbs, 1994) and proved invalid (Ariel, 2002; Giora, 2002; Lakoff, 1993), psychologically irrelevant (Taylor, 2002; Wilson & Sperber, 2002) and pragmatically implausible (Gibbs & Colston, 2012). Other researchers (Bergen, 2005; Gernsbacher & Robertson, 1999; Giora, 2002) have pointed out that figurative language and literal language processing rely on the same mechanisms. In current scholarship, the contrast between the abstract and concrete senses of a word has been the most employed criterion in the identification of metaphors in discourse as it reflects the spirit of metaphor study à la Lakoff and Johnson (1980), according to which metaphor results from the mapping from a concrete domain to an abstract one. Accordingly, the semantic transfer to actualize metaphorical meaning is operationalized based on the juxtaposition between context and literal sense (R.

Schmitt, 2005) or between context and basic sense (Pragglejaz Group, 2007; Steen et al., 2010).

Grady's (1997a) discussion of *abstract* is worth mentioning here. Grady has shown that the *abstract* which is commonly held to be of higher-order intellectual constructs is not valid. This belief of *abstract* excludes concepts such as *happiness* and *similarity* while they are basic and accessible elements to our cognition and are traditionally regarded as abstract. In Grady's words, abstract concepts are, "less strongly associated with specific sensory experiences" (1997a, p. 28), i.e., those which lack image content or embodied experience.[12] Even though Grady has not specified how "less strongly associated" can be operationalized, his discussion of abstract and primary meaning has paved the way for a systematic approach to identify metaphorical meaning. This is reflected in works by Deignan (1997), Cameron and associates (Cameron, 2003; Cameron & Maslen, 2010), the Pragglejaz Group (2007) and Steen and associates (Dorst, 2011a; Kaal, 2012; Krennmayr, 2011; Steen, 2007; Steen et al., 2010).

In this study, the metaphorical meaning of a linguistic unit is realized by means of a transfer from one conceptual entity to another. This meaning transfer is triggered by the incongruity of a given stretch of text against its context and is operationalized as the semantic transfer from the basic sense to the context meaning. The context meaning is the meaning which a stretch of text has in a given text environment. The basic sense is one which has motivated the context meaning thanks to its being imagery (i.e., related to bodily experience), specific, experientially simple, self-contained and universal (Grady, 1997a; Pragglejaz Group, 2007; Steen et al., 2010).[13] Macmillan Dictionary is used in this study to identify the basic sense of the linguistic units because it is corpus-based, contemporary and takes the Conceptual Metaphor Theory into consideration (cf. Pragglejaz Group, 2007; Steen et al., 2010). The online version of the dictionary is used to enable faster referencing (http://www.macmillandictionary.com).

This semantic transfer is realized thanks to the context in which the MU occurs. Meaning emerges from context; metaphorical meaning, in particular, is context-dependent to the extent that "any word can be a metaphor if its context makes it such"

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[12] Danesi (2004, pp. 401–402) defines concrete concept as "one that refers to something that can be pointed out in some physical way" and abstract concepts as those which "refer to things that cannot be demonstrated in some physical way".

[13] The term *basic meaning* is used to keep the study in line with past research that has operated metaphorical meaning in the same fashion. It should be mentioned that Grady (1997) distinguishes between *basic* and *primary*, arguing that basic concepts are not necessarily primary concepts. In his opinion, basic concepts should not serve as potential source domains for metaphor (primary metaphors at least) because they are not correlated with any particular schema of purposes and goals, i.e., are not an inherent or universal aspect of human experience.

(Charteris-Black, 2004, p. 35). In many metaphor studies, the effect of context on metaphor identification can be so strong that it can reveal the genre of the text under examination. For example, in Charteris-Black and Ennis' (2001) comparative study of English and Spanish financial reporting, metaphor is "a word or expression that has a primary physical meaning or that normally has an animate subject that is used to describe an abstract process such as a change in share prices" (p. 254). Similar context-directed specificity in metaphor operationalization is found in Semino's (2005, 2006) speech studies which see metaphors as lexical items that refer to speech activity while their more basic current senses are not related to verbal communication. Indeed, with context support, strange transferred epithets are 'licensed' to be metaphors and 'crazy' creative metaphors by crazy metaphorical minds (Gibbs, Okonski, & Hatfield, 2013) are understood without processing difficulties. Context allows this because it fosters the relevance of the cross-domain mappings so that the structures of the target domain are not violated (cf. Lakoff's, 1990, Invariance Principle of mappings, Chapter 2). Without context support, a linguistic unit that appears to have a clash between its context meaning and its basic sense might not give rise to a metaphoric interpretation.

In this study, the context is operationalized as the co-text of the MUs. The "window" of the co-text, to borrow the term from corpus linguistics and word sense disambiguation research, is not limited in its size or distance from the stretch of text under examination. The analyst is thus not constrained in the mobilization of the text resource in order to establish a metaphorical understanding of the given stretch of text.

Form of the MUs. 'Form' here is limited to the spelling and grammatical correctness of the MUs. Unlike incongruities in the usage of a linguistic unit, which can be seen as differences from the target language if approached from an open perspective (Kachru, 1985), incongruities in form are strictly deviations, especially in written discourse. Bennett (2013), for example, reported that language teachers can accept a certain degree of grammatical deviations in learners' spoken language, but this tolerance is not extended to their written variety. Because spelling and grammatical errors are a natural part of learner language, this study takes into account the form of the MUs in order to gain more insights into the potential relationship between metaphorical language and proficiency.

Usage patterns of the MUs. The usage pattern of an MU refers to its actual occurrence in text and its relations to the co-text that accommodates its metaphorical semantic transfer. This dimension is required as past research has reported the 'awkwardness' of learner metaphors where a word/phrase is clearly metaphorical yet

unnatural (Hashemian & Talebi Nezhad, 2007; Kathpalia & Heah, 2011; MacArthur, 2010; Nacey, 2013). This is because the linguistic unit, while fed by its co-text to be metaphorical, does not 'behave' in the way expected of it. Here is an example from MacArthur (2010) in which *bump into* was used metaphorically to describe a chance encounter but collocated inappropriately with an inanimate object: "*Time went by very quickly and I saw my greatest opportunity when I <u>bumped into</u> a poster announcing the arrival of Erasmus grants*" (p. 164).

The Corpus of Contemporary American English (COCA) (http://corpus2.byu. edu/coca) is used in this study to obtain information of the usage patterns of the MUs.

In this section, I have introduced the unit of analysis of the study – the MU – and its conditions of metaphorical meaning, form and usage pattern. In brief, in a learner corpus, an MU is a stretch of text whose meaning is realized by means of a contrast between its contextual meaning and basic sense, and whose form and usage patterns may or may not conform to the target language. This unit of analysis allows for, in addition to the metaphoricity in learner language, further understanding of the phraseological dimension and the idiosyncrasy of learners' metaphorical language. It necessarily results in a difference in the quantification of metaphors of the study, if compared with other studies.

The Identification Procedure in This Study. The identification and categorization of MUs in this study are based on the context-supported semantic transfer, form and usage pattern of each MU with the aid of Macmillan Dictionary and COCA. It makes use of available resources from the learner-writers' texts to judge the metaphoricity of an MU. This is why the procedure is based on incongruity and not indirectness. This procedure does not identify 'implicit metaphors' in elliptical units, demonstratives and pronouns (as does MIPVU) because it is impossible to decipher from the text whether such text products are results of grammatical and communicative decisions or metaphoric thinking (as claimed by MIPVU). It consists of the following steps:

1. Read the text to search for linguistic units that are incongruous with their co-text.
2. Determine potential MUs by considering whether the identified linguistic unit involves a semantic transfer from the basic sense to the contextual meaning.
3. Identify the type of an MU based on its metaphoricity and phraseology. These two dimensions of MUs are elaborated as follows.

Metaphoricity of MUs. Metaphoricity is a gradable concept which is normally described in a scale with dead metaphors at one end and novel metaphors at the other. Between two novel metaphors, one can be more 'novel' than the other. Similarly, between two conventional metaphors, one can be more entrenched than the other. Even in what is traditionally termed dead metaphors, metaphors whose source domains have been lost over time, the degree of metaphoricity exists (Gibbs, 1993; Gibbs et al., 1997; Lakoff, 1987a). Lakoff (1987a) has actually declared "the death of dead metaphor", showing the variation in degree of metaphoricity in four dead metaphors: pedigree, dunk, comprehend and grasp (p.146).

It is thus almost impossible to find a unanimous classification of metaphors in current literature. Newmark (1985) distinguishes between five types of metaphor: dead, cliché, stock, recent and original, the first four of which are conventional metaphors. Black (1993) classifies metaphor into three types: extinct, dormant and active metaphors. Extending this, Goatly (1997) describes metaphors along the scale of dead (homonyms), inactive (polysemes) and active metaphors (those of unconventional vehicle terms), showing the process of conventionalization of a particular usage of language in which an active metaphorical use of language becomes 'tired', inactive and finally dead. Deignan (1997) combines Goatly (1997) and Lakoff's (1987a) works to develop a taxonomy of metaphorically-motivated linguistic expressions which consist of innovative, conventionalized, dead and historical metaphors. Recent studies do not fare better in this struggle to categorize metaphors. For example, Fernández, Sacristán, and Olivera (2005) break metaphors down into a sophisticated spectrum of 'pure' novel metaphors, novel metaphors with a surprising linguistic combination, novel metaphors with a mismatch (the contextual meaning of the metaphor does not match that of the metaphor itself), novel metaphors, metaphors whose linguistic material is absent, semi-novel metaphors (familiar but still surprising metaphors), dead metaphors and non-metaphorical material.

Conventional MUs and novel MUs. In this study, the metaphoricity of a unit is judged to be novel or conventional. This seemingly simplistic classification should serve the goal of this study. For one thing, it is still highly debatable where a certain metaphorical usage lies along the cline of metaphoricity, and the issue, should it be reconsidered, needs adequate attention that is beyond the scope of this study. Second, the metaphoricity or conventionality of a metaphorical unit carries with it the etymological baggage that requires a diachronic approach to metaphor use. Learner language, however, is 'contemporary' in the sense that it is pragmatic, i.e., students

learn a certain language in order to communicate in that language. Learner metaphorical language is approached synchronically in this study. The etymological development of a given stretch of text will not be taken into consideration when determining the basic sense. The categorization of MUs into conventional and novel is purely a methodological decision and does not mean that metaphoricity is binary.

One desired tool to check the metaphoricity of language use would be a large corpus (e.g., Cameron & Deignan, 2006; Charteris-Black, 2004; Krennmayr, 2006; Sanford, 2008). If none (or a limited number) of the hits of a metaphorical linguistic instance resembles the sense used in the context, it is a novel metaphor. However, the question of whether a frequency threshold can help demarcate novel and conventional metaphorical language uses is difficult to answer (Cameron & Deignan, 2006; Deignan, 2005; Gibbs & Colston, 2012). In many cases, even a large corpus fails to show phrases that are idiomatic and common to daily language use (Moon, 1998). Following the Pragglejaz Group (2007) and Steen and associates (Dorst, 2011a; Kaal, 2012; Krennmayr, 2011; Steen et al., 2010), I use Macmillan dictionary for this purpose instead. Although the use of dictionaries to draw the line between novel and conventional language use is not problem-free either (Deignan, 2005; Krennmayr, 2006; Steen, 2007, pp. 97–101), the dictionary can serve as a reliable base to tell the basic sense of a unit because a sense has to pass the frequency threshold to be listed in the dictionary and is reliably a conventional sense. The tool also facilitates inter-analyst reliability because each analyst has an objective tool to refer to rather than his or her own intuition when resolving differences in perceiving word senses.

Accordingly, when an instance of usage in a certain context has its metaphorical sense recorded in the dictionary, it is considered a conventional MU. For example, *shape* in *Literary works also contribute to <u>shape</u> people's personality positively* (Y4–3) has the context meaning of *to influence the way that a person, idea, or situation develops* and the basic meaning of *to form something into a particular shape.* Both meanings can be found in Macmillan; therefore, *shape* is a conventional MU. On the other hand, *cage* in *Without literature, we live alone in the <u>cage</u> of our own experiences* (Y2–15) has the basic sense of *a container made of wire or metal bars and used for keeping birds or animals in* and the context meaning of *an imaginary confined space.* The basic sense is the only definition that Macmillan offers for this entry; therefore, *cage* is a novel MU.

Inter-MUs. This study also takes into account the idiosyncratic nature of learners' usage of language and recognizes inter-language variations of MUs (inter-

MUs). An inter-MU is a conventional MU or a novel MU whose form deviates from correct English (Example 1) and/or whose usage pattern deviates from a recognized one in English (Example 2).

Example 1. Literature like "*a amusing appetizer*" to start a new day. (Y1–22)

Example 2. And from some discussion, an opinion of literature was *pulled out*. (Y1–29)

Example 1 is a novel MU which contains a grammatical error. In Example 2, *pull out* is used as a prepositional verb, but is not used in its appropriate pattern of *pull something out of something*. COCA also reports no collocates for *pull out* and *opinion*.

These kinds of 'metaphorical errors' are differentiated from other types of lexical errors in that their meaning in context involves a cross-domain semantic transfer.[14] Compared with lexical errors, inter-MUs are incongruous stretches of text which still allow for a metaphorical understanding while lexical errors do not. A few examples of lexical errors from the data are:

Example 3. Writers *tranship* many meaningful messages at his works. (Y1–8)

Example 4. The best way to teach young children is to give them fairy *tails*. (Y1–56)

Example 5. To tell the truth, more and more young people get a serious disease, that is

motionless. They don't care about other's *motion* and ignore their *motion*. (Y2–19)

Example 6. Literature brings *peach* and love. (Y2–87)

One legitimate question that would emerge here is the differentiation between an inter-MU and a novel MU because novel metaphors, at least in the traditional view, are deviations from the norms of literal language (see also Hanks, 2013, for a discussion of novel metaphors as exploitations of conventional norms). Previous studies in metaphorical language in L2 speakers have not addressed this issue, except for Nacey (2013). Citing Cameron's (2011b) prosaic creativity (as opposed to poetic creativity) and Kachru's (1985) discussion of bilinguals' creativity, Nacey has chosen to underplay novelty in determining [hence the name] creative metaphors.[15] Relying instead on deliberateness, she considers metaphorical instances different from 'standard' usage as creative metaphors. Although Nacey perceives these items "as deliberate humour or as the written equivalent of Freudian slip" (p. 199), her discussion later concedes that many of them are actually "motivated" by language deficiency or L1 interference such as "*Letting the mind wonder off on it's own can work as therapy*" (p. 199) or *"I dear to*

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[14] For a full review of different types of lexical errors, see Augustín Llach (2011).

[15] Although there is not a unanimous definition of creativity, novelty is the one feature that is universally shared in literature of creativity research (Boden, 2004; Carter, 2004; Hennessey & Amabile, 2010; Runco, 2004; Ward, 2007).

say that it depends on your mood what kind of film/video you choose to see" (p. 200). It is not clear from her analysis how instances such as "*Does it deprive us from social contact*?" (p. 222) and "*Trevor chooses to do things he likes on his spare time*" (p. 226) are categorized. It is difficult for a language teacher or a native speaker of English to accept these examples as 'creative metaphors'. In my opinion, judging L2 learners' metaphorical creativity based on deliberateness is at best speculation, especially when this deliberateness is guessed from written linguistic signs (e.g., comparative, *as, like, as if*, etc.) that can be found in non-metaphorical texts as well (Gibbs, 2011a, 2011b; Musolff, 2011; Ng & Koller, 2013). In this way, Nacey has evaded the issue of deviations in an account of learner language, perhaps thanks to her data being neat enough to allow for a conflation of deviation and creativity.

From a pedagogical perspective, the examples from Nacey's corpus above are typical exemplars of inter-language. And so are instances from my data such as:

Example 7. When we read literary works, we can *grow* our aware. (Y2–42)

Example 8. It [literature] is an abstract sector that we can not understand or *hold*

perfectly. (Y4–55)

Creativity research has pointed out that, in order to be qualified as creative, a product needs to be both unconventional and fitting for the task (Boden, 2004; Hennessey & Amabile, 2010; Ward, 2007). While one might argue that these MUs are 'novel' in these particular occurrences, these instances are unfitting for the elicited language task at hand because they do not occur in an appropriate pattern of usage. Even though it is possible to establish contrived links between unrelated concepts and impose novelty on deviated instances, such efforts are not natural in communication (see Littlemore, 2010). When we do not have access to the writers' clarification of their works, it would be safer to recognize them as products of the on-going development of learner metaphorical language in order to gain a deeper understanding of this aspect of L2 learning. This stance also keeps the researcher from labelling a group of learners as creative or non-creative (cf. Cross & Papp, 2008). This does not imply a discrimination against the learners' creativity (cf. Bell, 2006; Prodromou, 2007); their novel MUs – those with innovative meaning, correct form and intelligibly-communicated – are recognized. There are merits from further research into the intelligibility of different types of learner metaphorical language to readers of different linguistic and cultural backgrounds. As to the question of where to draw the line between metaphorical creativity and metaphorical anomaly (and metaphorical conventions), the answer lies in

the question itself: *metaphorical to whom?*[16] As Carter (2004) puts it,

> originality becomes *bona fide* creativity only when it is made to fit and is
> recognised, accepted and valued as such both by the community peers of the
> creative individual and by the guardians of the particular artistic or scientific
> domain in or with which the creator works. (p. 48)

I acknowledge that there might exist a degree of subjectiveness in the identification of inter-language metaphorical language in this study, as in all metaphor studies available, as a necessary corollary underlying the choice to investigate metaphors from a pedagogical view. It is not possible to sever this social dimension from metaphor interpretation, because a metaphor interpretation is "always a value statement" (p.357) (Koro-Ljungberg, 2004; see also Armstrong, Davis, & Paulson, 2011; Deignan, 2010) and without an epistemological perspective, a metaphor is no longer a metaphor.

Phraseology of MUs. Phraseology in the literature refers to the range of linguistic phenomena that Gries (2008) broadly summarizes as:

> the co-occurrence of a form or a lemma of a lexical item and one or more
> additional linguistic elements of various kinds which functions as one semantic
> unit in a clause or sentence and whose frequency of co-occurrence is larger than
> expected on the basis of chance. (p. 6)

In this study, phraseology is interpreted in reference to the unit of analysis of MUs, which stipulates the metaphorical meaning to be the necessary condition for a linguistic unit to be eligible as an MU. Accordingly, phraseology of MUs refers to the possibility that an MU can be composed of one or more words.[17] Phraseological MUs or multi-word MUs are further divided into *free* and *restricted units* in which the latter refer to cases in which words select each other in a pre-patterned fashion, e.g., metaphorical fixed expressions and idioms. The former, on the other hand, includes cases in which words co-occur compositionally without a pre-patterned fashion. In cognitive linguistic terms, free multi-word MUs are constructs – compositional instances that instantiate metaphorical ideas, and restricted multi-word MUs are constructions – conventionalised form-meaning pairs (cf. Adele Goldberg, 2006; Karen Sullivan, 2013).

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[16] Cook (2011) considers this "one of the most interesting and as yet unsolved questions of linguistics: given their frequent formal similarities, what is it that distinguishes the banal from the sublime utterance?" (p. 301).
[17] For reviews of definitions and taxonomies of phraseological units, see Cowie (1998), Grant and Bauer (2004), Langlotz (2006), Nesselhauf (2005), Schmitt (2004), Wray (1999, 2002).

Classifying multi-word in this fashion may invite the scale of *novelty* (Pawley & Syder, 1983) or *institutionalisation*, which refers to the degree of familiarity and conventionality of idioms (Femando, 1996; Langlotz, 2006); these notions, however, are not chosen because they overlap with the metaphoricity of the metaphorical units as examined in the previous section. *Free* and *restricted* here point to the syntagmatic relationship between the elements of a metaphorical unit (Danielsson, 2007; Hanks, 2004). In the examples below, Examples 9 and 10 are restricted multi-word MUs while Examples 11 and 12 are free multi-word MUs.

Example 9. […], literature *play an important role* to tight them with interesting life.
    (Y2–8)

Example 10. [T]the modernity of the world will *go hand in hand* with literary works.
    (Y4–3)

Example 11. For me, literature like *a "amusing appetizer"* in order to start a new day.
    (Y1–22)

Example 12. Literature sharing becomes a *"living memory"*. (Y3–75)

It is a must to consider this dimension of metaphorical language. Conceptually, metaphorical language is identified based on the relations with its co-text – a non-metaphorical language setting – in an autonomy-dependence relation between conceptual domains (Langacker, 1987, 2002). Croft (2002), for instance, maintains that metaphorical interpretation is induced out of a dependent predication due to its grammatical combination with the autonomous predication(s) on which it depends (see also Sullivan, 2009, 2013). Simply put, an MU gains its metaphorical interpretation thanks to its co-existence with (an)other linguistic unit(s) in a metaphor-induced context. Identifying metaphors based on the juxtaposition between the contextual meaning and the basic sense in a given context is one way to operationalize this conceptual autonomy-dependence relation. It follows that if a multi-word MU is analysed as separate single-word units, the conceptual binding between the elements of a metaphor and between that metaphor and its supporting context is broken.

Linguistically, "[c]omplete freedom of choice, then, of a word is rare", as Sinclair (2004, p. 29) puts it. The phraseological nature of language is simply too prominent to overlook: Erman and Warren (2000) estimate that about 50% of texts is prefabricated; Altenberg (1998) claims that almost 80% of language production can be formulaic in some way. In addition, metaphorical language and multi-word units are inseparable (Cowie, 1998; Deignan, 2005; Granger & Meunier, 2008; Gries, 2006; Moon, 1998; Naciscione, 2010; Wray, 2002). The traditional view that metaphorical

idioms are processed as wholesale at a lexical level rather than as motivated by a cross-domain understanding (e.g., Aitchinson, 1987; Cruse, 1986; Strässler, 1982) has been challenged and replaced with an experimentally-grounded approach which maintains that metaphors are active in on-line processing of idioms (Gibbs, 1993, 1994; Gibbs et al., 1997; Gibbs & O'Brien, 1990; Keysar, Shen, Glucksberg, & Horton, 2000). Corpus-based work has provided more evidence for the metaphorical underpinnings of idiomatic expressions and the significance of idioms in understanding metaphorical thought (Deignan, 2005; Hanks, 2004, 2006; Sanford, 2008, 2014). Since an expression like *spill the beans* is metaphorical by nature, it must be included in a metaphorical examination. In the same vein, metaphorically-used expressions like *bear the weight*, *pay a high price*, which Cameron and Deignan (2006) call metaphoremes,[18] must be seen as discrete units of metaphorical language because each activates a metaphorical frame specific to its target domain (Kecskés, 2007; Karen Sullivan, 2013). Deignan (1999b, 2005, 2010) has proved that metaphors often appear as fixed expressions or in collocations, carrying with them such evaluative qualities that an oversight of their presence in discourse would result in an under-interpretation of the text.

Regarding learners' use of multi-word units, it might be the case that learners are not masters of phraseological units due to the lack of collocational knowledge, but I would argue for an approach where learners' attempts to produce chunks should be acknowledged (cf. MacArthur & Littlemore, 2011). While we do not have a conclusive account of learners' mechanisms of producing chunks, this does not mean that they do not produce chunks. In addition, these expressions are essential to the development of the L2 learner's interlanguage (e.g., Boers & Lindstromberg, 2009; Cowie, 1998; Coxhead, 2008; Nesselhauf, 2005; Weinert, 1995; Wood, 2010) and are key to creativity in language acquisition, language use and language play in learners (see Bell, 2012 for a review).

Potential Issues in Identifying MUs. Because the metaphoricity of a stretch of text is contingent on the context in which it appears, it is not the case that one metaphorical use of the word will dictate its further occurrences as metaphorical. This is particularly pertinent in the case of delexicalized verbs such as *have*, *do*, *give*, *take*, *make*, *put*. Consider the following examples from Deignan (2005) for *make*, which appears 118,430 times in the 56 million-word cross-section of the Bank of English:

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[18] Cameron and Deignan (2006) define *metaphoremes* as "bundle[s] of relatively stable patterns of language use" (p. 686) that are powerful enough to represent linguistic, conceptual and pragmatic features of metaphorically used language.

(21) . . . makers like Bru and Jumeau *made* dolls with heads of unglazed porcelain.

(22) There will also be ice cream and yoghurt *made* with soya milk.

(23) Business must sell more than 500 units at the current price to *make* a profit.

(24) She had *made* some new friends.

(25) The surgeon thought I had *made* a remarkable recovery.

(26) Lee *made* his way through the crowds. (p.51)

When the basic sense of *make*, the sense of *creating*, is contrasted with the contextual meaning, *make* in the first two citations is not metaphorically used. In the third citation, it is more difficult to decide: one can talk of *creating a profit* to consider the word as non-metaphorical or talk of the non-physical object to see it as metaphorical. In others, *make* is judged as metaphorically used because it is not used in its basic sense. This makes it clear that a case-by-case approach is required in the treatment of metaphorically-used language. The identification procedure and inter-rater reliability check are therefore required to maintain the consistency of this 'case-by-case approach'. There is also pressure to stay explicit about metaphorical decisions and reconciliations among analysts. Due to the fuzzy nature of metaphor, the category of cases *In Doubt* is introduced in the taxonomy. Besides, a number of issues have to be taken into consideration, as presented below.

Personification. Personification includes cases where the metaphorical meaning is realized as a result of a transfer from a human domain to a nonhuman domain (Kövecses, 2010; Lakoff & Johnson, 1980). Although traditionally considered a subtype of metaphor, personification is a complex phenomenon by itself (Dorst, 2011b; Dorst, Mulder, & Steen, 2011) and is usually discussed in connection with metonymy (Dorst, 2011b; Lakoff & Johnson, 1980; Lakoff & Turner, 1989; Low, 1999). This study treats personification occurrences in the corpus as cases of MUs and relies on the dictionary to decide on their metaphoricity.[19]

Simile. Literature is divided with respect to the metaphoricity of smiles. Some researchers treat similes as non-metaphorical (Pragglejaz Group, 2007; Steen et al., 2010); others as metaphorical (Lakoff & Turner, 1989; Stockwell, 1992, 2000). Still others adopt a middle position which recognizes the resemblance between similes and metaphors and highlights the limited correspondences, i.e., fewer common properties, between the source and target domains (Chiappe & Kennedy, 2001; Chiappe, Kennedy,

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[19] See Dorst (2011a, 2011b) for a classification of personification in fiction.

& Smykowski, 2003; Glucksberg & Keysar, 1990). The presence of *like* in similes results in a difference in the interpretation (Chiappe et al., 2003; Glucksberg & Keysar, 1990) and appreciation (Aisenman, 1999; Bowdle & Gentner, 2005; Gibb & Wales, 1990; Glucksberg & Haught, 2006) of a metaphorical statement. In the oft-cited example *Life is like a joke*, the joyous side of life is the metaphorical focus, whereas in *Life is a joke*, life is sarcastically no fun at all. This study adopts Cameron's (2003) position that some similes are non-metaphoric and some are metaphoric, depending on the context (see also Moder, 2008).

   Metonymy. In cognitive linguistics, metonymy structures thought as does metaphor (Gibbs, 1994; Lakoff & Johnson, 1980). It is seen that metaphor is a mapping across two conceptual domains, whereas metonymy is a mapping which remains within one conceptual domain, i.e., there is a transfer in the formation of metaphor out of congruity while metonymy is formed out of continuity (Haser, 2005).

   Recent discussions, however, have suggested that this is not always the case. As metonymy is increasingly given due attention, it has been argued to be in an interaction with metaphor (Barcelona, 2000, 2002; Croft & Cruse, 2004; Feyaerts, 2000; Kövecses, 2013; Radden, 2000, 2002) where the distinction between the two notions is "notoriously difficult" (Radden, 2002, p. 408). Many authors have proposed a metaphor-metonymy continuum with a large overlapping area in between (Dan, 1988; Deignan, 1997; Dirven, 2002; Goossens, 1990, 2002; Langlotz, 2006). Goossens (2002), for example, recognizes *metaphtonymy* which occurs in two dominant patterns of *metaphor from metonymy* (metonymy provides the experiential basis for metaphor) and *metonymy within metaphor* (metonymy in the target domain is embedded within a metaphor). Steen (2007) holds that metaphor relies on similarity while metonymy operates on contiguity, two different scales that are not exclusive of each other, giving rise to cases which can be perceived as either metaphor or metonymy. Barden (2010), on the contrary, does not see similarity and contiguity as distinct enough to count for the differentiation of metaphor and metonymy because metaphorical linkage can be a special case of contiguity while contiguity does involve similarity.

   For the purpose of this study, I will use Barcelona's (2010) definition of metonymy, seeing metonymy as essentially an intra-domain mapping that can arise from several conceptual links:[20] "Metonymy is a cognitive process whereby one concept is used to mentally activate (i.e., to "make us think of ") another concept with which it is

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[20] See Lakoff and Johnson (1980, pp. 36–39) for full list.

closely related in experience" (p. 134). Here are a few examples of metonymy from Lakoff and Johnson (1980, p. 38–39):

He bought a *Ford*. (producer for product)

You'll never get *the university* to agree to that. (institution for people)

Pearl Harbor still has an effect on our foreign policy. (place for event)

I also adhere to the current understanding that there is an overlapping between metaphor and metonymy and that metonymy can function as a motivation for metaphor. This happens in cases where the target domain and the source domain of metaphor come from a common subdomain (e.g., *That's a loud colour* – both target domain and source domain come from the subdomain of sense) or where metaphor results from the generalization or decontextualization of a metonymy (e.g., *The high cost of living* - decontextualization of the metonymy level of verticality for quantity) (Barcelona, 2000). As this study investigates metaphors, these metonymically-motivated metaphors will be included without their motivation being acknowledged. A case-by-case approach will be adopted in cases where a metonymic reading and a metaphorical reading are equally plausible (e.g., *I see your point*). An incongruous metonymic stretch of text is disregarded as non-metaphorical. Below are examples of metonymy from the corpus.

Example 13. We knew literature is the good and beautiful things which were written by author's special feeling. It brings full of *blood* and *tear* of the author. (Y2–48)

Example 14. Take "*Legend of the fall*" as an example. We understand what was going on in a *broken heart* and how pains are not usually expressed in tears. (Y4–26)

Context of the Study

Participants. Three hundred and ninety-six Vietnamese undergraduate students doing their B.A. in English from four public universities participated in this study. The students were in the second semester of their academic year when the data collection took place in 2012. They represented four homogeneous populations in terms of age and years of English learning. The participants all speak Vietnamese as their L1. Table 1 below summarizes their biodata:

Table 1

Biodata of Participants in Study 1

Year	N	Male	Female	Age (M)	Years of learning English (M)
Year 1	98	9	89	19.1	8.1
Year 2	100	13	87	20.2	9.3
Year 3	99	11	88	21.2	10.3
Year 4	99	12	87	22.1	11.3

The elicitation task. In order to capture representative writing samples of the population, the task (Appendix E) asked a question of general knowledge in the form of an agree-or-disagree prompt. The same task was used for all four year levels. In order to avoid possible influence from model essays, the chosen topic was one that had not appeared in writing practice materials in the market in Vietnam.

With the aim to collect authentic learner written data (cf. Granger, 2002, p.8), the elicitation task was set to be an in-class writing task, which is the most common form of writing assessment practice in Vietnam. The in-class task was thus unlikely to cause additional stress for the participants. In terms of performance, Kroll (1990) has reported that the additional time that L2 learners have for a home task does not lead to sufficiently improved essays and there is no statistical significance regarding the differences in writing performance between the two tasks. The in-class writing task also prevented the students from 'borrowing' metaphors from other sources, facilitated the teachers in collecting the participants' works, and ensured participation. The participants were not allowed to use dictionaries during the task.

Data collection procedure. Data collection for this stage of the project was conducted by the teachers of the participants. The procedure was as follows:

1. The teacher read the information to the participants (Appendix A or B).
2. The participants signed the consent form (Appendix C).
3. They filled out the bio-data questionnaire (Appendix D)
4. The teacher delivered the elicitation task and started to time the students.
5. S/he collected the essays and forwarded them to the researcher.

Marking. To prepare for marking, each essay was then made into two copies on which the writers' identification information had been removed. Five writing teachers who had been teaching writing between 8 and 27 years marked the essays holistically on a grading scale of 0-10 (See Appendix F). Each essay was thus marked blind twice by two different teachers. The markers were not informed of the objectives of the research project or the year level of the students.

Data preparation

Inputting data. For every text, I recorded and computerized the following information:

1. Text length: as measured by the total number of orthographical words in a text. I counted every essay manually, put the number of words at the end of each paragraph and each essay and asked an inter-rater to randomly count one paragraph in each essay. If there was a difference in an essay, I

recounted it and recorded the new figure.

2. Average grade: as measured by mean score of the two grades of each text. Pearson *r* produced a rating agreement of .85 (*p* < .01, 2-tailed).

3. Number of MUs: as measured by the total number of MUs in a text.

4. Number of each type of MUs: as measured by the total number of MUs of each type.

5. Metaphorical percentage of text: Metaphorical percentage of text measured the metaphor density in the text.

    This step was taken to obtain a general estimation so that the study can be relatively comparable to previous studies as findings in these studies were mainly presented in percentages. Metaphor density in this study is calculated by taking the total of metaphorical words of all MUs in a text and dividing it by the total of running words in that text. This method is essentially similar to the counting of metaphorically-used words (e.g., MacArthur & Littlemore, 2011; Steen et al., 2010).

Inter-rating reliability check. I read each essay line by line to manually identify the MUs following the procedure described earlier. After coding 100 essays – 25 from each level (25.25% of the data set) – two times, I asked a metaphor expert to work as inter-rater. After receiving instructions on the coding system on an MS-Excel file, the inter-rater worked independently on 20 essays, i.e., 20 per cent of the coding sample and five per cent of the data set. We then met to discuss the differences.

Contrary to my expectations that we would differ in our judgements of inter-MUs, our main differences lay with entrenched conventional items. For example, the preposition *in* in the prepositional phrase *in the modern world* was seen as metaphorical by me (as *world* here is an abstract world, not the physical earth) and non-metaphorical by my rater (*world* still means space, whatever sense it is used in, and thus no cross-domain mapping occurs). After discussion, we were able to reach the inter-rating agreement rate of 95% (calculated on simple percentage), which is an ideal result (Portney & Watkins, 1993; cited in Mackey & Gass, 2005, p. 244).

Cases where we could not reach an agreement were left in the *In doubt* category. I then proceeded with the whole dataset. Upon completion, I realized that this category of *In doubt* included mainly *in the modern world* because the participants recycled the language used in the elicitation task (cf. Hinkel, 2002). Therefore, I decided to exclude this category from the final analysis as it would introduce noise rather than add any substance to the study.

Results and Discussions

This section presents (a) the general information regarding the students' texts, (b) the patterns of metaphoricity and phraseology of the MUs in relation to the different year levels, and (c) the relationships between the metaphoricity and phraseology of the MUs and general language proficiency as well as writing proficiency.

General Text and MU Information

The 396 texts built a corpus of 95,541 words, 12,629 of which were used metaphorically, comprising 10,604 MUs. The general information regarding the texts and the MUs is presented in Table 2 below.

Table 2

General Information of Text and MUs

	Year 1 (N = 98)		Year 2 (N = 100)		Year 3 (N = 99)		Year 4 (N = 99)		General (N = 396)	
	M	SD	M	SD	M	SD	M	SD	M	SD
TL	168.68	57.15	256.43	61.09	252.61	62.91	286.45	71.35	241.27	76.76
No. of MUs	17.84	6.66	27.57	8.64	27.97	8.62	33.64	11.66	26.78	10.67
MP	12.41	3.34	12.67	2.93	13.46	3.41	14.07	3.18	13.15	3.27
AG	3.58	1.06	5.02	1.29	5.64	1.30	5.90	1.36	5.04	1.54

Notes: TL = Text length; MP = Metaphorical percentage; AG = Average grade.

Table 2 shows that in general, a text had an average of 241.27 words, 13.15% of which was metaphorical language (made up of 26.78 MUs), and was given a score of 5.04 out of ten. After the first year, there was a large quantitative change in text length, which increased from 168.68 to 256.43 words, i.e., from failing to meeting the task requirement of 250 words. The sophomores' average grade was also higher than that of the freshmen (5.02 as compared to 3.58). When the sophomores produced more words, they also produced 9.73 more MUs on average than the freshmen. The metaphorical percentage of text of the two groups, however, was almost the same: 12.41% and 12.67%. Between Year 2 and Year 3, the text length was almost the same (256.43 words and 252.91 words, respectively), as was the number of MUs (27.57 and 27.97, respectively). There was, however, an increase of 0.79% in the metaphorical percentage of text and 0.62 in grade, hinting at a qualitative difference in the MUs employed by the sophomores and the juniors. Year 4 writers produced more words (286.45) than required. Their texts had 33.64 MUs, 5.67 units higher than the Year 3 writers. The metaphorical percentage of text increased by 0.61%; however, the increase in grades was smaller: only 0.26.

The metaphorical percentage of the whole group was 13.15 %, lower than Nacey's (2013) Norwegian learners of English (15.5%). It is nearly the same as Nacey's (2013) native speaker student-writers (13.3%) and Steen et al.'s (2010, pp. 780–782) BNC-Baby-based corpus of 190,000 words (13.6%).[21] In other words, one in every 7.56 words the learner-writers in this study produced was metaphorical while the rates were one in every 5.56, 5.95, and 7.5 words in Norwegian learners of English, native speaker student-writers, and discourse participants in BNC-Baby respectively. This is, however, a rough comparison due to differences in the count of metaphorically-used words.[22]

Metaphoricity and Phraseology of the MUs in Relation to Year Levels

Metaphoricity

Conventional MUs. Conventional MUs made up 80.94% of the identified MUs. It can be seen from Table 3 below that the distribution of conventional MUs resembled the general pattern of the data set: there was a big increase in the number of units between Year 1 and Year 2 (8.87 units) and another increase between Year 3 and Year 4 (4.75 units) while the difference between Year 2 and Year 3 was smaller (2.28 units).

Table 3

Descriptive Statistics of Conventional MUs

Statistics	Year 1 (N = 98)		Year 2 (N = 100)		Year 3 (N = 99)		Year 4 (N = 99)		General (N = 396)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Conventional MUs	12.41	5.25	21.28	7.85	24.10	8.19	28.85	10.09	21.71	9.93

A Kruskal-Wallis H test confirmed that there were differences in the number of conventional MUs between the year levels, $\chi^2(3) = 156.43$, $p < .05$ with a mean rank conventional MUs of 83.27 for Year 1; 198.76 for Year 2; 232.46 for Year 3 and 278.35 for Year 4. Jonckheere's test revealed a significant trend in the data: as the participants progressed in their year level, they produced more conventional MUs in their writing, $J = 45262$, $z = 12.46$, $r = 0.6$, $p < .05$. Mann-Whitney tests were used to follow up this finding at a .0083 level of significance (Bonferroni correction applied). It appeared that the number of conventional MUs was significantly higher in Year 2 as compared to Year 1 ($U = 1695$, $r = -.57$) and Year 4 as compared to Year 3 ($U = 3523$, $r = -.24$). However, there was no significant difference in the use of conventional MUs between Year 2 and Year 3 ($U = 3989$, $r = -.17$).

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[21] In Steen et al. (2010), the proportion of metaphor density varies by register: academic texts have 17.5%, followed by news (15.3%), fiction (10.9%), and conversation (6.8%).
[22] For metaphor density in native-speaker spoken discourse, refer to reviews in Cameron (2003, 2011a).

It can be said that the use of conventional MUs is generally affected by the year level of the learner-writers. Although conventional metaphorical language is part of normal language use and tends to increase in proportion with the amount of text that the writers are able to produce, the influence of proficiency should be seen at a deeper level. There is a dynamics of language knowledge in the use of conventional MUs: they reflect the writers' command of meaning, form and usage of a lexical unit, all of which correlate with general language proficiency. For example, it has been shown that when L2 learners gain proficiency, their knowledge of word senses increases (N. Schmitt, 1998), and they are able to produce more senses of words (Crossley, Salsbury, & McNamara, 2010) and develop stronger networks of word associations (Crossley, Salsbury, & McNamara, 2011; Salsbury, Crossley, & McNamara, 2011; Zareva, 2007).

Linguistic structures of conventional MUs. Figure 1 below shows that the participants relied less on closed-class MUs and more on open-class MUs as they progressed in their year levels. This trend was also observed in Littlemore et al.'s (2012, 2014) investigations of German and Greek learners of English at different levels of the Common European Framework of Reference for Languages.

Among my participants, Year 2 signified a remarkable change in their use of MUs by word class; this was also when the participants' compositions met the task requirement of text length. In the final year, metaphorical content lexis accounted for 62.56% of the MUs, indicating a better command of extended senses of content lexis at this stage. This increase also explains the seemingly 'decreasing' trend of closed-class MUs, which may actually have not changed due to the limited members of their category. In L2 writing in general, however, Grant and Ginther (2000) reported that the overall use of prepositions increased as L2 writing ability level increased, suggesting a potential difference in the use of metaphorical and non-metaphorical prepositions.
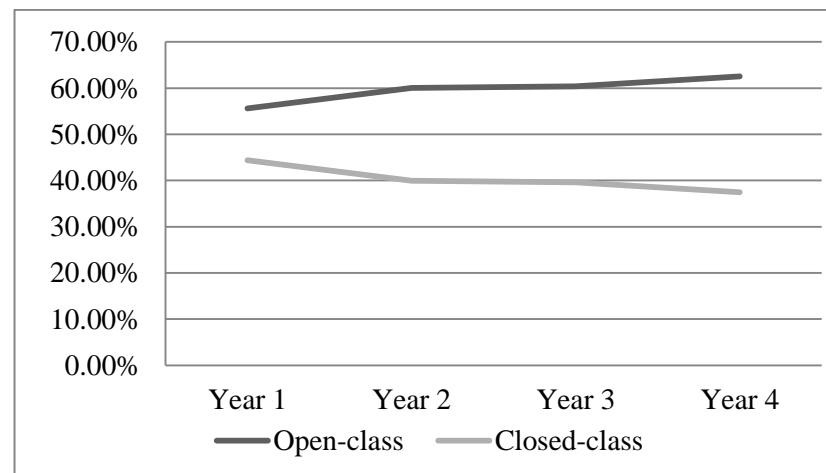
Figure 1. Conventional MUs by types of word classes

By types of phrases, Figure 2 below demonstrates an increase of 6.84% in the use of verbal MUs together with a fall of 4.44% in the use of prepositional MUs in the second year. The percentage of these two types of MUs was more or less the same in Year 2, Year 3 and Year 4, making up a large part of the conventional MUs identified.
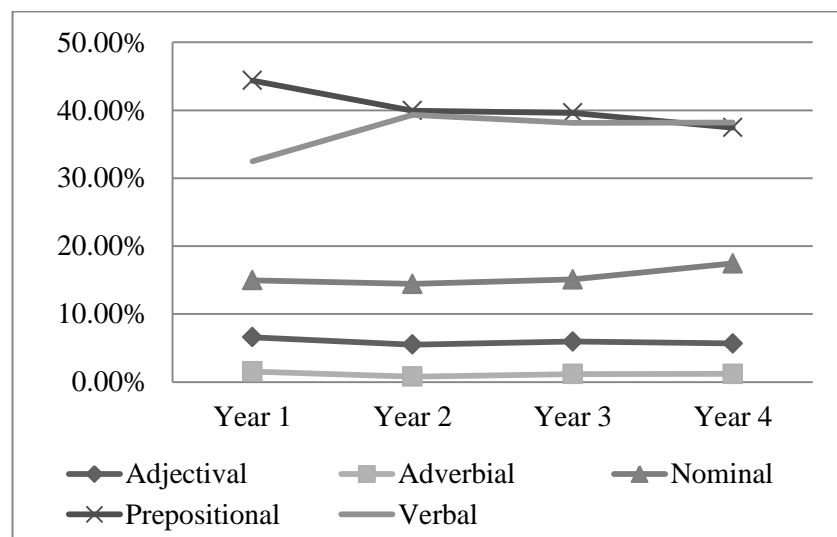
Figure 2. Conventional MUs by types of phrases

There was a steady rise in the use of nominal MUs while adverbial and adjectival MUs remained almost the same across the year levels. Verbal and prepositional MUs were the most common types of linguistic metaphors as also seen in previous findings (Cameron, 2003; Gargett, Ruppenhofer, & Barnden, 2014; Nacey, 2013; Steen et al., 2010), highlighting the fact that, quite contrary to the commonly-held *A is B* formula of metaphors, conventional metaphorical language exploits linguistic forms other than nominal phrases. Below are the examples of the MUs by word types:

Example 15. Adjectival MUs

Besides it provides a good chance for us to gain many experiences in our *short* span of life. […] First of all, we can build up a *strong* vocabulary by studying literature which we can implement in speaking and writing (Y3–5)

Example 16. Adverbial MUs

With other fields, you learn how to think logically and critically and with literature you can learn how to think *deeply*. (Y3–61)

On the other hand, literature express many sides of the life. It *fully* reflects a world with development. (Y3–98)

Example 17. Nominal MUs

Literature is the *food for thought* which help readers refresh their minds after a hard working day. (Y3–62)

Literary works offer an outstanding *wealth* of knowledge. (Y3–76)

Example 18. Prepositional MUs

> *Through these ways*, people got a chance to experience how to use the power of
> language to tell their points of view *on* a topic. (Y3–80)

Example 19. Verbal MUs

> Each book *contains* its messages that the author wants to *convey* to readers.
> (Y3–1)

Metaphorical general nouns. One special phenomenon in these participants' use of conventional metaphorical language is general nouns, also referred to as anaphoric nouns (Francis, 1994) or shell nouns (Schmid, 2000). According to Halliday and Hasan (1976), "the class of general noun is a small set of nouns having generalized reference within the major noun classes" (p. 274) that functions as a lexical cohesive device denoting reiteration. In Halliday and Hasan's (1976) cline, general nouns lie on the borderline of lexical and syntactic categories:

	The ascent	
	The climb	
I turned to the ascent of the peak.	The task	is perfectly easy.
	The *thing*	
	It	(p. 279)

Hinkel (2002) reports that non-native speakers use these "vague nouns" two to three times more frequently than native speakers. Specifically, her Vietnamese population of relatively high proficiency (mean TOEFL score of 563) produced a mean of 2.16 general nouns in their 320-word essays. Among my participants, a great number of general nouns (e.g., *thing(s), way(s), part(s)…*) were identified as metaphorical because they were used in the extended sense of the words. Below are examples with *thing(s)* which refers to abstract entities rather than a physical object or item.

Example 20. We can widen our mind, getting more knowledge of many wonderful

> *things* in the real life. (Y1–1)

Example 21. In the modern world, there are many *things* that occurred in life. There are

> some good *things* and some bad *things*. The most important *thing* is awareness
> of each other to life. There is a *thing* that make us to recognize that what is good
> and what is bad in order to improve our awareness. It's literature. (Y2–3)

Example 22. You may think that love is a common *thing* if do not exist romantic and

> eternal love stories. (Y3–35)

Example 23. My opponent said that literature creates new life, discover new *things*

> inside humans, contributes character's people. (Y4–14)

The striking point is the high and consistent frequency of these lexical items across the year levels, as shown in Table 4 below.

Table 4

Distribution of Metaphorical General Nouns

Year level	M	SD	Percentage in total nominal MUs
Year 1	1.38	1.40	51.92%
Year 2	2.42	1.82	58.45%
Year 3	2.38	1.83	55.41%
Year 4	3.06	2.02	52.33%
General	2.32	1.87	54.52%

Native speakers normally use general nouns to express a significant interpersonal or attitudinal meaning such as stance and distance on the part of the speaker (Halliday & Hasan, 1976), or to provide support for the text in terms of appropriate information presentation (Mahlberg, 2003, 2005). In contrast, my participants' general nouns do not function as cohesive devices because the meaning depends entirely on exophoric referents that are 'doubly vague' for readers to decipher (cf. Cutting, 2000). If researchers purposefully use general nouns to hide the incompleteness of their work (Cutting, 2012), learner-writers use them to hide their inability to retrieve specific and sophisticated words, probably involuntarily, due to their proficiency (Agustín Llach, 2011; Hinkel, 2002). While the overuse of general nouns like *thing* and *stuff* may not affect the general understanding of a piece of writing, it can be a sign of a stylistic problem because it makes the writing informal.

Although research has pointed out that learners tend to use more specific language as they become more proficient (e.g., Agustín Llach, 2010, 2011), this was not observed in my participants. As can be seen in Table 4 above, the mean use of general metaphorical nouns increased over the years, and the percentage of these nouns in total nominal MUs remained more or less the same across the four year levels. These facts point to a close relationship between the learners' productive vocabulary and general nouns, i.e., as the learner-writers produced more words, they also produced more general nouns. In other words, if learners maintain a habitual practice of opting for general nouns, they would fail to activate other types of content lexis. The overuse of a limited number of general nouns obviously reduces lexical diversity, an essential indicator of quality writing (Engber, 1995; Laufer & Nation, 1995; McNamara, Crossley, & McCarthy, 2010; G. Yu, 2010), which potentially results in what Uzawa (1996) called *i-1* level of language production (linguistically lower than learners' proficiency). Note that the general words examined in this study are those used

metaphorically, only one part of the range of general words on which these L2 learners may have relied in their writing.

Until the learners acquire the pragmatic functions of general words to fulfil textual and discoursal functions, they need to learn to activate more specific vocabulary to achieve precision in expressing their content message and appropriateness of the academic writing style. In order to do this, learners need to be trained to be aware of the effect of their word choice on the readers and to adopt a consciously selective attitude in their word activation. It seems that these general words, probably due to their frequency, are so readily present in word searches that the learners, who are under the pressure of the task, would feel content with such words at the expense of writing quality. The question of how language users, particularly L2 users, bypass hyperonyms in the lexical retrieval process, however, is presently unclear (Caramazza, 1997; La Heij, 2005; Levelt, 1989, 1993).

Novel MUs. Novel MUs accounted for 2.14% of the total MUs identified. Nacey (2013) reports a higher figure of 4.8% of creative metaphors among her Norwegian learners of English, which may be due to her inclusive approach in counting.

Although there was a slight increase in the number of novel MUs by the year levels, all groups had a mean number of novel MUs under one unit with the most advanced group (Year 4) producing 0.85 novel MUs per text on average (Table 5). Unlike conventional MUs, novel MUs did not characterize a defining feature of every participant's writing. This kind of MUs appeared in 24.49% of Year 1 texts, 29% of Year 2 texts, 39.39% of Year 3 texts, and 45.45% of Year 4 texts.

Table 5

Descriptive Statistics of Novel MUs

	Year 1 (N = 98)		Year 2 (N = 100)		Year 3 (N = 99)		Year 4 (N = 99)		General (N = 396)	
Statistics	M	SD	M	SD	M	SD	M	SD	M	SD
Novel MUs	0.34	0.69	0.48	1.01	0.61	0.95	0.87	1.34	0.57	1.04

A Kruskal-Wallis H test indicated that there were no significant differences in the use of novel MUs between the year levels, $\chi^2(3) = 12.59$, $p < .05$ with a mean rank of 177.05 for Year 1; 188.23 for Year 2; 206.74 for Year 3 and 221.88 for Year 4. At $p < .0167$ Mann-Whitney tests confirmed this finding: the differences between Year 2 and Year 1 were insignificant ($U = 4619.50$, $r = -.06$); so was between Year 2 and Year 3 ($U = 4479$, $r = -.098$); and Year 3 and Year 4 ($U = 4511$, $r = -.078$). Jonckheere's test, however, suggested that there might be a trend for learners to produce more novel MUs in the later years: $J = 33202$, $z = 3.55$, $r = 0.18$, $p < .05$. Further Mann-Whitney tests

were therefore conducted, which yielded a significant difference in the number of novel MUs between the freshman and the seniors: $U = 3763$, $r = -.230$, $p < .0083$.

Levorato and Cacciari (2002) have also shown that the ability to use figurative language creatively and sensibly requires a long developmental span. In essence, while the novelty of metaphorical language use did not differentiate the learner-writers in two consecutive levels, advanced learners may be able to produce more novel MUs as compared to beginners, as also observed in professional writers (Williams-Whitney, Mio, & Whitney, 1992). Examples of novel MUs are:

Example 24. Let spent time *flowing in the river* of poems. (Y1–38)

Example 25. Especially for writers [literature] is not only help them feel better but also a *friend*, a *lover* because it's a *diary* to show everything. (Y1–50)

Example 26. Literature is not merely a *photographic copy* of real life. (Y2–18)

Example 27. In my opinion, we shouldn't apart literature from the life because it is a fastest way to *kill* our soul. (Y2–89)

Example 28. Thirdly, good works of literature are not *museum pieces*, preserved and studies only for historical interests. (Y3–71)

Example 29. It can be firmly believed that the vigor of literature will never be *withered away*. (Y3–80)

Example 30. Literature is the *friend* of past, the *helper* of present and the *leader* of the future. (Y4–2)

Example 31. It [literature] *stirs* us intellectually and emotionally. (Y4–5)

The significant difference between the seniors and the freshmen can be explained with the self-efficacy that learners gain with proficiency (Liu, 2006; Sasaki, 2004; Sasaki & Hirose, 1996). As their ability to employ extended senses of conventional language increases (Crossley et al., 2010; N. Schmitt, 1998), learners can become more comfortable with exploring new dimensions of known lexis to articulate their points in writing. Hanks (2013) discusses this willingness to stretch and bend semantic boundaries in his theory of Norms and Exploitations, maintaining that the competent users of norms (conventional language) exploit them to create novel metaphors for communication purposes. To put it another way, the conventional (the known) acts as a frame on which novelty thrives. The language learners' ability to play with the target language is thus likely to depend on their proficiency (Albert & Kormos, 2004; Bell, 2005; Belz & Reinhardt, 2004): more proficient learners would have stronger and broader knowledge of conventional language, which provides them with the confidence and linguistic materials to play with language.

This should not be overgeneralized to the extent that when an L2 learner reaches near-native proficiency, his/her writing would be filled with novel metaphors. We are only looking at learners' novel MUs as outcome products of vocabulary performance in their writing. As shown in the literature, semantic knowledge is only one of the many factors that contribute to individuals' metaphorical creativity besides other factors such as gender (Hussey & Katz, 2006), writing expertise (Williams-Whitney et al., 1992), reasoning and imagery ability (Katz, 1989), fluid intelligence (Beaty & Silvia, 2013; Silvia & Beaty, 2012), working memory capacity (Chiappe & Chiappe, 2007) and emotional sensitivity (Lubart & Getz, 1997).

Inter-MUs. Inter-MUs made up 16.92% of the total MUs identified. As shown in Table 6, their pattern did not display a systematic increase trend as in the case of conventional and novel MUs. The number of inter-MUs in Year 1 text was 4.96 units; it increased by 0.85 inter-MUs in Year 2 (5.81 units per text), decreased sharply in Year 3 to 3.26 per text, and increased again in Year 4 (3.92 units per text). Interestingly, the seniors only produced 1.04 inter-MUs fewer than the freshmen.

Table 6

Descriptive Statistics of Inter-MUs

	Year 1 (N = 98)		Year 2 (N = 100)		Year 3 (N = 99)		Year 4 (N = 99)		General (N = 396)	
Statistics	M	SD	M	SD	M	SD	M	SD	M	SD
Inter-MUs	4.96	3.14	5.81	3.11	3.26	2.21	3.92	3.34	4.49	3.12

A Kruskal-Wallis H test showed that the difference in the number of inter-MUs between the year levels was significant, $\chi^2(3) = 44.14$, $p < .05$ with mean rank of 218.48 for Year 1; 249.71 for Year 2; 153.58 for Year 3; and 171.92 for Year 4. At $p < .0083$. Mann-Whitney tests indicated that the significance lay between Year 2 and Year 3 ($U = 2462$, $r = −.44$); but not between Year 1 and Year 2 ($U = 4101$, $r = −.14$); or Year 3 and Year 4 ($U = 4594$, $r = −.06$). These results mean that Year 2 participants were unable to tend to the accuracy of metaphorical language use even though they wrote longer texts than Year 1 participants. More accuracy in this respect was only achieved when the learners transited from Year 2 to Year 3; after which they failed to make further improvement. Jonckheere's test suggested a significant descending trend, i.e., the participants produced fewer inter-MUs in their writing as they progressed in their year level, $J = 23429$, $z = −4.72$, $r = −0.24$, $p < .05$. This is confirmed by the significant results that further Mann-Whitney tests produced between Year 1 and Year 3 ($U = 3198$, $r = −.3$, $p < .0083$); Year 1 and 4 ($U = 3746$, $r = −.2$, $p < .0083$); as well as Year 2 and Year 4 ($U = 3116$, $r = −.32$, $p < .0083$).

From these results, the trade-off effect between quality and quantity of language production (Foster & Skehan, 1996; Skehan, 1998, 2009b) can be diagnosed in the participants' use of metaphorical language: when there was an increase in metaphorical fluency as shown in the number of MUs (Year 2 and Year 4), there was an increase of the inter-MUs, i.e., a decrease in the accuracy of the MUs.[23] It can also be said that except for the period between Year 2 and Year 3, participants took longer to gain accuracy in their metaphorical language. That very advanced learners do not necessarily make fewer errors than their lower-level peers has been observed (Lennon, 1991, 1996; Ortega & Byrnes, 2008) and explained as being due to fossilization (Olsen, 1999; Selinker, 1972) or the different nature of their errors (Lasagabaster & Doiz, 2003).

In terms of metaphorical language, as described earlier, an inter-MU is one that does not satisfy the conditions to be a conventional or novel MU due to deviations in its form and/or usage. Figure 3 below shows the percentage of each type of inter-MUs through the years (overlapping cases were counted more than once). Overall, the inter-MUs were caused by deviated form more than deviated usage. The two kinds of metaphorical errors also display an opposing trend in their distribution.
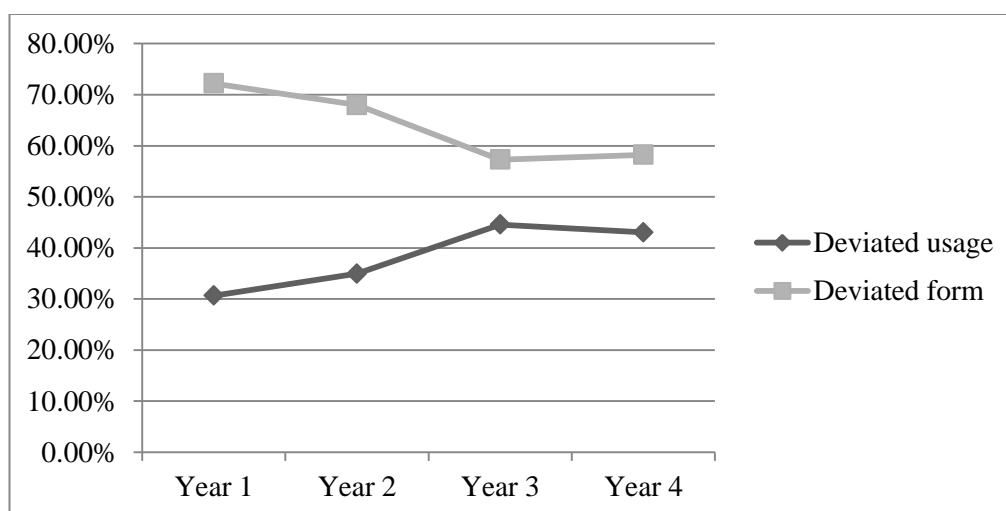
Figure 3. Percentage of types of inter-MUs

Figure 3 shows that the number of units with deviated form accounted for 65.07% of the inter-MUs. Considering that grammatical errors are the most common problem for L2 writers (Ghrib-Maamaouri, 2001), which has negative influence on their writing quality (Hinkel, 2002; A. Johns, 1997) and impedes their progress to advanced writing proficiency (Hammerly, 1991; Hinkel, 2002), this high percentage of deviated form was not unexpected. However, apart from a small increase of 0.97% from Year 3

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[23] Fluency here means a measure of number of linguistic units that a writer is able to produce in a limited time (Wolfe-Quintero, Inagaki, & Kim, 1998, p. 14).

to Year 4, the general trend shows that these participants made improvements in terms of the spelling and grammar of the MUs identified, reducing the number of errors such as those underlined in Example 32 and 33 below from 72.22% of all inter-MUs in Year 1 to 67.98% Year 2 and 57.27% in Year 3. The increase in the grammatical accuracy of metaphorical language use resembles the general trend of language learning (Henning et al., 1981) because more advanced learners tend to pay more attention to grammar and spelling in their writing (Hirose & Sasaki, 1994; Sasaki & Hirose, 1996).

Example 32. Each story will *helps* everyone expand their hearts, aware mental spirit values and maintain their courage to *pursure* their dreams and aspirations. (Y1–39)

Example 33. Reading also *help* to speak naturally to everyone and write essays *smoothlier*. (Y1–59)

On the other hand, the inter-MUs which resulted from deviated usage increased through the first three years (27.57% in Year 1, 33.56% in Year 2 and 44.58% in Year 3) and slightly dipped in Year 4 (43.04%). This kind of usage-deviated inter-MUs accounted for 37.29% of the total inter-MUs of all four groups. For example:

Example 34. There are many old literary works still *detained* at the moment. (Y1–52)

Example 35. The fairy tails has been *transmitted* from this generation to another as valuable lessons for offspring. (Y3–70)

Example 36. Therefore, human-being life are becoming *short* of communication, especially bad effect on our sensitive emotion (Y3–28).

Example 37. Books are helpful, they help us *enlarge* my soul to the world. (Y1–8)

Example 38. It helps keep the traditional and cultural values and *flourish* the people's soul. (Y4–58)

Example 39. It helps us understand *expenses* rise beyond all of Vietnamese's women. (Y2–43)

Example 40. Literature is source which *grow* our emotion. (Y2–48)

Supposing that my participants were the typical learners who learned more words at each year level, it seems that the more words they learned, the more problems they had with the usage of the words – problems with the new items were added to the existing issues of old ones (as seen in the increasing trend in Figure 3). In the examples above, the problems with the underlined items (deviated form aside) are due to the inappropriate use of the MUs due to (a) a confusion of senses where synonyms and near-synonyms were employed in place of the target units; and (b) miscollocations of the MUs and their co-texts.

The former can be 'fixed' by replacing them with a target item (e.g., *remain* for *detain* in Example 34, *handed down* for *transmitted* in Example 35, and *lack* for *short* in Example 36). The latter of the two causes of inter-MUs, meanwhile, has to be considered in a more complicated picture. In Examples 37–40, the learner-writers had conceptualized a propositional content in Vietnamese and mentally 'translated' it into English, a common activity reported in several studies in L2 writing (e.g., Cohen & Brooks-Carson, 2001; Knutson, 2006; Sun, 2014). As a result, we have *enlarge my soul* in Example 37 to mean *open my heart*, and *flourish the soul* in Example 38 to mean *develop the mind* because in Vietnamese language, the concept of *soul* can be extended to include *the soul, the spirit, the heart, the mind*. Similarly, in *expenses rise beyond all* in Example 39, the student was writing about *the values of being able to rise above all*, having failed to distinguish the usage of *expenses* and *values* in this context. Finally, *grow our emotion* in Example 40 should mean *emotionally mature*; the usage resulted from the Vietnamese way of formulating the ideational content: *our emotion 'grows'* or *'develops'*.

Another cause of the inter-MUs was the direct interference of L1 where the students imported the Vietnamese metaphorical conventions wholesale into their essays, showing not a conceptual translation as above but a word-for-word translation (Examples 41–44 below).

Example 41. We can know how to communicate and <u>*make*</u> good person. (Y1–58)

Make good person is used for *làm người tốt*, the conventional way to mean *be a good person* in Vietnamese.

Example 42. People were born and grow up <u>*go hand in hand*</u> poetics and stories that our mother readed. (Y2–1)

In this example, *go hand in hand* was used to mean *đi đôi với (in parallel with, together with)*. The writer, however, did not realize that the phrase was used incorrectly.

Example 43. You can <u>*drop your soul into*</u> your literary works. (Y3–16)

This writer wanted to translate the phrase *thả hồn vào,* a conventional way to say *let go of your heart, set your heart free* in Vietnamese. Yet she was confused in her own language as the Vietnamese *thả* is polysemous and can mean *to drop* or *to set free*.

Example 44. I have a literary work <u>*under the pillow*</u> named "Rừng Na-Uy" [Norwegian wood]. (Y4–87)

This is another borrowing from Vietnamese: a book that one keeps under the pillow *(dưới gối)* or uses as a pillow *(gối đầu)* is one's favourite. The phrase was as such translated into English.

This practice of direct translation is a compensation strategy to bridge the gap between communicative need and lexical knowledge often associated with low-proficiency learners (Agustín Llach, 2010, 2011; González-Álvarez, 2007; Poulisse, 1993) who generally assume the similarities between the source and target language. Direct translation between languages with large typological distance is risky; this is especially true of metaphorical language (Azuma, 2009; Boers, 2000b). The insertion of an L1-based metaphorical expression may result in a degree of obscurity in the L2 writing, especially when the readers do not share the learners' linguistic and conceptual systems (Boers, 2003; Charteris-Black, 2002, 2003; Kövecses, 2003; Kövecses & Szabó, 1996). The Vietnamese conventional metaphor of *mirror* which describes a person who 'shines' for other people to look at and learn from, for example, would not be meaningful to non-Vietnamese speakers on reading *Literary works point out the good mirror which we have to learn* (Y2–65).

Additionally, word-for-word translation at times led to redundancy (Example 45 and 46) or paraphrased versions of the English target phrases (Example 47 and 48):

Example 45. We do work *in* all day. (Y1–48)

Example 46. The literary had born *from* many century ago. (Y1–76)

Example 47. Literature help everyone *make richer* [enrich] knowledge resources of
  yourself. (Y1–73)

Example 48. The literary work can *make easy* [ease] the pain. (Y2–29).

Nevertheless, Figure 4 below shows that the influence of L1 in this fashion decreased by the year. Indeed, the L2 learners tend to break away from their reliance on L1 in the long run when their proficiency increases (Agustín Llach, 2010; Jansen, Lalleman, & Muysken, 1981; Liao, 2010; Navés, Miralpeix, & Celaya, 2005; Olsen, 1999; W. Wang & Wen, 2002).
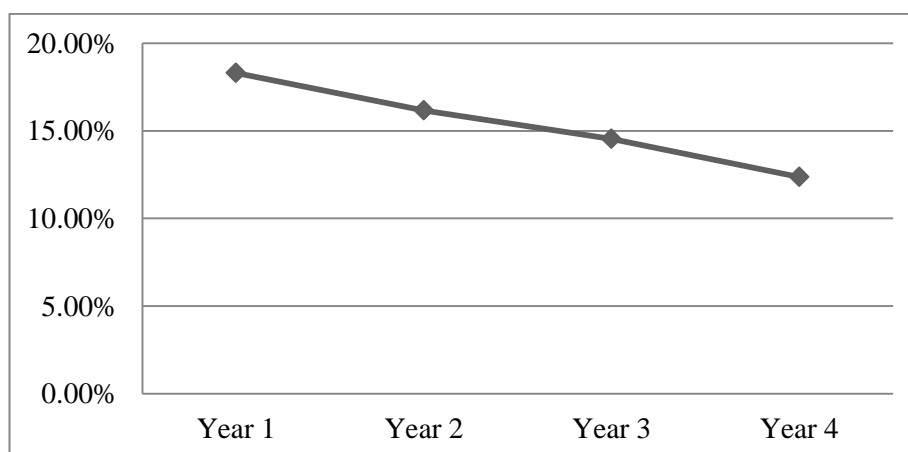
Figure 4. Distribution of word-for-word translated inter-MUs in all year levels

In the context of the L2 composing process, language-switching is engaged at both conceptual and linguistic levels (Qi, 1998; L. Wang, 2003; Woodall, 2002), especially in low proficiency writers (Xue, Dong, Jin, Zhang, & Wang, 2004). It is expected that when the L2 writers are more advanced than the participants in this study, their writing still bears the mark of their own language. Elston-Güttler and Williams (2008), for example, have found that even in an immersive English environment, learners still activated linguistic and conceptual concepts that bear the mark of their L1. It is impossible, and undesirable, to 'remove' the L1 from their L2 writing because it bridges the gaps of conceptual representations between the language systems (Jiang, 2004; J. Kroll & Stewart, 1994). Various studies have documented learners' strategic mobilization of resources in both L1 and L2 while composing (Clachar, 1999; Cumming, 1989, 1990; Haastrup, 2008; Kobayashi & Rinnert, 1992; Uzawa, 1996). Thinking in L1, as a form of "inner speech" (Vygotsky, 1978, p. 57), offers the L2 learners with a scaffolding system of self-helping in dealing with the cognitive and linguistic challenges of the writing task. These inter-MUs thus create a good site to investigate how the L2 learners handle the tensions between the metaphorical ways of their own language and target language as well as the strategies they may adopt to be metaphoric in the target language. They seemed to show the blueprint of the L1 conceptual system, forming a phenomenon of metaphorical 'abnormalities' frequently observed in inter-language (Danesi, 1993, 2004; Hashemian & Talebi Nezhad, 2007; Kathpalia & Heah, 2011; MacArthur, 2010; Nacey, 2013), which has probably prompted the call for teaching conceptual fluency as reviewed in Chapter 2.

In more concrete terms, however, these examples display the participants' limited L2 knowledge of word senses and usage properties, which is probably the consequence of learning words out of their contexts of usage (see also Ying & O'Neill, 2009). The L2 learners' low sensitivity to the differences in synonyms, as Zughoul's (1991) speculated, is the result of the assumption that words can be used interchangeably due to the practice of learning synonyms with monolingual or bilingual dictionaries. After years of learning L2 vocabulary without learning the context of usage, the learners' lexicon would become a kind of mental dictionary composed of similar but unrelated entries. Productive tasks are unlikely to benefit from this lexicon because writing, for example, requires more than separate words put together. When words are not acquired in their usage pattern, the connections between the member collocates tend to be loose, which allows the L1 conceptual system to permeate through, resulting in interlingual errors. These errors, which accounted for up to 45% of the

collocational errors in Nesselhauf (2005), are different in different groups of learners (Altenberg & Granger, 2001; Biskup, 1992; Dechert & Lennon, 1989; Howarth, 1998; Laufer & Waldman, 2011; Sun, 2014). On the other hand, when not learned in their usage pattern, the not-yet-entrenched traces of a group of words may lose their footing when a similar group enters the processing system, resulting in intralingual mixed-ups as in Example 49 and 50 below. These are the errors that can be universal in different groups of learners and cannot be traced back to their L1, as Wang and Shaw (2008) noticed in a study that investigated collocational use among advanced Chinese and Swedish learners of English.

Example 49. The real life is a competitive race so it is essential to build a heaven in real

life for children when they are *growing up* [building up] characteristic. (Y3–29)

Example 50. I believe literature *plays an important key role* [plays an important/key

role] in each individual's life in every generation. (Y3–69)

We have seen from the examination above that there were downward trends in the number of inter-MUs due to deviated form and word-for-word translation. It thus can be said that it was the deviations due to sense confusion that had prevented the Year 4 group from achieving higher accuracy in their metaphorical language use. Philip's (2005a, 2005b) advanced learners also demonstrated similar errors, which has led her to conclude that the errors among L2 learners are more of a question of proficiency than an issue of conceptual fluency. The activation of a synonym or near synonym in an inappropriate usage also presses the need to probe into how the L2 speakers build their mental lexicon, as it does not seem that their lexicon is organized in radial networks as described (Dirven, 1985; Dirven & Verspoor, 2004; Lakoff, 1987b; Sweetser, 1990; Taylor, 1989, 2002; Tyler & Evans, 2003) and elicited in L2 learners (Cho, 2010; Csábi, 2004; Matula, 2007; Verspoor & Lowie, 2003). Littlemore and MacArthur (2012), for example, have shown a mismatch between the frequency of senses yielded from corpus and L2 speakers' knowledge of meaning potentials of those word senses.[24]

According to Bygate (2001), to produce an intended message, language learners have to deal with not only form-meaning relations but also anomaly and redundancy. The inter-MUs bear a double incongruity: with its co-text and with the language convention, providing a window to how learners handle these constraints to communicate metaphorically. By recognizing inter-MUs, rather than dismissing them as errors or including them as creative, we can avoid creating a false impression of inter-

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[24] Rice's (2003) investigation of L1 child language development also casts doubt on the growth of a lexical netwok driven by mechanisms such as metaphorization or schematization.

language and can gain an insight into the metaphorical aspects of L2 development. With product data, however, it is not possible to decide whether these inter-MUs are results of an attempt at creativity, improvisation due to constraints of proficiency or lack of cognitive attentional resources under task pressure.

Phraseology. Multi-word MUs made up 16.47% of the MUs, 51.15% of which was free multi-word MUs and 48.85% was restricted multi-word MUs. Generally, as seen from Table 7, a text contained on average 4.41 multi-word units that were metaphorically-used. Table 7 also suggests an increase in the use of multi-word MUs by the years, with the largest increase being from 2.45 units per text in Year 1 to 4.30 units per text in Year 2. Interestingly, the mean number of free multi-word MUs was higher than that of restricted multi-word MUs in all except the Year 4 cohort, indicating a greater reliance on conventionalized chunks at this level. Quantitatively, proficiency seemed to have an effect on these learners' production of metaphorical multi-word units, supporting previous findings in multi-word unit literature (Bardovi-Harlig & Bastos, 2011; Gitsaki, 1996; Wiktorsson, 2003; Yorio, 1989).

Table 7

Descriptive Statistics of Multi-word MUs

Types of multi-word MUs	Year 1 (N = 98)		Year 2 (N = 100)		Year 3 (N = 99)		Year 4 (N = 99)		General (N = 396)	
	M	SD	M	SD	M	SD	M	SD	M	SD
General multi-word MUs	2.45	2.23	4.30	2.85	4.88	3.12	5.99	3.58	4.41	3.24
Free multi-word MUs	1.30	1.39	2.47	1.92	2.57	1.89	2.68	2.18	2.26	1.94
Restricted multi-word MUs	1.15	1.37	1.83	1.61	2.31	2.05	3.31	2.28	2.15	2.02

A Kruskal-Wallis H test showed that the differences between the use of multi-word MUs between the year levels were significant $\chi^2(3) = 73.23$, $p < .05$, with a mean rank of 120.02 for Year 1; 199.33 for Year 2; 220.75 for Year 3; and 253.10 for Year 4. At a .0167 level of significance, the results of Mann-Whitney tests, however, showed that the significant difference was only between Year 1 and Year 2 ($U = 2855.50$, $r = -.36$). The differences between Year 2 and 3 ($U = 4391$, $r = -.10$) as well as Year 3 and 4 ($U = 3955$, $r = -.17$) were not significant. Because Jonckheere's test suggested a significant ascending trend in the participants' use of multi-word MUs across the four groups: $J = 40001$, $z = 8.37$, $r = 0.42$, $p < .05$, further Mann-Whitney tests were conducted. The tests showed that there were significant differences in the use of multi-word MUs in Year 3 as compared to Year 1 ($U = 2261.50$, $r = -.47$, $p < .0083$), Year 4 as compared to Year 1 ($U = 1794$, $r = -.55$, $p < .0083$) and Year 4 as compared to Year 2 ($U = 3547$, $r = -.25$, $p < .0083$).

These results suggest that, similar to accuracy, the phraseology of MUs is difficult for these learners as it would take them longer to display an increase in this knowledge (see also Irujo, 1993). Among Chinese EFL students, Huang (2013) found a non-significant difference in terms of multi-word unit performance even after four years of English learning because the quantity of multi-word units would increase, but not the accuracy of these units. Jones and Haywood (2004) also reported that after a ten-week course designed to teach formulaic language, there was an increase in awareness and receptive knowledge but no substantial evidence of this in students' writing.

Multi-word novel and conventional MUs. The number of multi-word novel MUs was not high: 10 cases in Year 1, 22 in Year 2, 26 in Year 3 and 37 in Year 4, accounting for 5.44% of the total multi-word MUs. Examples of multi-word novel MUs are:

Example 51. We are *gathering tools for our life toolbox* when reading. (Y1–7)

Example 52. If we stop reading, we close our mind and *close down a world*. (Y2–98)

Example 53. They consider books as the "*fertile land*" to foster their souls. (Y3–71)

Example 54. And, literature helps people escape these things by the *sweet, soft melodies*
of wonderful words. (Y4–16)

On the other hand, the number of multi-word conventional MUs rose remarkably from Year 1 (46.67% of the total multi-word MUs) to Year 3 (72.67%), but hardly increased in Year 4 (72.80%) (see Figure 5 below). It is strange that the Year 4 group produced longer texts than required with significantly higher number of conventional MUs as compared to Year 3, but failed to show any progress in terms of the phraseology of their MUs. This finding is in contradiction to Gitsaki's (1996), which showed that by the time the L2 (Greek) learners reached the final stage of collocational knowledge development, they would be on their way to a more advanced level.

The percentage of free and restricted multi-word conventional MUs in Figure 5 suggests that it might not be the case that the phraseology of the MUs in Year 4 had reached its plateau at this level. While in Year 3, the percentages of these two types of multi-word MUs were almost the same, Year 4 witnessed a clear increase in the use of restricted units. Therefore, at this stage, the students must be going through some short-term stabilization to restructure their interlanguage in preparation for a future learning outcome, which can be either further progress or longer-term cessation (Han & Odlin, 2006; Selinker & Han, 2001), depending on the availability of learning opportunities. To extend this projection, if learners stop learning after finishing their degree (which is typically the case), it is likely that they may face the long-term cessation of their

interlanguage. Therefore, knowledge of phraseology must be introduced and consolidated early in a learning program so that it could enter the learners' long-term memory before the learners are withdrawn from formal instruction – their main source of input exposure.
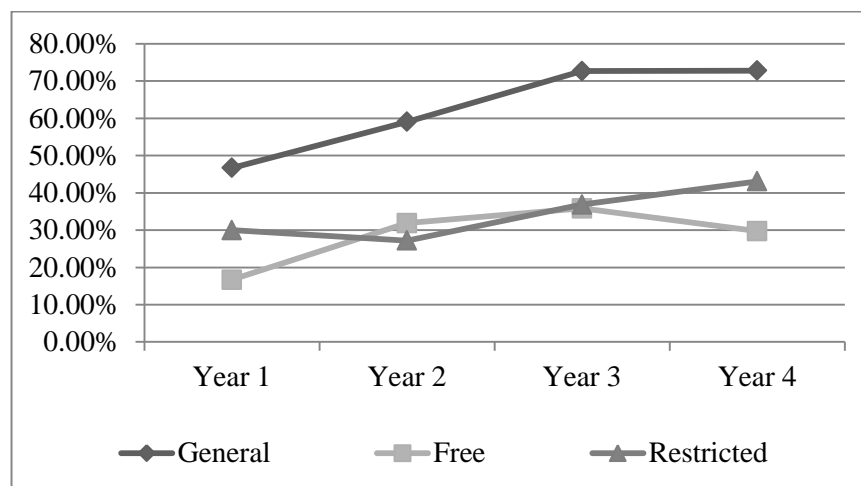
Figure 5. Percentage of different types of multi-word conventional MUs

In general, the percentage of restricted units was slightly higher than that of free units: 54.18% and 45.82% of the total number of conventional multi-word MUs respectively. It is worth noticing here that the increase in restricted MUs in Year 4 seemed to be achieved at the expense of the free MUs. It is not clear whether it is desirable if learners produce works with more expressions like Example 55 and 56 and fewer expressions like Example 57 and 58 below. Because this study only looks at multi-word units that are metaphorically used, it is not possible to gain a complete insight into how the learners' choice of different types of multi-word units would reflect their writing performance.

Example 55. Some people sink in earning and they forget that the life has many *ups and downs*. (Y4–76)

Example 56. Reading can *shed light* on the situations we are facing. (Y4–80)

Example 57. […], and we may even grow and evolve *through our literary journey* with books. (Y4–82)

Example 58. The point is that our ancestors *saved all of their best values* in literature, which would be provided to the following generations. (Y4–92)

Present scholarship tends to describe the deviations of L2 learners' use of multi-word units and overlooks the qualitative picture of the types and patterns of usage of 'normal' units. An exception is Crossley et al.'s (2014) study which suggests that collocational accuracy can predict 84% and 89% of the holistic scores of lexical proficiency in written and spoken samples respectively.

Multi-word inter-MUs. L2 learners are infamous for making errors with multi-word units (Huang, 2013; Kathpalia & Heah, 2011; Laufer & Waldman, 2011; Nesselhauf, 2005; Osborne, 2008). In Laufer and Waldman's (2011) study of verb-noun collocations, about one-third make errors regardless of their level. In a study that focuses on grammatical/linguistic miscollocations to investigate EFL learners' metaphorical competence, Kathpalia and Heah (2011) revealed that 88% of the student samples displayed some type of miscollocation.

Among my participants, multi-word inter-MUs accounted for 24.20% of the total inter-MUs and 28.71% of the total multi-word MUs; 73.47% of these units were related to incorrect form and 65.78% to deviated usage (overlapping cases were counted more than once). Generally, as seen in Figure 6, there was improvement in the accuracy of the multi-word MUs across the years, as shown in the general decrease of multi-word inter-MUs. In Year 1, these units accounted for 49.17% of the total number of multi-word MUs. The figure reduced by 13.33% between Year 1 and Year 2 and 14.07% between Year 2 and Year 3. The difference between Year 3 and Year 4 was only 0.79%. The group of seniors also made more mistakes with restricted multi-word MUs.
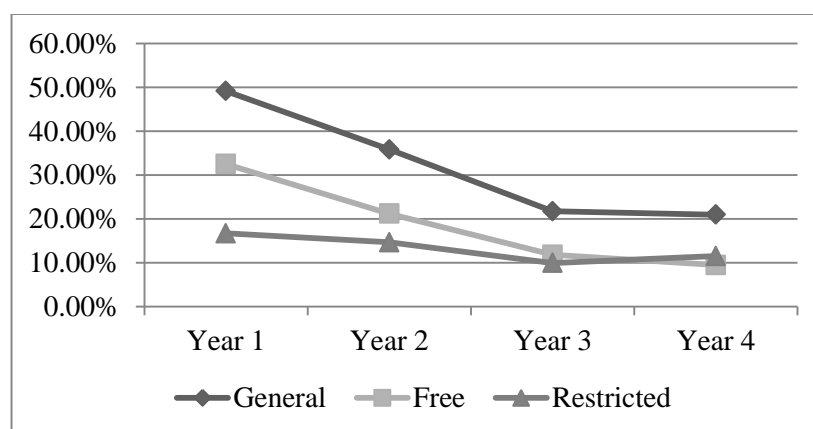
Figure 6. Percentage of different types of multi-word inter-MUs

Of the 248 units that made up 65.78% of multi-word inter-MUs with deviated usage, free units took up 57.02%. These units (Examples 59–62) demonstrate the participants' attempts to communicate a metaphorical idea with made-up phrases that clearly bear L1 conceptualization of ideas and wording.

Example 59. From that you can cultivate many helpful things to *make your understanding larger.* (Y1–38)

Example 60. There are many literary works have passes by many historical periods and *making a special point* in our nation. (Y2–82)

Example 61. How can the children in these places develop or grow up healthy *in mental side*? (Y3–49)

Example 62. However, trying to learn it, and make a comparison, you can see real life

and literature *go with the same way*. (Y4–99)

In the restricted units (42.98% of the multi-word inter-MUs), the influence of the L1 was not as strong. Rather, one can see signs of incomplete retrievals of the units due to different reasons (Examples 63–70).

Example 63. *In my point*, literature should be gradually popular in the world. (Y1–36)

Example 64. People can *keep touch* with and contact with together by internet (Y1–83)

These two units were partially retrieved; parts of the units seemed to have been lost in the formulation subprocesses and failed to completely materialize in the final products. *In my point of view/in my view* was reduced to *in my point* and *keep in touch* to *keep touch*.

Example 65. If we don't get balance condition, we can *fall in* crisis. (Y2–93)

Example 66. Hence we need ban publishing and fine heavily if someone *break in* the

law. (Y2–93)

These two units were results of a confusion between those similar in their form. It was probably difficult for these writers to remember the distinction between *fall in love* and *fall into crisis*, or *break the law* and *break into someone's house*.

Example 67. It saves essence and progress for eras in the past so that people in the next

eras can learn and *bring into play*. (Y2–56)

Example 68. And the youth would *make out* the past by their own way. (Y4–24)

Bring into play (meaning *apply, implement*) and *make out* (meaning *understand*) in these examples were correct by themselves. However, they were not used in an appropriate context, causing the idiosyncrasy due to miscollocations.

Example 69. *In another side*, literature and literary works give us knowledge that we

cannot know without them. (Y2–85)

Example 70. This modern world brings many new things into life and at the same time,

put an end spot to many others. (Y3–69)

Here *on the other hand* was replaced with *in another side* and *put an end to* became *put an end spot to*. These variations of the target units indicate that the writers resorted to the L1 for the similar L2 expressions that they were unable to retrieve.

Looking at these inter-MUs from the text, however, does not allow an inference as to whether these units were formulated as such in the first place or after a failed attempt to retrieve the L2 form. Besides, the elicitation task did not give these writers an opportunity to revise their work, so the errors could be due to the effects of the cognitive load of the task at hand. Current research on L2 writing revision has reported

the writers' extensive focus on low text levels such as words (Butler-Nalin, 1984; C. Hall, 1990; Lai, 1986; St. John, 1987) and high text levels such as T-units and complex sentences (Y.-J. Lee, 2006). The effects of revision on multi-word units have not been investigated, nonetheless.

Wray and Fitzpatrick (2008) contend that the extent to which L2 learners can retrieve memorized multi-word units forms a 'deviation profile' that can function as an indicator of proficiency. Osborne (2008) also made an interesting observation that phraseology can be the source of other linguistic errors. An in-depth investigation into the multi-word inter-MUs, therefore, can reflect the learners' metaphorical competence. Such a study can shed light on how the L1 and L2 interact at the conceptual level to formulate MUs in text, how the L2 learners (fail to) create the context to accommodate the multi-word MUs or how language proficiency can constrain the ability to be metaphorical in an L2. Many researchers cite the L2 writers' under-production of multi-word MUs to conclude that they build their L2 from individual words rather than prefabs (Laufer & Waldman, 2011; Wray, 2002), an under-production which has partly led to the exclusion of phraseology in studies on L2 metaphorical language (e.g., Littlemore et al., 2012, 2014; MacArthur & Littlemore, 2011). The learners' multi-word output, however, does not necessarily speak for the process of how it is made. Additionally, if the examples above are to be taken as valid clues for the underlying process, the partial retrieval of the units and the replacement of one with an L1 multi-word equivalent may actually point to the fact that the units were processed as chunks, not individual word items. We will re-visit this issue in the next chapter.

Summary. It can be concluded that there exists a relationship between the participants' year levels and the metaphoricity as well as phraseology of their MUs. The statistical significance of this relationship is summarised in Table 8.

Table 8

Summary of Statistical Differences in Different Types of MUs between the Year Levels

Year levels	Novel MUs	Conventional MUs	Inter-MUs	Multi-word MUs
Y1–2	-	+	-	+
Y2–3	-	-	+	-
Y3–4	-	+	-	-
Y1–3	-	+	+	+
Y1–4	+	+	+	+
Y2–4	-	+	+	+

Notes: Mann Whitney U, p < .0083; [-]: insignificant difference, [+]: significant difference

As can be seen, compared to Year 1, Year 2 participants significantly increased their use of conventional MUs and multi-word MUs; the novelty and accuracy of their

metaphorical language use, nevertheless, remained the same. Compared to Year 2 participants, Year 3 participants showed a significant improvement on the accuracy front, which was also the only gain at this stage. Year 4 writers, on the other hand, made significant gain only in their use of conventional MUs as compared to Year 3 writers. At two-year gaps, the differences between metaphorical language use between Year 1 and Year 3 as well as Year 2 and Year 4 were significant in every category except for novel MUs. The only significant difference found in terms of novel metaphorical language use was between Year 1 and Year 4. Compared with Year 1, Year 4 participants showed learning gain in every aspect of their metaphorical language.

Although the design of this study does not permit a conclusive verdict of a developmental trend, the patterns described above have indicated a generalization in these learners' metaphorical language development. Accordingly, the learners first made progress in their metaphorical fluency, then their metaphorical accuracy and finally their metaphorical novelty. The data has also suggested that metaphorical accuracy and phraseology may have taken longer to build up and that metaphorical novelty only showed when these learners were about to finish their degree. There also existed certain degrees of the trade-off effects in metaphorical language use between two consecutive levels but not in the whole process, giving support to Vercellotti's (2012) observation that the trade-off effects have been found mainly in one-off design studies (e.g., Ahmadian & Tavakoli, 2011; Skehan, 2009; Yuan & Ellis, 2003; but see Torras & Celaya, 2001). In short, the analyses have shown that metaphorical language use can be a reliable indicator of general language proficiency, at least for similar groups of learners, supporting previous findings such as Littlemore et al. (2012, 2014).

Metaphoricity and Phraseology of the MUs in Relation to Writing Grades

Correlational coefficients. This section examines the relationship between the learner-writers' use of metaphorical language and their proficiency as judged by their writing grades. Because the distribution of the types of MUs was not normal, Spearman rank-order correlations between the average grade and the different types of MUs for each year level were computed to explore this relationship (Table 9).

Table 9 shows a very strong positive correlation between conventional MUs and average writing grade at all year levels. The correlation between novel MUs and writing grades was different between the year levels: it was somewhat moderate in Year 1 and 4 and weak in Year 2 and 3. Multi-word MUs had a moderate correlation with grade in Year 1 but a moderate-strong in the other groups. Inter-MUs, on the other hand, were weakly correlated with writing grades only in Year 1.

Table 9

Spearman Correlation Coefficients between Average Grade and Types of MUs in Each Year Level

	Average grade				Novel MUs				Conventional MUs				Inter-MUs				Multi-word MUs			
	Y1	Y2	Y3	Y4	Y1	Y2	Y3	Y4	Y1	Y2	Y3	Y4	Y1	Y2	Y3	Y4	Y1	Y2	Y3	Y4
Average grade	1	1	1	1																
Novel MUs	.42**	.26**	.21**	.45**	1	1	1	1												
Conventional MUs	.78**	.71**	.79**	.75**	.26**	.14	.04	.29**	1	1	1	1								
Inter-MUs	.27**	.07	-.03	-.04	.21	.07	-.08	.18	.05	-.02	.04	.00	1	1	1	1				
Multi-word MUs	.48**	.63**	.59**	.66**	.31**	.23**	.19	.42**	.48**	.50**	.58**	.57**	.24	.20	.10	.27**	1	1	1	1

*Notes: N_{Y1}= 98; N_{Y2}= 100; N_{Y3}= 99; N_{Y4}= 99; **. Correlation is significant at the 0.01 level (2-tailed).*

For the whole group, the results in Table 10 below show that average grades have a very strong positive correlation with conventional MUs, a medium-strong positive correlation with multi-word MUs, a weak positive correlation with novel MUs and no correlation with inter-MUs.

Table 10

Spearman Correlation Coefficients between Average Grade and Types of MUs in General

	Average grade	Novel MUs	Conventional MUs	Inter-MUs	Multi-word MUs
Average grade	1				
Novel MUs	.35**	1			
Conventional MUs	.84**	.23**	1		
Inter-MUs	-.07	.04	-.12	1	
Multi-word MUs	.69**	.34**	.64**	.11	1

*Note: **. Correlation is significant at the 0.01 level (2-tailed).*

Conventional MUs. Writing provides learners with the opportunity to make use of, and thus consolidate, learned lexis (S. Lee, 2003; Muncie, 2002); on the other hand, lexical richness contributes to quality writing (Engber, 1995; Laufer & Nation, 1995; Nation, 2001). Specifically, the writing score has been found to positively correlate with different dimensions of vocabulary knowledge (see reviews in Leki, Cumming, & Silva, 2010; Polio, 2001; Wolfe-Quintero, Inagaki, & Kim, 1998). According to Nation (2001), productive word knowledge includes knowledge of form, meaning and use of a word, as shown in Table 11 below:

Table 11

Nation's Productive Word Knowledge (Nation, 2001, p. 27)

Form	written	How is the word written and spelled?
	word parts	What word parts are needed to express the meaning?
Meaning	form and meaning	What word form can be used to express this meaning?
	concept and referents	What items can the concept refer to?
	associations	What other words could we use instead of this one?
Use	grammatical functions	In what patterns must we use this word?
	collocations	What words or types of words must we use with this one?
	constraints on use (register, frequency ...)	Where, when, and how often can we use this word?

The strong correlation between conventional MUs and writing scores, therefore, can be explained with the multi-traits of lexical proficiency that conventional MUs can exhibit: conventional MUs are linguistic units of various sizes and functions used in their extended metaphorical senses, in appropriate usage patterns and correct grammatical forms. Being the meeting point of many dimensions of lexical proficiency, conventional MUs manifest the learner-writers' productive word knowledge of form, meaning and use (see also Ellis & Frey, 2009; Milton & Fitzpatrick, 2014).

In particular, conventional MUs profoundly reflect one dimension of word knowledge that has not received due attention in literature: the depth of vocabulary. There is evidence that vocabulary depth is significantly related to general language proficiency and can predict writing quality in different ways. Koda (1993) found that knowledge of different meanings of words significantly explained discourse coherence. In Baba (2009), successful summary writers were those able to apply knowledge of the semantic network to produce sentences that reflect the collocational patterns of the target words. Recent studies by Crossley and colleagues (Crossley & McNamara, 2012; Crossley, Salsbury, & McNamara, 2009; Crossley et al., 2010, 2014) have provided a new insight into the issues of vocabulary depth such as word senses and lexical networks. These authors have argued that L2 lexical proficiency cannot be evaluated on basic quantitative rubrics because the relationship between form and meaning is not linear, but must be considered in light of the different components of vocabulary depth such as collocational accuracy, word meaningfulness, and extended meanings of words. Collocational accuracy, for example, has been found to contribute to 84% of the variance in explaining L2 learners' writing grades (Crossley & McNamara, 2012).

In this regard, the use of conventional MUs demonstrates the knowledge of lexis in the multi-dimensional dynamics of the syntagmatic and paradigmatic properties of words. A linguistic unit is considered a conventional MU only when it acts correctly and appropriately towards other linguistic units in the given context of the metaphorical frame in which it materializes. Take the underlined units in the following example: Example 71. _Through these ways_, people _get_ a chance to experience how to use the
    power of language to tell their _points of view on_ a topic. (Y3–80)

Whether or not the readers can create a cross-domain mapping from the basic sense to the contextual sense for them, understanding and appreciating these units is achieved only by making use of the available textual materials and establishing links with the larger text environment. Figure 7 is a limited version of metaphorical language 'clouds' (other para-linguistic elements that may participate in the decoding process left aside). The clouds illustrate that each conventional MU is foregrounded against layers of supporting text and that all MUs are connected to form a coherent message.
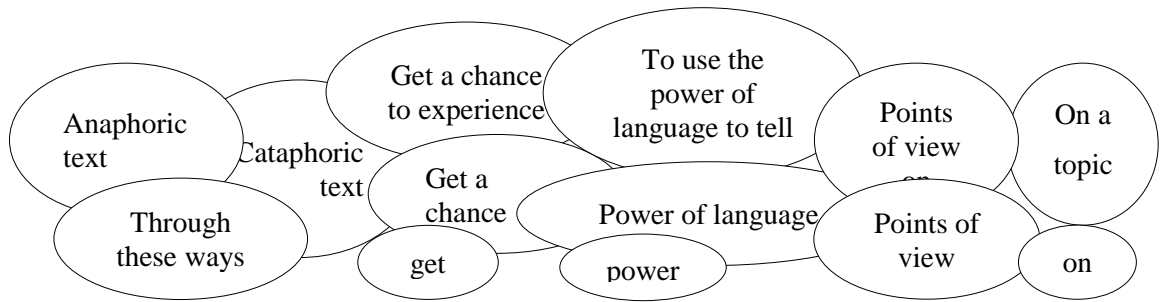
Figure 7. The 'clouds' of conventional MUs

No one single linguistic feature can make the quality of a piece of writing – it is the outcome of the interplay of a whole range of features in tandem (Friginal, Li, & Weigle, 2014; Jarvis, Grant, Bikowski, & Ferris, 2003; Schoonen et al., 2003). This is exactly why conventional MUs correlate strongly with writing grades: when looking at the learner-writers' conventional MUs, one can see the multiple profile of their writing.

Novel MUs. The finding on novel MUs suggests that even though novel MUs were not employed often, they did have an effect on the raters, albeit a small one. This is because novel MUs are likely to stand out. Implicitly, novel MUs require readers to activate different interpretation strategies (Gentner & Bowdle, 2001) from a different part of their brain (Arzouan, Goldstein, & Faust, 2007; Faust, 2012). Textually, novel metaphorical language would stand out as a point well-expressed amidst half-crafted lexical and propositional works in a piece of learner writing. For example, the use of a novel MU in the topic sentence of a paragraph naturally invites an extended metaphor to develop the supporting idea in that paragraph, thus enriching the development of ideas as well as the coherence of the paragraph. Or when most of her peers wrote, *Literature plays an important role in our life* and left the point unexplained, one who added *If one knows everything about the world except for literary works, he is building a very high tower without a base (Y4–3)* had been more successful in communicating the same point to the raters. When used in concluding paragraphs, novel MUs leave the raters with something to remember about the essay as in Examples 72 and 73 below.

Example 72. Overall, with all the good things we gain from entering the literary world, literature is one of the great *acquaintances* for everybody's lives, even in the modern world. (Y3–69)

Example 73. [T]he modernity of the world will go hand in hand with literary works. It will be a *good friend* for everybody especially in ups and downs. (Y4–2)

Glicksohn, Kraemer, and Yisraeli (1993) have found that metaphoric thinking is positively correlated to ideational creativity. The overuse of novel MUs is contrived, but occasional encounters with creative language use when marking a pile of papers full of

different kinds of mistakes would be likely to engender a positive reaction from the raters. This explains why the correlational coefficient between the use of novel MUs and writing grades is higher in Year 1 (than Year 2 and 3), when the raters had fewer points to consider to award grades – the writers produced limited number of words and their essays were patchy with errors. In the case of Year 4, the coefficient was also higher than Year 2 and 3, likely due to these advanced writers being able to display the creativity in language use with more novel MUs, and use them in text effectively.

These comments, however, are made in the absence of the raters' justification and should not be taken as conclusive until further evidence is made available. Particularly relevant here is Boers' (2004) pilot study, which shows that English language teachers are actually open to accept learners' novel metaphors. There are also many voices and anecdotes in support of creative language (part of which being novel metaphorical language use) in the classroom (Bell, 2012; Pomerantz & Bell, 2007; Tin, 2011, 2013) as an important trait of a multi-competent language user.

Inter-MUs. As presented in Table 9 above (p. 100), inter-MUs were found to correlate with writing grades only in the Year 1 group, probably because these participants generated a limited number of words, making everything that they were able to produce count towards the holistic grade.

As a whole group, the finding on inter-MUs shows that the metaphorical errors did not have a correlation with the writing grades. This result is in line with previous research on lexical errors in L2 writing that although raters greatly value correct use of words (Engber, 1995; Santos, 1988), they also consider vocabulary use within the context of writing as an act of communication, culminating in communicability (intelligibility) being the strongest indicator of the quality of writing as consistently found in the literature of L2 writing (Agustín Llach, 2007, 2011; Hughes & Lascaratou, 1982; Kuiken & Vedder, 2014; Kuiken, Vedder, & Gilabert, 2010; Lemmouh, 2008; Santos, 1988). Because lexical command is one of the many means to realize the intended message, as long as the lexical errors do not distort communication, raters are likely to accept them as learner language. In Agustín Llach's (2007, 2011) investigation of lexical errors in young Spanish-speaking learners of English, semantic lexical errors of semantic confusions and calques (words used in the wrong context or situation) did correlate positively (weakly) with the writing grade.

A great number of inter-MUs in my study were of the same types of errors as Agustín Llach's and their presence in the text exhibits the learners' communication efforts via many compensation strategies. As found in several studies (Snellings, van

Gelderen, & de Glopper, 2004; Stevenson, Schoonen, & de Glopper, 2006; van Gelderen, Oostdam, & van Schooten, 2011), learners with insufficient lexical resources improvise to counteract the difficulties in retrieving and producing language. This learning-in-process was recognized by the Vietnamese raters in the study who were used to their students' mechanisms of adapting and borrowing from L1 and thus could easily understand their message. In a way, these teachers did the 'right thing', given that learning a language is learning "how to mean" (Halliday, 1975; Willis, 2003) rather than learning how to use forms. It would be interesting to present raters of other backgrounds with these instances of inter-MUs to find out whether the intelligibility of their writing, and eventually their grades, would be affected with the use of inter-MUs.

Multi-word MUs. The moderately high correlation coefficient between multi-word MUs and writing grades is not surprising given the recognized significance of multi-word units as an indicator of fluency (Nesselhauf, 2005; Wood, 2006, 2010), communicative competence (Lennon, 1996; Moon, 1992) and successful language acquisition (Burns & Joyce, 1997; Wray, 2000). Boers et al. (2006) reported that L2 learners' use of formulaic sequences was associated with their oral proficiency, and these units were indeed found to benefit the participants' fluency, range of expression and accuracy. Because multi-word MUs are highlights of syntagmatic and paradigmatic information, they feature the linguistic sophistication of a text, which has been found to significantly predict L2 writing proficiency (Crossley & McNamara, 2012).

As Gibbs (1994) points out, "metaphors allow people to communicate complex configurations of information that better capture the rich, continuous nature of experience than does literal discourse alone" (p.125). Multi-word MUs are even more powerful in expressing complex ideas, being compound linguistic units. With multi-word MUs, the messages are delivered in a linguistically compact way yet still retains its vividness because of its metaphorical nature (Benczes, 2010).

It should be noted that multi-word units in this study consist of only items that were metaphorically used. In addition, the MUs are operationalized based on the notion of metaphorical meaning, which at times breaks the linguistic boundaries of 'normal' phraseological units (e.g., only *pay* in *pay attention* was identified as metaphorically-used). Although it is generally agreed that the majority of phraseological units is metaphorical, there is no concrete figure for this ratio. It is worth investigating the inter-relationship of general metaphoricity (and metaphorical multi-word units) and the general phraseology (and multi-word metaphorical units) to better understand their roles in L2 learning and see which deserves more attention: metaphoricity or phraseology,

phraseological units in general or only those metaphorically used. It is interesting to note that idiomatic language use has been described as an indicator of high proficiency in the IELTS speaking tests (bands 7, 8 and 9) but not in the IELTS writing tests.

Regression coefficients. This section presents the results of regression analyses performed to find out the contribution of different types of MUs to writing grades. Because inter-MUs did not correlate with writing grades, this variable was not included.

Writing grades were regressed on conventional MUs, then conventional MUs and multi-word MUs, and finally conventional MUs, multi-word MUs and novel MUs (see Table 12). The overall regression was significant for all three steps: $F(1, 394) = 833.689$ ($p < .001$); $F(2, 393) = 459.376$ ($p < .001$); and $F(3, 392) = 327.447$ ($p < .001$). Inspection of tolerances indicated that none of the models had problems with multicollinearity (.46 ≤ Tolerance ≤ .87; 1.99 ≤ VIF ≤ 2.15) (Field, 2009). The decreasing F values suggested that the inclusion of variables other than conventional MUs might not help to better explain writing quality. In Step 1, conventional MUs alone accounted for 67.9% of the variation in writing grade. When multi-word MUs were included (Model 2), this value increased to 70% of the variance, i.e., multi-word MUs accounted for an additional 2.1%. The inclusion of novel MUs added a further 1.4% to the overall variability in Model 3. Multi-word MUs and novel MUs could only predict small amounts of the variation in writing grades.

The adjusted R^2 is very close to R^2; in fact, the differences between the values are .001, .001 and .002 respectively, i.e., about 0.1%, 0.1% and 0.2% shrinkage, indicating that the good cross-validity of these models. Assumption of independent errors is tenable because the Durbin-Watson test result is 1.610. Table 12 provides information about regression for the predictors of all three models. All types of MUs were significant predictors with a positive relationship to writing quality ($p < .001$).

Table 12

Regression Models

Model		B	Std. Error	β
1	(Constant)	2.273	.105	
	Conventional MUs	.127	.004	.824*
2	(Constant)	2.329	.102	
	Conventional MUs	.105	.006	.679*
	Multi-word MUs	.098	.019	.206*
3	(Constant)	2.312	.100	
	Conventional MUs	.105	.006	.681*
	Multi-word MUs	.075	.019	.158*
	Novel MUs	.191	.043	.129*

*Note: * p < .001*

Casewise statistics shows five cases lie outside the standardized residual limits of ±3, indicating 1.2% of outliers. With a fairly large number of samples (N = 396), it is expected that 1% of the sample can lie outside these limits, showing one case (0.79 to be precise) that needs further investigation. A close examination of Mahalanobis distance, Cook's distance and Centred leverage value shows all cases were well within the frames (Barnett & Lewis, 1994; Field, 2009), except case 323 which had a Mahalanobis Distance of 27.41. However, given its Cook's distance and centred leverage centre were conformed, there is probably little cause for concern about outliers. Figure 8 and 9 below show the normal distributions of residuals.
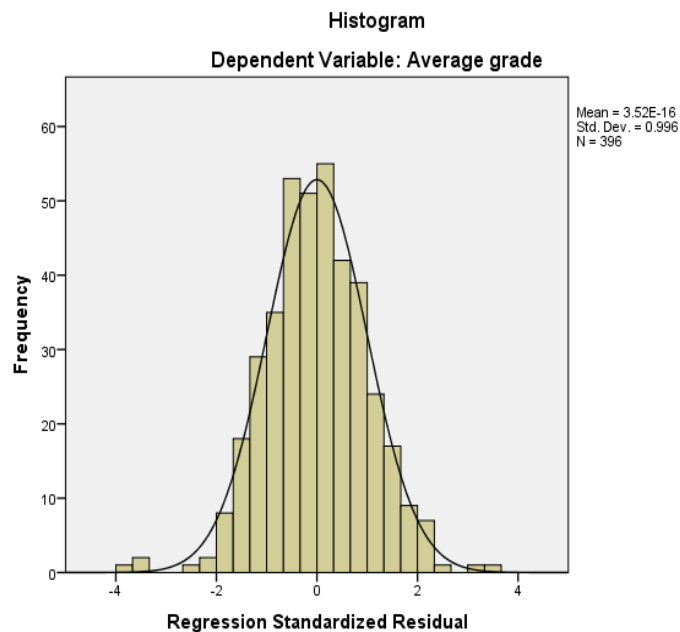
Figure 8. Histogram of residual
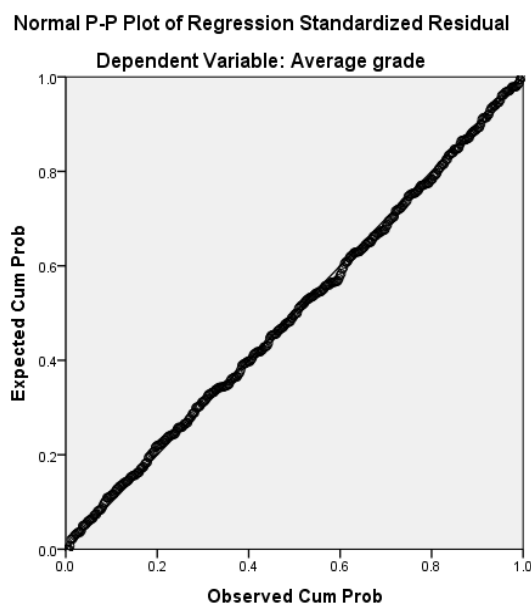
Figure 9. Normal P–P plot of residual

The model appears to be accurate to the sample data and generalizable to the population. Therefore, it can be concluded that in this sample, conventional MUs play a deciding role in predicting writing quality while multi-word MUs and novel MUs are significant predictors but are less important.

Summary. This section has provided evidence for the relations between the participants' use of different types of MUs and their year levels and writing grades. The statistic tests have shown that the use of different types of MUs is related to general writing proficiency as judged by holistic scores. Specifically, writing grades had a strong positive correlation with conventional MUs, followed by multi-word MUs and novel MUs. Inter-MUs were not found to correlate with writing grades. Between the year levels, there were differences in the degree of correlational coefficients, especially in Year 1 where novel MUs exhibited a higher correlation with overall grades and inter-MUs were found to significantly (though weakly) relate to writing grades. Multiple regression analyses confirmed that conventional MUs significantly and strongly explained writing grades, and multi-word MUs and novel MUs each explained a small part of the variance.

Conclusion

This chapter has shown that metaphorical language is significantly related to language proficiency and writing proficiency. This is because metaphorical language, specifically conventional metaphorical language, reflects different facets of vocabulary proficiency and contributes to the coherence and creativity of a text. These findings draw attention to the metaphorical dimension of learner language as a strong indicator of language proficiency and writing ability. They also lend support to past research that highlights the role of depth of vocabulary knowledge in L2 learning in general and L2 writing in particular.

Findings from product data of metaphorical language production in this chapter have enabled us to describe the patterns and dynamics of L2 learner metaphorical language. The next chapter examines the hidden processes of metaphorical language production with the aim to deepen our understanding of L2 metaphorical language processing.

CHAPTER 4 – THE PROCESSES OF METAPHORICAL LANGUAGE
PRODUCTION IN L2 LEARNER-WRITERS

This chapter reports on the second phase of the project, which explores the on-line processes of metaphorical language production in a group of fifteen Vietnamese learner-writers. The data combines computer-logged keystrokes and pauses during the writing and stimulated retrospective interviews. The chapter addresses two questions:

1. Does the use of metaphorical language incur additional cognitive efforts in the writing process?

2. In what ways do learners account for their use of metaphorical language in their compositions?

Following Study 1, the findings will be presented with regard to the two variables of metaphorical language: metaphoricity and phraseology of the MUs.

Research Methods

InputLog

Pauses have long been recognised as an inalienable part of language production. Interests in temporal variables of speech production make up a specialised area within psycholinguistics (Butterworth, 1980; Dechert & Raupach, 1980) with earlier works dating back to Goldman-Eisler (1958, 1961) and Maclay and Osgood (1959). Pausological studies of written discourse production using registered keystroke activities started later with the popularity of computer technology and is rooted in the cognitive approach to writing. Since Bridwell and Duin's (1985) attempt, logged data has become increasingly important in process writing research.

Keystroke logging researchers use software programmes that continuously and unobtrusively record every keystroke activity during the composing process. The advantages of keystroke logging data are well documented (e.g., Abdel Latif, 2008; Spelman Miller, Lindgren, & Sullivan, 2008; Kirk Sullivan & Lindgren, 2006; Wengelin, 2006). Keystroke logging does not interfere with the writing process, creating "an ecologically valid research context" (Leijten & van Waes, 2006, p. 74) with data that would otherwise be invisible in a product of writing. The technique has been employed to study writing sub-processes such as planning (Levy & Ransdell, 1995; Matsuhashi, 1981; van Waes & Schellens, 2003), revisions (Kollberg & Severinson Eklundh, 2002; Lindgren & Sullivan, 2006), text structuring (Severinson Eklundh & Kollberg, 2003) or productivity and fluency (Lindgren, Spelman Miller, & Sullivan, 2008; Spelman Miller, 2006a; Spelman Miller et al., 2008). It has also proved useful in studying the writing processes of different age groups (Johansson, 2009), L1 and L2

writers (Lindgren et al., 2008; Stevenson et al., 2006; Thorson, 2000) or dyslexic and non-dyslexic writers (Strömqvist, Ahlsén, & Wengelin, 1998; Wengelin, 2006, 2007).

Among the keystroke logging tools, InputLog was chosen for this study because of its flexibility.[25] Developed by Leijten and van Waes for writing process research (Leijten & van Waes, 2006, 2013), the programme can record a writing session in MSWord, generate data files of keystroke and mouse activities for different research purposes and replay the writing session at different speed settings. Logged outputs can be imported to MSExcel or SPSS at the researchers' convenience. In addition, InputLog can integrate with other tools such as speech recognition and eye-tracking.

In the present study, InputLog 5.1.0.26 generated a summary analysis, a pause analysis (pause thresholds $\geq$ 2000ms) and a linear analysis (same threshold) for each participant. **The summary analysis** logs general information of the writing session like the number of units at different text levels, active writing time, pause time, and keyboard and mouse activities. **The pause analysis** records all pause-related information in the session, including the total pause time, the number of pauses at different text levels and summaries of pausing activities at different intervals. **The linear analysis** registers every event of the writing process in chronological order. Below is an illustration of linear analysis with pause thresholds of 2000ms and longer. The interval was set at 30 seconds for easy data preparation when the file (*.XML) was imported to Excel. The setting of the intervals does not affect the data in any fashion.

Interval	Output
00:00:00	{3105}[Movement][LEFT Click][Movement]{67065}
00:00:30	
00:01:00	[LSHIFT]A·lot·of·people{2356}·{3541}[BACK 16][LSHIFT 3]{15881}
00:01:30	[LSHIFT]In·the·{2215}moder[BACK 12]{5476}[LSHIFT]More·and·
00:02:00	more·people·{7426}are·in{4680}terested·in·{2433}literary·works{14758}[BACK 49]
00:02:30	[BACK 4][LSHIFT]Literateur[BACK 2]re[BACK 3]ure·is·{2309}an·aspi
00:03:00	ect·[Movement][LEFT Click]<Literature is an >vitl[BACK]ak[BACK]l·[Movement][LEFT Click]<piect >[Movement]{5460}in·daily[Movement]·life.·[LSHIFT]More·and·more·people·are
00:03:30	·{5180}r[BACK]{5725}[BACK 4]{2870}are·interested·in·it·and·{24446}
00:04:00	see[BACK 3]{40217}
00:04:30	
00:05:00	they·{9921}recognize·it·{3213}as·an·env[BACK 2]ntertea[BACK 2]
00:05:30	ainment·{3885}[Movement][Movement]{3463}[Movement][LEFT Click]<re is an vital aspiect in daily life. More and more people are interested in it and they recognize >[Movement][LEFT Click]form{5694}.·{7410}
00:06:00	[Movement][LEFT Click][Movement][Movement]<recognize >[Movement][LEFT Click][Movement]{3479}[BACK 2]·
00:06:30	after·a·hard·work·day.·{23712}
00:07:00	[LSHIFT]However,·{6833}others·{4337}sla[BACK 3]also·believe·that{2964},·in·th
00:07:30	e·modern·world·today,·we·do·not·{3557}[BACK 10]litera{7004}ture·is·

Figure 10. Screenshot of linear analysis

The fine-grained level of event recording by InputLog allows for the in-depth analyses that the researchers may require, but it also presents them with a large amount of data to process and interpret, which may not all be relevant. Besides, even though logged data is synchronous, it only offers indirect *behavioural* observation of the cognitive processes, i.e., one cannot tell what the writer does during a pause. In other words, with only keyboard and mouse activities, data interpretation cannot go very far. Many studies have therefore combined keystroke logging with other tools such as speech recognition (Leijten, Janssen, & van Waes, 2010), eye-tracking (Andersson et al., 2006; Torrance & Wengelin, 2010; Wengelin et al., 2009), think-aloud protocols (Stevenson et al., 2006; Kirk Sullivan & Lindgren, 2002) or stimulated retrospective interviews (Leijten et al., 2010; Lindgren & Sullivan, 2003).

Retrospective Interview

In this study, keystroke data was triangulated with stimulated retrospective interview data. Retrospective interviews were chosen over concurrent think-aloud protocols because the technique is less intrusive (Ericsson, 2002; Olive, Kellogg, & Piolat, 2002; Ransdell, 1995).[26] Egi (2008), for one, has reported that stimulated recall caused no reactivity as compared to think-aloud protocols. Because the participants were not familiar with think-aloud protocols, verbalizing thoughts while writing would affect the composing process, particularly the pausing behaviours. This would damage the validity of the research design because it would be impossible to identify whether the pause was due to the effect of verbalization or composing demands. Stimulated retrospective interviews, on the other hand, do not require extensive participant training (Gass & Mackey, 2000).

There is some evidence that questions the validity and reliability of retrospective accounts due to participants' memory constraints (Levy, Marek, & Lea, 1996), memory reconstruction and especially the time lapse between the task and the interview (Ericsson & Simon, 1993). However, if designed and conducted properly, directed retrospection can be a valuable research tool (Dörnyei, 2007; Gass & Mackey, 2000; Mackey & Gass, 2005). Logged data in particular has proved efficient in stimulating retrospective accounts because it offers tangible clues of texts, keyboard activities and pauses that aid the participants in the retrieval of information (Gass & Mackey, 2000; Lindgren & Sullivan, 2003). In return, this source of direct, explicated, writer-generated

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[26] For critiques of think-aloud protocols, refer to Bowles (2010), Fox, Ericsson, and Best (2011), Jassen, van Waes and van den Bergh (1996), Manchón, Murphy, and Roca de Larios (2005), Smagorinsky (1994), and Stratman and Hamp-Lyons (1994).

data provides a rich complementary perspective to illuminate the pauses under examination.

I used the linear analysis generated by InputLog as the stimulus to ask the participants about their pausing behaviours before an MU. Following tips in the literature (Dörnyei, 2007; Gass & Mackey, 2000; Mackey & Gass, 2005), I observed these rules:

1. The interval between the task and the interview was kept short (about five minutes); just enough for the participant to read the instructions and for the researcher to read their writing product and generate the linear analysis.

2. The interview protocol was carefully structured and printed out so that the researcher would observe it and would not lead or interfere with the interview (see Appendix J).

3. The instruction for the participants was printed out so that the information would be delivered to all participants in the same fashion and no other information would be added (see Appendix J).

4. The questions were designed to elicit recall and not interpretations (see Appendix J).

5. The interviews were to be conducted in the language that the participants were most comfortable with. All participants requested to use Vietnamese.

Context of the Study

Participants. Data collection for this part of my project took place in Vietnam in 2012. Following the preliminary analysis of the data from the first stage of the study, fourth year students were chosen to be target informants because they were able to complete the task within the time limit and produce the required word count. Fifteen Vietnamese seniors doing their B.A. in English at a university in central Vietnam participated in this study. These students were recruited via their teacher. At the time of data collection, they were in the first semester of their fourth year at university. The participants' biodata is as follows (Table 13). All names are pseudonyms.

Table 13

Biodata of Participants in Study 2

N.	Participant	Gender	Age	Years of English learning
1	Oanh	F	22	11
2	Trà My	F	22	13
3	Nhi	F	22	11
4	An	M	23	13
5	Khanh	F	22	11
6	Ly Ly	F	22	11

7	Phương	F	22	13
8	Dương	M	22	13
9	Hoa Mai	F	22	11
10	Thơ	F	22	11
11	Ngọc	F	22	13
12	Nam	M	22	13
13	Thúy	F	24	13
14	Xuân	F	22	11
15	Hồng Thanh	F	22	13

The participants were familiar with composing on computer because their university had a system for students to submit their work and for writing course co-ordinators to give feedback on-line. This eliminated the possible effect of a new writing mode on the participants' performance.[27]

The teacher had a brief meeting with interested students where the students were made aware of the conditions of the study, one of which was that the participant did not participate in the first phase of this project. The students also learned that they would receive 15 NZD each (about 200.000 VND at the time) for participating in the study.

The elicitation task. I used the same elicitation task as in Study 1 of the project (see Appendix E). The task was used again to maintain the consistency of task demands across the two phases of the project, making the findings of this group comparable to the fourth-year cohort of the previous stage.

Data collection procedure. The students contacted me to make appointments for the data collection sessions. The period of data collection went on for four weeks. The procedure of each session was:

1. We briefly introduced ourselves to each other and I established rapport by using small talk.

2. I informed the participant of the study again to make sure s/he understood the requirements of the task.

3. The participant signed the consent form.

4. The participant was given time to familiarise him/herself with the laptop computer provided.

5. S/he was given a pen, a piece of paper, a laptop computer and the printed elicitation task. The participant then stayed in the room by him/herself to complete the task.

6. When the participant finished, s/he had a few minutes' break. During this

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[27] We are reminded that writers engage in writing differently in different writing modes (Amie Goldberg, Russell, & Cook, 2003; Y.-J. Lee, 2002; van Waes & Schellens, 2003).

short break, s/he read the printed instructions of the interview while I identified the MUs in his/her finished writing product and generated the linear analysis on InputLog. The MUs were identified following the procedure reported in Study 1.

7. I described the procedure of the interview to the participant to make sure s/he understood the instructions.

8. I set up the digital recorder and began the interview.

Data preparation

Pause data

Deciding on pause threshold. A pause in the present study is understood as the transition between two keystrokes, but only those equal or longer than two seconds are eligible for the analysis process. This section discusses the backgrounds of this decision.

When writers compose on computers, pauses, or "moments of physical inactivity" (Matsuhashi, 1981, p. 114) are the non-scribal period between two keystrokes. However, not all keystroke intervals are equally meaningful or eligible as a 'pause' for different research purposes. Wengelin (2006) proposes a working definition that a pause is "a transition time between two keystrokes, which is longer than what can be expected to be necessary for the time needed to merely find the next key" (p. 111). The expected normal transition time, nevertheless, depends on many factors.

First, writers have different typing speeds that must be taken into account because typing speed affects the pause frequency of a writing session. For instance, slow typists pause more often and thus have shorter execution periods in text production than fast typists (Alves, Castro, de Sousa, & Strömqvist, 2007). According to Strömqvist (1999; cited in Alves, Castro, de Sousa, & Strömqvist, 2007), typing proficiency can be measured as the within-word median keystroke interval within a word because these intervals are very common and fast, and are not usually influenced by cognitive processes. Wengelin (2007) suggested that a good pause criterion should be set higher than the typing speed of the slowest writers. In a study that compared pausing behaviours of dyslexic and non-dyslexic writers in different tasks, Wengelin (2007) adopted a pause criterion of two seconds, which was more than double the maximum median within-word transition time of 0.796 seconds produced by a writer with dyslexia.[28]

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[28] Other researchers (e.g., Grabowski, 2008) control typing speed by using copying tasks in which the participants either have to copy a written text or write something from memory.

Second, writers have at least 24 different physiological, cognitive and communicative reasons to pause (de Beaugrande, 1984).[29] Physiological pauses are usually very brief and can be ruled out at a cut-off value of 0.25 or 0.3 seconds (s) in oral production (Dechert & Raupach, 1980; Schilperoord, 1996) and one second in writing (van Waes, 1991; cited in Schilperoord, 1996). These pauses are usually caused by physical reasons, i.e., fatigue or motor execution of typing (rather than socio-psychological or cognitive causes) and are usually very brief (Schilperoord, 2002). The pause threshold for this study therefore could be safely set above one second as physiological pauses were not of interest.

Most importantly, pause threshold values are contingent on the research purposes. In their study of children and adults' production processes with electronic pens and digital tablets, Olive and Kellogg (2002) set a threshold of 0.25s, which they admitted to be too low to reflect high-level production processes such as planning or reviewing. These processes have been shown to cost several seconds (Levy & Ransdell, 1995; Schilperoord, 2001). In other studies, the threshold had been set at *three* to study the effects of the writing mode (van Waes & Schellens, 2003) or *five* to study the effects of working memory loads on writing quality and fluency (Ransdell, Arecco, & Levy, 2001). Typically, studies investigating content tend to set higher threshold values than those studying motor execution or morphological operations. The cut-off value of two seconds is the most widely-used (e.g., Alves, Castro, de Sousa, & Strömqvist, 2007; Levy & Ransdell, 1995; Spelman Miller, Lindgren, & Sullivan, 2008; Spelman Miller, 2000; Sullivan & Lindgren, 2002; Wengelin, 2007) because it is short enough to include low-level processing and long enough to exclude unwanted physical pauses.

Ideally, the decision regarding this value of pause should be made after the data has been collected and a preliminary analysis of the data has been conducted. However, the nature of this study required a pre-determined pause length so that the retrospective interviews could proceed on the spot. I set the pause threshold at 2000ms (2s) when generating the linear analysis based on which I interviewed the participants. The decision was made partly due to the practicality of this cut-off value as shown in current

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[29] De Beaugrande (1984) listed 24 research-evidenced plausible causes of pausing in speech production: (1) type of text or discourse, (2) degree of conceptual integration,(3) concrete vs.abstract topic concepts, (4) textual ambiguities, (5) reductions of coherence, (6) breathing patterns, (7) personal rates of speech, (8) extent of automatic processing, (9) stages or cycles within a conversation, (10) length of the text, (11) difficulty of speaking task, (12) speaking vs. reading aloud, (13) anxiety, (14) stress, (15) adjustment to another speaker, (16) speaking alone vs. to an audience, (17) visible vs. invisible audience, (18) face-to-face vs. telephone conversation, (19) approving or disapproving audience, (20) likelihood of being interrupted, (21) exhibitionism of speaker, (22) deceitfulness of speaker, (23) age of speaker and (24) social class standing of speaker.

literature. In addition, because the focus of this study is metaphorical language episodes in text, which mostly happen at text units larger than within-word keystrokes, this threshold is large enough to capture the underlying processing and to avoid the interference of typing speed.

After the data had been collected, I double-checked this threshold and found that it had been a valid choice. Table 14 below shows the participants' mean pause time generated by InputLog in a pause analysis at the threshold value at zero seconds to include all pauses. As can be seen, the slowest typist, Dương, required a mean time of 0.87s to move from one keystroke to another. At the between-word level, the same participant required, on average, two seconds to transit between words.

Table 14

Participants' Mean Pause Time

Participant	Mean within word pause time (s)	Mean between word pause time (s)
Oanh	0.37	1.2
Trà My	0.39	1.03
Nhi	0.45	1.05
An	0.44	1.33
Khanh	0.12	0.21
Ly Ly	0.35	1.94
Phương	0.29	0.53
Dương	0.87	2.00
Hoa Mai	0.29	0.58
Thơ	0.39	1.06
Ngọc	0.29	1.38
Nam	0.35	1.16
Thúy	0.32	1.08
Xuân	0.44	0.88
Hồng Thanh	0.48	1.84

A consequence of this decision was that I might have overlooked a number of metaphor-related pauses in the fast typists' works. However, because pauses were used as stimulus in conjunction with the MUs in text, the participants' thinking around the units would still be included in the analysis.

Coding pauses. The data files generated from InputLog were exported to Excel. After that, I read the linear analysis line by line to manually identify the MUs and the pause(s) that accompanied them (paused MUs). I also identified the MUs that occurred without any pause (non-paused MUs).

A paused MU carries two kinds of pause information: pause location and pause duration. Pauses that immediately precede an MU are termed *pre-MU pauses*; those that appear in the middle of an MU are called *within-MU pauses*. The pause duration of an MU is the total duration of all pre-MU and within-MU pauses. Below is an example of

how pauses were coded (Table 15). All pauses were measured in milliseconds as generated by InputLog.

Example 74. It·*plays·an·important·role*{4680}·*in·{4227}the·way*·that·{2371}*shape* {15803}·our·manner{4040}·*through*{3213}·literary·works.

Table 15

Coding Pauses

MUs	No pause	Pre-MU pause		Within-MU pause		Total	
		Number of pauses	Pause duration	Number of pauses	Pause duration	Number of pauses	Pause duration
plays an important role	✓					0	0
in the way		1	4.680	1	4.227	2	8.907
shape		1	2.371	0		1	2.371
through		1	4.040	0		1	4.040

As seen in the above example, a pause that accompanies an MU is recognized in the as an *MU-related* pause. This decision is based on the assumption that pauses are involuntary; they occur because of their necessity in the process of language production (Boomer, 1965; Schilperoord, 1996, 2002). A pause that accompanies an MU, be it for a cognitive or communicative reason, essentially signals the efforts dedicated to that unit.

Is the pause that accompanied an MU indexical to the cognitive processing of *that unit*? The literature has proved from different perspectives that hierarchical order holds between conceptual structures and linguistic units of language (Anderson, 1983; Berg, 2011; Deane, 1992; Dirven & Verspoor, 2004; Mehler, 2002, 2007; Nuyts, Bolkestein, & Vet, 1990; Radden & Dirven, 2007). A number of models and theories have been developed to approach texts hierarchically such as the Procedure for Incremental Structure Analysis (Sanders & van Wijk, 1996a, 1996b), the Rhetorical Structure Theory (Mann, Matthiessen, & Thompson, 1992) and Kintsch and van Dijk's model (1978).

Pauses reflect this order. In single-word writing, pauses found at word boundaries are longer than pauses within words, indicating that the underlying linguistic processes affect the time stamp of motor operations (Nottbusch, Weingarten, & Sahel, 2007; Will, Nottbusch, & Weingarten, 2006). Pauses at high-level linguistic structures, such as between paragraphs or between sentences, have been found to be longer than those at low-level linguistic structures, such as phrases or words in L1 (Chanquoy, Foulin, & Fayol, 1996; Matsuhashi, 1981; Sanders, Janssen, van de Pool, Schilperoord, & van Wilk, 1996; Schilperoord, 1996, 2001; Schilperoord & Sanders, 1997; Spelman

Miller, 2000, 2006b) as well as L2 writing, although the pauses in L2 writers tend to be longer (Phinney & Khouri, 1993; Spelman Miller, 2000). These studies also show that pauses at high-level locations tend to be conceptual, and those at phrase and word boundaries are connected to the lexicalization and syntactic alignment of the unit to be produced.

That is to say, pauses are not randomly distributed; there is a relationship between the location, the length and the span of a pause. Based on theories of activation processes (Anderson, 1983) and attention in hierarchical structures processing (Deane, 1992), Schilperoord (1996) has detailed this connection in his accessibility theory of text production, maintaining that there is a connection "between the hierarchical text structure, the degree of accessibility of the concepts to be retrieved, and the distribution of pause time in production" (p. 222).

With regard to this set of data, only six out of the 685 MUs under examination are clauses. The rest are phrases and words, i.e., low-level text structures, which would attract pauses designated to the making of the units themselves rather than high-level pauses (e.g., discoursal planning). The pauses are thus recognized as MU-related. Where the MUs are multi-word units, all pauses related to it are included in its duration to circumvent the methodology question of deciding whether the first pause is meant for the first part of the units or the whole unit. Consider this stretch *{4680}·in·{4227}the ·way·* in Example 74 above. It is impossible to tell from pause data whether {4680} is for the whole phrase *in the way* or for *in* only, but it is clear that there are two pauses accompanying *in the way* as a phrase.

In many cases in this set of data, planning for a certain metaphor may emanate a distance from the linguistic unit that instantiates it. In Examples 75 and 76, it is likely that the pauses that appear before the underlined MUs include the processing for the units, but it is equally likely that they are meant for the clausal planning. These pauses, therefore, were not included in the analysis; the underlined MUs were coded as non-paused units.

Example 75. ·daybyday[BACK 5]·by·day{2746}·we·*keep*·{8502}valuabl[BACK 3]e
·{5772}that{2246}·{4540}ancesstor{2948}

Example 76. ·you·are·my·star{3261}·or·you·are·my·*treasure*.·

In the extreme cases (see Case study of Hoa Mai, to be discussed later), MUs might have been conceptualized before the writing execution started. Most of the MUs in this participant's logged section, therefore, appeared in text with no pauses and were also coded as non-paused units.

While we contend here that the pauses that occur before and within an MU are MU-related, it is important to keep in mind a number of issues. For pauses at higher level, e.g., between paragraphs, Schilperoord's (1996, 2002) 'cascade model' predicts that the cognitive processing, and thus the attached pauses, at the beginning of a paragraph would imply the processing for the paragraph itself, the first sentence of that paragraph, the first clause of that sentence, the first phrase of that clause, and the first word of that phrase. Pause information alone is not helpful in deciding the scope of such pauses although conceptual planning will ultimately result in textual products. There is also no rule that tells the writers whether to think, or what to think about at a particular linguistic level, at a certain pause location. Writers can think about whatever they wish, or do not have to think at all at that moment. Besides, assigning pauses to the linguistic units in this forward-moving fashion seems to assume the linear development of the text (which is at odds with writing models such as Bereiter & Scardamalia, 1987; Chenoweth & Hayes, 2003; Hayes & Flower, 1980) and undermines the role of text-produced-so-far (Hayes, 1996; Kaufer, Hayes, & Flower, 1986). Finally, are the MU-related pauses the results of efforts invested in metaphoric thinking? We cannot tell on the basis of pausing data alone.

In summary, MU-related pauses offer clues regarding the potential cognitive processing intended for the MU, but this is not informative unless the underlying processes are identified. The issues raised in the above paragraph need to be traced through another channel – the stimulated retrospective protocols in this case. The next section describes how data from the protocols was prepared for analysis.

Interview data.

Preparing interview transcriptions. Preparing interview transcriptions for data coding is a daunting task which requires training and practice in conventions if the research questions look at intonation units or other paralinguistic features. For this study, a propositional content of the interview, i.e., broad transcription, suffices (Mackey & Gass, 2005); this helped to reduce the complicatedness of transcribing.

I hired a senior student from the same university to transcribe the interviews. Because all interviews were in Vietnamese, the task was time-consuming but not cognitively challenging to the transcriber. I then listened to the interviews and checked the transcriptions to make sure she did not miss any details. I also corrected the errors she made due to misunderstanding the English that the participants sometimes used. After that, I sent each participant a copy of the transcription of his/her interview as a measure of reliability check. No participants had queries about the transcription.

Next, I read the transcriptions to highlight the information related to the use of metaphorical language. Because the research questions specifically dealt with the MUs and the pauses that occurred before or within an MU (if any), there was not much irrelevant data. The amount of data (metaphor-related information of 15 interviews) was manageable, so I decided to code manually rather than relying on software packages.

Coding interview data. I adopted a midway approach to building the coding scheme. The first cycle of data processing involves open coding (Baralt, 2011; Corbin & Strauss, 2008) where the patterns were recorded *in vivo*, i.e., provisional, inductive and emergent (Glaser, 2002; Glaser & Strauss, 1967). After the patterns had established themselves, they were grouped into research-informed themes following the constructionist approach to grounded theory (Charmaz, 2005, 2008). This is because scattered patterns of the data would not 'tell the story', answer the research questions or reflect the values of prior theoretical knowledge (see Gu, 2014 for more discussion of this "pragmatic balance").

Due to the exploratory nature of the research question and the propositional nature of the data, there was neither a pre-imposed criterion of the kind of answers nor a predetermined linguistic size of the units (e.g., T-units, sentences, etc.) to fit in the coding scheme. Thought units were chosen instead (McKay, 2006, 2009). In some cases, the participants may have failed to verbalize their thought patterns, or failed to remember exactly the thoughts they had at the time of writing. The patterns which were coded as data thus consisted of participants' explicit statement of their thoughts. Where the participant mentioned more than one idea in his/her answer, the different parts of the answer were coded into the relevant categories.

The coding procedure was as follows:

1. I worked with three sample transcriptions to make notes of the patterns of the data.

2. When the patterns were exhausted, I grouped similar ones into categories.

Some categories emerged from the data such as the use of images could be seen as evidence of metaphoric thinking; these categories made up the theme of *accounts of metaphoric thinking* (or *metaphoric thinking* for short). The categories consisting of patterns of thoughts which were not related to metaphoric thinking (e.g., considering grammatical accuracy or pondering on the task requirements) made up the theme of *accounts of non-metaphoric thinking* (or *non-metaphoric* thinking for short). Cases that I missed in the interviews and where the participants could not recall their thinking were put in a separate theme of *No Information*, which mostly consists of non-paused

prepositional MUs.

3. I piloted the coding scheme with more samples to check the inclusivity and representativeness of the protocol.

At this stage, I decided to allow for the third theme of *Lexical considerations* as the reports showed that the participants were particularly concerned with choosing words and word senses. Besides, although a few of them mentioned both a concrete sense and a metaphorical sense in their answers for a certain MU, the answers reflected a process of word sense selection (which treated two senses of one word as two homonyms in the lexicon) rather than a conceptual transfer across domain via the use of the extended metaphorical sense of one word.

4. The revised coding scheme was tested on more samples.

5. The scheme was transferred to a Microsoft Office Excel file where the coding was conducted.

6. I asked the same metaphor expert who worked as inter-rater in Study 1 to work as the inter-rater for this study.

After receiving an explanation of the categories and the themes, the expert worked on one sample transcription. We then had a reconciliation session to discuss the coding results. We did not have disagreement in coding, but he pointed out two cases (out of 66) where I had overlooked parts of the answers. It was concluded, therefore, that the coding scheme was able to cover the patterns from the data without overlapping ones.

The coding scheme. In what follows I will describe the categories in detail and provide examples for each category. I translated the participants' answers. I sought to keep the translation as close to the participants' answer as possible. Because Vietnamese spoken language relies on flexible topic-comment organization of information, I added the missing, but understood, sentence constituents where needed (in square brackets) to make the sentences grammatical in English.

As said earlier, many of the participants' answers contained more than one idea and can be coded in different categories. In the examples below, the relevant sections of the participants' reports are underlined.

Figure 11 below depicts the scheme.
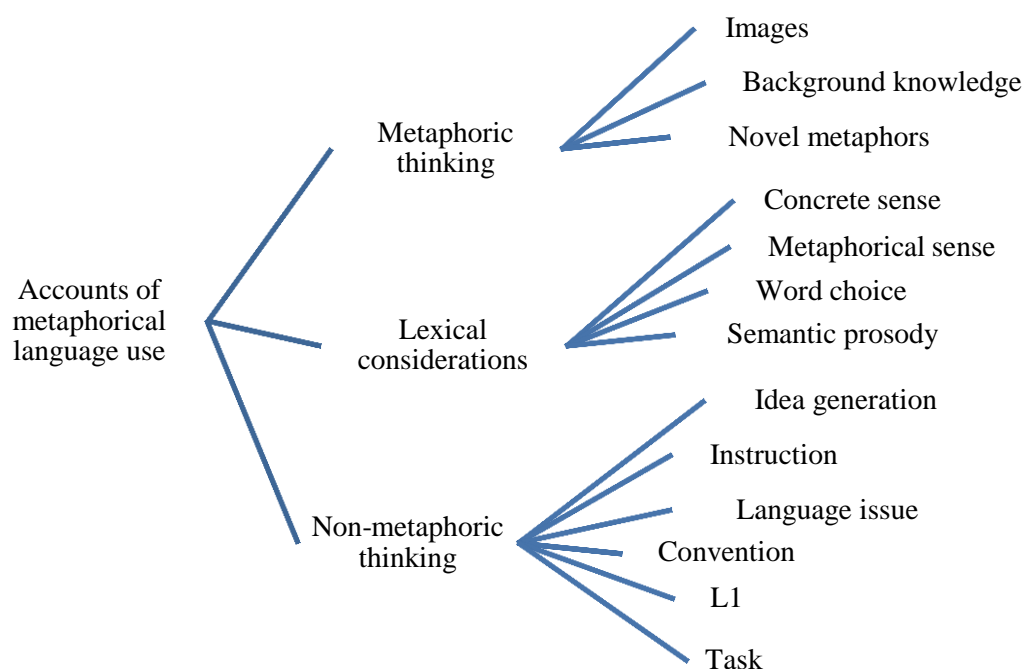
Figure 11. The coding scheme

First, the reported accounts that fell into **the theme of metaphoric thinking** are those that show signs of metaphoric thinking such as those described in Chapter 2. From the participants' answers, three categories became apparent: the use of *images*, *background knowledge* and *novel metaphors* to account for the metaphorical language produced in their writing. In Chapter 2, we have discussed the significance of images in metaphor processing as a mechanism of associative thinking. The use of background knowledge and novel metaphors as motivations for metaphor use has not been recorded in the literature of metaphor production, presumably because the field is largely unexplored. Using background knowledge to account for metaphorical language production also shows signs of associative thinking as the participants tacitly depend on a network of ideas and associations in memory (Lohman, 2005). Using novel metaphors to explicate the use of metaphorical language, on the other hand, requires the activation of analogical reasoning.

- **Images** here are used in their broad sense (Harris et al., 1980; Paivio, Yuille, & Madigan, 1968) to include the mental pictures and sensory experiences described in the participants' reports.[30] A thought unit was thus coded as imagistic when it induced a mental scenario, usually with visual cues and other senses. In the example below, Hồng Thanh used mental images to

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[30] *Image* here is not used in the sense of Langacker's *images*, which refers to a schematic alternative to construe a domain or domain matrix (e.g., Langacker, 2002). See also Oakley (2007) for distinctions between images, schemas and image schemas.

elaborate her choice of *screens* instead of *pictures*.

Example 77. wiht·[BACK 3]th·{2777}manys·[BACK 2]·{46988}pictures,
·{6146}[BACK 10]{7145}*screens*

Screen is more suitable to talk about literature. *Picture* is still, *screen* is full of
motion. For example, a picture with people harvesting [is still]. But when we
talk of *screen*, the same picture will have motion. <u>The people in the picture will
move from this action to the next action, [we can see] the way they move, the
jobs they are doing.</u> (Hồng Thanh)

   (*Hình ảnh* thích hợp trong văn học hơn. *Bức tranh* thì có thể là bức tranh
   tĩnh mịch. *Hình ảnh* thì có thể sống động. Ví dụ như một bức tranh với một cánh
   đồng với những người đang gặt lúa. Nhưng khi mình nói *hình ảnh* những người
   gặt lúa trên đồng hình ảnh đó sẽ chuyển động. Người này đang làm cái gì rồi đến
   cái gì, chuyển động như thế nào, từ việc gì đến việc gì.)

- The category of **background knowledge** includes accounts in which the
  participants mentioned associating the usage of an MU with the knowledge
  they had, which directly linked to the development of the MU. This
  background knowledge functions as a conceptual connection that facilitates
  the development of the proposition writers are pursuing. In the following
  example, Xuân's idea was *traditional beauty*, which she associated with the
  old way of expressing love in a folk rhyme.

Example 78. we·can·{3915}ream[BACK 2]mains·[BACK 2]·{10046}traditional
·{2091}*beauty* (Xuân)

At that time, I was thinking of the *traditional beauty*, the beauty of the
traditional way that had been handed down from our forefathers, what it was. <u>I
thought of the tradition in ways of saying like those in the old poems that had
been left for us. I thought of that. Like the sayings about love, like *pathway of
the rose garden*</u>[31] <u>or that sort of things.</u>

(Lúc nớ em đang suy nghĩ *traditional beauty*, vẻ đẹp trong cách nói của ông cha
ta truyền từ trước tới nay là cái chi. Em nghĩ traditional về trong cách nói giống
như mấy bài thơ ngày xưa để lại. Thì em cứ nhớ rứa thôi. Giống như câu nói về
tình yêu, *vườn hồng có lối* đồ rứa.)

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[31] Xuân referred to a Vietnamese folk rhyme:
Tới đây mận mới hỏi đào (By the way, plum blossom would like to ask cherry blossom)
Vườn hồng có lối ai vào hay chưa? (Has anyone entered the pathway to the rose garden?)
Mận hỏi thì đào xin thưa (Because plum blossom asks, cherry blossom would reply)
Vườn hồng có lối nhưng chưa ai vào (There is the pathway to the rose garden, but no one has entered)

- The category of **novel metaphors** includes cases where participants used novel metaphors to account for metaphorical language usage in text. While the actual word in their writing could be a highly conventional MU, using novel metaphors to explicate its usage inherently involves metaphoric reasoning. For example:

Example 79. {5741}literature·*helps*·us·to·be·more·enthusiastic

In life, I help you, you help me. Literature helps us in the same way. <u>I think it is a living being.</u> (Hoa Mai)

(Trong cuộc sống mình hay dùng tôi giúp đỡ anh, bạn giúp đỡ tôi. Thì văn học cũng giúp đỡ mình như vậy. Em nghĩ hắn cũng là một thực thể sống.)

Second, **the theme of lexical considerations** include the accounts in which participants reported the thoughts related to lexical decisions. It covers:

- The category of **word choice**, which consists of recounts of a search for or selection of a lexical item.

Example 80. not·only·enrich·{31746}[BACK 7]*service*·our·study

I deleted *enrich*, <u>I was undecided among many verbs such as *enrich, improve, enhance, service*. Finally I picked *service* our study.</u> (Hồng Thanh)

(Em xóa *enrich*, em phân vân nhiều động từ như *enrich, improve, enhance, service* rồi sau cuối cùng em chọn là để *phục vụ* cho việc học của mình.)

- The category of **semantic prosody**, which shows the participants' evaluation of the appropriateness of a lexical item by interpreting the connotations that it is perceived to carry. Semantic prosody here refers to all shades of meaning and dimensions of usage that the participant attributed to a lexical item. This makes the category broader than in current literature where semantic prosody generally refers to "the consistent aura of meaning" (Louw, 1993, p. 157) along an evaluative parameter (Sinclair, 1991; Stubbs, 2001; Thompson & Hunston, 2000) that a word/phrase acquires in a particular patterned usage..

Example 81. L[CAPS LOCK]iteratuer·[BACK 4]{2106}ure·al{2480}wy[BACK]ays·have[BACK 4]*contains*·{5116}humanity·{3120}values{2075}.

<u>With *have*, when we read, we see its meaning, but I think *contain* means behind, the meaning behind the words in a literature works,</u> I think *contain* is better. (Nhi)

(Nếu dùng chữ *have* thì tức là khi mình đọc vô mình sẽ thấy được cái nghĩa của hắn, nhưng mà em nghĩ *chứa đựng* là đằng sau, cái nghĩa đằng sau của những từ trong tác phẩm văn học. Em nghĩ dùng *contain* là hay hơn).

- The category of **concrete sense**, in which the participants explicitly mentioned the basic concrete sense of the MU.

Example 82. we·can·{9048}know·how·to·{7909}be{2589}have{6334}[BACK 7]·live ·rightly·[BACK 9]·in·a·good·*way*

This *way* has many meanings. It doesn't mean pathway or direction or that sort. But [it means] lifestyle. It also includes the personalities, not only good or bad way of living. (Thơ)

(Từ *way* này là có thể có nhiều nghĩa chứ không phải chỉ nghĩa lối đi hay phương hướng hay gì đó. Mà còn có cách sống của mình. Hắn còn đề cập đến những phẩm chất nữa chứ không chỉ là cách mình sống đúng hay không.)

- And the category of **metaphorical sense**, in which the participants explicitly mentioned the extended metaphorical sense of the MU.

Example 83. we·can·learn·many·things[BACK 6]good·things·*from*·lta[BACK 2]iteratur[BACK 3]ry·works.

From means that through literature works we can learn many things. When we write [read?], we can learn many things starting from the work. I think *from* means that we can visualize many things; when we read the works, we can draw many things out of them. (Khanh)

(*From* có nghĩa là thông qua tác phẩm văn học mình học được nhiều thứ. Khi mà mình viết chúng ta có thể học được nhiều điều bắt đầu từ tác phẩm đó. Em nghĩ *from* là hình dung ra được nhiều điều, khi mình đọc những tác phẩm ni thì mình rút ra được nhiều điều từ đó)

Finally, other thought patterns are covered in the broad **theme of non-metaphoric thinking**. It includes an array of underlying factors which are involved in the making of metaphorical language but are not directly related to the mentioned mechanisms of metaphoric processing. These are thoughts that relate the usage of the MU in point to:

- **the development of ideas**

Example 84. {4758}·it·give·for·us·{47097}a·*sku[BACK]y*·of·knowledge.

Even though we can see those benefits but many people in this age cannot. I thought of the essay question [the task], if some people thought as such, what sentence I should give to confirm that even though [reading literature] can take time or [literature] can be difficult to understand, the knowledge it brings is a lot. Here I use *sky*. […] Many things, from philosophy, from common-sense knowledge to philosophy, all are included. (Nhi)

(Mặc dù mình thấy được cái lợi ích đó nhưng cũng có nhiều người nghĩ trong thời đại ni thì không. Em nghĩ tới cái đề một vài người có suy nghĩ như rứa thì em có câu chi để khẳng định lại là mặc dù hơi mất thời gian hoặc là hơi khó để hiểu, nhưng mà kiến thức nó đem lại thì nhiều. Ở dây em dùng *sky*, bầu trời.[…]. Rất là nhiều thứ, từ cái triết lí, kiến thức đời thường cho tới triết lí, cái chi cũng có trong nớ.)

- **linguistic issues** of the MU

Example 85. followed{6474}{60903}{2449}{2122}{80263}{8377}{2153}*castle* ·*[BACK]-in-the-air*·dream

I put down *castle in the air dream*, <u>I thought it must be a noun phrase, then I wanted to use an adjective so I linked them up.</u> I wasn't sure whether it was correct. (Ngọc)

(Em thấy *castle in the air dream*, em nghĩ là danh từ, xong em muốn dùng tính từ nên em nối lại. Không biết có đúng không.)

- habitual **convention** of language use

Example 86. why people think the *way* they think […]

I used it as <u>my habitual reaction.</u> (Khanh)

(Em chỉ sử dụng như phản xạ quán tính của mình rứa thôi.)

- **instruction**

Example 87. So·this·argumant[BACK 3]ent·so[BACK 2]*go,[BACK]es,*

<u>I remember when I learned writing, there was this phrase.</u> (Trà My)

(Em nhớ khi em học viết có cụm như ri).

- **influence of the L1**

Example 88. Through·some·emotion·{3198}that{2169}[LEFT Click]s[LEFT Click]·you·*gain*·g[BACK]from·reading […]

<u>My Vietnamese idea was *đạt được*, *đạt được* is *gain*</u> [in English]. (Nam)

(Ý tiếng Việt của em là *đạt được*, *đạt được* thì *gain*)

- influence of the **task** at hand[32]

Example 89. It·includes·not·only·{9641}[BACK 13][BACK 5]not·l[BACK]oly[BACK 2]nly·*tells*·s[BACK]us·about·the·str[BACK]ory·{8315}about·

<u>I wanted to personify literature. I wanted to use personification here.</u> (Xuân)

(Em muốn nhân cách hóa văn học, em muốn dùng biện pháp nhân cách hóađây.)

---

[32] Due to ethics constraints, instances of the halo effect could be seen clearly in one participant. Xuân was so influenced by the research participation that she wrote about the importance of metaphors instead of answering the elicitation task. We will revisit this issue in Chapter 6.

Results and Discussions

In this section, I will first present the general descriptive findings of both sets of data for an overview of the general picture. Thereafter, I will present and discuss the results with regard to the two main issues of the project: the metaphoricity and phraseology of the MUs. With each issue, I will follow this order: pause locations, retrospective reports and pause durations.

Because the logged data and the interview data are complementary, I will at times use examples from both sources to elucidate a certain point.

General Findings

Pauses. Table 16 below describes the general information of the participants' works and the pauses. On average, the participants produced 395.33 words, 55.47 of which (14.03%) were metaphorical, composing 45.67 MUs. The average final product writing had 305.13 words, 44 of which were metaphorical (14.42%), composing 35.53 MUs. This figure is more or less the same as the metaphorical percentage of text of the Year 4 cohort reported in Chapter 3 (14.07%).

Table 16

General Information of Texts and Pauses

Information	Min	Max	M	SD
Product Total Words	198	404	305.13	58.10
Process Total Words	230	563	395.33	104.60
Product Total Metaphorical words	23	59	44	10.17
Process Total Metaphorical words	38	74	55.47	12.02
Product Total MUs	19	51	35.53	8.12
Process Total MUs	32	66	45.67	10.33
Total processing time (s)	1953.476	4842.801	3335.772	604.823
Total pauses $\geq$ 2s	104	277	202	47.43
Total pause time $\geq$ 2s (s)	1037.262	3811.757	1853.117	668.154
MU-related pauses	16	58	37.87	10.80
Total MU-related pause time (s)	60.000	573.660	292.401	135.700
Paused units	13	32	23.47	5.18
Non-paused units	11	39	22.20	8.02

Regarding pauses, in the course of composing, participants required on average 202 pauses which were greater or equal to two seconds, 37.87 (18.75 %) of which were related to the MUs identified. These pauses took up 1853.117s of total processing time, 292.401 of which (15.78 %) was MU-related. Table 16 also shows that the number of paused and non-paused MUs was more or less the same in a text: 23.47 and 22.20 respectively.

Retrospective reports. In general, the majority of the retrospective accounts of pausing behaviour regarding the metaphorical language units show no manifestation of metaphoric thinking (43.33%). Concerns about lexis take up 38.46% of the accounts. Metaphoric thinking appears in only 18.12 % of the accounts given. A small percentage of 0.09% falls into the *No information* category. Below is descriptive statistics of the accounts (Table 17).

Table 17

Descriptive Statistics of the Categories of Thought Accounts

Accounts		Min	Max	M	SD
Metaphoric accounts	Images	2.00	31.00	10.60	6.32
	Background knowledge	.00	5.00	1.93	1.44
	Novel metaphors	.00	10.00	3.33	2.61
Lexical considerations	Word choice	2.00	27.00	12.33	5.97
	Semantic prosody	3.00	14.00	6.87	3.27
	Concrete sense	.00	12.00	4.07	3.51
	Metaphorical sense	2.00	25.00	10.53	6.03
Non-metaphoric accounts	Idea development	9.00	24.00	17.80	5.06
	Linguistic issues	.00	8.00	3.73	2.79
	Convention	.00	12.00	5.20	3.67
	Instruction	.00	5.00	1.93	1.67
	L1	.00	13.00	4.47	4.14
	Task	.00	11.00	4.73	2.89
No information		1.00	8.00	4.93	1.98

It can be seen that the 'big' reason behind the pauses in connection with the use of MUs was looking for ways to express an idea, which occurred 17.80 times in an average writing process. Selecting words or word senses was the participants' next concern – this happened 12.33 times. Metaphorical senses and mental images were also used often, 10.53 and 10.60 times respectively. Perceiving the semantic prosody as part of lexical decisions occurred 6.87 times, and citing usage convention 5.20 times on average per composition. Other accounts – novel metaphors, concrete sense, linguistic issues, L1, and the nature of the task – played more or less the same role in the making of metaphorical language among these participants (between 3.33 and 4.73 times). Background knowledge was seldom used in the making of metaphorical meaning – only 1.93 times, as infrequent as referring to the instruction received.

Table 17 also indicates the variation between the participants in different aspects. Considerations of word choice, semantic prosody and metaphorical sense of the MU were present in every participant's protocols, along with mental images and thoughts devoted to idea development. Other factors seem to be more related to individual preferences.

Metaphoricity

Novel MUs

Pauses. Novel MUs make up 3.5% of the total MUs. The majority of novel MUs (91.67%) required pauses, which is hardly surprising. Application of the Chi-Squared test shows that a significantly greater ratio of the novel MUs came with pauses as compared to the conventional ones (Yates χ^2 = 15.85; p < 0.0001). In addition, when pauses occur in connection with novel MUs, these tend to be longer than pauses related to conventional MUs (see further below).

While novel metaphors may 'come to mind' effortlessly in a poet's composing trance, they may not to normal L2 learners composing in an elicited task. If conventional metaphors, especially highly conventional ones, are results of known usage exemplars that can be retrieved, novel metaphors have to be constructed. This process may be meta-cognitively unknown to the producers but is unlikely to come freely. It involves linguistically pushing the semantic boundary of a retrieved lexical item in a contextualised usage to instantiate the underlying conceptual process of projecting properties across domains under the drive of a communicative motive.

Despite the abundant literature in metaphor comprehension, little is currently known about the differences in the creation of different types of metaphorical language. There is, however, evidence that conventional metaphors are related to general vocabulary knowledge and novel metaphors to fluid intelligence and creativity, which highlights the role of controlled attention and executive semantic processes in the production of novel metaphors (Beaty & Silvia, 2013; Chiappe & Chiappe, 2007; Silvia & Beaty, 2012). Neuropsychological research also suggests that novel metaphor processing activates the same parts of the brain as do creative activities (the right hemisphere) and is associated with semantic retrieval and integration while conventional metaphors mainly involve the left hemisphere, which is the processor of linguistic stimuli (Benedek et al., 2014; Faust, 2012).

Nevertheless, two cases of novel MUs occurred without pauses:

- {3261}·or·you·are·my·*treasure*.
- ·i·said[RSHIFT]"[BACK]·[RSHIFT]:[RSHIFT]"·i·am·not·p[BACK]*your·prisoner*·

In the first case, there is a pause of {3261} before *treasure*, suggesting that the planning for the MU might have taken place here. This pause, however, was not coded because it did not immediately precede the unit. The second case is the repetition of the same MU which came earlier with two pauses totalling 7597ms.

Given these findings, it can be said that when conceiving pauses as signs of cognitive processing, novel metaphor production is cognitively demanding.

Retrospective reports. Figure 12 shows that the participants employed a large amount of metaphoric thinking in their production of novel MUs, which accounted for 39.44% of the reported thoughts for novel MUs. Yates χ^2 shows that novel MUs come more often with metaphoric thinking than conventional MUs ($\chi^2 = 30.39$; $p < 0.0001$) and inter-MUs ($\chi^2 = 12$; $p < 0.0005$).
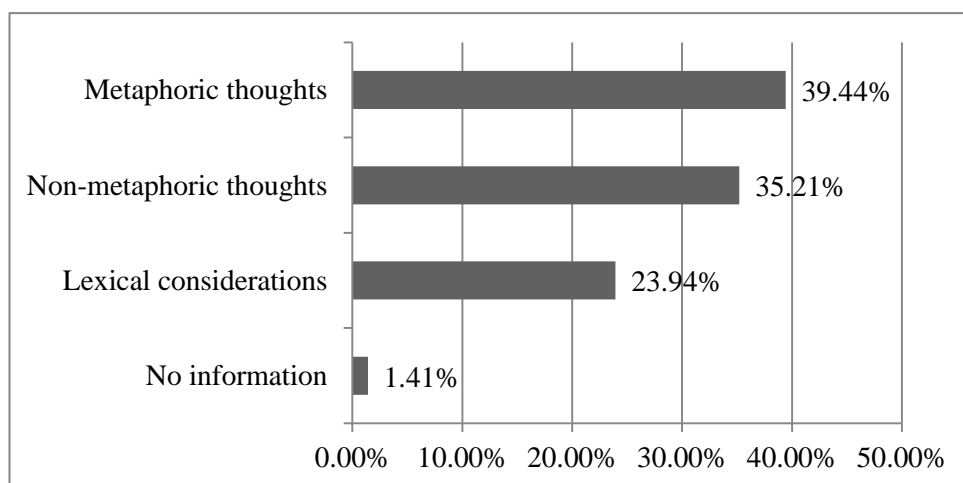
Figure 12. Reported thoughts in the production of novel MUs

The participants' reports of employing associative and analogical thoughts to account for the use of novel MUs are in keeping with current understanding that when multiple elements of cognition are simultaneously activated, creativity occurs (Boden, 2004; Martindale, 1999; Mednick, 1962). Examples 90–91 below illustrate how the learner-writers reportedly called for different cognitive resources of background knowledge and senses in the making of novel MUs. In Example 90, Phương remembered the Japanese comic that she read, in which the characters had many adventures to different faraway islands, which helped her complete the idea. Example 91 is a highly literary one resulting from a combination of senses and images to describe the quality of poetic language.

Example 90. your·mind{4103}·will·{6709}*lead·you·to·{5211}a[BACK]a·new·land*

> I wanted to talk about imagination; that is, going somewhere else, not here. I put down *lead to*, but I didn't know where to, so I had to think of an island. It's because I read *Doraemon*, there are many islands in it, so I thought of islands here. (Phương)
>
> (Ý em là muốn nói tới imagination, tức là đi tới chỗ khác không phải ở đây. Xong em viết *lead to*, lại không biết lead tới cái chi nên phải nghĩ cái đảo. Em đọc Doraemon hay có đảo nên em nghĩ tới đảo).

Example 91. ·in·the·*world·of·{3510}m[BACK]sweet·med[BACK]lody*·of·a·poem.

World here is not the wide world but is limited, within the world of the work we are reading. If *sweet* is the sweet candy, then *sweet* for a literature work means flying words, like poetic words. I was visualizing the poetic melody flying gracefully, like candy, sweet, tasty, poems are graceful and pleasant to the ears. (Hoa Mai)

(*World* không phải là thế giới rộng lớn mà giới hạn phạm vi thế giới của tác phẩm mình đang đọc. *Sweet* bình thường là kẹo ngọt, thì *sweet* là những lời văn bay bổng, giống như những lời thơ. Em hình dung giai điệu thơ bay bổng thướt tha, như kẹo thì ngọt ngào, ngon, thơ thì bay bổng thướt tha, êm tai.)

Figure 12 shows that accounts related to non-metaphoric thinking were equally important, taking up 35.21% of the participants' reports. This is probably because the participants must have created the novel MUs with the goal of answering the task question in mind, not for the sake of creative language play. In fact, the participants' reports of non-metaphoric thinking (17 cases) behind the use of novel MUs included mostly concerns about idea development (16/17 cases). For example:

Example 92. It [Literature]·is{5912}·*the·taecher[BACK][BACK5]eacher*·thats[BACK] ·teach·us·throgh·words.

I paused to think about the important role of literature. (Ly)

(Em dừng lại để suy nghĩ vai trò quan trọng của hắn là răng.)

Example 93. {4758}·it·give·for·us·{47097}a·*sku[BACK]y*·of·knowledge.

Even though we can see those benefits but many people in this age cannot. I thought of the essay question, if some people thought as such, what sentence I should give to confirm that even though [reading literature] can take time or [literature] can be difficult to understand, the knowledge it brings is a lot. Here I use *sky*. It sounds literary, but just *knowledge* sounds very dry. And there are many things, from philosophy, from common-sense knowledge to philosophy, all is included. (Nhi)

(Mặc dù mình thấy được cái lợi ích đó nhưng cũng có nhiều người nghĩ trong thời đại ni thì không. Em nghĩ tới cái đề một vài người có suy nghĩ như rứa thì em có câu chi để khẳng định lại là mặc dù hơi mất thời gian hoặc là hơi khó để hiểu, nhưng mà kiến thức nó đem lại thì nhiều. Ở dây em dùng *sky*, bầu trời. Cái ni dùng có vẻ hơi văn chương, nếu dùng *knowledge* không thôi thì có vẻ hơi khô khan. Rất là nhiều thứ, từ cái triết lí, kiến thức đời thường cho tới triết lí, cái chi cũng có trong nớ.)

In the special case of Xuân, the novel MUs seem to have been generated under the effect of the research information, which stated that the study would look at the metaphorical aspects of the participants' writing in English. None of her five novel MUs contained any trace of metaphoric thinking. Rather, one finds the presence of meta-metaphoric thinking, i.e., the 'languaging' about the use of metaphors for a rhetorical purpose. For example:

Example 94. you·are·prison{3260}[BACK 6]a·*prison*·and·i·[BACK 6]but·{2652}i ·{6177}[BACK 2]{3978}{6974}·i·am·not·your·*prisoner*·

> Here I wanted to say *I want to escape from your prison*. I thought it didn't sound very good, so I had to put it like this. <u>That [sentence] didn't have comparison so I had to rewrite in another way to have a metaphor, the literary comparison. I paused there to think of an example that had two clauses with metaphors in them.</u>
>
> (Đoạn ni em muốn nói là *Tôi muốn thoát khỏi nhà tù của bạn*. Em nghĩ cái đó viết hắn cũng không hay xong em viết lại câu ni. Hắn không có sự so sánh nên phải viết theo cách khác để thấy metaphor, sự so sánh một cách văn chương. Đoạn dừng ni em muốn viết cái ví dụ mà có hai cái vế có metaphor trong đó.)

The number of novel metaphorical instances is not large. However, it has revealed that the novel MUs in these learner-writers' writing tended to be constructed rather than spontaneous (as suggested by Pitts, Smith, & Pollio, 1982, for example). The examples have also hinted that what is linguistically judged as novel metaphors can at times hardly have anything to do with metaphoric thinking. The relationship between metaphors in text and metaphors in mind(s) of the producers (and receivers) is thus by no way linear. Apart for the cases where explicit metaphoric accounts were reported, in other cases, it seemed that the linguistic representations of hidden ideas and motives just happen to be the novel or conventional metaphors in the text as the result of word selection. For example, Thúy said,

> I wanted to use the word *bách khoa toàn thư* [encyclopedia], but I couldn't remember what *bách khoa toàn thư* is in English so I wrote *a tool*, and added a slash [/] to mark it to search for it later. If I could remember the word, I would change it.
>
> (Em đang muốn viết từ *bách khoa toàn thư* nhưng không nhớ từ *bách khoa toàn thư* bên tiếng Anh nên em ghi là *a tool*, rồi xuyệt để đánh dấu khi viết mà nhìn lên trên. Trong quá trình mình viết em nhớ lại được từ nớ thì em sẽ đổi lại từ nớ.)

She could not retrieve *encyclopaedia*, so her essay read, *Literature likes a tool that helps people to access the knowledge*. Readers have, instead of novel metaphor, a conventional metaphor where *tool* means *something that you use in order to perform a job or to achieve an aim*.

Novel metaphors are often discussed in association with deliberateness (Beger, 2011) and creativity (Knowles & Moon, 2006; Kövecses, 2010) of language use. These dimensions of novel metaphor use are of course still debated because it is difficult to pin down deliberateness and creativity in the first place. Although novel metaphors can be deliberate, deliberateness in language use does not imply novelty because 'signs' of deliberate metaphor use such as metaphor signalling devices (e.g., *like, as if, see as, ...)* are found in conventional language use as well (Gibbs, 2011a, 2011b; Musolff, 2011; Ng & Koller, 2013). In the case of the language learners, as shown in Chapter 3, the level of proficiency plays an important role in deciding how metaphorically creative one can be in another language.

Conventional MUs

Pauses. Of the 685 MUs under examination, 78.69% are conventional MUs. Of these, 51.99% occurred without a pause; pauses were identified in the other 48.01%, which, as mentioned, is a significantly smaller proportion than found in the set of novel MUs.

Figure 13 shows that the difference in the number of paused and non-paused units is not large among metaphorical open-class lexis.
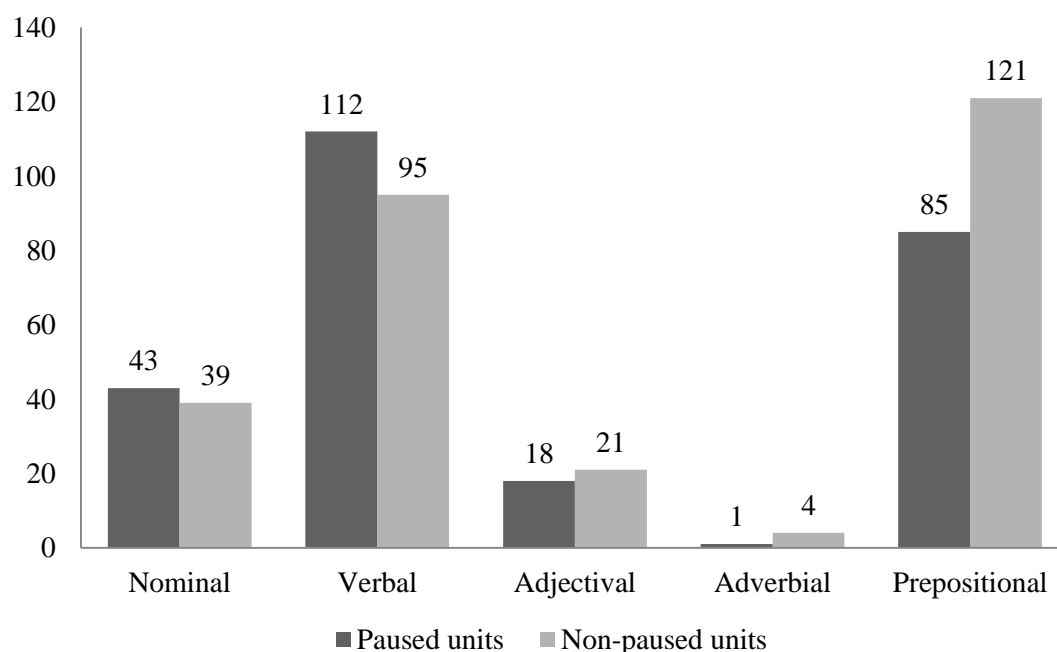

Figure 13. Pauses in conventional MUs across different linguistic structures

A close up examination reveals that in the category of nominal MUs, general words like *part*, *way* and *thing* make up half of the non-paused units. This is not a surprising finding if we recall from Chapter 3 that general nouns accounted for 52.33% and 54.54% of nominal MUs in the Year 4 cohort and the whole population respectively. What's worth noticing is that this kind of lexis was mostly used without hesitation. In the case of *thing(s),* 13 occurrences were without a pause and four with pauses.

Example 95. to·deal·with{3338}·*thngs*·happening{3011}i{4914}(Khanh)

I think *things* are the problems we face in life, the difficulties or happenings in life that we cannot resolve. (Khanh)

(Em nghĩ là những vấn đề mình gặp phải trong cuộc sống, những vấn đề khó khăn khúc mắc hay những cái gì xảy ra trong cuộc sống mình không giải quyết được.)

Example 96. We·can·discover·{9672}many·interesting·*things*·

This *things* includes everything such as people's thinking, beings from animals to humans, and little details in the story. It includes everything. (Thơ)

(*Things* này là hắn bao quát gồm tất cả mọi thứ ví dụ như những suy nghĩ của con người hoặc là những vật thể, từ động vật cho đến con người, rồi đến những thứ nhỏ nhặt trong câu chuyện đó. Nó bao quát tất cả.)

Example 97. {19344}[RSHIFT]The·{4571}speciall[BACK]{3120}·*thing*·

I thought that I would explain *the special thing* as what a literature work leaves [for us]. It is the lesson that we can draw out from the work. I was writing and thinking at the same time. This *thing* means the lesson [from the story]. (Thúy)

(Em suy nghĩ diễn giải câu *the special thing* là cái điều đằng sau tác phẩm để lại. Đó là những bài học mình rút ra được từ tác phẩm đó. Em vừa viết em vừa nghĩ. *Thing* này là lesson.)

Example 98. {10857}the·{2028}[BACK 4]the·good·*things*·

I meant to say that we could tell right from wrong thanks to literature. I meant to talk about cái thiện với cái ác. At that point I couldn't find the words for *cái thiện* và *cái ác*. Sort of like good and evil. But then I thought *things* can include all issues, properties or whatever. (Xuân)

(Ý em muốn nói chúng ta có thể phân biệt được điều tốt điều xấu nhờ vào văn học. Ý em muốn nói đến cái thiện và cái ác. Lúc đó em cũng không nghĩ ra cái thiện với cái ác thì dùng từ gì. Như kiểu *good and evil*. Nhưng lúc đó em nghĩ thì từ *things* có thể bao quát vấn đề, phẩm chất hay gì đó.)

Example 99. {51558}they·{2278}only·care*{2262}·{4337}the·hting·[BACK 7]·thing*·ths [BACK]at·{6521}can·help·then[BACK]m·

I wrote *thing* thinking it's an indefinite word; actually *thing* here I didn't think of anything. I didn't think what *thing* was, I just wrote *a thing*. *A thing* is an area that can help you make money. I didn't elaborate *a thing*. (Dương)

(Em viết *thing* thì em nghĩ là từ chưa xác định mà thực sự *thing* ở đây em cũng không nghĩ là cái gì cả. Em không nghĩ *thing* ni là cái chi em chỉ viết *a thing* thôi. *A thing* đây là lĩnh vực gì đó kiếm được tiền, em không diễn giải ra *a thing*.)

The examples show that the participants used general words to convey a train of thought (Examples 95 and 96), substitute a lexical item that they failed to retrieve (Examples 97 and 98) or hide their inability to generate ideas (Example 99). The repetition of a few items of general nouns probably explains the high number of non-paused nominal MUs as items of the same usage that had been retrieved earlier would not require further processing – i.e., the recency of an occurrence can facilitate the next retrieval (Scarborough, Cortese, & Scarborough, 1977; Thompson-Schill, D'Esposito, & Kan, 1999; van der Meulen, Meyer, & Levelt, 2001). The examples also suggest that general nouns were so easily retrieved that they persistently became the most frequent and successful candidates of the nominal selection process. In Chapter 3, we have found that the percentage of general word use was more or less the same across the four proficiency levels, indicating a habitual reaction in the retrieval process. Given these points, the general nouns seem to form part of the learners' core vocabulary (as opposed to the peripheral position at the borderline of lexis and grammar assigned to them by Halliday and Hasan, 1976) which is composed of words that are retrieved and processed at the fastest speed (Meara, 2005; Wolter, 2001).

In a conceptual hierarchy, "a cluster of concepts linked to each other by a relationship of elaboration or schematization" (Feyaerts, 2000, p. 65), *thing* lies at the highest level of schematization on a vertical semantic 'pole'. It would be interesting to find out why metaphorical general nouns are retrieved first as this is in contrast with Paivio's (1966) experiments, which indicate that reaction times for concrete words are faster than for general abstract ones. For example, does the level of abstraction facilitate retrieval or does the frequency effect speak louder in this case? Levelt's (1989, 1993) *principle of specificity*, which states that the most specific of all lemmas activated for a preverbal concept will be selected (see La Heij, 2005 for critiques and an alternative), does not seem to apply in these L2 learners' case. In this set of data, only one case

shows clear evidence that the learner-writer opted for a specific noun to replace a general one.

> That·makes·people·enjoy·{2247}their·life·and·di[BACK 2]find·out·many ·interesting·*th[ing]*{3557}[BACK 2]{5912}*scre[BACK 3]ecret*{2137}[LEFT Click]{2231}small·[LEFT Click]{2996}in·their·own·life. (Thơ)

As for the verbal group, *help* was the most frequent choice with 18 occurrences without pause and 10 with pause. The verb was a personified version of *aiding* and was employed to demonstrate the values of literature in most cases. Like *thing*, *help* is a high-frequency word, which can be retrieved with less latency in speech production (e.g., Kirsner, 1994; Navarrete, Basagni, Alario, & Costa, 2006; Oldfield & Wingfield, 1965; Whaley, 1978). The repetition of these units may have sped up the writing process because the writers did not have to pause when producing them. However, it was the paused units that brought new words to the writing, showing signs of the trade-off effects between fluency and complexity in language production (Foster & Skehan, 1996; Skehan, 1998, 2009b). If lexical diversity is taken to be a sign of quality writing (Engber, 1995; Laufer & Nation, 1995; McNamara et al., 2010; G. Yu, 2010) and pauses during production help to enhance this, these pauses should be considered as welcome signs of the learners' efforts to push the quality of their output rather than indicators of non-fluencies.

The numbers of adjectival and adverbial MUs are not large enough for a significant pattern to emerge other than the figures themselves. With the information so far, it has seemed that recency and frequency of the MUs strongly influence pausing.[33] However, when it comes to metaphorical word production, the variables that normally play a part in the retrieval process appear much less influential. For instance, frequency may lose its effect when the item is used metaphorically. In the following example, the high frequency verb *show* required a pause of 13.946s when used in its metaphorical sense in *my·friend·{11419}[BACK]s·{13946}showe·[BACK]d·ther[BACK]irther [BACK]ir·under[BACK 5]deeply·understood*. Similarly, *contain* occurred with two pauses when it was used metaphorically in *"[Literature] {2075}·is{3494}·{26505} contains·thought·and{2901} en[BACK]xperiens[BACK] {2746}ces"*.

It is tempting to interpret this as the effect of metaphoricity. While this might be the case, the following instances of *bring*, all used in the sense of *provide people with something*, were achieved differently in different occurrences.

---

[33] Benjamin and Bjork (1996) have more on the determinants of retrieval fluency in general.

Example 100. {6396}literature·*brings*·pe[BACK 2]us·many{9204}·{5273}[BACK 5]a·lot·of·knowledge

This *bring* is providing. It has many meanings, but here it's *providing*. Literature can provide us with knowledge. Through language, words we can perceive, can understand literature works. Through language, literature provides us with something. So I used *bring*. (Ly Ly)

(*Bring* ni là mang lại. Có nhiều nghĩa nhưng ở đây là mang lại. Văn học có thể đem lại cho ta kiến thức. Thông qua ngôn ngữ, từ ngữ chúng ta có thể cảm nhận, có thể hiểu tác phẩm văn học. Qua ngôn ngữ, văn học đem lại một cái chi đó nên em dùng *bring*.)

Example 101. good·values{4056}·{5366}which·{14679}they·thing[BACK]k·money·{6583}can·{6146}*bring*·{7613}

Here I thought *money cannot bring*, and I went on thinking. I mean I typed *can*, I mean I added *bring*, but then I stopped there, then I went on thinking. I mean I stopped there then I think what to write next. (Dương)

(Đoạn ni em suy nghĩ *money cannot bring* nhưng em suy nghĩ tiếp. Ý em là em gõ *can*, ý em là gõ thêm *bring* nhưng em nghĩ ngang đó rồi em nghĩ tiếp. Tức là em nghĩ ngang đó rồi em nghĩ sau ni ghi cái chi.)

Example 102. It·i[BACK]is[BACK 2]{3822}*brings*·the[BACK 3]us·{20639}more·advantages{9173}

I meant to say that it provided us with more benefits but I could only remember *bring*. Apart from *bring* I couldn't remember any word that could replace *bring*. If I had had another word to replace *bring*, I would use it, but I couldn't remember any. (Oanh)

(Em định dùng nó mang đến cho chúng ta nhiều ích lợi hơn thì em chỉ nhớ *bring*. Ngoài từ *bring* ra em không nhớ từ nào thay thế cho từ *bring*. Nếu có một động từ thay thế cho từ *bring* thì em dùng động từ đó, nhưng em lại không nhớ.)

Example 103. it·*b{2309}rings*·to·not·only·stu{2090}dents·but·also·teacherss·i{2028}n·studying·{4602}language{2059}·as·well·as·{2012}culture.

What can this subject bring to teachers and learners? I thought people use *bring* with humans, but I thought a subject can also bring something to someone. It can take the form of a human. (Hồng Thanh)

(Môn học này mang lại cho người học người dạy những cái gì? Em nghĩ từ *bring* thì người ta dùng cho con người, nhưng em nghĩ với một môn học thì nó cũng mang lại cái chi cho ai đó. Thì nó cũng trên hình thức như một người.)

Example 100 is a non-paused unit; Example 101 requires a long pause (6.146s); Example 102 has a shorter pause (3.822s) and Example 103 has a short pause that came in the middle of the word. The writers also mobilized their resources to make use of the word in different ways. The examples portend that each occurrence of metaphorical language marks a unique event in the writing process and no two occurrences should be considered the same. This can be found even within-subjects' use of closed-class words. Ly Ly, for example, provided four accounts for her use of *through* (meaning *by means of*):

Example 104. *through* literature

Here [I want to write about] shaping our manner. I was considering *through* and *from*. I used *through* because usually we [have something to] learn, we can use *from*, but here we are talking about perceiving literature so *through* something makes it more coherent.

(Ở đây hình thành nhân cách thông qua hay từ cái chi đó. Em phân vân giữa *through* và *from*. Em dùng *through* vì thường thì chúng ta học cái gì đó thì dùng *from* nhưng ở đây là cảm nhận văn học thì dùng từ *through something* thì mạch lạc hơn.)

Example 105. *through* literature

[I meant that] by developing literature, we can learn many other things.

(Triển khai văn học ta có thể học được nhiều thứ khác nữa.)

Example 106. *through* the story

Earlier [*through literature works* means] *thông qua tác phẩm văn học*, down here it means what our thoughts are towards a particular work. [I wanted to] help reader to understand more clearly that with a particular work we can earn something.

Ở trên là *thông qua tác phẩm văn học*, thì dưới ni đối với tác phẩm đó mình có cảm nhận chi. […] Giúp người đọc có thể hiểu rõ hơn, thông qua tác phẩm nớ có thể có được chi đó.

Example 107. *through* words

Although literature is only language, but via it we can learn many things

(Văn học thì mặc dù chỉ là ngôn ngữ nhưng thông qua nó ta có thể biết được nhiều điều.)

With the examples in Ly Ly's, we now turn to the closed-class MUs. As seen in Figure 12 (p. 139), it is the prepositional MUs that cause the total discrepancy in the number of paused and non-paused units in the conventional MUs. Because prepositions

tend to occur frequently in text, six were common in both paused and non-paused categories *(about, by, from, in, on, through).* Of these, the only big difference lies with *in*, with 69 non-paused and 44 paused occurrences.

Although unrelated to metaphorical language, pauses have also been found to precede open-class words more often than closed-class words in native speakers' speech production (Maclay & Osgood, 1959). When the participants did not pause before prepositional MUs (58.74%), *convention* is the most frequently-cited reason. In many other cases of prepositional MUs that were listed under *No information*, participants could not remember or reported not having any thought at the point of producing the unit. Indeed, it would be phenomenal for even a native speaker to see the metaphoricity of *about* denoting the landmark as the topic as in *It's a book about dogs* (Lindstromberg, 2010, p. 141), let alone 'language' about it. Unless the preposition is highly imagistic by itself (e.g., *through, in*), it would be impossible for the participants to provide a metaphoricity account for the usage of a preposition.

For L1 speakers, prepositions should be retrieved with ease because they are deeply-entrenched conventional language whose usage in text is largely constrained by the grammatical conventions of the language. For L2 learners, prepositions are difficult to learn because of typological differences (Bowerman & Choi, 2001), L1 interference (Ijaz, 1986) and cross-linguistic mismatches (Tyler, 2012b). Prepositional usage also depends on collocational knowledge (Mueller, 2011). 41.26% of the prepositional MUs required pauses, indicating that prepositions did not seem to enjoy an automatic retrieval in the case of these participants. For one thing, these learner-writers might have cognitively treated closed-class words the same as open-class words. In the retrospective interviews, they reported selecting prepositions as if from an open set of words instead of retrieving from memory the expected constructional patterns of the target preposition:

Example 108. At first I used *what we can learn about*, but later I thought I should use *from*. Things that we learn [are things] that we can draw something out of them, so if I use *learn from*. It sounds more imagistic than *learn about*. I simply thought so. (Thúy)

(Mới đầu em dùng *what we can learn about*, sau em nghĩ dùng *from*. Những cái mình học, rút ra được thì em nghĩ dùng từ rút ra thì mình dùng thành *learn from* thì nghe có vẻ hình tượng hơn *learn about*. Em chỉ nghĩ rứa thôi.)

Example 109. Here [I want to write about] shaping our manner. I was considering *through* and *from*. I used *through* because usually we [have something to] learn,

we can use *from*, but here we are talking about perceiving literature so *through* something makes it more coherent. (Ly Ly)

(Ở đây hình thành nhân cách thông qua hay từ cái chi đó. Em phân vân giữa *through* và *from*. Em dùng *through* vì thường thì chúng ta học cái gì đó thì dùng *from* nhưng ở đây là cảm nhận văn học thì dùng từ *through something* thì mạch lạc hơn.)

Example 110. I used *through* because I think *through* here is more suitable than, say *by*. *By* means via some way. Here it should be *through*; through someone's eyes or perception. (Khanh)

(*Through* em nghĩ ở đây là hợp lí nhất, hơn *by*. *By* có nghĩa là bằng cách nào đó, còn đây thông qua, thông qua con mắt hoặc cách nhìn nhận của một ai đó.)

Another important point is the fact that prepositions do not occur by themselves. Because prepositions denote relationships, they combine with entities, processes, properties to create meaning units larger than themselves, i.e., they are conceptually dependent. The pauses that precede prepositions could well reflect the effort invested in planning the whole prepositional phrase (we are reminded of Schilperoord's [1996, 2002] cascade model of cognitive processing and pausing). It is thus not surprising that only 24.71% of the 85 paused prepositional MUs yielded reported thoughts that were directly related to the MUs under question such as Example 111 below.

Example 111. I think [*in* means] inside, it's daily life so I used *in*. People normally say *in our daily life*. Usually with daily life, *in* is used more often than other prepositions. (Oanh)

(Em nghĩ là *ở trong*, trong cuộc sống hàng ngày thì dùng em dùng giới từ *in*. Thường thường thì cụm từ *in our daily life*. Thường thường thì trong cuộc sống hàng ngày thì giới từ *in* được sử dụng nhiều hơn giới từ khác.)

The representation of prepositions in the mental lexicon as attached to the representation of frames is reflected in Garrett's model of sentence production (Garrett, 1984, 1989).[34] In this two-level model, relying on tip-of-the-tongue evidence, Garrett gives prepositions a special status: they are retrieved at the functional level, like open-class words, and processed like closed-class words (i.e., at the positional level). This is because they are closed-class elements and have features that do not have to be retrieved once the positional frames have been retrieved. Relevant to metaphoric language, Karen

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[34] According to this model, the formulation process consists of two levels: functional and positional. The functional level, which involves abstract lexical representations but no phonological information, is where open-class words are retrieved. Closed-class words are not processed until the following positional level.

Sullivan (2013) has pointed out that while prepositions seldom provoke domains, they partly determine the structure that maps between domains. In effect, instead of reporting the thoughts behind the prepositions, these participants would report the thoughts behind the semantic frame in which the prepositions occur. For instance,

Example 112. *behinh[BACK]d*·each·literature·work

> Like the saying *nói xấu sau lưng người khác*, *talk behind one's back*. I think *behind* here, when applied in *behind literary work* is the same. (Thúy)
>
> (Giống như có câu *nói xấu sau lưng người khác*, *talk behind one's back*, em nghĩ từ *behind* ni áp dụng vô *behind literary work* thì cũng giống như câu nớ.

Example 113. {10296}·{14243}*from* the past on

> I was thinking that the idiom *from the past* was similar to *from now on*, whether I could replace it with *from the past on.* (Ngọc)
>
> (Em đang nghĩ tới thành ngữ *from the past* tương đương với *from now on* thì mình có thể thay thế là *from the past on* được không)

In other cases, participants were searching for the words that would come after the prepositions (Examples 114 and 115), generating ideas for the text to come (Examples 116 and 117), or managing the text either at global or local level (Examples 118 and 119).

Example 114. literature·educating·the·cust[BACK 4]tradition{3011}·for·people
·{13354}*by*{2761}

> I paused to try to remember the phrase *tâm tư tình cảm* [emotion] (Khanh)
>
> (Em dừng lại để nghĩ cụm từ *tâm tư tình cảm*.)

Example 115. {3479}{4492}*from*·the{2012}·{6209}[difficulties and challenges] and
·the·spirit·nevr[BACK]ers·give·up·

> At first I wanted to use *difficulties*, then I used *challenges*, finally I decided to use both *difficulties* and *challenges*. (Oanh)
>
> (Lúc đầu em định dùng từ *difficulties* nhưng sau em lại dùng *challenges*, cuối cùng em quyết định cho cả *diificulties* và *challenges* luôn.)

Example 116. {34382}{2933}·*at*·that·time,·literature·will·{6474}live{20358}

> I was thinking that if I ended the essay here, there would be something missing. [I need to write about] the consequences it brought about. (Ly Ly)
>
> (Em nghĩ dừng đây thì có thiếu cái chi. Từ việc ri thì hắn mang lại kết quả răng nữa đã.)

Example 117. we·shou[BACK 4]really·{2184}need{3432}·literar[BACK]ure[BACK 3]ture{2324}·{2933}*in*·our·day

[I paused] to think about the next idea. What I would write after finishing this, I
could't think of anything. (Xuân)

(Để nghĩ ý tiếp theo, viết xong cái ý ni thì sẽ viết thêm cái chi nữa mà chưa ra.)

Example 118. {8955}{31153}{4664}[LSHIFT]*In*·the·modern·word·today{2356},

I was looking for a way to write the introduction so that it suits the question. (Ly
Ly)

(Em nghĩ cách vào đề cho phù hợp với đề bài)

Example 119. {3323}[LSHIFT]Some·people{3931}·*in*·the·morden[BACK 4]dern
·wo{4041}

I wanted to keep this bit at the beginning [of the sentence] but I thought [if I left
it] in the middle of the sentence the idea would be emphasized. (Ngọc)

(Đoạn này em định để đầu nhưng em nghĩ để ở giữa cho hắn nhấn mạnh ý)

The examination of pausing patterns before conventional MUs above has shown
that the apparent MU-related pauses are the results of the interplay of many variables,
one of which may be metaphoricity. In other words, data from pause locations is only
suggestive of a relationship between the conventional MUs and pausing patterns: the
metaphoricity or conventionality of the MUs may attract or repel pauses. This
relationship, however, is not distinct. The participants' retrospective reports are needed
to support any claims about their metaphor awareness during the writing task.

Retrospective reports. Figure 14 shows that non-metaphoric thinking is the main
ingredient in the production of conventional MUs, taking up 41.38% of the reported
thoughts. Lexical considerations are also important in this process (37.34% of the
reported thoughts), but metaphoric-thinking does not play as large a role as it does in the
creation of novel MUs (14.58%).
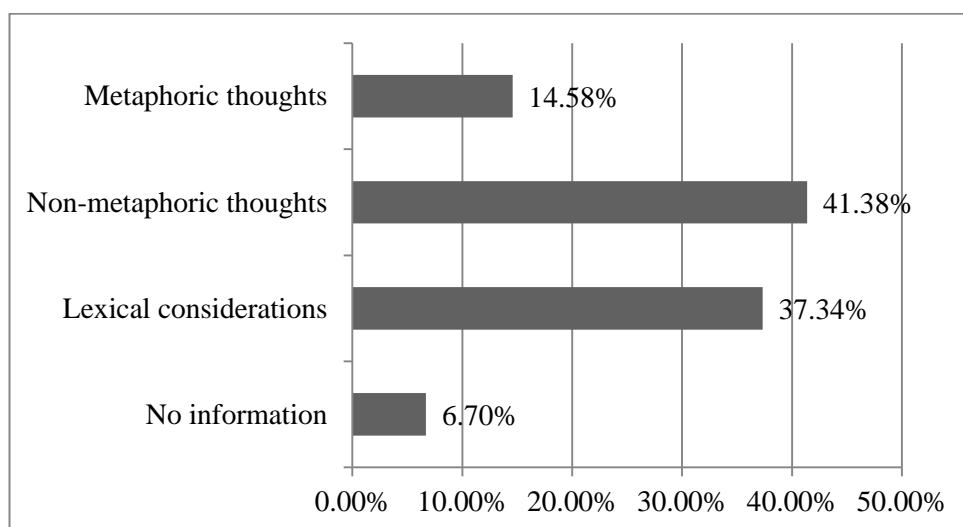
Figure 14. Reported thoughts in conventional metaphor production

Metaphoric thinking. The evidence of metaphoric thinking in the reported accounts through the use of creative metaphors, mental images and associations can be seen in the following examples:

Example 120. fit[BACK]rst·of·all,·{5741}literature·*helps*·us·to·be·more·enthusiastic ·withpopel[BACK 5]·poeple·from·all·wals[BACK 2]lks·f·lifw[BACK 6]{3198}of·life.

In life, we usually [come across situations where] I help you and you help me. Literature helps us in the same way. <u>It is like a living being.</u> (Hoa Mai)

(Trong cuộc sống mình hay dùng tôi giúp đỡ anh, bạn giúp đỡ tôi. Thì văn học cũng giúp đỡ mình như vậy. Em nghĩ hắn cũng giống như một thực thể sống.)

Example 121. The·*border*·f·the·[BACK 6]of·the·good·and·theba·[BACK 3]·bad·

I mean the border between the good and the bad. <u>I was thinking actually the good and the bad are like two neighbouring countries.</u> There must be something dividing the two things, so I thought the dividing thing between the good and the bad is the *border*. (Thơ)

(Ý em muốn nói ranh giới giữa cái thiện và cái ác. Em đang nghĩ thật ra cái thiện và cái ác cũng giống như hai nước láng giềng. Hắn phải có một cái gì đó phân cách giữa hai thứ đó nên em nghĩ sự phân cách giưã hai vấn đề thiện ác đó chính là *border*.)

Example 122. ·{14633}[RSHIFT]I·*threw·awy·[BACK 2]at·any[BACK 6]ay*·any·

I was thinking which word to use in this sentence to emphasize my dislike so that the readers can visualize it. I thought that *threw away* sounded very pictographic – <u>we can imagine us throwing things away,</u> and very onomatopoeic to say, so I used it. (Thúy)

(Em nghĩ nên dùng từ đâu trong cái câu ni, để mình nhấn mạnh được cái mình không có thích, người đọc đọc vô thấy từ tượng thanh. Em nghĩ dùng từ *threw away* đọc vô vừa tượng hình, vừa nghĩ tới mình vứt cái nớ đi, đọc lên nghe cũng tượng thanh nữa, nên em dùng từ nớ.)

Example 123. ·{15366}we·can·*see*·the·world·{6895}

See is the same as *understand*, but *see* is broader. We can understand and see the world through the eyes of the writers, from many cultures; then we can solve many problems around us, so I think *see* is a better word. <u>A literature work spreads itself open in front of us, like life.</u> In literature, there is happiness and sadness. In life we can apply the things in literature to have a view, a perspective about life around us. (Khanh)

(*See* thì cũng giống *understand*, *see* thì rộng hơn, chúng ta có thể hiểu và thấy thế giới thông qua con mắt của nhà văn, từ nhiều nền văn hóa thì chúng ta có thể giải quyết được những chuyện xung quanh chúng ta, nên em nghĩ *see* thì hay hơn. Một tác phẩm văn học thì hắn trải ra trước mắt mình như cuộc sống rứa, trong văn học cũng có vui buồn tình cảm, trong cuộc sống thì mình có thể áp dụng những điều trong văn học để có cách nhìn nhận, cách đánh giá về cuộc sống xung quanh.)

Example 124. to{4040}·make·our·life·is·more·beutiful·and·{2387}more·*colorful*·and ·various.

I was relating to my lessons of English and American Literature. In American Literature, there is the poem *The tide rises, the tide falls*, [in which] there is this line, *Waves efface the footprints in the sand.*[35] I think the usage is very nice but it is difficult to express my idea like the author. The author used that way to express his thoughts, making me relate to life, there are many things to think about, and these things are profound. Or in British literature, when Shakespeare [?] thought of the girl he loved he went from living hell to paradise, his life became very joyful, I was thinking so. That's why I wrote [colourful]. (Xuân) (Em đang liên tưởng tới các bài văn học Anh với văn học Mỹ.Trong văn học Mỹ có bài thơ *The tide rises, the tide falls* có cụm từ *Waves efface footprints in sand*. Em nghĩ là cách dùng ni cũng hay nhưng làm sao để diễn đạt như tác giả thì cũng khó. Tác giả đã dùng cách đó để diễn tả cách nghĩ của tác giả làm cho em liên tưởng tới cuộc sống có nhiều điều phải suy nghĩ và nó rất sâu sắc. Bên văn học Anh, lúc mà Shakespeare nghĩ về cô gái ông ta yêu thì ông ta đi từ địa ngục trần gian tới thiên đường nên cuộc sống ông trở nên vui vẻ. Em đang nghĩ như vậy nên em ghi ra.)

The last example is by Xuân, the student who forged five novel metaphors under the effect of the research task mentioned earlier. In the previous section of novel MUs, we have read Xuân's thoughts behind the use of novel MUs (Example 94) and noticed that metaphoric thinking was not present in any of her five accounts for novel metaphorical use. In contrast, in Example 124 above, Xuân reported using associative thinking (through the use of background knowledge as a motivation of a conventional

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[35] Darkness settles on roofs and walls,
But the sea, the sea in the darkness calls;
The little waves, with their soft, white hands,
Efface the footprints in the sands,
And the tide rises, the tide falls. (Longfellow, 1885, p. 400)

MU), which is a sign of metaphoric thinking. Metaphoric thinking was found in ten out of 44 of Xuân's conventional and inter-MUs. In other words, when she did not mean to be metaphoric – she thought that metaphor is literary comparison (as per her words in Example 94), Xuân reported the presence of metaphoric thinking; when she meant to be metaphoric, Xuân reported meta-metaphoric thinking instead. That is to say, the metaphoricity at conceptual level emerges on its own without being deliberately 'summoned'. On the other hand, when the writers deliberately tried to be metaphoric, the 'metaphoricity' achieved was only at the linguistic level. Across the rest of the data set, there are four other cases where the writers deliberately intended figures of speech, none of which evoked metaphoric thinking in the process.

The use of **images** in forming conventional MUs in these writers needs special attention. The high number of images in the participants' retrospective reports (10.60 images on average, see also Figure 15) suggests that images are essential not only in metaphoric comprehension (Azuma, 2009; Boers, 2001; Boers & Lindstromberg, 2009; Bortfeld, 2002; Li, 2009; Littlemore, 2008; Littlemore & Low, 2006a) but also in metaphor production, at least to this group of learners.
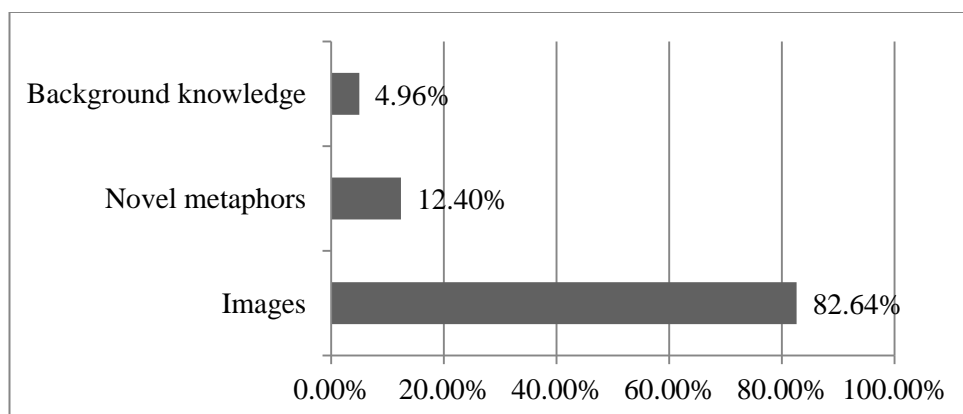
Figure 15. Metaphoric thinking in conventional MU production

On activating images, these participants would visualize a scenario of actions and movements (Examples 122 and 123 above) which Gibbs and associates (Gibbs, 2006a, 2006b; Gibbs & Matlock, 2008) describe as "the automatic construction of a simulation" (Gibbs, 2006b, p. 435) in their discussion of embodied simulation in metaphor interpretation. It is interesting to see that a learner-writer would report her mind's eye seeing herself sometimes as the insider (the active agent of the imaginary performance) and sometimes as the outsider (the witness) of the experience. This mental visualization (and the perceived semantic prosody discussed later) can be seen as the perspectivization of meaning on the part of the writer whereby the writer can choose to engage in or distance herself from an experience.

One might question whether the participants were simply describing the images that the produced lexical item suggested. Indeed, words can be imagistic (e.g., Paivio et al., 1968; Schock, Cortese, & Khanna, 2012; Simonsen, Lind, Hansen, Holm, & Mevik, 2013) and word imageability is inseparable from language (Fleckenstein, Calendrillo, & Worley, 2002). Yet without context a word plus its imageability does not make a metaphor. One needs to situate it in a context that allows the formation of an understanding of how inferences of properties, structures, concepts, frames, etc. are mapped between domains.

The involvement of **background knowledge** in metaphor production as a potential source domain, surprisingly, was not activated often in the participants' metaphoric accounts for conventional MUs. Not only does background knowledge build up the cognitive models, or frames, that accommodate metaphors and facilitate metaphor comprehension, it forms the extensive structured domain-specific knowledge in longer-term memory to be made available to the writers during writing (Kellogg, 2001). A reason for the low-key involvement of this aspect of associative thinking could be that the retrieval of metaphorical language production may not necessitate the activation of all conceptual linkages associated with it. It is also possible that the participants' background knowledge was not large and active enough for the associations to happen.

Lexical considerations. Lexical issues accounted for most revisions in the L2 writing process (Butler-Nalin, 1984; C. Hall, 1990; Porte, 1997; Raimes, 1985; St. John, 1987). In a study that analysed the allocation of temporal and cognitive processing efforts in composing, Barbier (1998) reported that participants were more concerned about word choice when composing in the L2 than in their native language. Using think-aloud data, Cumming (1990) also found that the "most conspicuous cognitive activity" among L2 writers involves word search to express an idea (p.491).

As for the present study, in participants' accounts of conventional metaphor production, lexical considerations figured in 37.34% of the reports (Figure 14). These include accounts where the participants reported searching for a lexical item specifically, considering the different semantic attributes of an item, or referring to the concrete and/or the metaphorical senses of an item. Figure 16 presents the distribution of each category.
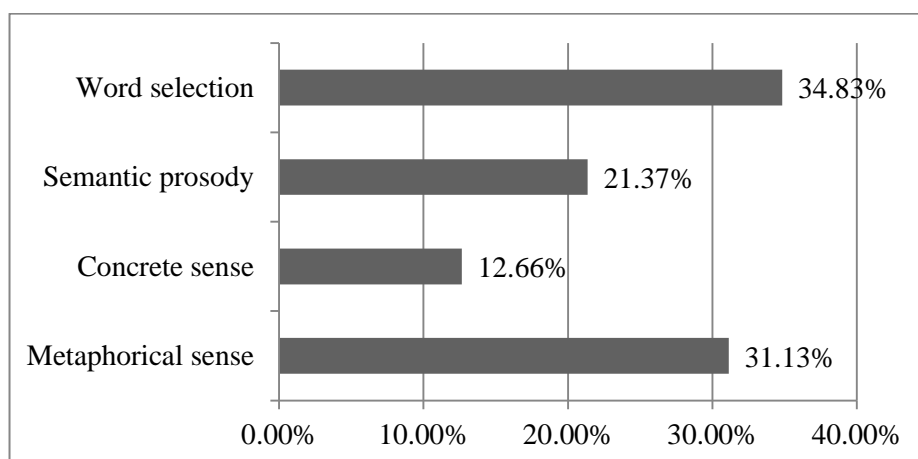
Figure 16. Lexical considerations in conventional MU production

The concrete sense was present in the making of only 12.66% of the conventional MUs while the metaphorical sense was mentioned in 31.13%. This high percentage of reports detailing the metaphorical sense should not be taken as synonymous for the presence of metaphoric thinking or the participants' awareness of the metaphoricity of the units. Rather, because the participants used the words in the metaphorical sense, they simply reported the sense of the words they were using. If explicit contrast between the concrete sense and the metaphorical sense in participants' reports (Example 125) is taken as signs of metaphoric thinking, the case can be found in 6.31% of the conventional MUs and 5.99% of all MUs.

Example 125. to·*release[BACK 2]se*·{7129}our·mind·from·tn[BACK]enson[BACK 2]ion.

Release something means we take it out, we let go of it. Literature helps us to *release* it so I think it helps us to escape the tension in our mind. (Hoa Mai)

(*Release* là cái gì đó mình lấy ra, mình xả ra. Văn học giúp mình release được cái đó. Em nghĩ hắn giúp mình thoát khỏi căng thẳng từ trong đầu ra.)

In many cases, the participants showed very limited knowledge of the extended senses of words. In Examples 126 and 127 below, the extended senses were dismissed.

Example 126. ge[BACK 2]{7612}get[BACK 3]get·*dry*[BACK 3]{8205}[BACK 8]on't ·{6458}be·a·{6365}

At that time I wanted to write that without literature and literary works, human beings will become *khô khan* [dry]. I wanted to use *dry* for *khô khan*, but *dry* can only be used for weather so I changed [to another idea]. (Trà My)

(Lúc nớ em định ghi là nếu không có văn học và các tác phẩm văn học thì con người trở nên *khô khan* mà *khô khan* em định ghi là *dry* mà *dry* chỉ dùng cho thời tiết nên em chuyển lại.)

Example 127. More·and·more·people·are·{5180}r[BACK]{5725}[BACK 4]{2870}are
·interested·in·it·and·{24446}*see*[BACK 3]{40217}they·{9921}recognize·it
·{3213}as

My idea was *và họ xem nó như là một hình thức giải trí* [and they see it as a form of entertainment], but I didn't know which verb to use for *xem*. At first I thought [I should] use *consider*, but then I had a second thought that maybe *consider* in this case is not very accurate. I also wanted to use *see*. I put *see* down but I thought *see* is meant to use with TV or something, but here [it's] *xem như* a form of entertainment, so [I] can't use *see* here. (Oanh)

(Ý em là *và họ xem nó như là một hình thức giải trí*, nhưng em không biết là *xem* nó thì dùng động từ gì. Lúc đầu em nghĩ dùng *consider*, nhưng sau em nghĩ lại chắc *consider* đặt vào trường hợp này không chính xác lắm. Em cũng định dùng từ *see*. Em viết từ *see* nhưng mà em nghĩ *see* là dùng khi xem tivi hay thấy gì đó thôi, nhưng đây là xem như là một hình thức giải trí thì không thể dùng từ *see* ở đây.)

It should be noted that in Vietnamese, it is appropriate to talk about *dry people* or *dry weather* as well as *see something physical* and *see something as something*, i.e., positive cross-linguistic transfer is ready to occur. The transfer, however, did not happen. Trà My and Oanh resisted the easy appeal of using L2 in the way of their L1. These instances are too few to explain as the effect of the cognitive style or a cautious avoidance behaviour when it comes to L1 transfer (N. Schmitt & Carter, 2004), yet they are strikingly telling in showing the learners' lack of knowledge of extended word senses. In a study on L2 learners' dictionary use, Nesi and Haill (2002) reported similar low awareness of word senses among their participants, who did not recognize the mismatch between the dictionary-coded meaning and the context meaning of words.

Coupling this with (a) the high number of times participants elaborate the metaphorical sense using its synonyms instead of the concrete sense, and (b) the employment of inappropriate synonyms and near-synonyms found among the participants in Chapter 3, it seems that these learners have built their vocabulary sense by sense, resulting in the storage of word senses that are not semantically related to each other in their mental lexicon. Generally, in L1, semantically related words compete for selection (Butterworth, 1992; Levelt, 1993) in a process which treats all senses equally and prioritizes the relevance of the semantic concept to the task (Thompson-Schill et al., 1999). For this reason, for a metaphorical sense to be selected, it has to be saliently presented in the retrieval stage in the first place.

The participants' way of acquiring word senses can also be seen in the semantic features they attributed to a lexical item, referred to here as [perceived] **semantic prosody**. Ellis and colleagues (Ellis & Frey, 2009; Ellis, Frey, & Jalkanen, 2009) found that semantic prosody is psychologically real at a later stage, not at the point of word selection, in collocation comprehension. In the case of my participants, reasoning about semantic prosody was present in the production of 14.84% of the conventional MUs, suggesting that it has an influence on word selection. However, unlike native speakers' semantic prosody, which is grounded in usage of collocations, these participants liberally assigned senses to the words they used without considering their syntagmatic patterns. For example:

Example 128. we·*meet*·some·troul[BACK]{3136}ble{2730}s

At first I wanted to write *face* but it felt odd so I used *meet*. (Trà My)

Khi đầu em định ghi là *face* đối mặt nhưng dùng *face* thì có vẻ răng đó nên em dùng *meet*.

Example 129. *contains*·{5116}humanity·{3120}values{2075}.

Contain here means holding something. With *have*, right when we read, we see the meaning. But I think *contain* implies what is behind, the meaning behind the words in a literature work. I think *contain* is better. When we read the literature work, we will be able to draw out the lessons for ourselves. (Nhi)

(*Contain* ở đây là chứa đựng. Nếu dùng chữ *have* thì tức là khi mình đọc vô mình sẽ thấy được cái nghĩa của hắn. Nhưng mà em nghĩ chứa đựng là đằng sau, cái nghĩa đằng sau của những từ trong tác phẩm văn học. Em nghĩ dùng *contain* là hay hơn. Khi mình đọc những tác phẩm văn học sẽ rút ra những bài học cho riêng mình.)

Example 130. {6490}{2558}{44975}·*access*·{3089}th ·kne[BACK]{2184}ow{2090}ledge

When using *access*, I was thinking of approaching knowledge. This word has hidden meaning because knowledge is wide, so we can only approach it slowly, slowly, then we accumulate slowly [to build] knowledge. It's not that we read and remember straight away, we have to approach it slowly. (Thúy)

(Khi dùng *access* ni em nghĩ tới tiếp cận với kiến thức. Từ ni đọc lên nhiều hàm ý hơn vì kiến thức là rộng thành ra mình chỉ tiếp cận một cách từ từ, từ từ, sau đó mình mới thu thập lại từ từ kiến thức. Chứ không phải mình đọc một lúc thì mình nhớ, mình phải tiếp cận từ từ.)

A rough check with COCA collocates shows more hits for *face trouble* than *meet trouble*, *have values* than *contain values*. As a verb, *access* means *to get information, especially from a computer*, implying *quickness*, quite the opposite of what Thúy believed the word to be. It can be said that rather than signifying evaluations as in native speakers' speech, these learners' semantic prosody seems to reflect their personal experience with the word in the learning process and in the real world. Approaching the target language without having been 'seasoned' in its cultural environment, learners are likely to attribute to words new shades of meaning which are conditioned instead by their L1 conceptual and linguistic systems as well as their personal experience with a particular item. It is presently not clear whether the former or the latter would exert stronger influence on learners' perception of L2 words. However, it is certain that, if learners have created such shades of meaning, these must be salient to them although pragmatically inappropriate to native speakers of the L2 (cf. Kecskés, 2011). These paralinguistic dimensions of what words mean to the learners, however, often get lost in the space of communication. Because learners do not have knowledge of all dimensions of a word (cf. Milton & Fitzpatrick, 2014; Nagy & Scott, 2000; Nation, 2001), their personal perspectivization of word meaning (probably a strategic mechanism of compensation) would usually result in the writers missing the illocutionary and perlocutionary targets and thus in their language being labelled idiosyncratic.

If we look at the data broadly, lexical considerations were present in the making of 43.23% of the conventional MUs. In earlier discussion, we have mentioned that the process of conventional metaphor production has been found to be related to general vocabulary knowledge and that the brain tends to treat conventional metaphor the way it does other linguistic stimuli. This is in keeping with many metaphor research perspectives that conventional linguistic metaphor comprehension is a question of word sense disambiguation rather than conceptual cross-domain mappings (e.g., Bowdle & Gentner, 2005; Giora, 2003; Steen, 2007). According to these views, the metaphorical sense is deemed relevant or salient at the point of lexical access thanks to its entrenchedness without necessitating the construction or retrieval of mappings. In her account of metaphor production which examines conceptual, verbal, verbo-gestural and verbo-pictorial metaphors, Müller (2008) acknowledges the roles of both lexical knowledge and conceptual structure, concluding that:

> [W]e cannot just simply say that verbal metaphors are instantiations of conceptual metaphors, but we must assume that verbal metaphors are active as verbal metaphors and provide access to different realms of conceptual

organization. Here the verbal metaphor functioned as a kind of door opener to general cognitive structures. Thus, because the verbal metaphor was active at the moment of speaking, access realms of metaphors to a metaphorical scenario was freed and liberated. Hence, it appears that verbal metaphors are vital on the lexical level and that they provide access to general realms of metaphorical and non-metaphorical structures. (pp. 94–5)

What Müller proposes is not distinctly exclusive to metaphor production. It might as well apply to metaphor comprehension because analysing the presence of different types of metaphors in language products does not explain how metaphors are produced. Her point is similar to Vyvyan Evans' Theory of Lexical Concepts and Cognitive Models (V. Evans, 2010, 2013), which recognizes the independent role of language (lexical concepts) and the invariable underpinning role of conceptual representations (cognitive models) in an integration process of figurative language processing in which lexical concepts provide access to conceptual representations. Both researchers seem to hint at a linearity from lexical access to conceptual representations.

Returning to our L2 learners, it is clear that lexical knowledge underpins the production of conventional MUs. Is it yet unclear whether this lexical access activates non-linguistic representations and, if so, in what order of processing. In 13.17% of the conventional MUs, one finds the presence of both lexical considerations and metaphoric thoughts in the reports. However, more empirical psycholinguistic evidence is needed for an account of linguistic and conceptual representations in metaphor production to take shape – one that takes into consideration the modality of metaphors and the difference between metaphor comprehension and production.

Non-metaphoric thinking. Non-metaphoric thinking made up 41.38% of the thoughts behind the production of conventional MUs (Figure 14). Distribution of the categories in this theme is shown in Figure 17 below.
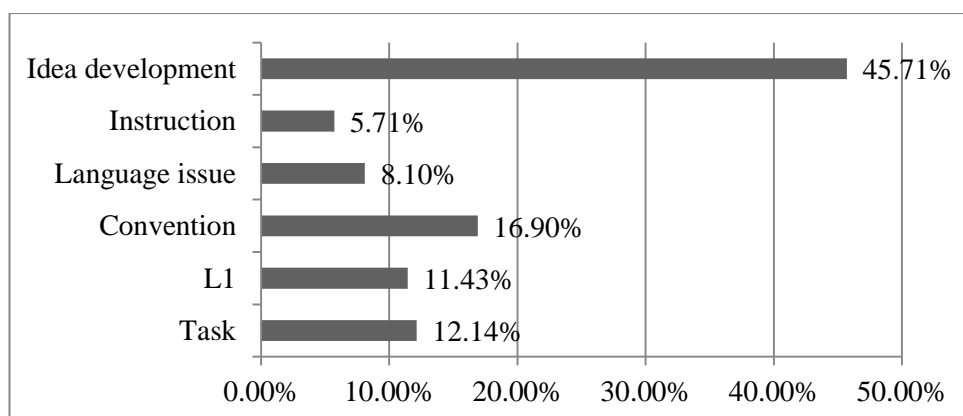

Figure 17. Non-metaphoric thinking in the production of conventional MUs

As can be seen, idea development plays a leading role in the formation of conventional MUs. In L2 writing, the generation of ideas can actually take up to between 30 to 60% of the L2 learners' writing time (Cumming, 1990) as "the most difficult among all composing activities" (W. Wang & Wen, 2002, p. 239). In this study, despite the interview stimuli being the MUs and their pauses, the participants reported the ideational thinking, suggesting that conventional MUs were a linguistic means to realize the propositional contents.

Another point worth attention here is the accounts that mentioned *convention* in the formulation of the conventional MUs, where the conventional MUs and their usage patterns have become entrenched in the learners' lexicon. It is not surprising that 73.24% of these units did not yield pauses; of these, 57.75% are prepositions and 18.31% are general nouns (except one case).

Other accounts in this theme of non-metaphoric thinking help to build the case that the making of conventional MUs is similar to the production of language in general. As reported in the literature of L2 writing, behind the usage of language in an L2 learner's writing can be the presence of the L1 (see Wang & Wen, 2002; Woodall, 2002 for reviews), considerations of lexico-syntactic issues (Schoonen et al., 2003; Whalen & Ménard, 1995) and instruction (Kobayahsi & Rinnert, 2001), all geared towards the task and audience (Alamargot, Caporossi, Chesnet, & Ros, 2011). In short, the participants' non-metaphoric reports represent the cognitive dialectic between content and rhetoric (Bereiter & Scardamalia, 1987) rather than traits of metaphoric thinking.

Inter-MUs

Pauses. Inter-MUs make up 17.81% of the identified MUs. The number of paused units is higher than the number of non-paused units in the inter-MUs: 58.20% of these units came with pauses. Additionally, a greater proportion of inter-MUs come with pauses than conventional ones. The Chi-Squared test shows the difference comes very close to statistical significance: $\chi^2 = 3.48$, $p = 0.06$.

The pauses preceding the inter-MUs seem to reflect the writers' uncertainties and conscious efforts in formulating the units, but these efforts did not result in linguistically accurate MUs. For example:

Example 131. ·{2699}·{3276}[LSHIFT]"*no·ways{4165}[BACK]·{7160}covers{2496}* *·full·of·rosr[BACK]e[LSHIFT]*" (Oanh)

Oanh wanted to write *Life is no bed of roses*. Here she did a poor job of re-translating into English the Vietnamese equivalent of the saying, which is *No road is covered with roses* [Không có con đường nào phủ đầy hoa hồng].

Example 132. it·is·{5601}c[BACK]is·*compa{3978}[LEFT Click]ac[LEFT Click]nied*

·to·the·stone.·(Ngọc)

Ngọc reported trying to say that because *deaf* is associated with *stone* [in *stone deaf*], it is clear and easy to remember. As she did not know or failed to retrieve *associated with*; the synonymous option – *accompany* – was employed in a patchy way. She seemed to be writing *company* when she remembered the initial *ac-*.

Example 133. Find·the·information·*as·{2387}quick·as·{4149}wind* (Nam)

Nam wanted to talk about how we could get information from the Internet. He probably decided to use a simile early on since the first pause {2387} was after *as*. This pause tells us that he had decided to talk about the speed of information retrieval from the Internet, which prompted him to write *quick as*. At this point, Nam's information retrieval system seemed to fail him, as he could not recall an English simile. He opted for the Vietnamese version: *as quick as wind*. The engagement in the search for the simile could be the reason Nam missed the word form and used *quick* instead of *quickly*.

On the other hand, the inter-MUs produced without hesitation mean that the producers were not aware of the erroneous usage. There are many causes for this. First, the target item might have been originally stored as faulty and was as such retrieved. Examples 134 and 135 show the confusion between words (*through* vs. *throughout*) and word forms (*higher* vs. *heighten*) respectively.

Example 134. *Throughout*·{2839}them,·we·can·have·{3276}[BACK 9]have

·{2824}strength

I mean *via* them [literature works] we can have the power to overcome adversities. *Throughout* is a preposition. I checked with Lạc Việt dictionary. In the previous semesters, when I learned writing, this *throughout* means via someone or something. It is used very often. When I checked the Vietnamese English dictionary in Lạc Việt, it means *thông qua,* so I used *throughout*. (Oanh) (Em nghĩ mình dùng qua họ ta có thể có được sức mạnh vượt qua khó khăn. *Throughout* này là giới từ. Em có tra từ điển Lạc Việt. Những học kì trước em có học viết thì từ *throughout* này là thông qua ai đó hoặc một điều gì đó thì được sử dụng nhiều. Từ *throughout* này khi em tra từ điển Việt Anh trên Lạc Việt là *thông qua* nên em nghĩ dùng từ *throughout*.)

Example 135. it·is·hard·tp·[BACK 2]o·*higher*·{3869}enthusisa[BACK]{2277}ism

·with·po[BACK] eople

I used it as a verb. *High* means *high up*, means enhancing, means that it makes our sympathy to the characters in the work increase. So I used *higher*, enhancing

our sympathy to the characters. (Hoa Mai)

(Em dùng nó như động từ. *High* là *high up,* là cao lên, là cái việc làm cho sự thông cảm của mình đối với những nhân vật trong tác phẩm nó nhiều hơn thì em dùng high, nâng sự đồng cảm của mình lên với các nhân vật.)

Another reason is that there was a failed attempt to retrieve the correct form when it was first summoned, leading to the next faulty usage. Twenty-eight minutes into her composition, Oanh spent a pause of 4.976s to remember the correct preposition after *spend time*:

Many·people·{14087} think·that·{2855}i{2574}t·is·waste·time·to·*spend·time ·{4976} in*·reading·{4399}literature·wors[BACK]ks{4539}.·

In was carried over in the next usage of the same construction six minutes later, this time with no pause:

it·waste· ti[BACK 3]s·time·when·we·*spend·time[BACK 4]our·time·in*·shopping ·or·{7332}other·{2433}entertainment·forms

It could be that learners had knowledge of the target language, but the pressure of the task and the demands of the composing process interfered with the activation of this knowledge. A clear example is subject-verb agreement errors. The participants were in the final year of their B.A. degree in English Language and could be expected to have adequately mastered subject-verb agreement. Yet all participants produced MUs that were classified as inter-MUs due to incorrect verb conjugation.

In addition, the conventionalized and automatized L1 was active and naturally brought into the composing process without hesitation. In the two examples below the participants used the translated Vietnamese versions of the target unit *brainchild* and a simile for hard-working.

Example 136. ·{5039}the·writer·[BACK]·of·any·literat[BACK]ry·works
·w[BACK]alwasy[BACK 3]ays·wants·to·send·{6100}messages
·{4602}through·his·*spo[BACK]irt[BACK]itual·child.* (Hoa Mai)

Example 137. We·let·reading·them·day·by·day·*as·hard·as·bie[BACK 2]ee*·(Nam)

Although the pauses in inter-MUs signal the learners' unsuccessful efforts, on a positive note, they highlight an area that invites remedial action. Regarding the non-paused units, if the participants did not pause because their attentional resources had been allocated to another point, the target items may get noticed and be improved when a revising cycle is invested in the composing process. In contrast, if non-pausing is synonymous with automatized processing, the non-paused inter-MUs are likely to have become fossilized areas which are difficult to amend. The logged keystrokes and pauses

can therefore assist the choices in remedial teaching of L2 writing enormously (Lindgren & Sullivan, 2006; Severinson Eklundh & Kollberg, 2003; Spelman Miller, 2000, 2006b; Spelman Miller et al., 2008; Kirk Sullivan & Lindgren, 2006b).

Retrospective reports. Figure 18 shows the contribution of the underlying factors in the making of inter-MUs. It can be seen that the composition is similar to that which makes conventional MUs, with non-metaphoric thinking accounting for most of the reported thoughts (41.20%), followed by lexical considerations (36.54%) and metaphoric thinking (20.60%). Yates Chi Squared shows that inter-MUs come more often with metaphoric thinking than conventional MUs ($\chi^2 = 5.44$; $p = 0.02$).
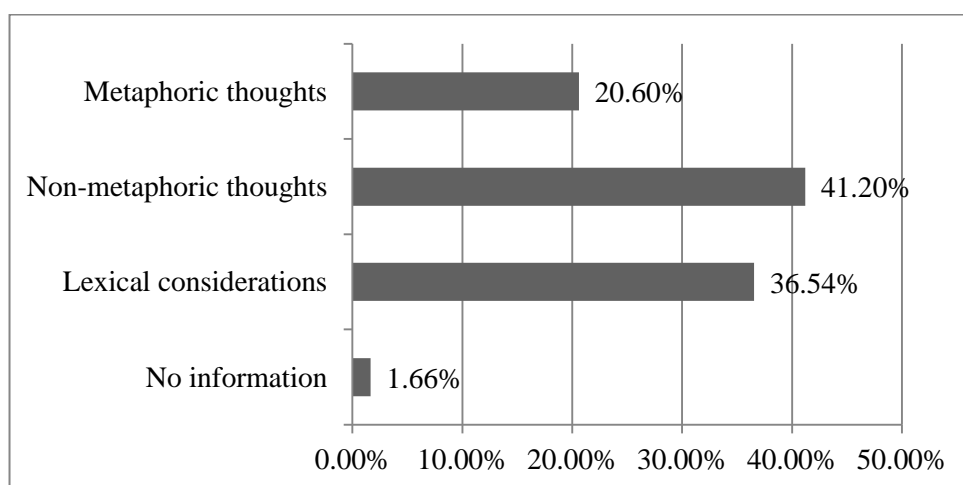
Figure 18. Reported thoughts in the production of inter-MUs

Metaphoric thinking contributed more to the formulation of inter-MUs than conventional MUs because inter-MUs include those that otherwise would be novel MUs or conventional MUs but for the problems such as grammar (Example 138), spelling (Example 139) or word usage (Example 140).

Example 138. *tree·can·develop·is·depend·on·wate*r.

> When I wrote this I imagined watering the trees, like literature, when we read, we can receive the interesting things in it, and we can develop our personality. (Nhi)
>
> Khi mà viết cái ni em tưởng tượng tới cảnh tưới cây giống như văn chương khi mình đọc thì mình có thể tiếp nhận được cái hay của hắn thì mình có thể phát triển được nhân cách của mình.

Example 139. ·{4555}*obsorbing* ·in·the·world·of·{3510}[BACK 13]m[BACK]sweet ·med[BACK]lody·of·a·poem.·

> We normally use *absorb* as in trees absorbing nutrients. Here [I want to talk about] literature appreciation. Here is [about] the appreciation of literature values. Let's imagine the humanitarian values are like nutrients. (Hoa Mai)

(Mình hay dùng *absorb* khi cây hấp thụ chất dinh dưỡng. Đây là sự cảm nhận văn học. Đây là sự cảm nhận giá trị văn học. Mình tưởng tượng như những giá trị nhân văn tương đương với những giá trị dinh dưỡng đi.)

Example 140. {2106}*meet*·many·{6583}works·with·{7519}manys[BACK]·stories, ·p{6006}oems

I meant approach the works, approach the poems or proses. *Meet* has the core meaning of *gặp gỡ; gặp gỡ* is like when two objects approaching each other at a common point. (Hồng Thanh)

(Tiếp cận những tác phẩm, tiếp cận những bài thơ văn. *Meet* nghĩa gốc là *gặp gỡ*, *gặp gỡ* thì giống như hai vật thể tiếp cận nhau ở một điểm chung nào đó.)

Considerations of words and word senses appeared in 51.64% of the inter-MUs. However, it was not the lexical issues, but linguistic problems, that caused the 'inter' status of the units. Cases of erroneous word choice due to participants' translating from Vietnamese into English, confusion of word senses (*remain* instead of *maintain the traditional beauty*) or word usage (*take the feelings* to mean *get the feelings* [in order to compose poetry]) made up only 23.81% of these units. The rest was mainly due to grammatical issues. While the participants reported the presence of language issues in only 17.21% of the inter-MUs, the number of inter-MUs that contained language problems is 64.75%. (Recall that inter-MUs resulting from incorrect forms accounted for 58.25% of the inter-MUs among the Year 4 cohort in Chapter 3.) In particular, five out of six clausal MUs in this set of data were classified as inter-MUs because the writers constructed them element by element in a difficult process heavily marked by learning beliefs and language issues. The following example illustrates this:

Example 141. {3198}·{8565}succe{3167}[BACK 2]e [BACK]{2230}eed[BACK 3]ceed ·{2590}[BACK 8]the·a[BACK]fail·is·the·mother·of{3526}·th[BACK 2]{6848}{2918}·succeed

I was not sure whether I should use the expressions I know, I was in two minds. My idioms, I usually don't pay attention to idioms [when learning] so I was thinking whether I could interpret the idioms according to the literal meaning as I understand them or whether I had to use them as they are. Finally I had this idea that if I used *I remember that* before its content, then I could express the content without having to remember the whole [original] saying. I thought so, so I finally decided to write what the saying means instead of the original saying.[…] Phrases like *thất bại là mẹ thành công* [failure is the mother of success], I wasn't sure whether I should write it according to my interpretation

or should use what people always use, as these are called idioms. If it is to be used as an idiom, as I know, there are two types of translation [of idioms], literal translation and figurative translation. For example, *Diamond cuts diamond* is translated figuratively, not literally.[36] So I wasn't sure whether *thất bại là mẹ thành công* has been translated literally or figuratively, so finally I use the literal meaning [and tried to be as] close to the original saying as possible. Here I paused because I was wondering whether I should use the noun *succeed*, the noun or the verb *success*. [The saying is] *là mẹ của thành công* [mother of success] means that here I need a noun. If I used *of* I will need verb and *–ing*, *suceessing*, but I think in idioms people rarely use *V-ing* as in normal grammar, so I think *succeed* appears more correct. (Oanh)

(Em đang băn khoăn là lúc này mình có nên dùng những cụm từ mà mình biết hay không, em đang băn khoăn. Thành ngữ của em thì em không chú ý đến các thành ngữ nên em quyết định liệu có nên diễn đạt những câu thành ngữ đó theo nghĩa đen mình hiểu hay không, hay là phải dùng một cụm từ hoàn chỉnh. Cuối cùng em nghĩ nếu mình đưa ra *I remember that...* nội dung của nó thì mình chỉ cần diễn tả nội dung của mình thôi chứ mình không cần đưa ra câu hoàn chỉnh của họ. Nên em nghĩ như rứa, nên cuối cùng em quyết định đưa ra nội dung cái nghĩa gì luôn chứ không đưa ra câu nói hoàn chỉnh. […]Những cụm từ như *thất bại là mẹ thành công* thì em không biết nên diễn đạt câu này theo ý của em hay dùng cụm từ người ta luôn dùng mà người ta gọi thành ngữ. Nhưng mà nếu dùng thành ngữ theo em biết thì có kiểu dịch hai loại, một loại dịch theo nghĩa đen, một loại dịch theo nghĩa bóng. Ví dụ *Diamond cuts diamond* thì người ta dịch theo nghĩa bóng chứ người ta không dịch theo nghĩa đen. Nên em nghĩ không biết từ *thất bại là mẹ thành công* ni là người ta diễn đạt theo nghĩa đen hay nghĩa bóng nên cuối cùng em dùng nghĩa đen sát với câu đó. Đoạn ni em dừng lại là em đang băn khoăn mình nên dùng danh từ là *succeed*, danh từ hay là nên dùng từ *success*. Là mẹ của thành công thì ở đây người ta sẽ dùng một danh từ ở đó. Chứ nếu dùng *of* thì sau sẽ là một động từ thêm *–ing* là *suceessing*, mà em thấy thành ngữ người ta ít dùng động từ thêm *–ing* giống như ngữ pháp, nên em nghĩ dùng từ *succeed* có vẻ đúng hơn.)

Oanh's final writing reads, *There is the saying which I remember with the content that "fail is the mother of succeed"*. Judging from the product, the problem is

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[36] The idiom has a Vietnamese equivalent: *Vỏ quýt dày có móng tay nhọn* (Thick tangerine skin, sharp finger nails).

with word form where *fail* should be replaced with *failure* and *succeed* with *success*. Oanh's report (and she is not the only one in this small group of participants in this regard), however, opens to us a window into a complicated process of strategic reasoning and personalized history and beliefs of English learning. When Oanh was writing this, she had one semester left to do her internship before finishing her BA in the English Language and had little opportunity to change her beliefs about idioms and fixed expressions in English or her grammar issues.

Linguistic issues also pertain to 14.75% of the inter-MUs in which the participants described the interference of L1. Of this percentage, negative cross-linguistic transfer can be found in two (out of 18 reported accounts of L1 usage) cases, as shown below.

Example 142. You·can·{6287}{3869}*put*·your·{2590}understand·*ahead*·but·{23478}

I paused to think which verb is suitable in this sentence. I was thinking, *bạn có thể đặt suy nghĩ lên hàng đầu* [your understanding of the literature lesson should come first, before grade], so I thought *put your understand ahead* was okay in this paragraph. (Thúy)

Em dừng lại làm chi để em nghĩ động từ mô thích hợp dùng trong câu này. Em nghĩ bạn có thể đặt suy nghĩ lên hàng đầu, rồi em thấy dùng *put your understand ahead* là ổn trong đoạn này.

Example 143. find·the·information·as·*{2387}quick·as·{4149}wind*·

I wanted to use the phrase *nhanh như sóc* [as quick as a squirrel] as we normally say in Vietnamese, but I suddenly couldn't remember the word for *sóc* [squirrel] so I used *wind*. At first, I wanted to write *find information quickly*, but I wanted to use this expression in order to show that finding information with these tools is very quick. Using the phrase can emphasize the quickness a little bit more. (Nam)

(Em định dùng là *nhanh như sóc* trong tiếng Việt mình hay có nhưng mà đột nhiên em không nhớ từ *sóc* nên em dùng từ *wind*. Lúc đầu em định ghi *find information quickly*, em muốn dùng cụm ni vì để thấy được việc tìm kiếm thông tin trên những tool ni thì rất là nhanh và dùng cụm nớ để thể hiện sự nhanh của hắn nhiều hơn một tí.)

Among the categories under the theme of non-metaphoric thinking, idea generation can be found in 45.08% of the inter-MUs, underscoring again the leading role of ideational thinking behind the making of metaphorical language in these participants.

To summarize, the results support Philip (2005a, 2005b) since they show that issues with metaphorical language in learner language are more likely linked to linguistic than conceptual reasons. What my participants reported also depicted the making of metaphors as built within a system of interrelated processes which requires skilled resource management to avoid competition and interference. Because their knowledge is not automatized, priority given to one mechanism means depriving the attentional resource of another (Skehan, 1998; Torrance & Galbraith, 2006). This explains why the participants reported a much smaller percentage of thoughts related to language issues as compared to the actual units with language problems. The attentional resource required was simply absent or inactive in the system. The participants had to engage in different kinds of heuristics in a compensation effort that resulted in the non-target-like units (Hulstijn, 1989).

Pause duration. The above sections have shown that, regarding pausing, the number of paused MUs is slightly higher than the number of non-paused ones and novel and inter-MUs attracted more pauses than conventional MUs. Regarding the interview reports, the same elements of metaphoric thoughts, non-metaphoric thoughts and lexical considerations were employed differently in the production of the three types of MUs. There are many reasons a unit was produced without pause and not all of them are related to automatized processing. Temporally, non-paused units are not costly to the writing process (at least in this type of task). This section specially focuses on what MUs may cost the writing process in terms of time by looking at the pause duration of the paused units.

Table 18 below shows that, on average, the participants spent most of their metaphor-related pausing time working on conventional metaphorical language (183.710s on average). That is because the number of conventional MUs was highest. The writers also paused an average total of 66.343s on inter-MUs and 43.316s on novel MUs.

Table 18

Total Pause Duration of Different Types of Paused MUs

Paused MUs		Minimum	Maximum	M	SD
Novel MUs	Number	0	6	1.46	1.81
	Pause duration (s)	.000	374.495	43.316	94.683
Conventional MUs	Number	9	25	17.27	4.92
	Pause duration (s)	49.000	308.678	183.710	82.422
Inter-MUs	Number	0	11	4.67	2.89
	Pause duration (s)	.000	214.767	66.343	60.326

Note: N = 15

Zooming out on the general picture, as shown in Table 19 below, a novel metaphor takes the longest time to formulate (28.830s), approximately three times longer than a conventional metaphor (10.639s). An inter-metaphor also requires a longer pause than a conventional one (14.222s).

Table 19

Mean Pause Duration of Different Types of Paused MUs

Paused MUs	Total number of units	Total pause duration (s)	Mean pause duration (s)
Novel MUs	22	634.256	28.830
Conventional MUs	260	2755.469	10.639
Inter-MUs	69	995.519	14.222

Note: N = 15

This result resonates the finding for pause occurrences: the duration of pauses is proportional to metaphoricity – most of the novel MUs invite pauses, and these are the longest. It also seems to corroborate findings in pausological research as reviewed at the beginning of the chapter: the location of pauses is related to the length of pauses. In a rare study that relies on controlled induced reaction time responses to investigate metaphor production, Flor and Hadar (2005) also found that participants took longer to produce responses that included metaphorical expressions than responses with only literal expressions. If participants use familiar metaphorical expressions, they need smaller reaction times than less familiar metaphorical expressions. Less conventional responses show greater reaction times than more conventional ones.

Nine of the participants produced paused instances of all three categories of MUs (novel, conventional, and inter). Their mean pause duration connected to novel MUs was 24.61, compared to mean pause durations of 10.37 and 11.89 for the conventional and the inter-MUs, respectively. A correlated samples ANOVA test shows that the longer pause duration for the novel MUs is statistically significant at $p < 0.05$ ($F = 1.83$; $p = 0.019$). Yates Chi-Squared test on the association between long total pause time (> 4s) and types of MUs shows that only inter-MUs come with more long total pause times than conventional MUs ($\chi^2 = 4.04$; $p < 0.04$).

Thus, pause data can be indices of the underlying cognitive processing of textual metaphoricity. It can be said that the efforts to use language creatively (to produce novel MUs) and appropriately (to ponder on inter-MUs) are more cognitively costly than the retrieval of conventional language, at least for conventional metaphorical language similar to those produced by these participants.

Phraseology

      Pause location. This section looks at 16.64% of the MUs in the data set which are multi-word units. A large percentage (74.34%) of these units is accompanied by pauses. Chi-Squared test shows that a significantly greater proportion of multiword metaphoric units than single word ones manifest pausing (Yates $\chi^2 = 26.33$; $p < 0.0001$). The numbers of restricted and free multi-word MUs are more or less the same, in both of which the number of paused units is higher than the number of non-paused ones (Figure 19). The proportion of units that manifest pausing is significantly greater in the set of free multi-word MUs, however (Yates $\chi^2 = 16.59$; $p < 0.0001$).
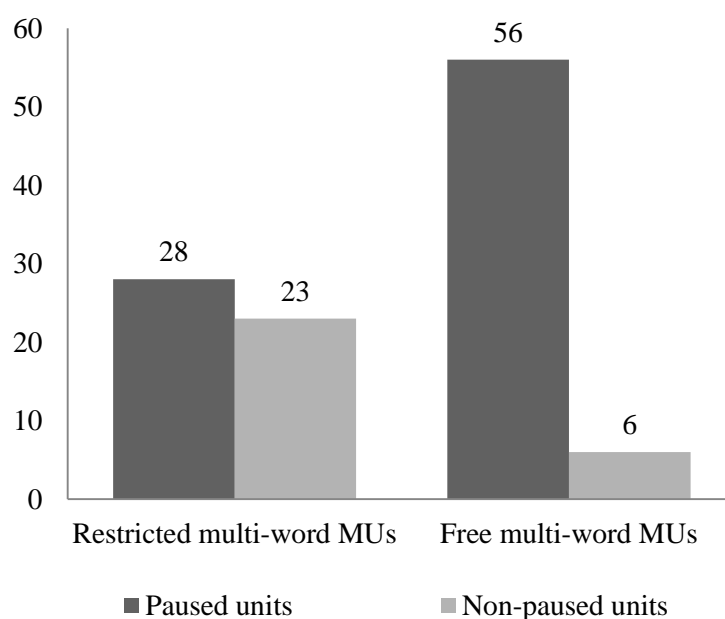
Figure 19. Pauses and non-pauses in multi-word MUs

      Of the restricted multi-word MUs, 45.10% were not accompanied with a pause. These items seem to lend support to the literature that multi-word units are acquired, stored and retrieved from the memory as holistic units (Erman, 2007; Jiang & Nekrasova, 2007; Langlotz, 2006; Nattinger & DeCarrico, 1992; Pawley & Syder, 1983; Wray, 2002). However, the same items were found in the other 54.90% of the restricted multi-word MUs, which were produced with pauses. Below are the examples of *play/have a role*, which appeared three times without pauses and four times with pauses in the data set.

Example 144. liter{3385}ature·ans[BACK]d·literacy·work{7504}s·*play·an·important ·role* (Thơ)

Example 145. [LSHIFT]It·*plays·an·important·role*{6427}[LEFT Click][LEFT Click][LEFT Click]-ly[LEFT Click]{4680}·in·{4227}the·way·that (Ly Ly)

Example 146. literature·*plays·a·very·significant·role* (Hoa Mai)

Example 147. literature·{2792}*has·a·useful·role*·for·veryone[BACK 7]everyone'
·life[LCTRL]s· (Khanh)

Example 148. {7598}literature*{8408}·pays[BACK 3]lays·an·important·role* (Ngọc)

Example 149. litureature·{8658}a[BACK]{3183}wl[BACK 2]always{2948}·*play
·i[BACK]an·important·{3245}·{2761} role* (Khanh)

Example 150. literature·*{5008}has{6006}·{9033}b[BACK]{2590}roled{2231}
·{2995}[BACK 6]{6989}had{3370}·{6193}the·impoe[BACK]rtant·role* (Hồng
Thanh)

In Examples 144–146, the units were produced smoothly with no pauses. In
Examples 147 and 148, the units were produced with one pause preceding them,
suggesting that they might have been activated as wholes, despite the initial difficulty.
Case 149 showed that Khanh had a problem calling for *role*, as indicated by two pauses
before the word. The last example displayed such 'drama' – nine pauses totalling
44.415s – in the search for a highly conventionalized construction that Hồng Thanh
must have come across and produced countless times in her 13 years of learning
English. Note that Vietnamese has an exact phrase *đóng một vai trò quan trọng* for *play
an important role* which also originates from the domain of *theatre*. This example could
be an instantial case; such an instance yet can question the certainty of claims such as
those made by Durrant and Schmitt (2010) that "[a]ny deficit in learners' knowledge of
collocation is […] more likely to be the result of insufficient exposure to the language
than of a fundamentally different approach to learning" (p.182).

One might argue that the identified pauses could be due to reasons other than
retrieval, i.e., the writers had retrieved the items holistically but delayed in typing them
down, resulting in the pauses. The comment that *stored or produced as a whole* has
never been made clear in the literature (Weinert, 1995; Wray, 2002) still holds.
According to Weinert (1995), the linearity of the phonological components of multi-
word units, their organization as cognitive bundles bound together by special meaning
or function, or the formulaic-creative continuum along which they exist may determine
their production.

In terms of the free multi-word MUs, 87.10% of the units required pauses;
particularly, 70.97% had pauses that occurred in the middle of the units. Although a
great many of the units in this data set are verbal, the examples below show that this
mid-phrase pausing behavior is not exclusive to any particular linguistic pattern. The
behavior itself is erratic.

Example 151. *{6130}·{3573}followed{6474}*

    {60903}{2449}{2122}{80263}{8377}{2153}castle·[BACK]-in-the-air·dream

    (Ngọc)

Example 152. get·the·information·*as·{2387}quick·as·{4149}wind*·[…] (Nam)

Example 153. literature{4165}·alway*{2137}·have·{2574}most·impotra[BACK*

    2]an{2278}[BACK 3]rtn[BACK]ant{24071}·position· (Anh)

Example 154. *TH[BACK][CAPS LOCK]he·roots·d·[BACK][BACK]of·education·is*

    ·bitter,{4680}[BACK]·but·the·fruit·{2059}is·sweet (Nhi)

      It is difficult to generalize a rule that governs where the writers would pause in the middle of the phrases. Nevertheless, it is clear that they did not get these multi-word MUs out of a neatly-stored mental lexicon, probably because there was nothing neatly-stored in the first place. The units were constructed on the spot, element by element, at least at the linguistic level. Because free multi-word MUs are more compositional than restricted ones, which implies a more open relationship between the elements, it may be reasonable that pauses occur in the middle of the units. However, Figure 20 shows that even restricted units were produced with within-unit pauses.
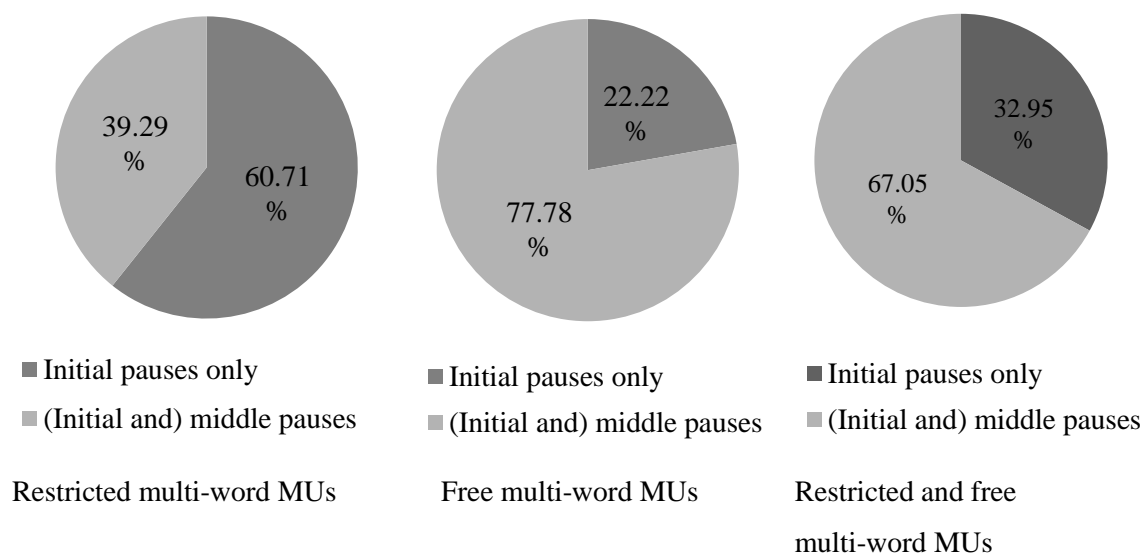
Figure 20. Distribution of pausing patterns in different types of multi-word MUs

      The literature has pointed out that the differences in native speakers and non-native speakers' speech is not that they pause but where the pauses occur (Davies, 2003). In speech production, native speakers tend to pause at clause junctures (Lennon, 1984; Raupach, 1980) or speech boundary points[37] (Foster, Tonkyn, & Wigglesworth, 2000; Skehan, 2009b) and only extremely rarely would native speakers' pauses occur

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[37] Foster et al.(2000) proposed the Analysis of Speech unit (AS units), defined as "a single speaker's utterance consisting of *an independent clause*, or *sub-clausal unit*, together with *any subordinate clause(s)* associated with either" (p.365, italics in the original).

mid-clause (Pawley & Syder, 1983; Wood, 2001). Erman (2007), in particular, reported in support of the idiom principle that 90.6% of adult and 84.6% of adolescent native speakers do not pause when producing prefabs, i.e., recalling these units involves one single choice. Non-native speakers, in contrast, seem to have a pause thrust within clausal and phrasal units (Deschamps, 1980; Lennon, 1984; Raupach, 1980). L2 writers have also been found to pause more frequently than their L1 counterparts at phrase-internal levels (Spelman Miller, 2000).

If one takes Langacker's (1987) definition of *unit* as:

[…] a structure that a speaker has mastered quite thoroughly, to the extent that he can employ it in largely automatic fashion, without having to focus his attention specifically on its individual parts or their arrangement. […] [H]e can manipulate it with ease as a unitary entity. (p.57)

and takes non-pauses as a sign of automatized processing, only 25.66% of the identified multi-word MUs can be qualified as units; 31.03% of these, however, are inter-MUs. Rather than dismiss L2 learners' 'units', one can extend Taylor's (2004) metaphor of ecology and view the idiomaticity, productivity and entrenchment of constructions in an 'evolution' perspective that recognizes the development and variations of learner language over time. Viewing learner language from the complex systems perspective (de Bot et al., 2007; Ellis & Larsen-Freeman, 2009; Larsen-Freeman, 2006; Larsen-Freeman & Cameron, 2008) is another way to recognize the learners' endeavours in communicating in L2 and the dynamics of changes, stability and variability in the process of learning.

Retrospective reports. Information from pause locations above suggests that participants did not retrieve many multi-word MUs as wholes. A close reading of the participants' reports shows that the making of the multi-word MUs is mostly patchy and concomitantly linked to the generation of ideas in text. For example:

Example 155. From·that,·peol[BACK]ple·{3307}mgh[BACK 2]ight·have·a ·{4056}slim·{6084}hoe[BACK]pe·from·the·lofe[BACK 3]ife·and·it·can·be ·{25990}*stored·up*

I wanted to say it was something that could be piled up in a heap, a lot. I didn't know which word to use. I wanted to use *mass*, meaning *lumping up*, but I was not sure whether *mass* would be followed by a noun or a verb. (Ngọc)

(Tức là cái chi đó có thể chồng chất lại thành một đống, nhiều, rồi từ từ đúc kết lại. Em không biết dùng từ chi. Em định dùng là *mass*, thành đống, xong em không biết dùng *mass* sau đó là danh từ hay động từ.)

In her mind, Ngọc had had an idea for what she wanted to write before she started to consider the different alternatives of lexis.

Example 156. Yu·[BACK 2]ou·*put*·tour·[BACK 5]your·soul·and·yourmind{2262}·*into*

I was influenced by Vietnamese, I thought *đặt tâm hồn mình vào đó* then I translated it. I tried to look for another phrase. I wanted to use *integrate into*, but I thought *integrate into* is business English. Then I thought [this word search] would be infeasible, so I turned back and decided to use *put*, directly transposing it into English. I paused there to look for a suitable preposition. I thought people used *into* after *put*. So then I wrote *put into*. (Dương)

(Em bị ảnh hưởng tiếng Việt, *đặt tâm hồn mình vào đó* rồi em chuyển qua. Em cố gắng tìm từ khác. Em định dùng là *integrate into*, nhưng em nghĩ *integrate into* thì thuộc về business. Nhưng rồi em thấy nó không khả thi nên em quay lại em dùng *put* luôn, chuyển thẳng qua tiếng Anh. Em dừng lại để tìm giới từ thích hợp. Em nghĩ từ *put* thì sau đó người ta cũng dùng *into*. Em cũng nghĩ như vậy nên em viết là *đặt vào*.)

Dương first formulated his propositional content in Vietnamese then entered the translation process in which he considered the retrieved options to convey this content message. He was able to articulate the steps very clearly, including the point where he dropped *integrate into* and made a mental 'turn' to the next retrieval. Seemingly not aware of the phrase *put your heart into something* in English, Dương decided to translate word for word into English, i.e., constructed the phrase from his L1 knowledge. Because the phrase in Vietnamese happened to look like its English equivalent, his product would have been judged as a failed attempt of holistic retrieval had there not been the reported protocol.

Example 157. ·to·reflect·{6225}the·world·*under·someone's·viewpoint*

Dưới cái nhìn của ai đó, I wrote from Vietnamese to English. (Nhi)

(*Dưới cái nhìn của ai đó*, em viết từ Việt sang Anh.)

Nhi also formulated her thought in Vietnamese and translated it into English without pausing. It could be because of the closed-class item that the production of the item seemed to come with ease.

Example 158. literature·{5008}*has{6006}·{9033}{2590}roled{2231}·{2995}[BACK 6]{6989}had{3370}·{6193}the·impoe[BACK]rtant·role*

Has an important role. Word for word it means *có một vai trò quan trọng* [in Vietnamese]. It was mixed up here because of the structure. At first I wanted to write that it *đóng một vai trò quan trọng*, then I changed into *có một vai trò*

quan trọng. I think it's just habit. (Hồng Thanh)

(*Có một vai trò quan trọng*. Đây nếu dịch sát ra là *có một vai trò quan trọng*. Đoạn ni lộn xộn do dùng cấu trúc. Ở đầu là nó *đóng một vai trò quan trọng*, sau đó em viết là nó *có một vai trò quan trọng*. Em nghĩ có một vai trò quan trọng hay là đóng vai trò quan trọng là do thói quen.)

With her 13-year experience of learning English, Hồng Thanh must have been very familiar with the expression. She did not show any problem formulating it preverbally. However, she could not remember *play a role* for *đóng một vai trò quan trọng*. Her attempt to use *role* as a verb and her use of *the* instead of *an* is also evidence that she treated the members of the unit as individual lexical items to be constructed *ad-hoc* to form the phrase.

Example 159. ·that·*br{15226}[BACK]reak·tear[BACK 4]into·tears.·*{13541}

They were so touched that they shed tears. I could imagine them feeling so touched. *Break into tears* was the phrase that I learned before. Before writing *break into tears* I typed *br* then paused because I thought of another word, not *break into tears*. But then I thought *break into tears* would be more imagistic. I put down *break tear*, then I remembered that had to be *into*. (Khanh)

(Họ xúc động đến rơi lệ. Em hình dung ra họ xúc động. *Break into tears* là cụm từ mà em đã được học. Trước khi em viết *break into tears* em viết *br* em dừng lại vì em nghĩ ra một từ, không phải *break into tears*. Nhưng em nghĩ dùng *break into tears* ni mang tính hình tượng hơn. Em viết *break tear*, xong em nhớ phải có chữ *into*.)

Khanh did not have to rely on Vietnamese to retrieve this item. She had learned *break into tears* before and tried to retrieve it as whole. The process, however, was interrupted twice when an alternative was summoned and dropped, and when *into* was retrieved and added.

Example 160. people·{14586}*have·positive·overview*·{3962}to·the{2637}[BACK 4]{2043}[BACK 2]about·life

I think that thanks to the values [mentioned earlier], people become better, so probably I should write that these values change people's philosophy of life, convert people for the better. The way I write it here cannot fully express my original idea, but this is an easier way to write. (Nhi)

(Em nghĩ nhờ những giá trị này mà con người trở nên tốt hơn thì hay là mình viết lại cái ý trên là nhờ những giá trị này thay đổi quan điểm sống của con người, cảm hóa con người. Mặc dù cách diễn đạt ni không trọn như cái ý lúc đầu

em nghĩ nhưng đây là cách diễn đạt dễ viết nhất.)

In this example, Nhi gave up on consulting the lexicon and opted for an alternative conceptual because it was easier.

In a think-aloud analysis of proficient multilingual speakers, Spöttl and McCarthy (2004) portended that the participants moved between formulaic sequences in different languages in many ways, yet the processing was generally holistic. This pattern was not found in my participants. The examples show that these learners started out with a proposition that was part of the development of ideas in the flow of writing. From this proposition, they established one conceptual representation, formulated in either Vietnamese or English for the intended multi-word MUs. After this point, the units began to take shape in English, which was also when they started to lose their wholeness. It can be seen that the participants took many routes to arrive at the final product multi-word unit. They may translate the unit from L1 to English, consider and drop different lexical alternatives or abandon the original proposition altogether. If the writer decided on an alternative, knowledge about the grammaticality, compositionality and orthography of the unit was called to finalize the process. The end product would be a multi-word inter-MU if the retrieval was incomplete and a multi-word MU if the retrieval was complete. The process is diagraphically summarised in Figure 21 below.
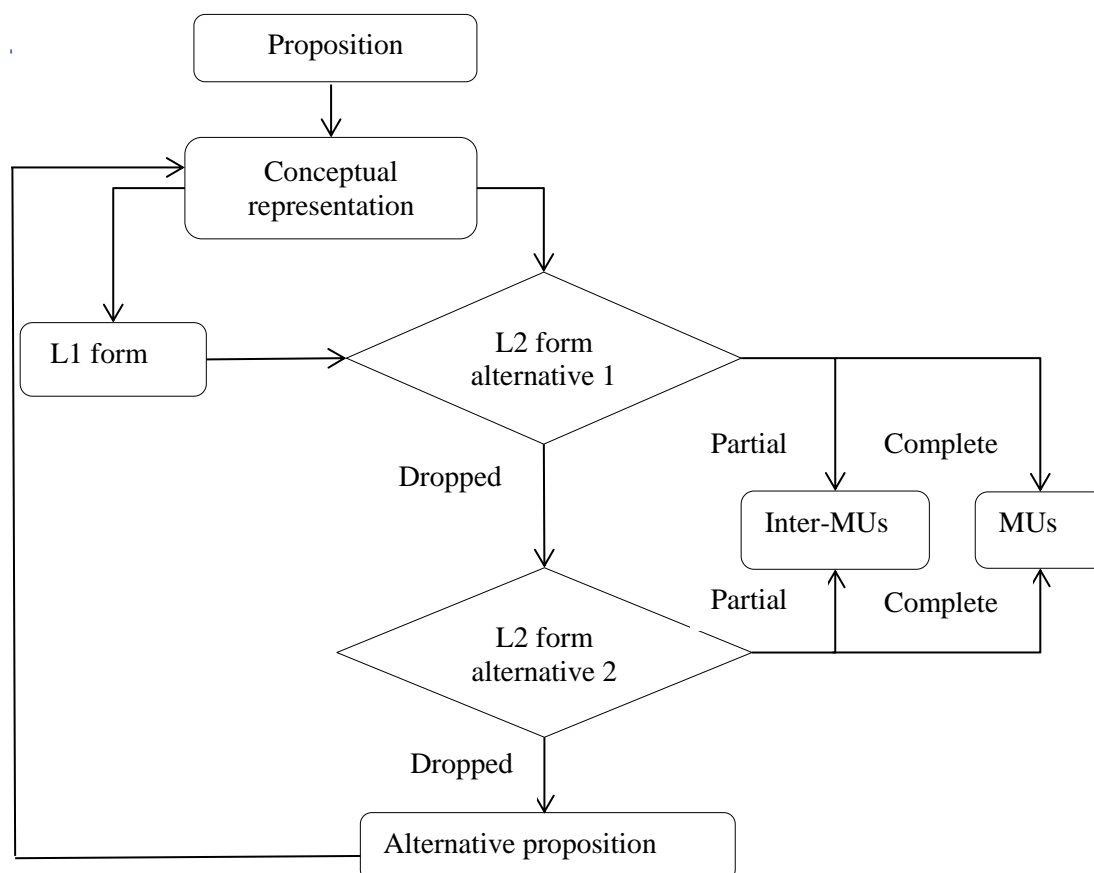
Figure 21. Summary of the making of multi-word MUs

Figure 21 should not be interpreted as a model of multi-word MU production.[38] Yet it seems to correspond to one line of research in idiom production in L1 (Cutting & Bock, 1997; Kuiper, van Egmond, Kempen, & Sprenger, 2007; Sprenger, Levelt, & Kempen, 2006) which has proposed that in production, idioms are both unitary and compositional. In general, the elements of an idiom are accessed separately during production although they are bound to each other by a common representation in the mental lexicon. The latest outcome of this line is Kuiper, van Egmond, Kempen, and Sprenger's (2007) Superlemma model which predicts that "PLIs [phrasal lexical items, i.e., idioms and restricted collocations] are unitary at the point where a single lexical concept activates a superlemma and they are compositional at the point where a superlemma activates its constituent lemmas" (p.351).

The participants' multi-word MUs are neither ready-made nor *ad-hoc* (cf. Berg, 2011). They were 'being-made' in an *ad-hoc* manner. In this process, 40.38% of participants' underlying thoughts were related to lexical considerations; 22.80% were metaphoric and 36.81% non-metaphoric. Lexical considerations take the most part of all the reported thoughts, functioning as a driving force in the production of multi-word MUs and sometimes "derail[s] syntax", as suggested by Skehan (2009b, p. 516). Non-metaphoric thoughts were composed mainly of accounts related to idea development. Given the inextricable link between metaphoric thinking and ideational thinking that we have seen so far, metaphoric thinking could have played a role at the early stage of the production process of multi-word MUs. Yet a note of caution is in order because information from the data is insufficient to arrive at such conclusions.

Pause duration. On average, participants spent 93.360s on 5.6 multi-word MUs and 198.975s on 17.87 single-word MUs (Table 20). Note that the standard deviations of the pause durations are very large, suggesting that the time taken to produce multi-word MUs strongly bears the mark of individuality. On average, the participants needed 16.676s to compose a multi-word MU and 11.138s for a single-word MU.

Table 20

Mean Pause Duration of Multi-word MUs and Single-word MUs

Paused MUs		Minimum	Maximum	M	SD
Multi-word MUs	Number	2.00	10.00	5.60	1.92
	Pause duration (s)	20.000	275.013	93.360	66.20
Single-word MUs	Number	10.00	24.00	17.87	4.224
	Pause duration (s)	39.000	405.055	198.975	82.343

Note: N = 15

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[38] For models of speech production in L2, refer to Kormos (2006, 2011).

Does the size of the units affect retrieval process? The data is not controlled properly to answer this question, i.e., we cannot tell whether three-word MUs would yield higher pause durations than two-word MUs, and so on. It does confirm that it is more difficult for these learner-writers to produce multi-word MUs. These malformed multi-word MUs thus cause increased processing burden not only for the native speakers (Millar, 2011) but also for the L2 speakers themselves. Literature of multi-word units stresses the importance of these units in reducing cognitive processing, reducing lexical errors and enhancing production fluency, claiming that by using these chunks, the speakers can buy time for processing other aspects of their language (Boers, Eyckmans, Kappel, et al., 2006; Conklin & Schmitt, 2008; Skehan, 1998; Weinert, 1995; Wood, 2006, 2010; Wray, 2000, 2002; Wray & Perkins, 2000). Such an optimistic prospect may never be found in L2 learners like my participants whose use of multi-word MUs obviously added a significant processing burden to the production process. Although the focus of this study is metaphorical language, metaphoricity is probably not the culprit of this additional processing load, given that metaphoric thinking accounted for only 22.80% of the reported thoughts.

Case Study: Hoa Mai – the Planner and/or the Imager?

Description of Hoa Mai's writing. Among the participants, there were three planners who started their composing process with prior planning. However, Hoa Mai was the only writer who pursued a complete plan and draft before starting the actual writing execution; the other two abandoned their planning midway and adopted the planning-while-writing strategy like the rest of the participants. Hoa Mai spent 31 minutes 30 seconds on the pre-writing stage.

Mai described her writing approach as follows:

First I'd read the task question, then I'd judge the issue to see whether I agree or disagree [with it]. Then I'd formulate three main points. In the body of the essay I'd present reasons why I agree or disagree. Because of time limit, here I present only two reasons. With each reason, I try to clarify it with supporting ideas. Normally I'd write an argumentative paragraph in the third paragraph [of the body][39] but because of time limit, I did not write it. [Instead] I added it to the conclusion. In the conclusion, I also summarized my points. While I write I try to mobilize the phrases, the words for my essay to be richer in ideas and better in

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[39] According to the popular model adopted in language teaching in Vietnam, in the body of an essay that addresses the agree or disagree task question, the writer has to write two paragraphs to support their point of view and a third paragraph to counter their opponents' points of view.

word use. I don't know how they come out in this essay. When I did the writing, I mainly copied from the draft and only made small changes.

(Đầu tiên em đọc đề sau đó, sau nhận định vấn đề là mình đồng ý hay không đồng ý. Sau đó hình thành nên ba ý tưởng chính. Trong phần thân bài mình sẽ đưa ra lí do mình đồng ý hay không đồng ý. Tại thời gian nên em chỉ đưa ra hai lí do thôi. Với mỗi lí do thì mình cố gắng clarify hắn ra với những ý bổ sung cho nó. Đáng lẽ em có viết phần argumentative ở đoạn thứ ba, nhưng tại thời gian nên em không đưa vào, cho vào phần kết luận. Ở phần kết luận, em tóm lại vấn đề.Trong quá trình viết thì em cố gắng để huy động những cụm từ, từ, dùng ý làm cho bài phong phú thêm và cách dùng từ hay lên. Em cũng không biết là trong bài thì như thế nào. Khi em viết ra đây thì em viết từ ngoài nháp vô, chỉ sửa đổi một số câu nhỏ thôi.)

The findings show that Mai was the most fluent and the most metaphoric writer. She had a total number of pauses ($\geq 2s$) of 104, as compared to the average 202 pauses (see Table 16, p.136). Her number of metaphor-related pauses was 16, totalling 59.702s – the mean number of metaphor-related pauses of the group was 37.87, totalling a pause time of 292.382s. In the interview, Mai reported little referencing to word choices and other non-metaphoric factors. Nevertheless, her reliance on the five variables that are directly related to metaphors – the concrete and metaphorical senses of the units, the use of novel metaphors, mental images and background knowledge to elaborate on ideas – was much higher than her peers (Figure 22).
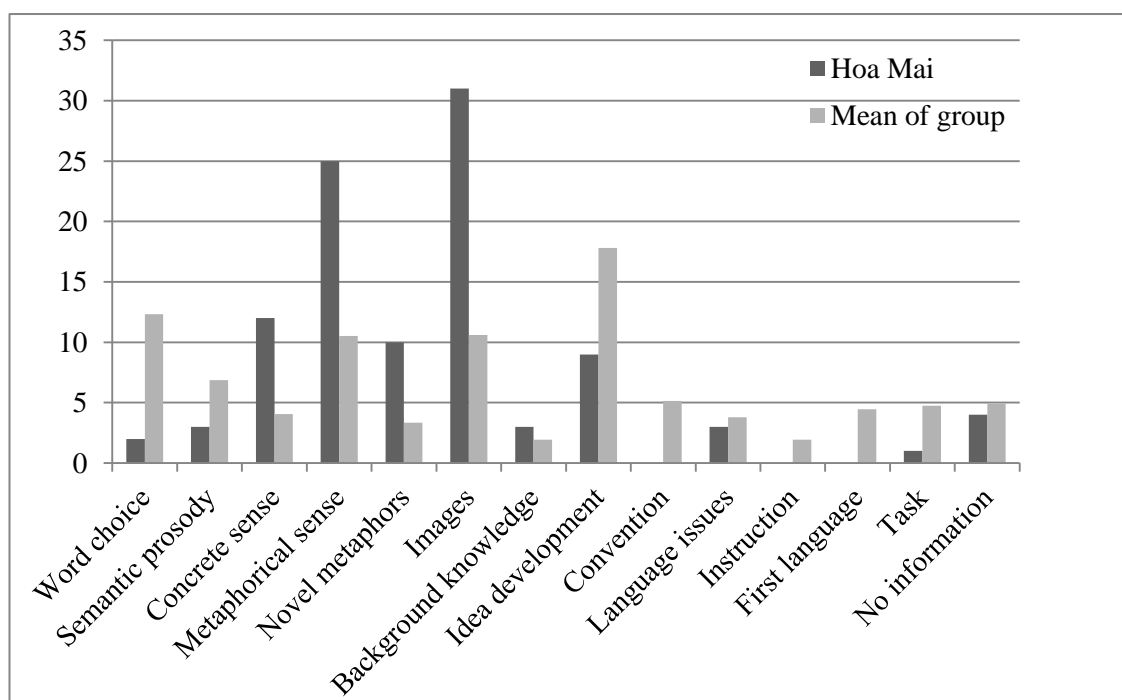
Figure 22. Distribution of Hoa Mai's accounts as compared to mean of the whole group

Here are a few examples from the interview with her.

Example 161. Lietrat[BACK 5]terature·is·{2012}a·*mirror*·frl[BACK 3]ree[BACK]flect [BACK]ing·{2465}human·life[RSHIFT],

I use *mirror* because I think that life is greatly colourful. Different people can look into it and see different shades. *Mirror* is the way to reflect life.

(Em dùng *mirror* vì em nghĩ là cuộc sống muôn màu muôn sắc. Mỗi người nhìn vào thì mỗi vẻ. Cái *mirror* đây là cách phản chiếu cuộc sống.)

Example 162. us·{2574}to·*look·at*·ife·[BACK 4]life·[Movement]with·a

We *look at life* means that we perceive life. I think that using *look* in *nhìn vào cuộc sống*, we can see the multidimensionality [of the perspective].

Mình nhìn vào cuộc sống, tức là cách mình nhìn nhận cuộc sống. Em nghĩ mình *nhìn vào cuộc sống* dùng *look* thì có thể dùng nhiều chiều hơn.

Example 163. ·{4555}*obsorbing*·in·the·world·of·{3510}[BACK 13]m[BACK]sweet ·med[BACK]lody·of·a·poem.

We normally use *absorb* as in trees absorbing nutrients. Here [I want to talk about] literature appreciation. Here [it] is [about] the appreciation of literature values. Let's imagine the humanitarian values [in literature works] are like nutrients.

(Mình hay dùng *absorb* khi cây hấp thụ chất dinh dưỡng. Đây là sự cảm nhận văn học. Đây là sự cảm nhận giá trị văn học. Mình tưởng tượng như những giá trị nhân văn tương đương với những giá trị dinh dưỡng đi.)

Example 164. ·in·the·*world·of·{3510}m[BACK]sweet·med[BACK]lody*·of·a·poem.

World here is not the wide world but is limited within the world of the work we are reading. If sweet is the sweet candy, then sweet for a literature work means flying words, like poetic words. I was imagining the poetic melody flying gracefully, like candy, sweet, tasty, poems are graceful and pleasant to the ears.

(*World* không phải là thế giới rộng lớn mà giới hạn phạm vi thế giới của tác phẩm mình đang đọc. *Sweet* bình thường là kẹo ngọt, thì *sweet* là những lời văn bay bổng, giống như những lời thơ. Em hình dung giai điệu thơ bay bổng thướt tha, như kẹo thì ngọt ngào, ngon, thơ thì bay bổng thướt tha, êm tai.)

Example 165. {3510}literature·isalso·[BACK 5]·also·a·good·a[BACK]*way*·of ·entertaiment,

Way is not the pathway; it's the manner. I can visualize many roads to travel. In entertainment, there are many ways to choose from, many options. Literature is our option.

(*Way* không phải là lối đi mà là cái cách. Em mường tượng ra có nhiều con đường để đi. Trong giải trí thì cũng có nhiều cách, sự lựa chọn. Văn học cũng là sự lựa chọn của mình.)

Hoa Mai's retrospective report is rich in metaphoric thinking. She was able to provide metaphoric accounts for her choice of language by relating to the concrete senses of the words, explicating their metaphorical senses or creating mental images to picture her ideas. Below are the points of interest as to what heightened the metaphoricity in Hoa Mai's verbal reports.

Comments. Prior planning no doubt helped Hoa Mai finish the latter half of her writing smoothly. Does it facilitate metaphoricity? To answer this question, we need to consider two issues: planning and metaphoricity.

Planning has been given central importance in process models of writing such as Hayes and Flower (1980). Among learners, it is a common belief that prior planning benefits the writing process because it reduces attentional load while writing. However, speedy writing does not mean quality writing. In fact, reviewing a number of studies on writing processes, Hayes and Nash (1996) have shown that planning is not more valuable than other writing processes such as text generation or revising and that the proportion of time devoted to planning does not make a better piece of writing. As long as the writers have an outline (either written or mental), it does not make a difference in the writing quality whether the planning involves a rough draft or a polished draft (Kellogg, 1988). That is to say, Hoa Mai's strategic approach to writing was not likely to give her any more mental resources than her fellows.

The issue of metaphoricity must be considered in its context. Regarding metaphoricity in text, note that although Hoa Mai used a great amount of metaphoric thinking in her reports, this did not lead to a higher number of MUs in her text (40 MUs as compared to the mean score 46 of the whole group). What it means is that planning does not result in higher text metaphoricity. On the other hand, if we are talking about metaphoricity in her verbal reports, i.e., the core issue, two sub-questions arise: is this metaphoricity a thinking mechanism, or is it a response mechanism stimulated by the task? In the first case, as current metaphor scholarship has proved, metaphoric thinking would be part of the thinking process, regardless of the presence of planning. In the second case, if the metaphoricity in Hoa Mai's retrospective accounts was induced by the task (i.e., because she was asked to verbalize her thoughts, these accounts were 'constructed'), the presence of planning is not meaningful. In other words, planning is not related to metaphoricity, either in text or in mind.

All things considered, Hoa Mai is a true imager who is disposed to activate mental imagery to explain metaphors (Boers & Littlemore, 2000) and adopt metaphoric extension strategies (Littlemore, 2004) (see also Chapter 2). It remains to be seen whether there is any relationship between planners and imagers.

Hoa Mai's case serves as a reminder of the prominence of the individual differences in the production of metaphorical language. Earlier we have mentioned that each MU needs to be treated in its own right because of the process that made it and what it has become in text. Hoa Mai's case gives us even more reason to do so.

Summary

It has been shown that,

1. On average, 14.42% of a composition is metaphorical language, and 53.19% of the MUs required pauses, which took up 15.78 % of total processing time.

2. 91.67% of the novel MUs required pauses. The pauses allocated for novel MUs are 28.830s on average. The making of novel MUs involved mostly metaphoric thinking. However, when the participants deliberately produced novel MUs (and conventional MUs) as a figure of speech, they did not report metaphoric thoughts in their accounts. The results show that novel metaphors are the insignia of creativity that requires cognitive efforts.

3. 48.01% of the conventional MUs required pauses. The pauses allocated for conventional MUs are 10.639s on average. The making of conventional MUs involved largely ideational thinking and lexical considerations, indicating that conventional metaphors are an inherent part of normal language use. Metaphoricity is one of the many possible variables of the pausing patterns in the production of conventional metaphors.

4. 58.20% of the inter-MUs required pauses. The pauses allocated for inter-MUs are 14.222s on average. The making of inter-MUs also involved ideational thinking and lexical considerations but was marked with language problems. This suggests that learners' metaphoricity in an L2 is more associated with proficiency than with conceptual issues.

5. 74.34% of the multi-word MUs required pauses and 67.05% of these units required middle pauses. On average participants spent 16.676s to produce multi-word MUs, about five seconds longer than the time required for single-word MUs. The making of multi-word MUs was, mostly, not unitary retrieval and involved mostly lexical considerations, displaying a process that was more linguistic than metaphoric in nature.

6. The associations between the types of MUs and pause duration and metaphoric thinking are significant.

7. Individual differences must be taken into account when considering metaphor production. These differences reflect the producers' personal cognitive styles and experiences with the world and the (language) learning process.

General Discussions

The cognitive load of metaphorical language production in L2 writing. The textual MUs identified in this set of data are at low-level text units, mainly words. As we have seen, this does not mean that metaphorical language production involves low-level processing. The process requires the ability to orchestrate both high-level (e.g., generating ideas) and low-level processes (e.g., accessing lexicon, constructing phrases) under the limited availability of resources. These are blended into the multiple processes of the writing process which includes planning what to write, generating sentences, and reviewing and revising what has been written (Chenoweth & Hayes, 2003; Hayes, 1996). When this is done in the L2, the production of metaphorical language should be cognitively demanding as is every component and stage of the writing process (cf. Fayol, 2012; Kellogg, 1988, 1999).

Unless an MU is deeply-entrenched as in cases of prepositions and general nouns, the learner-writers need to invest time to engage different resources in the production of metaphorical language. The findings on pause locations and pause durations above have provided evidence that the cost of metaphorical language in writing depends on the metaphoricity and phraseology of the particular MU. Does this mean that the use of metaphorical language would incur an *additional* cost to the writers' limited cognitive capacity? About half of the identified MUs did not require pauses. The average time devoted to metaphorical language is 292.401s, i.e., about four minutes and 873ms out of about 30 minutes 885ms (1853.117s) of total pause time equal or longer than two seconds, out of total composing time of approximately 55 minutes and 962ms (3335.772s).

Examining the association between total pause time and number of verbalized thoughts, we can see a weak correlation: $r = 0.17$, which is statistically significant ($p < 0.0001$). Because this result could be due to the large sample size (685 MUs, which includes the non-paused ones), the test was repeated with only paused MUs. The correlation is weaker, but still significant ($r = 0.11$, $p < 0.03$). As such, there potentially exists a relationship between pause duration and the cognitive load of MUs as judged by the number of reported accounts. Yet it does not mean that pause duration equals

processing load. A pause duration of two seconds might be a gateway to a larger processing load than, say, a pause of four seconds; and any two three-second pauses cannot be assumed to carry the same processing value (see Schilperoord, 2001 for further discussion). Besides, when a unit is not accompanied by a pause, it does not mean that no processing is present. Its processing load may have been handled at an earlier stage of the writing process (as in Hoa Mai's case) or at an earlier point of the stretch of text under construction. The load can also be handled on the spot, as one understands that the act of writing itself is conducive to text production.

In other studies in L2 writing, it has been found that pausing can take up to 60 or 70% of total composition time (Alamargot, Dansac, Chesnet, & Fayol, 2007) and pausing at a threshold longer than two seconds may require 41% of writing time (Wengelin, 1999). Planning takes about 30-60% of total composing time (Cumming, 1990), formulation (converting ideas into language) takes minimally 60% (Roca de Larios, Manchón, Murphy, & Marín, 2008), and solving formulation problems takes about 20% to 25% of total composing time (Roca de Larios, Manchón, & Murphy, 2006).[40] Although the methodology is different, a rough comparison with these studies shows that 15.78% of total processing time is a reasonable amount to invest, given that metaphorical language makes up 14.42% of the total text. That is to say, the use of metaphorical language requires cognitive efforts, but does not incur additional processing time within the writing process, as roughly compared with other writing processes.

The making of metaphorical language by L2 learners. The learner-writers in this study accounted for their use of metaphorical language with lexical considerations and both metaphoric and non-metaphoric thinking, specifically, lexical considerations, images and ideational thinking. The following issues arise from their verbal reports.

First, language learners' linguistic metaphors seem to be, at least according to what they manage to verbalise in the retrospective interviews, products of propositional and linguistic reasoning more than metaphoric thinking. The use of metaphorical language in text is under the direct control of the propositional content and the availability of linguistic resources. Language proficiency and vocabulary knowledge are therefore essential in deciding whether a person can be metaphorical in another language (Littlemore, Krennmayr, Turner, & Turner, 2012, 2014; Chapter 3).

It can also be seen in the reports that the participants had poor awareness of the

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[40] For writing time of native speakers, see Levy and Ransdell (1995).

metaphorical nature of language: many showed limited knowledge of the extended senses of words and only 5.99% of the accounts explicitly referred to the contrast between the concrete sense and the metaphorical sense of the MUs.

The participants' reports have also suggested that metaphors in text are not entirely due to metaphoric thinking. Metaphorical language, one of the means to represent metaphoric thinking, makes use of the meaning structures and thinking mechanism present in non-metaphoric language (Karen Sullivan, 2013). The relationship between metaphor in language and metaphor in thought is not deterministic and top-down from the latter. Current scholarship in metaphor research provides abundant literature for the relative independence of metaphor in language from metaphor in thought (see Chapter 2). To extend this, metaphoric thinking is not to be taken as exclusive to metaphorical language either. As Barclay (1997) argues, "[l]iteral constructs will always depend upon metaphoric substructure for their meaning and import" (p.370) because metaphor feeds lexical items and especially the relationships between them. It is thus realistic to expect the presence of metaphoric thinking in the non-metaphorical language production. This line of research is largely untouched, however.

Additionally, just as one cannot refuse to understand a metaphor in its metaphorical meaning (Giora, 2003; Glucksberg, 2001), one cannot decide when metaphoric thinking will be on call in the process of language production. Metaphoric thinking is involuntary. However, metaphors in text may be produced on request, as when the writers intentionally configure a rhetorical effect in communication, as seen in the case of Xuân. At this point of production, one is engaging in meta-metaphoric thinking instead. The question of *metaphorical to whom?* has to be considered in a multi-dimensional complex of linguistic resources and communication intents, of speakers' and listeners' perspectivization in production and comprehension processes (cf. Kecskés, 2011), and of metaphoric thinking and non-metaphoric thinking.

Conclusion

Despite the distance from the audience in both space and time, writing is in some regards more difficult than speaking (Bourdin & Fayol, 2002; Kellogg, 1994; Nunan, 1989). Given the limited capacity of working memory and the high demands of the writing process (Alamargot et al., 2011; Kellogg & Whiteford, 2012; McCutchen, 1996; Olive, 2012; Torrance & Galbraith, 2006), it is good news for the learner-writers that the use of metaphorical language is not more time-consuming than other processes in the course of writing. Adding this to the result of the previous chapter that

metaphorical language use can improve writing grades, the learner-writers indeed have a strong ally in their journey to proficiency in writing.

The combination of two sources of data has provided us with insights into metaphor use in L2 learners from a dual perspective that has not been tried before. We can now understand (at least partly) the patterns and variations of metaphor use in the making, together with the different variables of this process. The other good news is for metaphor researchers: the explorations in this study delivered still other themes and avenues. I will mention a few of these in Chapter 6.

CHAPTER 5 – PEDAGOGICAL IMPLICATIONS

Metaphorical language use is part of the path of language development which learners will take. The implications below aim to assist this development with special focus on the teaching of L2 vocabulary and writing.

The Metaphorical Depth of L2 Vocabulary

While the findings in Chapter 3 have highlighted the significance of metaphorical language, especially conventional metaphorical language, the findings in Chapter 4 have displayed the participants' low awareness of the metaphoricity in the language they produced. In order to achieve a good command of (conventional) metaphorical language, L2 learner-writers thus need to build their knowledge in this area, part of which involves the awareness of the presence of metaphorical language and the metaphorical nature of language (see Chapter 2).

One dimension to add to the existing discussion is that understanding the metaphorical nature of language means enhancing the depth of vocabulary. Making meaning via metaphors is attaining depth of vocabulary systematically. As a reminder, the production of conventional metaphorical language in writing does not require learners to engage in metaphoric thinking processes as much as to activate lexical knowledge to formulate propositional contents. This knowledge of metaphorical depth of vocabulary is reflected in the metaphorical potential of familiar words, the extended metaphorical meanings, metaphorical collocations, and the semantic prosody of a word/phrase. It allows the learners to achieve precision in lexical choice and avoid misusing words due to a confusion of different senses of a lexical item or different lexical items that have synonymous senses but different usages. It also encourages creativity and flexibility in word choice.

Learners' awareness of the metaphorical depth of vocabulary knowledge can be enhanced by drawing their attention to the motivated nature of language and presenting vocabulary input to them in contexts of use.

The Motivated Nature of Language

Learners might not need to possess metalinguistic knowledge about the different types of metaphorical language, but they need to know that a number of words, which form the keyness of the texts they encounter and produce, are used in extended senses and are related to the basic senses in meaningful ways. When learners can establish the motivational links between the concrete sense and the extended sense, the target item is easier to remember because the learning process is deep and grounded as compared to mere acceptance of arbitrariness (Boers, 2013; Boers & Lindstromberg, 2006, 2008c).

Boers and Lindstromberg's (2009) book is a teacher-friendly guide to incorporate this insight into their classroom. To put it differently, raising learner awareness of the motivated nature of language is the cognitive linguistics way to build metalinguistic word consciousness (Scott & Nagy, 2004) through which each word and phrase to be learnt affectively touches the learners – each has a story to tell of its whys and hows.

There need not be devoted class hours of instruction of motivational links to avoid further workload for teachers and learners. To present this knowledge in a light way, the teacher can demonstrate one well-prepared example in each meeting alongside the focus of the lesson and show learners the path to deepen this knowledge on their own. This can be done systematically by asking students to keep a 'motivated' vocabulary portfolio from the beginning of the course. After each class meeting, learners are asked to collect (from any materials they come across) and add to their portfolio the items which are motivated in the same fashion as the exemplar introduced in the lesson. Especially, they need to report the [textual and para-textual] contexts which have fostered the motivational links. Learners should be encouraged to explore the different ways a word/phrase acquire its forms and meanings. With the arrays of motivational links that learners are introduced to and bound to discover (e.g., phonological links, etymological sources, images, actions, embodied sources, symbols, mind maps, sounds and beats, conceptual metaphors), the portfolios would be rich and colourful and can lend themselves nicely to in-class discussions when students work in pairs or groups to discover each other's collections.

Although the extended senses of a word can be presented in a network map of radial categories, I would be cautious about introducing such maps to learners. Learning many senses of one word at the same time is probably as confusing as learning many words of a similar sense at the same time (cf. Folse, 2004; Nation, 2000). The main purpose of such maps should be to increase awareness of how senses of the English words can be extended via metaphor so that learners may exploit similar strategies when encountering new words. Productively, such awareness will help learners to develop a sense of responsibility of the words they choose in order to attain precision in conveying meanings. One way would be to choose a highly polysemous item such as a preposition or a delexicalised verb and build a sample network for it slowly over time on a large poster on the wall of the classroom. Each time the class (or a class member) come(s) across a new sense of the word, the new sense and its usage patterns can be added to the poster by the students themselves. This activity can also be done as a group-work side project so students can build a network of their favourite items. In this way, the teacher

can introduce complicated notions of how language works to even the low-level learners because learning is co-constructed incrementally.

Contextualising Input

We have seen from the examples presented in the previous two chapters that the participants at all levels of proficiency produced inter-MUs due to confusions about the different senses of a word and the different usages of senses. The students also exhibited difficulties in retrieving multi-word MUs due to both interlingual and intralingual reasons. These problems are likely manifestations of an approach to vocabulary learning which (a) emphasizes the number of words over the usage of words in contexts and (b) treats members of multi-word units as individual words (as similarly reported among the participants in Barfield, 2009; Peters, 2009; Ying & O'Neill, 2009). The obvious implication is thus the target senses must be presented to learners in a "pregnant context" (Beheydt, 1987, p. 64), one that prototypically evokes the associative concepts of the target items. If a concept is taught within the frames of reference to which it is attached (cf. Croft & Cruse, 2004; Jackendoff, 2002; Sullivan, 2009, 2013), these frames would be likely to be activated at the formulation point of the propositions. The metaphorical meaning, in particular, is conceptually tied to its context and would become impoverished and meaningless out of its context of use.

It must be made clear that this context of use is not limited to the linguistic patterns in which a word/phrase appears (e.g., Brown, 1993; Jiang, 2000, 2004) but is extended to the contexts of genres, language varieties, professional or subject domains as well as the socio-cultural contexts in which the task is situated. These kinds of contexts shape the salience of the different senses of a word and the linguistic and social conventions in which these senses are used. Kecskés (2011), for example, maintains that the speaker's choice of a word/phrase is a pragmatic decision derived from prior experience with the word as individual (individual salience), as member of a speech community (collective salience) and in the actual situational context (emergent situational salience).

Corpus-based activities can be useful in drawing learners' attention to the metaphorical depth of vocabulary. Corpora provide a lexical playground where learners can freely explore how a word performs, behaves, and plays in its real contextual environment, especially how it collocates and colligates with other words. With the aid of corpora, learners can see the differences in usage patterns of near-synonyms (cf. T. Johns, 1991) and how the different extended senses of a word in L2 do not neatly correspond to its supposed equivalent in L1 (cf. Frankenberg-Garcia, 2012).

Concordance patterns also show affective values and discourse functions of words. For example, when *dogs* and other animals are used as nouns, they are used non-metaphorically; when used in the verb forms (*to dog*, *to squirrel*, *to horse, to weasel*), they are metaphors and carry evaluative values (Deignan, 2005). When learners can see that words acquire their meaning because of their usage, they would be more critical in interpreting texts (cf. Holme, 2004) and refrain from assigning senses to words at their ungrounded discretion. In the long run, learners will take a selective attitude to word choice by considering the semantic and pragmatic effects of words used in different patterns rather than being content with the first word that comes to mind (e.g., a general noun) in a production task. Depending on the learners and objectives of the lesson, teachers can have them work on one or more patterns of a particular word, of words of the same family or same grammatical properties. According to Yang and O'Neill (2009), learners at the borderline between the intermediate and advanced stages of learning (those similar to the Year 3 and Year 4 cohorts in this project) would be most likely to benefit from these corpus-based syntagmatic activities. The first task, of course, is to make corpora known to language teachers, given that 79.4% of 248 German secondary school teachers in Mukherjee's (2004) survey had never heard of corpora.

In addition to presenting language in its frames of use discussed in the previous section, practice with chunking in Sinclair and Mauranen's (2006, Chapter 4 and 5) fashion is one simple way to help learners become mindful of the fact that words seldom exist in isolation so as to help them effectively decode and retrieve texts in units of meaning.

Furthermore, for a concept to be learned in the desired usage pattern, learners need to be taught to be critical dictionary users. Dictionary use can have a long-lasting effect on learners.[41] In their studies on L1 children, Scott and Nagy (1990, cited in McKeown, 1993) and Miller and Gildea (1987) have concluded that after consulting dictionaries, children are still unable to identify or produce words correctly because they are exposed to only part of the word definition. Yet only a fragmented definition of words can be expected in the dictionaries that I found most popular among my students in Vietnam. These dictionaries are pocket-size bilingual dictionaries which are market-driven and are harmful to long-term language learning because entries in these dictionaries typically form a list of words in two languages without the minimal

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[41] For reviews on this line of research, see Gu (2003), Nagy and Scott (2000), Nesi (2014).

information that is required of word knowledge. Learning with such dictionaries would be likely to result in learners holding an assumption of a one-to-one relationship between word and meaning; usage is of course an unaffordable luxury in these dictionaries. Yet even branded dictionaries can be unfriendly in terms of figurative meaning (Nesi & Haill, 2002). Learners thus need to be guided in selecting dictionaries, and in questioning whether a listed meaning or usage is applicable to the contexts of the target word or transferable to the meaning they intend. In addition to the skill to effectively select the best-fit sense among those offered in a dictionary, learners also need to be aware of the fact that words can be used in new shades of meanings by language users, themselves included.

Implications to the Teaching of Writing
Instruction of Metaphorical Vocabulary in the Writing Class

It is understandable that the writing teacher would prefer to allocate the limited class time on writing issues rather than to teach vocabulary or metaphorical vocabulary. Yet writing could not be accomplished without words. By not spending time to help students develop and command their productive vocabulary resources, we are not helping learners' writing. Writing fluency would improve if learners did not have to spend time unproductively retrieving words or remembering their usage patterns. Writing quality would improve if learners could use words to precisely express what they intend to mean in the intended subtleties of genre, tone or stance and to coherently link their points of argument. The process writing paradigm, while allowing for the general betterment of texts through more opportunities to revise, does not necessarily entail a significant difference in terms of vocabulary (Muncie, 2002).

Metaphorical vocabulary, which gives writers the power of expressibility and enables the compactness and vividness of their writing (Ortony, 1975), can be incorporated into the writing class throughout the lesson.

Pre-writing. At the pre-writing stage, discussions of the genre and knowledge domain of the task will help learners to focus their attentional resources on activating the relevant vocabulary. Writing as a communicative act does not have the on-line support from fellow interlocutors as does speaking; this requires the writers to make a conscious effort to contextualize their writing act by providing enough context for their points through, among others, precision in word choice. Because different types of writing make use of different types of words, using words effectively is more pragmatic than using more words (Coxhead, 2006). Learners can conceptualize their writing topic in terms of a conceptual metaphor, organize their ideas using extended metaphors or

gather their thoughts (discussed later) and words about the topic by using pictures or drawing their own images. In this way, the semantic frames of the topic assist the activation of associated vocabulary.

In order for learners to produce the desired language, it requires more than raising awareness and providing input, as active recall is the hardest in the hierarchy of vocabulary difficulties (Laufer & Goldstein, 2004; Stahl & Nagy, 2006).[42] In L2 vocabulary learning, Hoey's (2005) Lexical Priming theory that language knowledge "primes" language use and that word use "primes" word use remains to be researched. Learners need to practice generating these units before they can produce these items of their own accord. Pre-task discussions or reading activities using the target phrases may induce learners to re-use them in the production task (Duin & Graves, 1987; S. Lee & Muncie, 2006). Lee's (2003) study, for example, shows that with teacher elicitation, secondary ESL learners can increase productive recognized target vocabulary 63.62% as compared to only 13.19% without teacher elicitation. Materials used for these activities should be focused towards the desired vocabulary.

Another measure is to encourage learners to learn the expressions they are willing to use. Literature in both L1 and L2 suggests that self-selected lexis are better retained and re-used (Haggard, 1982, 1986; Jiménez, 1997; Ruddell & Shearer, 2002). Teachers can guide this selection by considering the role of the items in language, in the lexicon, in the learner's existing knowledge and in the lesson (Nagy & Hiebert, 2011).

Teacher talk also plays a modelling role in learner productive language. The quantity of phraseological units in teacher speech, an important source of input in EFL settings, may have a consequential effect on learners' (under)production of these units. If teachers leave out phraseological language in their speech (cf. Irujo, 1986), their students will tend to do the same.

While-writing. While students are writing, vocabulary learning still happens. At this stage, students learn to pause fruitfully to select the words and to consider the evaluative weight of words in relation to the task and the intended audience. Particularly, they learn to bring into use the usage frames of the relevant language identified in the brainstorming stage. Conscious attention to word choice while writing eventually promotes critical writing practice among these learner-writers.

As it has been observed, L2 writers produce text in a recursive cycle of "create text – read [the text produced so far] – create text –read – edit – read – create text – read

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[42] For reviews of (un)successful uptake from incidental vocabulary learning, see Boers and Lindstromberg (2009).

– read – create text" (Raimes, 1985, p. 248). Training in lexical retrieval fluency by focusing on speed and correctness (Snellings, van Gelderen, & de Glopper, 2002; Snellings et al., 2004) may reduce the cognitive load of generating text, allowing learners to focus on other sub-processes. Regarding multi-word MUs, the data in Study 2 of the project has revealed that the participants' fluency was hindered by 'unexpected' pauses in the middle of a phrase or a multi-word MU. Indeed, it was a waste of cognitive resources to pause nine times to retrieve a fixed expression such as *have an important role* (Example 150, recited here as Example 166).

Example 166. literature·{5008}*has{6006}·{9033}b[BACK]{2590}roled{2231}* *·{2995}[BACK 6]{6989}had{3370}·{6193}the·impoe[BACK]rtant·role* (Hồng Thanh)

Torrance and Galbraith (2006) recommend a number of ways for writers to deal with the processing demands of the writing process, some of which can be applied here to aid the retrieval of multi-word units (applied here under the pretext that learners have tried to learn the units as wholes). Accordingly, the learner-writers need to develop automaticity in low-level components of the units such as spelling, handwriting, typewriting and basic grammatical concordances. It has been observed that difficulties with such low-level processes result in processing bottlenecks which can lead to more grammatical errors (Fayol, 1999, 2012; Fayol, Largy, & Lemaire, 1994) and loss of lexical representations awaiting to be transcribed (Wengelin, 2007). It follows that when these low-level processes do not compete with higher level processes, the learners will pause productively to consider different lexical options, create different variations of a multi-word unit or cogitate over the effects of an expression on the readers (cf. McCutchen, 1996; McCutchen, Covill, Hoyne, & Mildes, 1994).

Revision. In the revision stage, learners should check to see whether they have over-used a certain item (as in the case of *thing* and *help* found in the participants of this project) or vague words. Questions of stylistics can be addressed at this stage, particularly regarding the choice of metaphors and clichés. Learners can be asked to paraphrase and rephrase their own produced text into multi-word expressions in this revision cycle, which can also be conducted in a peer response session.

Learner output, one source of input that is both salient and appropriate in terms of cognitive readiness and proficiency, can also be used at this stage. The output can be taken from learners' present level and the level immediately above the present level. With the aid of logging tools such as InputLog, learner output can become the source for in-depth discussion and practice, which stays focused thanks to the logged pauses.

An analysis of logged multi-word expressions in the form of peer response or teacher-led feedback conference, for example, can give teachers a detailed map of how a learner has formed his/her multi-word units, which features of these units s/he has noticed and what has interfered in the retrieving process. For instance, if initial pauses in multi-word MUs are sites of conceptual and linguistic planning for the units, the middle-unit pauses are where practical decisions are made for the micro-level execution processes.

Idea Generation with Metaphorical Thoughts

Using metaphor to conceptualize the topic and generate ideas helps learners to approach the topic issue in a creative way which prompts the development of supporting ideas and keeps the writing organized and coherent. At the brainstorming stage, teachers can elicit conceptual metaphors by asking learners to see the topic issue in terms of something else. Learners can elaborate on their metaphors by extending their metaphors (i.e., using metaphorical entailments) to build an outline for the essay. For example, one participant in this project (Y4–2) saw literature as a person who plays different roles at different times in human history. She wrote, *Literature is the <u>friend</u> of past, the <u>helper</u> of present and the <u>leader</u> of the future*, and developed her three paragraphs by explaining these metaphors in detail. In this way, the continuing presence of the metaphors guides the writer's thoughts and gives rise to relevant frames of reference, thus facilitating the activation of productive vocabulary. At a more skilled level, learners need not explicitly state the metaphors that shape their writing: the use of the vocabulary chains of associated frames of reference implants the metaphors inconspicuously in the readers' mind. As a matter of fact, this method of metaphor use can be found constantly in politicians' speeches (Ahrens, 2009; Carver & Pikalo, 2008; Musolff, 2004).

The participants' reports in Chapter 4 have revealed that ideational thinking was frequently present behind the use of metaphorical language. For those students who complain that they do not have ideas or cannot express their ideas, metaphor-related thoughts can offer two solutions to generate ideas and clarify their points. They can use metaphor signalling devices such as *A is like . . .; A is B, which/who . . .; A is B because . . .; If . . .* to summon analogical thoughts for the supporting details of the idea in point. Sentences such as *If one knows everything about the world except for literary works, he is building a very high tower without a base* (Y4–3) do not exert additional while-writing cognitive load in terms of language structures; yet their explanatory power is beyond doubt.

Free writing is another way to enable learners to make use of metaphorical thoughts, especially in the first drafts. In Chapter 4 we have seen that a lot of writers' interesting ideas were lost in their mind as passing thoughts in the writing process while they should be included in the writing product. This is one of the differences between L1 writing and L2 writing: the ideas generated in L1 writing can be turned into text while little of the ideational materials generated in L2 writing can make it into text (Moragne e Silva, 1989). In the quest for words, the participants called on different metaphor-related mechanisms related to analogical thinking and associative thinking such as creative metaphors, mental images, and background knowledge. However, these interesting ideas did not make their way into the writing, leaving the readers with abrupt pieces of thoughts. For the choice of <u>see</u> *the world [in books]*, Khanh explained,

> […] A literature work spreads itself open in front of us, like life. In literature, there is happiness and sadness. In life we can apply the things in literature to have a view, a perspective about life around us.

Similarly, Nhi simply wrote, *They [books] help us understand about life* although she reported the following thoughts:

> In modern life, there is a lot of competition and pressure. But if the humanitarian values we read in books remain with us, when we step out into life, we can find good values in life.

The writer-learners thus need to be aware of their own processual reasoning and learn to put down all their free thoughts in the first drafts. When they are better at shaping these free thoughts into supporting details, they can ask self-reflective questions such as *Why do I use this word? Do I need to clarify it?* and discard unrelated ideas.

The Metaphorical Self and Creativity

As Bakhtin (1986) said, "there are no voiceless words that belong to no one" (p.124). The metaphors that a learner employs, be they conventional or novel, deliberate or spontaneous, apt or weird, form the metaphorical self of his/her translingual identity. Any associative or analogical link between the language in text and a particular memory, a particular book, a particular adventure weaves in the characteristic threads of the conceptualization of writing and shapes the language that a learner uses. It is thus important to understand that an instantial use of metaphorical language which may appear deviant could be "a positively desirable strategy in pursuit of flexibility of expression" (Wray & Fitzpatrick, 2008, p. 143). It is this use of language that concentrates the inseparability of the L2 learners and their perspectivized world, of the language classrooms and real life (G. Hall, 2007; Pennycook, 2000) as well as the

acceptance of L2 learners as 'languagers' rather than failed native speakers (Brooks & Swain, 2009; Swain, 2010; see also Cook, 2002).

Therefore, in parallel with awareness-raising on the part of the learners, the teachers have to be considerate to allow space for creativity. For example, the influence of the learners' L1 conceptual and linguistic systems must be taken into consideration in an L2 production task. If the class is homogeneous, an explicit contrast of how meanings develop from the core meaning in the two languages can be included in a feedback conference or post-task discussions. If the class is heterogeneous, the teacher may want to elicit why a word is used as such by a learner before marking it as inappropriate. When the learner justifies his/her choice, s/he realizes the differences between L1 and L2 and how to address these mismatches through an open dialogue with the teacher instead of making corrections to his/her writing just to please the teacher. Explicit contrast between how the L1 and L2 systems work will, at least, stop the learners from acting on the assumption that languages are the same. When the learners insist on using certain expressions from the L1 conventional language system, teachers can suggest introductory phrases before an L1-based metaphor such as: *As we say it in [the L1] …*, *A metaphor/An expression in [the L1] that is relevant here is…* It is recommended that teachers adopt an accommodating attitude towards learners' reliance on L1 figurative language because of the well-known scaffolding function of the L1 and the attested power of metaphors in bridging knowledge gaps. As Odlin (2008) asserts:

> [M]etaphors help humans to try to understand new problems in terms of existing cognitive resources. In language transfer the "carrying across" of linguistic and (sometimes) conceptual resources helps learners to make sense of the new problems that another language presents, even if some of what is carried across would have better stayed at home. (p.325)

It has been argued earlier that inter-MUs are best recognised as they are: a legitimate member of an evolving system. If we see learning as a system which constantly changes and self-adjusts, then the need is to foster its development rather than to control it. In fact, there is danger in over-emphasizing the accuracy of language use. For example, if learners are repeatedly taught that prepositions in English are complicated and difficult to learn, the likely learning outcome would be the belief that prepositions are complicated and difficult rather than an improvement in the accuracy of prepositional use. Different aspects of language proficiency in general and lexical proficiency in particular are acquired at different stages of the learning process. For example, the participants in Study 1 of this project displayed the different dimensions of

their metaphorical language knowledge at different year levels. The challenge is for teachers to know when to teach what to whom.

Assessing Writing

Learners' metaphorical language use lies at the junctions of personal, cultural and social experiences of individuals who are going through profound transformations as languagers. Giving feedback to metaphorical language use requires a teacher to be sensitive enough to provide supportive (rather than corrective) feedback to instantial stylistic use of language. When learners improvise with metaphorical language, they will learn of the conceptual, cultural and linguistic gaps in their knowledge (cf. Willis, 2003). Too much correction becomes appropriation (Reid, 1994), which suffocates the learners' freedom to explore, be creative and be themselves in L2 writing.

It is detectable from the participants' reports that many times the MUs in their writing were correct by mere chance, echoing Lewis's (1993) comment that "[c]orrect production by a student is not evidence that the student has mastered the language in question, only evidence that the student has produced the correct language on that particular occasion" (p.10). Therefore, once a unit has been appropriately generated, teachers should consolidate the instance by praising the learner's 'good' use of language to foster similar use of language in future.

'Political' issues aside, the metaphorical language profile of a piece of writing can inform the writing teachers for at least these aspects of the learners' writing proficiency: vocabulary depth, appropriate syntagmatic and paradigmatic patterns of language use, lexical cohesion and text coherence as well as creativity in language use. Note that this profile partly reflects most, if not all, of the popular features of the L2 writers' texts that Polio (2001) identified from the literature of L2 writing: overall quality, linguistic accuracy, syntactic complexity, lexical features, content, mechanics, coherence and discourse features, fluency and revision. This knowledge can be useful to the teachers whether they prefer a holistic or analytic approach to rating. On rating essays holistically, the teachers may want to rely on the metaphorical language used in order to gain a bird's-eye impression of the works. In analytic scoring, metaphorical language profile offers an additional trait in the rubric. In either way, the knowledge of metaphorical language is useful. If writing assessment is to include not only the writing piece but also the writing act and its contexts without judging the writers, metaphorical language use must be considered (cf. Hamp-Lyons, 2001 for the fourth generation of writing assessment).

CHAPTER 6 – CONCLUSIONS
Summary

This project set out to explore metaphorical language production in L2 learner-writers' essays. In terms of the text products of metaphorical language, two questions were asked:

1. What are the patterns of metaphorical language use in L2 learners' EFL written texts?

2. What are the relationships between these learners' metaphorical language use and (a) their general language proficiency as reflected by their year levels and (b) their writing proficiency as reflected by their writing grades?

Regarding the first question, it has been found that on average, the learner-writers produced 26.78 MUs, which made up of 13.15% of their texts. Of these, 21.71 units were conventional MUs, 0.57 were novel MUs and 4.49 were inter-MUs. With regard to phraseology, on average each essay had 4.41 multi-word MUs. Learners commonly used verbal and prepositional phrases for their conventional MUs, produced more conventional MUs of content words but consistently relied on general nouns as they progressed in their year levels. As for the inter-MUs, or the accuracy of the MUs, 65.07% of these MUs were caused by form-related errors such as spelling or grammar and 37.29% by usage-related errors such as miscollocation or sense confusion. L1 was found to influence L2 metaphorical language use at both propositional and linguistic levels, the latter of which decreased by the year.

Regarding the second question, it can be concluded that there is a significant relationship between the metaphoricity and phraseology of the learners' metaphorical language and (a) their general language proficiency as reflected by their year levels and (b) their writing proficiency as reflected by their writing grades. The findings have shown that conventional MUs increased by each year level (except between Year 2 and Year 3); improvement in inter-MUs and multi-word MUs were found at alternative years, and there was no difference in the use of novel MUs between the year levels, except between Year 1 and Year 4. At all levels, the number of conventional MUs, multi-word MUs and novel MUs significantly correlated with writing grades with Spearman coefficients $r = .84$; $r = .69$; and $r = .35$ respectively ($p < .01$, 2-tailed). Overall, the use of inter-MUs did not correlate with writing grades, but it did positively correlate with writing grades in Year 1, though weakly. When writing grades were regressed on the three variables that displayed positive correlations, it was found that conventional metaphorical language use explained 67.9% of the variance ($p < .001$).

In the second phase of the project, two questions were asked about the processes of metaphorical language production in L2 learner-writers:

1. Does the use of metaphorical language incur additional cognitive efforts in the writing process?

2. In what ways do learners account for their use of metaphorical language in their compositions?

Regarding the first question, it was found that on average, the number of paused and non-paused MUs was more or less the same in an essay and the paused units consumed 15.78 % of total processing time. There was a relationship between the metaphoricity and phraseology of the MUs and the distribution of pauses and pause durations, suggesting that these two variables may determine the cognitive cost of metaphorical language use. It seems that metaphorical language use may not be more time-consuming than other writing processes reported in the literature.

In the stimulated retrospective interviews, the participants reported more metaphoric thoughts for novel MUs than inter-MUs and conventional MUs, and more metaphoric thoughts for inter-MUs than conventional MUs. However, overall, metaphoric thoughts were mentioned in only 18.12% of the accounts with imagery associations being the most commonly mentioned. Non-metaphoric thoughts were reported in 43.33% of all reported thoughts, and these were driven mostly by idea development. Lexical considerations took up 38.46% of the reported accounts. As such, the participants' reports suggested that forming ideas and searching for words to express these ideas were key motives of their use of metaphorical language.

Reflections

Ethics

There was a degree of the Hawthorne effect in this study that would have been avoidable had there been more freedom in ethics regulations. As it was strictly required that the participants must know that the study was on metaphorical language in their written essays (rather than just their written language), the participants might have tried to produce more metaphors to please the researcher, especially when they worked directly with the researcher. The effect could be seen very clearly in the case of Xuân in Study 2 of the project. The inconvenience was that the term *metaphorical language* is solely considered as a figure of speech among lay people, which probably resulted in the contrived novel metaphors in Xuân's essays. Although Xuân's retrospective reports of these deliberately constructed metaphors had incidentally yielded valuable information for this case, I would still recommend more freedom in ethics regulations in

language teaching research, especially when the studies involve tasks that learners would do on a daily basis in their learning.

Participants

The majority of the participants in this project were females. While the population is representative of the actual situations in the BA in English Language in Vietnam, the imbalance in gender might have had an influence on the results. It has been found that gender can affect writing in general (see reviews in Gelati, 2012) and also have a bearing on the use of metaphors (Hussey & Katz, 2006; see also Boers, 2000).

Data Elicitation

The data in Study 1 was cross-sectional, which could describe the patterns of metaphorical language in these random samples, but did not allow for the generalizability of the study in terms of a developmental trend.

The data elicitation techniques used in Study 2 served the exploratory purposes of the project. Together they formed a combination of both on-line data (logged keystrokes) and off-line data (retrospective reports). Still, the two sources of data offered suggestive conclusions rather than an exact picture of the processes of metaphorical language production. A combination of keystroke logging and eye-tracking tools may increase the richness of the data yielded (cf. Andersson et al., 2006; Torrance & Wengelin, 2010; Wengelin et al., 2009). In addition, to avoid latency in retrospective interviews, the researcher may want to try pausing the participant immediately after s/he has produced a potential metaphorical unit or after s/he has finished a sentence or a paragraph.

Findings

The results of this project should be interpreted in the understanding that writing is a complicated process mediated by many factors, metaphorical language being one. The finding in Study 1 that conventional metaphorical language is a significant predictor of writing grade, for example, should be taken in a broader context: the variable is one of the many factors that can predict writing grades such as L1 writing ability (Ma & Wen, 1999), L2 proficiency (Sasaki & Hirose, 1996), L2 reading ability (Carrell & Connor, 1991; Flahive & Bailey, 1993), genre (Beers & Nagy, 2009), collocational accuracy (Crossley & McNamara, 2012), and measures of syntactic complexity (Beers & Nagy, 2009). Text length, for example, has been repeatedly found to correlate with writing proficiency (Ferris, 1994; Leslie Grant & Ginther, 2000; Intraprawat & Steffensen, 1995; Kamimura & Oi, 2001; Sasaki, 2000; Yau &

Belanger, 1985). With regard to Study 1, the number of MUs also seemed to increase with the number of words.

Similarly, the findings in Study 2 need to be interpreted with acknowledgement of its limitations. First, the sample was small and was a convenient sample. Therefore, the pausing patterns found in these participants may not generalize to other groups of learners. Second, the potential temporal cognitive load of metaphorical language production was roughly compared with the temporal load in other writing processes while it ideally should be compared with its counterpart in the production of non-metaphorical language. Because non-metaphorical language was not the focus of this project, I did not allocate time to analyse this component of the data. This must be addressed in further research in the line.

<div align="center">

Recommendations for Future Research

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Over the course of the two studies presented in Chapters 3 and 4, I have made suggestions for more research where relevant. This section poses some other questions to further advance the field of L2 metaphor research.

The Unit of Analysis

The flexibility of the unit of analysis in this study, the MUs, has helped to highlight the phraseology of metaphorical language. However, I still find it non-gratifying to have to leave out non-metaphorically used members of a phraseological unit in the identification process. Future research may consider identifying the metaphoric frames as a unit of analysis instead. This way, the identified metaphorical language can be activated in parallel with its semantic frames and the analysts would be able to see the metaphoricity in text in its authentic environments.

The Identification of Metaphorical Language

The identification of metaphorical language in this study was based on available procedures in the literature in order to address the phraseological nature of metaphorical language in L2 learners' written discourse. Because of the scope of the study, the items which were dubious in their metaphoricity in this project (see Methodology section of Chapter 3) had been put into the category of *In doubt*, which was later removed from final analysis. Such items, however, should receive focused interest in future research, especially with regard to the determination of the basic sense and norms of usage. Ultimately, metaphors have to be considered in context. But again, questions arise: What context? Whose context? If metaphors are to be identified from the context of linguistic artefacts, should the analysts give themselves the flexibility to speculate upon the metaphor users' deliberateness? In addition, many conventional metaphors that the

L2 users have borrowed from L1 are not conventional in the L2. From the L2 speakers' perspective, they can be novel metaphors, which may require complicated analogical reasoning and associative thinking to process – while in fact they might have been retrieved simply as another lexical item in the L1speaker's lexicon. The context of language comprehension or production thus plays another role in identifying and analysing metaphorical language.

L2 Vocabulary

Knowledge of metaphorical senses and how it interacts with other dimensions of lexical proficiency such as formulaicity, vocabulary size, vocabulary depth, and lexical diversity can add to the existing knowledge of vocabulary depth. Currently, vocabulary depth is mostly investigated in the direction of word association and collocation (Haastrup & Henriksen, 2000; Read, 1998; Vermeer, 2001; Wilks & Meara, 2002; Wilks, Meara, & Wolter, 2005).

It must also be mentioned that, quite surprisingly, metaphor research in L2 learning does not seem to be influenced much by the mainstream of metaphor research, since implications of metaphor research have several practical implications for learners, teachers, curriculum designers, and material developers. For instance, the Graded Salience Hypothesis maintains that the most salient features of both the source and target domain are automatically accessed in figurative language processing regardless of its conventionality, frequency, familiarity, or prototypicality. Investigating the implications of the hypothesis in L2 acquisition, Kecskés (2001) found that compared to native speakers, non-native speakers were not able to apply the principle of salience in the L2 due to the absence of conceptual fluency, and that to the non-native speakers, the most salient meaning was the literal meaning (Kecskés, 2006, 2007). The Graded Salience Hypothesis might elucidate the patterns of meaning shifts in learners' discourse where learners' 'salient meaning' shifts or evolves from one sense to another depending on the learners' proficiency, profession, social context and familiarity with the most common use of the item.

Lastly, cognitive linguists contend that words are developed in a radial network by means of metaphor and metonymy. Do L2 learners develop such radial networks and if so, how? Do they learn words separately, or do they establish the link between senses of words? Along the same lines, should the metaphorical (and metonymic) senses be introduced in the radial network with the prototypical sense or with synonymous metaphorical (and metonymic) senses of an overlapped network?

Metaphor Production in L2

Metaphor production among L2 learners is still a new line of research. Future research efforts can focus on:

- Metaphor production in learner spoken language, especially in different environmental and professional domains.

- The longitudinal development of L2 learners' metaphorical language use (cf. Levorato & Cacciari, 2002) in relation to the development of language proficiency and the shifts of language dominance.

- How L2 learners use metaphors for discourse management. Does the way they select a metaphor in the first place, the way they develop it, the way their metaphors cluster in discourse, and especially the way they use metaphor to start a conversation, change topics, etc… (cf. Cameron & Stelma, 2004; Kimmel, 2010) characterize their own individuality and cultural background or corroborate L1 users' patterns?

- The knowledge that L2 speakers mobilize to twist or extend L2 conventional expressions. Because "phraseology is not a store of old fossils" (Naciscione, 2010, p. 24), in L2 discourse, L1 conventional expressions are expected to take on new variations of forms and live a connotative life of their own that would be very different from their originals or L1 modified counterparts. L2 corpora may offer useful clues in this direction, in addition to Omazic's (2008) interpretation of conceptual integration.

- The interaction between metaphorical language use and other well-known variables of speech production such as age (cf. Nippold, Uhden, & Schwarz, 1997; Uekermann, Thoma, & Daum, 2008), gender (cf. Colston & Lee, 2004; Gibbs, 2000), working memory (cf. Chiappe & Chiappe, 2007), etc.

- Whether the factors involved in metaphorical language comprehension such as conceptual metaphors and concrete images are required in the production process. Also, what kind of cues would prime the production of metaphorical language?

- How the L2 speakers accommodate/compensate for/circumvent the metaphorical mismatches between their own language and L2

- The role/interference of the L2 speakers' perspectivized world(s) in producing metaphoric language and in creative language use. For example, it is not clear whether the participants in this project freely assigned shades of

meaning to words because of their proficiency, their experience or their L1. The kind of mental simulations and imagery that speakers of different languages use in producing the same metaphorical expressions in L2 expectedly would be different. For example, a number of students in Boers' (2001) associated *pass the baton* with an orchestra conductor passing the baton to a successor rather than with an athlete passing on the baton to a team mate in a relay race.

- The relationship between metaphorical and non-metaphorical language/multi-modal resources, between metaphoric and non-metaphoric thoughts in the process of language production.

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APPENDICES

Appendix A: Information of Study 1 in English

Project working title: Metaphors in Vietnamese students' compositions

[Date   ]

Dear students,

I am Hoang Thi Doan Ha, a PhD candidate from the School of Linguistics and Applied Language Studies, Victoria University of Wellington. I would like to invite you to participate in my research project, which looks at the metaphorical aspects of your writing in English. This project has been granted ethics approval by the Human Ethics Committee, Victoria University of Wellington.

Your participation in the research project is simple. You just need to write one essay in class and this essay will be collected. This will not affect your course grades. Your text will be kept confidential and will not be used for any research other than my own. It will be destroyed 2 years after the conclusion of my PhD project, i.e., 2016. You will remain anonymous in the research report. If you wish to withdraw from the research project, please email me by 15th June 2012.

If you require further information, feel free to contact me at Ha.Hoang@vuw.ac.nz. You can also contact my supervisors via their email addresses below.

- Assoc. Prof. Frank Boers: Frank.Boers@vuw.ac.nz

- Dr. Peter Gu: Peter.Gu@vuw.ac.nz

- Dr. Jean Parkinson: Jean.Parkinson@vuw.ac.nz

Thank you very much for your cooperation.

Best regards,

Hoang Thi Doan Ha

Appendix B: Information of Study 1 in Vietnamese

Wellington, ngày … tháng … năm 2012.

Các em sinh viên thân mến,

Cô là Hoàng Thị Đoan Hạ, hiện đang là nghiên cứu sinh tiến sĩ thuộc Khoa Ngôn ngữ học và Ngôn ngữ ứng dụng, Đại học Victoria, Wellington, New Zealand. Cô mời em tham gia vào đề tài nghiên cứu của cô về ngôn ngữ ẩn dụ em sử dụng khi viết tiếng Anh. Đề tài này đã được Hội đồng Khoa học Đại học Victoria thông qua.

Để tham gia rất đơn giản. Em chỉ cần viết một bài viết ngay tại lớp và nộp bài lại. Bài viết này hoàn toàn không ảnh hưởng đến điểm số học tập của em. Bài viết của em sẽ được giữ gìn cẩn thận và chỉ sử dụng duy nhất cho mục đích nghiên cứu của cô. Trong quá trình báo cáo đề tài, tên của em cũng được giữ kín. Các dữ liệu liên quan đến em sẽ được hủy bỏ vào năm 2016, hai năm sau khi nghiên cứu của cô kết thúc. Nếu em muốn rút lui không tham gia nữa, em có thể email cô hạn chót là ngày 15 tháng 06 năm 2012.

Nếu em cần thêm thông tin, liên lạc với cô qua địa chỉ email sau: Ha.Hoang@vuw.ac.nz. Em cũng có thể liên lạc với các giáo sư hướng dẫn của cô theo các địa chỉ email sau:

- Assoc. Prof. Frank Boers: Frank.Boers@vuw.ac.nz

- Dr. Peter Gu: Peter.Gu@vuw.ac.nz

- Dr. Jean Parkinson: Jean.Parkinson@vuw.ac.nz

Cô cám ơn các em rất nhiều.

Chào thân ái,

Hoàng Thị Đoan Hạ

Appendix C: Consent Form for Study 1

Project working title: Metaphors in Vietnamese learners' compositions

Date:

I, ………………………………….., have been provided with and have understood an explanation of the project being undertaken by Ms. Hoang Thi Doan Ha.

I voluntarily participate in this study and understand that I may withdraw from this study by 15th June 2012. I understand that the information I have provided will be used only for this research Project.

☐ I wish to be given a summary of the results of the study via my email address

……………………………………..

Signed:……………………………………………………………………………

Appendix D: Participant's Profile

[Date….]

Dear student,

Please fill out the form below about your background information. Information that you provide will be used solely for research purposes.

Full name   : _____Sex: M ☐ F ☐

Age   : _____Ethnicity: _____

Year   : _____

Major   : _____

Department   : _____

University   : _____

Number of years you have studied English: _____

---- THANK YOU FOR YOUR COOPERATION---

Appendix E: The Elicitation Task

You have 50 minutes to finish the following task.

Write an essay to a university lecturer to express your opinion on the following topic.

Some people believe that, in the modern world, we do not need literature and should stop reading literary works. To what extent do you agree or disagree with this opinion?

You should write about 250 words. Use your knowledge, experiences and examples to support your point of view.

Write your work here:

Appendix F: Instructions to Markers in Study 1

Dear teacher,

Thank you for your help with this important part of my research study. Please find below the guide for marking the students' work:

Holistically, on a scale of 0-10, how would you rate each composition?

The elicitation task is:

> You have 50 minutes to finish the following task.
>
> Write an essay to a university lecturer to express your opinion on the following topic.
>
> **Some people believe that, in the modern world, we do not need literature and should stop reading literary works. To what extent do you agree or disagree with this opinion?**
>
> You should write about 250 words. Use your knowledge, experiences and examples to support your point of view.

If you have any question, please contact me at

Phone: 0995 477 264 or 388 1521

Email: htdoanha@yahoo.com or Ha.Hoang@vuw.ac.nz

Thanks again for your invaluable help.

Best regards,

Hoang Thi Doan Ha

Appendix G: Information of Study 2 in English

Project working title: Metaphors in Vietnamese students' compositions

[Date   ]

Dear participant,

I am Hoang Thi Doan Ha, a PhD candidate from the School of Linguistics and Applied Language Studies, Victoria University of Wellington. I would like to invite you to participate in my research project, which looks at how you use metaphorical language in your writing in English. This project has been granted ethics approval by the Human Ethics Committee, Victoria University of Wellington.

Your participation in the research project is simple. You just need to write one essay on a provided computer. A computer software will record your typing activities. After that, I will ask you a number of questions about your writing. Your answers will be recorded with a digital voice recorder.

Your participation in this research is not related to your school work in any way. Your text, answers and typing activities will be kept confidential and will be used only for my research. They will be destroyed 2 years after the conclusion of my PhD project, i.e., 2016. You will remain anonymous in the research report. If you wish to withdraw from the research project, please email me by 15th January 2013.

If you require further information, you can contact my supervisors via their email addresses below.

- Assoc. Prof. Frank Boers: Frank.Boers@vuw.ac.nz

- Dr. Peter Gu: Peter.Gu@vuw.ac.nz

- Dr. Jean Parkinson: Jean.Parkinson@vuw.ac.nz

  Thank you very much for your cooperation.

  Best regards,

  Hoang Thi Doan Ha

Appendix H: Information of Study 2 in Vietnamese

Wellington, ngày … tháng … năm 2012.

Các em sinh viên thân mến,

Cô là Hoàng Thị Đoan Hạ, hiện đang là nghiên cứu sinh tiến sĩ thuộc Khoa Ngôn ngữ học và Ngôn ngữ ứng dụng, Đại học Victoria, Wellington, New Zealand. Cô mời em tham gia vào đề tài nghiên cứu của cô về ngôn ngữ ẩn dụ em sử dụng khi viết tiếng Anh. Đề tài này đã được Hội đồng Khoa học Đại học Victoria thông qua.

Để tham gia rất đơn giản. Em chỉ cần viết một bài viết trên máy tính. Các hoạt động bàn phím của em sẽ được một phần mềm ghi lại. Sau khi em viết bài, cô sẽ hỏi em một số câu hỏi và ghi âm lại các câu trả lời của em. Việc tham gia nghiên cứu của cô hoàn toàn không ảnh hưởng đến điểm số học tập của em. Bài viết của em cũng như dữ liệu về hoạt động bàn phím và câu trả lời phỏng vấn sẽ được giữ gìn cẩn thận và chỉ sử dụng duy nhất cho mục đích nghiên cứu của cô. Trong quá trình báo cáo đề tài, tên của em cũng được giữ kín. Các dữ liệu liên quan đến em sẽ được hủy bỏ vào năm 2016, hai năm sau khi nghiên cứu của cô kết thúc. Nếu em muốn rút lui không tham gia nữa, em có thể email cô hạn chót là ngày 15 tháng 01 năm 2013.

Nếu em cần thêm thông tin, liên lạc với cô qua địa chỉ email sau: Ha.Hoang@vuw.ac.nz. Em cũng có thể liên lạc với các giáo sư hướng dẫn của cô theo các địa chỉ email sau:

- Assoc. Prof. Frank Boers: Frank.Boers@vuw.ac.nz

- Dr. Peter Gu: Peter.Gu@vuw.ac.nz

- Dr. Jean Parkinson: Jean.Parkinson@vuw.ac.nz

Cô cám ơn các em rất nhiều.

Chào thân ái,

Hoàng Thị Đoan Hạ

Appendix I: Consent Form for Study 2

Project working title: **Metaphors in Vietnamese learners' compositions**

Date:

I, ………………………………….., have been provided with and have understood an explanation of the project being undertaken by Ms. Hoang Thi Doan Ha.

I voluntarily participate in this study and understand that I may withdraw from this study by 15th January 2013. I understand that the information I have provided will be used only for this research project.

☐ I wish to be given a summary of the results of the study via my email address …………………………………..

Signed:……………………………………………………………………

Appendix J: Interview Protocol

The interview will be conducted in either English or Vietnamese, depending on which language the participant is more comfortable with. The instructions for the research participant will be printed out for him/her to read. The instructions for the researcher will be used as a guideline to keep the interview on track.

Instructions for the Research Participant

INSTRUCTIONS

What we are going to do now is go through your essay. I am interested in what you were thinking **at the time you were writing**, especially when you used certain words or phrases. So I would like you to tell me what was **in your mind** while you were writing these words/phrases.

You can also tell me what you were thinking in other places in the essay. And of course, you can ask questions during the course of the interview.

Instructions for the Researcher

Part 1: Getting ready

1. Are you ready for the interview?

2. Do you have any questions?

Part 2: Participant's information

1. What is your name?

2. How old are you?

3. What year of university are you in?

4. How long have you been learning English?

Part 3: Interview questions

Key questions

1. What were you thinking when you used this word/phrase?

2. Why did you use this particular word/phrase?

3. Why did you pause here? Can you tell me what you were thinking at the time?

Clarification questions

Clarification questions will be devised *ad-hoc*, depending on the participant's answers to the key questions.

Part 4: Wrap-up

1. Would you like to add anything?

2. Do you have any questions?

3. Thank you very much for your help.

Appendix K: Sample Coding of MUs

Participant: Y2–1

Text information: 275 words

Line	Number of MUs	Pre-MU cotext	MUs	Post-MU cotext	Number of words	Metaphoricity			Phraseology			Linguistic structures					
						Novel MUs	Conventional MUs	Inter-MUs	Single-word MUs	Free multi-word MUs	Restricted multi-word MUs	Clausal	Nominal phrase	Verbal phrase	Adjectival phrase	Adverbial phrase	Prepositional phrase
1	1	Most people were born and grow up	go hand in hand	poetics and stories that our mother readed.	4			1			1			1			
2	2	literature is important	part	in our life	1		1		1				1				
2	3	literature is important part	in	our life	1		1		1								1
6	4	there are several reasons that	make	me	1		1		1					1			
7	5	that make me disagree are	role	of literature in daily life	1		1		1				1				
7	6	role of literature	in	daily life	1		1		1								1
9	7	folk poetics that were	handed down	through generation	2	1					1			1			
9	8	handed down	through	generation	1			1	1								1
9	9	we	get into touch	literature everyday	3			1			1			1			
10	10	it	helps	us know how to deal with neighbours	1		1		1					1			
12	11	will	have	better behavior than other people	1		1		1					1			
13	12	Second,	through	reading literary works	1		1		1								1

14	13	it	helps	us know more	1		1		1		1	
16	14		in	addition	1		1		1			1
16	15	literature is also	weapon	that helps us	1		1		1	1		
16	16	weapon that	helps	us intergrate and be in touch with	1		1		1		1	
17	17	and be	in touch	with other country	2		1				1	1
17	18	literature also	helps	our country to improve relationship	1		1		1		1	
19	19	literature is the	way	to relax	1		1		1	1		
20	20	this is an important	part	in their life	1		1		1	1		
20	21	an important part	in	their life	1		1		1			1
22	22		Through	literary, they also show	1		1		1			1
22	23	they also	show	their's sentiment	1		1		1		1	
24	24	reading[] is good	way	to reduce stress	1		1		1	1		
25	25	we can	see,	literature is like a friend	1		1		1		1	
26	26	literature is like a	friend	of everyone	1	1			1	1		
27	27		In	anywhere	1			1	1			1

Appendix L: Sample Coding of Pauses

Extracts from Oanh's log

MUs	Metaphoricity	Formulaicity	Linguistic structure	No Pause	Total number of pauses	Total duration of pauses	Number of pre-MU pauses	Duration of pre-MU pauses	Number of within-MU pauses	Duration of within-MU pauses
ect·{5662}vitl[BACK]ak[BACK]l·{9563}*in*·daily·life.·[LSHIFT]More·and ·more·people·are	C	s	p	0	1	9.563	1	9.563	0	0.000
·{24446} *see*[BACK 3]{40217}	C	s	v	0	1	24.446	1	24.446	0	0.000
[BACK]all·*over*·the·worlg[BACK]d.	C	s	p	1	0	0.000	0	0	0	0.000
{17410}*sron[BACK 4]{17707} trong*·will·{7316}-{9688}	C	s	a	0	2	35.117	1	17.41	1	17.707
spirit·nevr[BACK]ers·*give·up*·as·weel·[BACK 3]ll·as·{3166}[BACK 11]{2792}th{11450}	I	m	v	1	0	0.000	0	0	0	0.000
·or{2699}·{3276}[LSHIFT*]"no·ways{4165}[BACK]·{7160}covers{2496}·full·of ·rosr[BACK]e[LSHIFT]"*{3697},	I	m	c	0	5	19.796	2	5.975	3	13.821
[BACK]are·always·truth[BACK 2]e{2699}·and·is·[BACK 2]t·can·be·said·that ·they·are·true·*in*{2184}·{2824}	C	s	p	1	0	0.000	0	0	0	0.000
[LSHIFT]When·[BACK 5]{2433}[LSHIFT]Therefore, ·{5086}[LSHIFT]*Throughout*·{2839}them,·we·can·	I	s	p	0	1	5.086	1	5.086	0	0.000
{7660}begin·a{4696}{35256}*step*	C	s	n	0	2	39.952	2	39.952	0	0.000

·*in*·our·lives.[RETURN][BACK]{5461}·[LSHIFT]Secondly	C	s	p	1	0	0.000	0	0	0	0.000
think·that·{2855}i{2574}t·is·*waste*·time·	I	s	n	1	0	0.000	0	0	0	0.000
·we·{23447}*spend*{4773}[BACK 20]	C	s	v	0	1	23.447	1	23.447	0	0.000
·they·are·n[BACK 5]*brings*·n[BACK 3]·not·only	I	s	v	1	0	0.000	0	0	0	0.000
·{14726}*lost*·time{3822}·but·also·{19032}	I	s	v	0	1	14.726	1	14.726	0	10.000
{3993}·*help*·{8549}	C	s	v	0	1	3.993	1	3.993	0	0.000
us·{8003}*have*{2012}·a·{2605}[BACK 7]relax·{13526}	C	s	v	0	1	8.003	1	8.003	0	0.000
{3822}*brings*·the[BACK 3]us·{20639}more·	C	s	v	0	1	3.822	1	3.822	0	0.000
advantages{9173}·*has*·{2808}[BACK]{2496}·than ·{3120}disadvantages{4415}	I	s	v	0	1	9.173	1	9.173	0	0.000
a{2012}[BACK]is·{5257}{4181}always·*hide*·{7316}the·{4149}	I	s	v	0	2	9.438	2	9.438	0	0.000

Notes: C = Conventional MU; I = Inter-MUs;

s = single-word MU; m = multi-word MUs;

c = clausal MU; n = mominal MU; v = verbal MU; a = adjectival MU; p = prepositional MU;

Pause durations are measured in seconds