

“Dip into your savings!”
Applying Cognitive Metaphor Theory
in the Business English Classroom.
An Empirical Study.

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Erstgutachterin: Prof. Dr. Susanne Niemeier (Koblenz)
Zweitgutachterin: Dr. Jeannette Littlemore (Birmingham, UK)

Dip into your savings!



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Preface

I have travelled a winding path and stopped at many crossroads to decide which direction to take. The trail that I had originally chosen to explore and that I gradually became confident to follow soon turned into a road as big as a dual carriageway with others passing by on the fast track when I was still trying to figure out the street signs and estimate the value and distance of the stated directions. First, I paid attention to speed limits and later ignored them in order to reach my aim in the required time. After first explorations of the terrain, I consulted a map and planned my journey to feel more confident towards the possibility of eventually being able to reach my destination. And yet I had to change directions at short-hand notice to adjust to new environments. I took on the challenge to climb the steep hill with my ideas and hypotheses in the backpack and I am finally able to look back at the hurdles that had to be jumped on the way: the theoretical foundation that had to be laid; the possible didactic applications that had to be considered; the existing material that had to be examined; new complementary material that had to be developed; the business English teacher who had to be trained in how to use the material and how to approach metaphor teaching; the empirical study that had to be designed and conducted; the elicited data that had to be coded; the statistical computations that had to be run, the results that had to be interpreted, and finally the written record that had to be produced.

When I embarked on this journey only a few people had chosen to go in a similar direction. Publications mapping the path of applying Cognitive Linguistics to the foreign language classroom were rare. Today, the area starts to attract researchers. Similarly, it is nearly impossible to follow all the new roads in metaphor theory at the same time. The number of publications that have been issued only within the last six months of writing this PhD thesis is incredible and I am convinced that the amount of articles and books in the pipeline is even more impressive.

RESEARCHING IS TRAVELLING

Therefore, I consider this work only as a short rest to present and reflect on what has

been explored so far, to map out where to continue from here, and to thank the people most important in making the whole journey possible.

First of all, I would like to thank Prof. Dr. Susanne Niemeier, Professor of Applied Linguistics and English Didactics at the University of Koblenz-Landau, Campus Koblenz. With her enthusiasm for Cognitive Linguistics, she first sparked my interest in the field, encouraged me to combine my three subjects English, German and Economics and to work on the application of Cognitive Linguistics in the business English classroom. I very much appreciated her advice and guidance on my journey as well as her wholehearted support and faith in my ability to successfully carry out this study.

Furthermore, I would like to thank Dr. Jeannette Littlemore, Senior Lecturer at the University of Birmingham, UK for her interest in my project and the invaluable discussions of my data during my stay at Birmingham University. I feel very honored that she has agreed to act as a second supervisor for this PhD thesis.

Although I officially started my PhD journey earlier, I consider my last two years at the Graduate School of Teaching and Learning Processes (*UPGradE: Unterrichts-Prozesse Graduiertenschule der Exzellenz*) to be the crucial learning period, during which I was finally able to fully concentrate on my project. Thus, I would not only like to thank UPGRADE for the scholarship but also for the learning experience and the opportunity to gain insights into various disciplines and methodologies.

I also owe a debt of gratitude to the University of Applied Sciences in Koblenz and especially to Ellen Rana and her students for the warm welcome in the courses and their continuing interest and support of my research. Without their assistance the study would not have been possible.

Special thanks go to my friend Michelle Kennedy, who made the time to read parts of this book and make some helpful suggestions, to my mother, who assisted me in visualizing the teaching material by patiently transcribing my ideas into different pencil drawings and finally to my husband Jan and our families for their understanding, endless patience and encouragement.

CHAPTER 1

Introduction

“The best way to understand what business is really like is to study things that aren’t really like business.”

[BUCHANAN 2002, 1]

Though at first glance this statement may appear paradoxical, it nicely illustrates the core of this paper: metaphors in business communication and how to approach them in the business English classroom. The above cited management journalist Leigh Buchanan is convinced that in business discourse “any metaphor you can think of has probably been used before.” Indeed, as an abstract field of discourse, the world of business makes use of a remarkable variety of more concrete, every day lexis to explain complex interrelations. Words and phrases from one semantic field are used to function in another area: business discourse. In short, business communication seems to live by metaphors.

In order to make themselves understood and successfully communicate in international business, interlocutors need to make use of, namely decode and encode, adequate figurative language. Acquiring the language of international business must therefore include raising awareness of and eventually learning the relevant metaphors in use in business English. This conclusion triggers three key questions:

1. What exactly are metaphors?
2. Which metaphors are relevant and should thus be taught?
3. How should metaphors be dealt with in class?

Whereas the first question sounds rather basic and may nowadays be categorized as belonging to the broad field of linguistics, the sheer number of recent publications on

metaphor theory stands as evidence of the lengthy discussions within the topic. In fact, neither has the nature of metaphor always been a question for linguistics nor is it possible to easily extract a widely-accepted definition from reference literature that may serve as a basis for further research. Instead, scholars from several different fields of study, be it literary analysis, linguistics, psychology or general cognitive science hold a lively discussion about what is or is not to be recognized as metaphorical. “[R]esearch on metaphor is now as multidisciplinary, and interdisciplinary, as perhaps any topic being studied in contemporary academia.” [GIBBS 2008, 4] In particular, the question of whether metaphors are considered to be a matter of language or thought or both is central to the discussion. Yet even with a focus on linguistics, definitions are diverse and need to be examined before applying them to foreign language didactics and taking up empirical research in the subject area.

The issue raised by the second question addresses the interface of linguistics and didactics as it relates to the selection of linguistic examples for the language classroom. With this objective, the question clearly relates to the discipline of language teaching. However, informed decisions on what to teach naturally require linguistic analyses of actual business discourse and answers to this question may therefore only be derived by means of corpus linguistics. [JUCHEM-GRUNDMANN and KRENNMAYR 2009] Nevertheless, not all linguistic examples of metaphorical language usage in natural discourse equally call for systematic didactic consideration for the Business English classroom. Appropriate principles to systematize the extracted metaphorical words and phrases must first be identified.

The third and leading question in this book focuses on the actual processes of teaching and learning metaphorical language. Learner, content, method - the three main factors that interplay in an instructed language learning scenario and thus mutually influence each other of course also constitute the individual learning processes here. Type of learner and level of proficiency, format and use of material, as well as the teaching method are therefore the main variables that need to be controlled in varied combinations and be fine-tuned to gain learning benefits.

The rather young discipline of Cognitive Linguistics which sets the theoretical framework for all research presented here offers important findings that assist in responding to the three questions. Focusing on the meaningfulness and hence the motivation of language, Cognitive Linguistics searches for cognitive concepts that may provide reason for language choice and thus gives interesting grounds of explanation to facilitate foreign language learning processes. In short, studying and applying the Cognitive Linguistic findings in the field of metaphorical language to the specific area of teaching

business English, this contribution aims at bringing theory and practice closer together. As proposed in the title, the aspects of cognitive metaphor theory most productive for language teaching will be reviewed, applied in the business English classroom and finally empirically tested in a field study.

As such, the book is subdivided into ten chapters. With each successive chapter, the focus will increasingly sharpen on the main hypothesis that metaphor awareness raising and explicit teaching in the business English classroom assists the students to “dip into their savings” and transfer already acquired vocabulary to abstract business discourse and thus, to become more proficient in business English.

After this first introduction, chapter two critically looks at the different strands of Cognitive Linguistic contributions to metaphor theory made within the last three decades. Not only can Lakoff and Johnson’s publication *Metaphors we live by* [LAKOFF and JOHNSON 1980] be taken as a milestone in revolutionizing existing metaphor theories but the multitude of articles and books on Cognitive Linguistic metaphor research, that followed it, whether theoretical (e.g. [GRADY 1997, GOATLY 1997, KÖVECSES 2005]) or corpus linguistic (e.g. [DEIGNAN 2005, KOLLER 2007, STEFANOWITSCH 2006]) studies also provide important insights into the structure, function and processing of figurative language and thus, relevant aspects to consider for the language classroom applications.

Likewise, chapter three remains in the realm of linguistics but narrows the perspective to the socio-economic discourse as the very target domain in focus. Content, context, and communicative functions of texts and utterances influence the degree and variety of – as well as the problems with – metaphorical language in use. Thus, this chapter investigates the socio-economic discourse as target domain and in a next step briefly surveys the conceptual metaphors that have been identified for this target domain, namely the source domains most productive for the target and thus, most valuable for the language classroom. Hence, these two first chapters form the linguistic basis for further didactic considerations.

In chapter four Cognitive Linguistic findings meet with language didactics. The previously stated hypothesis is approached here from a didactic point of view. That is, the Cognitive Linguistic basis is discussed in the context of language teaching and learning theories and a first classification of metaphor teaching in the theoretical framework of language didactics is proposed. In a subsequent step, the theoretical output of chapter two and three is summarized in ten cornerstones and respective didactic consequences are considered. Additionally, theories of cognitive psychology pertaining to noticing, processing, and storing metaphors, which have arisen in the

previous discussion of conceptual metaphor theory are systematically revisited and expanded to formulate further didactic implications for metaphor teaching. The last section of the fourth chapter examines different aspects of the concrete application of conceptual metaphor theory in the language classroom and reviews already existing material. Finally, the consequences drawn from both linguistic as well as didactic theory are translated into a list of ten short guidelines identifying essentials for the explicit integration of metaphors in the language classroom.

In chapter five the experimental studies that have already been conducted in the field of Cognitive Linguistic-inspired figurative language teaching are systematically summarized and possible contributions to set up a didactic framework for metaphor teaching are investigated. In particular, the relatively few experiments on raising metaphor awareness and first studies in explicit metaphor teaching that have already been carried out and reported on are discussed and eventually serve as a basis to identify unresolved issues and further research questions. Thus, taken together, the fourth and fifth chapters provide the state of the art in the didactic adaptation of Cognitive Linguistics in general and Conceptual Metaphor Theory in particular as well as the current findings with respect to empirical evidence.

As a result of the preceding theoretical linguistic and didactic exploration, chapter six identifies the central issues to be addressed and formulates five main hypotheses posited in the empirical study presented in the last chapters of the book.

Chapter seven introduces a piece of original research conducted to investigate some of the unresolved issues in this area. Designed as an experiment with two parallel groups of students, the presented empirical investigation is – in contrast to similar preceding research – fully integrated into a regular business English curriculum, and thus takes a first step in bridging the gap between results of controlled empirical studies and classroom reality, which is one of the main issues raised in previous research. [CONDON 2008, 134]. Therefore, the empirical study presented here could more aptly be referred to as a field study. However, great care has been taken with the design of the study, that is the actual operationalization of the research questions formulated in the different parts of the course, and the development of the methodology, namely material and research tools. The different aspects of the design and methodology are discussed in detail.

Chapter eight describes the analysis of the empirical data sets elicited in the course of the study. Reasons for the chosen statistical computation procedures are given and the results of the individual measurements taken up in the course of the study are presented. Hence, chapters seven and eight provide the basis for the following chapter

that discusses the actual empirical results in the context of the set research questions. Hence, chapters seven, eight and nine form the empirical part of the book.

Finally, the last chapter again deals with specific implications for teaching. On the basis of the theoretical linguistic, didactic and empirical findings earlier statements about and claims for the language classroom are revisited and refined, and finally an agenda for further empirical investigations is sketched out.

CHAPTER 2

Cognitive Linguistic Framework

"Our ordinary conceptual system,
in terms of which we both think and act,
is fundamentally metaphorical in nature."

[LAKOFF and JOHNSON 1980, 3]

2.1 A Change of Perspective in Metaphor Theory

2.1.1 From mere etymology to the basics of CMT

Definitions of *metaphor* are multifaceted and have undergone profound changes over the years of scientific discourse. Previous books have provided comprehensive reviews of early reference to metaphorical language research (e.g. [BELLAVIA 2007, DEIGNAN 2005, KNOWLES and MOON 2006, JÄKEL 1997a, JÄKEL 2003]). They considered the schools of poetic and rhetoric of Aristotle [ARISTOTELES 1979] and Quintilian [QUINTILIAN 1986]. They examined Thomas Hobbes' and John Locke's belief [LOCKE 1904] that metaphors are artificial figures of speech evoking superfluous ideas and thus corrupting thought and misleading judgment. They discussed I.A. Richards' and Max Black's interaction theory [RICHARDS 1936, BLACK 1993] in contrast to Searle's reinterpretation theory in the framework of pragmatics [SEARLE 1979] and Grice's perspective on metaphor as a flouting of his four maxims [GRICE 1936]. And they referred back to the three German philosophers Kant, Blumenberg, and Weinrich's theoretical contributions that they emphasized as being preceding models of CMT [JÄKEL 1997b]. This historical perspective is dealt with in depth in other publications and it is beyond the scope of this chapter. Instead, the focus here will be on the defining approaches

succeeding Lakoff and Johnson's foundation of CMT in the English speaking world and only briefly contrasts the current findings with the traditional view of metaphor.

However, a short excursion to the etymological origin of the word *metaphor* is in line with a Cognitive Linguistics-oriented search for motivation in language. Deriving from the Greek words *meta* meaning *after, behind, beyond, with* and *phérein* meaning *to bear, to carry or to bring* [KLUGE 2001, KLEIN 1971], the word *metaphor* combines two ideas: first, something is being transferred from one location to another and second, this "something" is then not prominent in its new place but more or less stays *behind, beyond* or *with* something else. This gives rise to two questions: (1) what exactly is being transferred and (2) what are the departure and arrival points of the transfer?

With respect to the second question, Cognitive Linguistics makes use of the technical term *domain*. Metaphors transfer something from one *domain* to another *domain*. According to Evans, "a domain constitutes a coherent knowledge structure possessing, in principle, any level of complexity of organisation" [EVANS 2007, 61] and this very knowledge structure then provides the context for conceptualizations. In other words, metaphorical transfer is the interplay of different knowledge structures and their respective conceptualizations. But are the domains or knowledge structures really that different and is there in fact mutual influence as implied by the word "interplay"? – These two important issues account for the very basic assumptions and statements of Lakoff and Johnson's CMT and will be discussed in detail in section 2.2. CMT lives by the dichotomy of the two domains: the source domain and the target domain which represent the departure and arrival points of the transfer.

The first question, concerned with the nature and content of the transfer between the two domains, opens the stage for a typology of transfer. Indeed, in their 1980 work *Metaphors We Live By* Lakoff and Johnson still strictly distinguish between *orientational, ontological* and *structural* metaphors [LAKOFF and JOHNSON 1980, Chapter 4, 6, 11, and 13]. That is, metaphors are either used to transfer fundamental orientation, or conceptual imagery that supplies an ontological basis for something (e.g. personification or container), or fully fleshed out structures from a source to a target domain. The following examples each nicely illustrate one of Lakoff and Johnson's originally distinguished types of metaphor:

1. The *rise* of export trade will *keep* us *ahead* of others.
2. Don't *pour* your money *down the drain* by *investing into* this company.

3. We have *joined forces* and *built up* a good business.

The first sentence is a characteristic example of an orientational metaphor, with *rise* and *ahead* as linguistic instantiations of the overarching metaphors MORE IS UP and AHEAD IS POSITIVE. The second sentence on the one hand exemplifies the usage of liquid as the physical condition to elaborate on the role and function of money in economics with *pour* and *down the drain* as linguistic examples of the ontological metaphor MONEY IS A LIQUID. On the other hand *investing into* instantiates the A COMPANY IS A CONTAINER metaphor that again assigns ontology to something that, although existing in form of buildings and employees, is less tangible in its abstract function. With the help of this ontological metaphor, a company may be *invested into* or money may be *taken out*. The third example illustrates a structural metaphor: war here gives structure to business relations, allowing for the linguistic instantiation of having *joined forces*. The building, which is being *built up* in the example, functions as a model and thus provides vocabulary for processes related to economy, which accordingly may be *set up*, with *different levels*. The two structural metaphors employed in this last example are BUSINESS IS WAR and ECONOMY IS A BUILDING.

Oriental metaphors, ontological metaphors, structural metaphors – although this trilogy of features remains fundamental to metaphorical transfer, the strict distinction into three categories has been retracted by its original authors who claim it to be artificial. [LAKOFF and JOHNSON 2003, 264] On the one hand, structure cannot be assigned without assuming or at least hypothesizing a basic ontology, sometimes additionally incorporating underlying orientation. On the other hand, a specific ontology in a way already implies certain structures. Likewise, example sentence (3) assigns structure that is based on an implicit ontology. Indeed, although the structural metaphor ECONOMY IS A BUILDING transfers concrete structure from the source domain BUILDING to the target domain ECONOMY, this structure also includes the basic ontology and even contains a general orientation: ECONOMIC PROGRESS IS UP. Similarly, example sentence (2) assigns ontology by referring to money as being a liquid and at the same time provides structure for the whole domain. Thus, metaphors tend to be both structural and ontological, and may additionally be orientational [LAKOFF and JOHNSON 2003, 264]. In short, the term metaphor identifies systematic transfers of ontology, structure and/ or orientation from one domain (the source domain) to another domain (the target domain).

2.1.2 From resemblance to experience

Traditionally, metaphorical transfer was believed to be motivated by resemblance or similarity; metaphors were said to be used to compare something from the target domain to something from the source domain for stylistic purposes. Indeed, the linguistic instantiations of metaphorical language usage were believed to be explicitly chosen to denote the similarities between two entities and their meanings. As a result, metaphors were also thought to be predictable. Although the selection of metaphorical language usage may be predictable, the rather high number of cases where similarity cannot serve as adequate explanation is not to be ignored. Furthermore, the requirement that there must be a basic similarity between the two entities being compared actually constitutes a constraint that limits creativity in metaphorical language usage. [KÖVECSES 2002]¹ Nevertheless, standard reference works in literary analysis adhere to the traditional view of metaphor being “a stylistic device in which two seemingly unlike things are linked with one another in the form of an implicit comparison” [PORTER et al. 1994, 48]. In current glossaries or introductory books to literary analysis similar definitions can be found. [NÜNNING and NÜNNING 2001, VON WILPERT 2001] Meyer, at least, distinguishes between the definition of *metaphor* as “a shortened or implicit comparison, which substitutes one concept for another” and the definition of *metaphor* “as an interaction between two concepts, which transfers meanings” [MEYER 2005, 31-32]. Yet he then elaborates on these two definitions, stating that whereas definition one presupposes similarity between what he terms *tenor* (in CMT referred to as the target domain) and *vehicle*² (the source domain), definition two forces one to “regard something in a new light” [MEYER 2005, 32]. While the similarity of the two subject matters compared remains central, Meyer opens the stage for a new type of metaphorical transfer that he clearly distinguishes with this definition entry. In this view, metaphorical transfer is considered to trigger a different perspective, which implies that a non-metaphorical, literal, or neutral perspective exists. But is this really the case? Deignan succinctly summarizes the traditional assumption by saying that “speakers create metaphorical utterances to express ideas that they could equally well have expressed using literal language, though perhaps not in such an interesting way.” [DEIGNAN 2005, 2] Her choice of the verb “create”, emphasizing an artistic process, and the adverb “equally well”, highlighting the purely ornamental character of metaphors, sketch out the main

¹Although limitations to creativity are suspected to be an issue in literary analysis, there is no account of a theoretical work to my knowledge discussing this logical implementation.

²For an explanatory digression consult the footnote on page 28.

features of the classical view. Although this perspective may have some value in the fields of literature and poetic writing³, where metaphors are explicitly used as stylistic devices, it cannot be generalized for all instances of metaphorical language.

On the contrary, metaphors in everyday communication are the neither result of a creative process nor do they need to be based on resemblance or similarity. Of course, innovative metaphors may be created to serve a specific purpose⁴ and there may be perceived similarities between the two entities compared, however, these similarities may simply arise through the persistent use of a particular metaphor [LAKOFF and JOHNSON 2003]. Cognitive Linguistics suggests that correspondences in basic, everyday, human experiences actually promote metaphorical connections. They replace the traditional notion of similarity and accordingly predictability with motivation based on correlations in experience. Human beings, for instance, usually walk upright, move forwards, perform actions and perceive themselves as basically good, which is the physical basis for a whole set of orientational metaphors, including ALIVE IS UP, HEALTH IS UP, *active is up*, *forward is up*, HAPPY IS UP, GOOD IS UP or CONTROL IS UP as well as their respective counterparts. [LAKOFF and JOHNSON 2003, 14-21] In what Lakoff and Johnson refer to as “the ME-FIRST-Orientation” [LAKOFF and JOHNSON 2003, 132], very basic experiential knowledge from one domain is directly transferred to access another domain preparing the conceptual ground for linguistic examples such as *to drop dead*, *I'm feeling up*, *to be in top shape*, *high-quality work*, or *to be on top of the situation*⁵. Yet due to the general grounding in experience, in any example “metaphors relate concepts, not the lexical items – or utterances – which realize the concepts” [KNOWLES and MOON 2006]. The concept HAPPY and the concept UP, for example, are being aligned, allowing not only for *I'm feeling up* but also for expressions such as *to raise or lift one's spirits*, for exaggerations, such as *to be over the moon*, for opposing statements, such as *I'm feeling down*, *to be downcast*, or *to fall into a depression* as well as for the phrasal verbs *cheer up*, *perk up*, or *brighten up* to emerge and be understood.⁶ Accordingly, in CMT the source and target of metaphorical transfer are referred to as *conceptual domains* that are defined as “relatively complex knowledge structures which relate to coherent aspects of experience” [EVANS 2007, 61]. Crucially, the complex knowledge structures that as a whole serve as a basis for conceptualization are grounded in human experiences.

³The type of discourse which were the main foci of traditional metaphor research.

⁴The different functions of metaphor usage will be discussed in section 2.4.

⁵The linguistic examples quoted here are taken from [LAKOFF and JOHNSON 2003, Chapter 4]

⁶The linguistic examples quoted here are taken from [LONGMAN 1996], where they are given as synonyms for *happy* or *sad*.

Indeed, when coding or decoding metaphors, interlocutors understand and experience one domain in terms of another, which is what Lakoff and Johnson call “the essence of metaphor” [LAKOFF and JOHNSON 2003, 5], and which has advanced to be the key definition of metaphor in Cognitive Linguistic research. In contrast to earlier, traditional definitions of metaphor, here neither the supposedly creative, artistic shift in perspective provided by metaphors nor the process of transferring something is explicitly mentioned. Lakoff and Johnson follow a more integrated model, focusing on the idea of understanding and experiencing something by means of language originating from a different area of understanding. The long-upheld view that metaphors are mere figures of speech created and used consciously and deliberately for artistic and rhetorical purposes, such as pleasing ornaments in mainly literary texts or speeches is eschewed by this approach.⁷ Of course, metaphors serving artistic purposes have always existed and are still widely used as a literary device. However, the usage of metaphors is not limited to literature.⁸ Metaphors are ubiquitous and can be found in all types of oral and written texts.

2.1.3 From metaphorical language to metaphorical thought

Following in Lakoff and Johnson’s footsteps, cognitive linguists have extensively worked with the definition of understanding and experiencing something in terms of something else to clarify different aspects of CMT and have researched various discourses for metaphorical language (e.g. everyday speech [LIEBERT 1992], spoken discourse [CAMERON and DEIGNAN 2003], educational discourse [CAMERON 2003], university lectures [LITTLEMORE 2001], scientific discourse [DREWER 2003, JÄKEL 1997a, JÄKEL 2003], political discourse [GOATLY 2007, MUSOLFF 2000], economic discourse [BOERS 1997a, BOERS 1997b, BOERS and DEMECHELEER 1997, BRETONES-CALLEJAS 2002, CHARTERIS-BLACK and ENNIS 2001, CHARTERIS-BLACK and MUSOLFF 2003, HENDERSON 1982, HERRERA and WHITE 2000, HÜLSSE 2002, KOLLER 2004, SMITH 1995, WHITE 2003, WHITE and HERRERA 2002], advertising [FORCEVILLE 1996], religious discourse [BALABAN 1997]). In fact, within the last three decades conclusive empirical evidence for Lakoff and Johnson’s main assertion that “[m]etaphorical

⁷According to the etymological derivation of the word, *metaphors* stay in the background most of the time and are not used explicitly but are embedded. On the contrary, stylistic ornaments are more likely to be perceived in order to fulfill their function. Nevertheless, for quite some time linguists believed that metaphors were mere stylistic devices reserved for literature and that everyday speech could easily do without them.

⁸The focus of work presented here is complex metaphorical usages that can be found in daily oral and written communication, especially business discourse rather than metaphors as used in literature.

thought is normal and ubiquitous in our mental life, both conscious and unconscious” [LAKOFF and JOHNSON 2003, 244] has been provided. CMT has become one of the most productive fields of research in Cognitive Linguistics and has been thoroughly and critically discussed in the literature. Indeed, various aspects of Lakoff and Johnson’s theory have been vehemently criticized and discarded by different scholars, mainly for methodological reasons.⁹ Nevertheless, “the Lakovian approach” [TAYLOR 2002, 487] at its core still remains the basis for ongoing research and its key hypotheses withstand current discussions: metaphors are a natural phenomenon and as such are pervasive in everyday language. In fact, the crucial addition to Lakoff and Johnson’s first hypothesis claims that metaphors are “not just in language but in thought and action” [LAKOFF and JOHNSON 2003, 3]. In other words, the integration of the two domains takes place on two different levels: the linguistic and the cognitive level. On the linguistic level words and phrases from the source domain are used in the target domain to provide lexis for communication about or within the subject matter [DREWER 2005, 26]. On the cognitive level, knowledge of the usually more concrete, or at least “more highly structured” [LAKOFF 2006, 232], source domain is used to make the more abstract or “inherently unstructured” [LAKOFF 2006, 232] target domain tangible and comprehensible.¹⁰ Therefore, Lakoff and Johnson’s definition of understanding and experiencing something in terms of something else consciously ignores the question of whether usage of lexis from the target domain would have achieved a similar result. The issue is not touched upon as Lakoff and Johnson clearly state that using metaphors is the “ordinary way” [LAKOFF and JOHNSON 2003, 5] of communicating as there are no alternative linguistic means. In fact, “metaphor is the main mechanism through which we comprehend abstract concepts and perform abstract reasoning.” [LAKOFF 2006, 232] Here, Lakoff uses the word *mechanism*, which may activate associations with a technical system, in which different moving parts work together to perform a certain task – one cog automatically triggering the next. In fact, such a mechanism nicely mirrors conceptual thinking which is usually done unconsciously finally resulting in language production. Indeed, metaphor processing, be it encoding or decoding, is an

⁹Lakoff and Johnson’s top-down approach and their constructed examples, namely their method of identifying a conceptual metaphor and coming up with linguistic examples, are the focus of critical attention especially in corpus linguistics.

¹⁰In general, target domains are more abstract than source domains but this is not a necessity. Grady points out that not all target concepts, and this especially applies to primary metaphors, “are typically [...] more sophisticated or distant from our direct experience than corresponding source concepts” [GRADY 1997, 86]. As an example, Grady refers to the orientation metaphor MORE IS UP, which will be explained on page 22, where quantity is judged instantaneously and thus cannot be perceived as a complex concept.

automatic process. There is no choice of whether to use target domain lexis or make use of words and phrases from a different (source) domain. In fact, the source domain lexis advances to be the target domain lexis; metaphors serve the essential function of enabling basic discourse in the target domain.

Consequently, the individual words and phrases transferred from another domain are often so firmly embedded in their new surroundings that they are no longer recognized as originating from another area, that is, as being a metaphor. Indeed, metaphors that are not used as decorative ornament but to establish structure, orientation and/or ontology are not always easy to detect. Firstly, most metaphors have been conventionalized through frequent usage and thus, in the new context have lost close and obvious associations with their original domain. Similar to compositions of lexemes and affixes, where the word-formation processes are not always present to language users, such as, for instance, in the word *understand*¹¹ which may be decoded as “to be under one’s standing” and thus to have a secure or solid foundation, metaphorical expressions appear organic in their “new” domain and are not likely to be analyzed according to their origin or derivation. Secondly, not only may metaphors be conventionalized in their “new” domain, but metaphor may, in fact, be the only choice of words, as there is often no ‘literal’ or ‘original’ word for a subject, issue, process, notion, feeling, activity, etc. to choose instead. Answering Searle’s question “Why do we use expressions metaphorically instead of saying exactly and literally what we mean?” [SEARLE 1979, 83] from a Cognitive Linguistic perspective, Deignan puts it simply: most of the time there is no literal word or paraphrase for a metaphorical expression. [DEIGNAN 2005, 17] In English, discourse about money, as shown in example 2 on page 7, is enabled by the ontological metaphor MONEY IS A LIQUID. Although money appears to be solid and tangible in the form of coins and bills, the general and thus more abstract term *money* is metaphorically structured as being a liquid. Accordingly, money may *flow* or be *poured into something*, but it cannot be *compressed* and never *escapes* as gas would do, and even more importantly there is no other word with the same meaning outside the framework of the conceptual metaphor MONEY IS A LIQUID to use instead. Hence, metaphors are often not “new” to a target domain, but are the only choice and thus at first glance, often appear to originate there. “Speakers are able to use [them] without awareness of [their] metaphorical nature – without, that is, actively construing a target domain in terms of a source domain.” [TAYLOR 2002, 499] Through constant usage these metaphors are deeply entrenched. A mental activation of the source domain may

¹¹Other examples include: dis-cover, mis-take, or under-take.

not even be necessary, which is why they may be effortlessly used and are therefore hardly noticeable. Nevertheless, different models to categorize these metaphors have been provided by Lakoff, Goatly, and modern corpus linguistics, and are dealt with in section 2.2.2.

In contrast to traditional metaphor theory, which was mainly applied to the broad field of literature, and which therefore believed metaphorical language to be a means to trigger thought and perspective, CMT, having been applied to various areas of natural discourse, reversed older beliefs by showing that metaphorical language is actually triggered by thought that in itself is highly figurative.¹² Deignan, recalling Reddy's finding that any reflection of the ways of thinking is inherently metaphorical, concludes "what does not seem possible is metaphor-free talk" [DEIGNAN 2005, 18]. And if thought, or better, "people's everyday conceptual system" is what Steen and Gibbs call the "home base" for metaphor [STEEN and GIBBS 1997, 2], this does not come as a great surprise. It is not language that is foremost highly metaphorical but thought; language choice is only the result of this. However, earlier definitions of metaphor that, apart from minor changes are still state of the art in literary analysis (cf. [MEYER 2005]), do not necessarily have to be evaluated as wrong or outdated. They merely refer to a different kind of metaphorical usage, namely conscious and deliberate metaphors, which in their function as stylistic means pursue the specific purpose of guiding the reader's or listener's thought. For this purpose, Lakoff sets aside what he calls "poetic metaphors" and describes these as an "extension of our everyday, conventional system of metaphorical thought" [LAKOFF 2006, 233]. Whereas the concept of an extension to a regular system seems reasonable and is adopted as a basis for further discussions in this book, the term *poetic metaphor* is not used in the following as it seems to limit this special case of metaphorical language usage to literature. Yet in addition to literary texts, many of the metaphors featuring in advertisements, politics, or economics serve similar functions and should thus also fall into Lakoff's category. There is a clear distinction between metaphors deliberately used in language to stimulate a shift in perspective and thus, provoke thought on the one hand, and metaphors used in language due to the lack of alternative lexis and therefore as a result of thought on the other hand.

¹²Needless to say that a discussion of the question of what comes first: thought or language would go beyond the scope of this book. This chicken and egg question has been exhaustively discussed in Sapir-Whorf's linguistic relativity hypothesis [WHORF 1963, GIPPER 1972, SAPIR 2001], which is mentioned here for the sake of completeness. Researchers revisiting the issue would most certainly profit from having a closer look at metaphor as feature of language usage which allows the greatest insights to cognition.

Each of Lakoff and Johnson's hypotheses¹³ has revolutionized metaphorical research. Yet apart from the statement that metaphors are ubiquitous and used unconsciously, in particular the finding that metaphors are not a mere matter of language but of thought is by far the most significant. All linguistic research on metaphors following in Lakoff and Johnson's footsteps is therefore classified as 'cognitive'. The discipline of Cognitive Linguistics approaches language as "part of a cognitive system which comprises perception, emotions, categorization, abstraction processes, and reasoning" [DIRVEN and VERSPOOR 2004, ix]. Here, language is not considered an isolated feature or system but is seen to interact with other cognitive capacities. In this view, language becomes the observable output of otherwise largely invisible cognitive processes. At the same time, cognitive processes are at least partially constrained by language. The title *Metaphors We Live By* nicely exemplifies the perspective of a cognitive approach: the metaphors in our native tongue influence the way we think, the way we speak and ultimately the way we live, serving as a tool to categorize the way we see the world around us and to carry out abstract reasoning. Similarly, titles of publications in linguistic metaphor theory such as *Wie Metaphern Wissen schaffen* (How metaphors create knowledge) [JÄKEL 2003] or *Die kognitive Metapher als Werkzeug des Denkens* (Cognitive metaphor as a tool of thought) [DREWER 2003] reflect this fundamental shift of perspective that has resulted in a new focus of research: metaphors are not only a feature of everyday communication but they reign cognition and construe knowledge. Metaphors are crucial for an understanding of complex interrelations and constitute knowledge by lending already-acquired structures and orientation of well-known systems to complex and abstract or newly-discovered fields. Accordingly, metaphors are linguistic aids of cognition: they assist in making inaccessible domains accessible.¹⁴ In the last three decades, the status of metaphors has not only evolved from that of a pleasing artistic ornament to an inevitable feature of speech, but has made the further leap from a mere linguistic feature to a central role in cognition, holding an essential function in everyday communication.

¹³For a comprehensive summary consult [JÄKEL 2003], who outlines nine hypotheses altogether of which several will again come up in the course of the discussion in 2.2 and 2.4

¹⁴Apart from this heuristic function, metaphors serve other purposes which will be discussed in detail in section 2.4.

2.2 The Structure of Metaphors

Conceptual mappings: unidirectional, invariant, and cognitively constrained

The etymology of the word *metaphor*, examined in section 2.1, has already framed the idea of transfer between domains, which is probably the most general and therefore least concrete approach to define the structure of metaphors – that is, how metaphors work. The discipline of Cognitive Linguistics introduced CMT with its key distinction between *conceptual metaphors* and *linguistic metaphors*¹⁵ or, as Svanlund – highlighting their inherent semantic characteristics – calls them, *lexical metaphors* [SVANLUND 2007].¹⁶ Moreover, CMT proposes that *conceptual metaphors* structure the transfer between domains motivating a coherent system of metaphorical and idiomatic language usage. In short, “words don’t come singly” [WRIGHT 2002, 3] and neither do linguistic metaphors – they are part of a higher structural organization, which is the *conceptual metaphor*. *Conceptual metaphors*, as defined by Steen and Gibbs, are “conceptual to the extent that they are abstractions of the ideas lying behind the common usage of [everyday] expressions” [STEEN and GIBBS 1997, 1]. When using metaphorical language, interlocutors unconsciously apply an existing system in one domain to another domain via systematic conceptual correspondences: the so-called *mappings*. In other words, conceptual metaphors provide the cognitive grounds for various cross-domain mappings. As metaphor is also a phenomenon of thought, the conceptual correspondences in these cross-domain mappings are not created online while interacting but are preset, fixed, and mostly deeply entrenched in the speakers’ minds. [SVANLUND 2007] Lakoff and Johnson not only consider metaphors as being a matter of thought and thus, of cognition but moreover, they consider them as a neural phenomenon with physical evidence. Accordingly, they locate CMT in the neural theory of language and align

¹⁵Early works on CMT [LAKOFF and JOHNSON 1980, ORTONY 1979] only distinguished overarching metaphors as *conceptual metaphors* and referred to their linguistic instantiations simply as *metaphors*. For the last two decades linguistic examples of metaphorical language usage have been labeled *linguistic metaphors*.

¹⁶Svanlund decides for the terminology of *lexical metaphors* because he questions the straightforwardness of the CMT claim that the lexical patterns are secondary to the conceptual patterns constituted by metaphors. Svanlund is convinced that lexical entrenchment is important and that it is separate from conceptual metaphor. Accordingly, he believes that conceptual cross-domain mappings do not exhaustively determine lexical metaphorical conventions. [SVANLUND 2007] Although this argument may be partially acceptable, the terminology of this book sticks to the term *linguistic metaphors* for reasons of clarity. The concept of *lexical metaphors* might lead to confusion with the notion of *lexicalized metaphors* that by some scholars is put on a level with *dead metaphors*, which will be discussed in detail in the following paragraphs of this chapter.

metaphorical connections with neural maps: due to the inherent neural metaphorical maps that are part of the brain, they conclude that speakers do not have “the choice as to whether to think metaphorically.” [LAKOFF and JOHNSON 2003, 257]. They are subject to the neural connections in their brains. (cf. [LAKOFF 2008])

Needless to say, *conceptual metaphors* are only a means of language description and apart from that remain in the realm of thought. Likewise *mappings* are formal abstractions of the underlying mental connections interlocutors unconsciously make between different knowledge structures. Nevertheless, they equip linguistic research with the necessary concepts and terminology to structure coherent cognitive models, so-called “idealized cognitive models (ICMs)”¹⁷. That is, not only individual features such as structure or ontological basis are transferred to enable discourse but a whole set of complex interdependencies resulting in the construction of an ICM, a mental representation. Indeed, the *conceptual metaphor* MONEY IS A LIQUID that served as an example in section 2.1 is, for instance, instantiated by the linguistic metaphor “These are typical inflows and outflows for your company.” (example taken from business English textbook [WOOD et al. 2001, 35]), which is allowed for by the cross-domain mapping FINANCIAL TRANSACTIONS ARE LIQUID MOVEMENTS. Small caps that are in CMT reserved to mark *conceptual metaphors* are here also used to mark a *mapping*, which gives first insights into the nature of *mappings*. Indeed, the use of small caps groups *mappings* within the category of *conceptual metaphors*. In fact, it is the other way around: *mapping* is the generic term. Metaphorical *mappings* are generally organized in hierarchical structures, in which *mappings* “lower” in the hierarchy inherit the structure of “higher” *mappings*. *Conceptual metaphors* may therefore be described as the *mappings* highest in the hierarchy. Accordingly, the FINANCIAL TRANSACTIONS ARE LIQUID MOVEMENTS *mapping* makes use of the internal structure of the MONEY IS A LIQUID *mapping*.

In section 2.1, metaphorical transfer was equated with the interplay of different knowledge structures, and immediately the question whether there is mutual influence was posed. In fact, even the labels *source domain* and *target domain* support original doubts about bidirectionality: metaphorical transfer is a one-way street with a definite source and a definite target and with all transfers taking place unidirectionally. Gentner and Bowdle use this very characteristic to distinguish metaphorical from literal similar-

¹⁷Lakoff coined the term “idealized cognitive models” and introduced the abbreviation ICM into scientific discourse. ICMs describe domains, “coherent wholes” as Kövecses labels them, that are constituted by repeated co-occurrence of all entities involved. Due to this co-occurrence some entities can actually provide mental access to other remaining entities. [KÖVECSES 2002]

ity. In contrast to literal comparisons that are bidirectional, and are therefore possible to reverse, metaphors are “strongly directional” [GENTNER and BOWDLE 2002, 19]: features are being transferred from the source to the target domain. As an example for a literal comparison they give “A sweater is like a jacket” that is equally plausible when reversed into “A jacket is like a sweater”. As a metaphorical comparison they cite the example “Some jobs are jails”, which reversed into “Some jails are jobs” has a very different meaning. [GENTNER and BOWDLE 2002, 19] As the direction of transfer is preassigned for metaphorical comparisons, the proposed mutual interplay between conceptual domains is to be negated. In fact, the usually more abstract target domain is not structured independently [KÖVECSES 2002]; it is inherently unstructured and is thus not able to exchange any structure. Many elements of target domains are not preexisting and simply come from the generally more concrete and hence highly structured source domain. [KÖVECSES 2002] That is, the conceptual structure of the source domain is applied to the target domain, namely to a completely new surrounding, without adaptation. Referred to as the *Invariance Principle* [LAKOFF and JOHNSON 1980], this very characteristic of cross-domain mappings guarantees that not only the topology of the source domain transferred remains invariant but also that the mapping remains consistent with the supposedly logical structure of the target domain. In other words, there is some influence of the target domain imposing constraints on the mapping as far as structure is concerned but there is nothing such as an interplay between target and source domain. Accordingly, the *Invariance Principle* first limits the choice of source domains for a particular target domain as well as in a second step the possibilities for individual mappings: in brief, not every source fits every target and “source domain interiors cannot be mapped onto target domain exteriors.” [LAKOFF 2006, 232].¹⁸

In contrast to *conceptual mappings*, Lakoff singles out the notion of *image mappings* [LAKOFF 2006, 215], which constitute the exception to his rules. Here, only one particular image is mapped onto another image; neither the target and source domain nor further mappings play a role. Yet in the case of *image mappings*, conventional

¹⁸Of course, scholars working in the field of literary analysis may object to the *Invariance Principle* as it may limit creativity. Stockwell refers to Lakoff’s *Invariance Principle* as a threat to the acceptance of the application of Cognitive Linguistics to literature, that is *cognitive poetics* or *cognitive stylistics*, as it is too inflexible. [STOCKWELL 1999] According to the *Invariance Principle*, the target is supposed to retain its basic conceptual structure in the mapping process. Yet in literature authors might prefer to break open this original inherent structure of the target domain for creative reasons and add a new notion or perspective. However, what is easily possible in fiction is not possible in everyday reality. Thus, for the metaphors focused on in this contribution the *Invariance Principle* is taken for granted.

mental images substitute the complex knowledge structures of conceptual domains. Taking a single mental image as a basis for a cognitive mapping onto another mental image, these mappings are referred to as *one-shot metaphors* and categorized as novel metaphors [LAKOFF 2006]¹⁹. They originate in creative imagination and thus can mainly be found in literature or carefully prepared speeches rather than spontaneous natural discourse. However, even these metaphors obey the *Invariance Principle*, which may be labeled as the key principle to secure the comprehension of metaphorical language use.

Svanlund fundamentally disagrees with Lakoff's proposal concerning the nature of conceptual metaphors. According to his research on Swedish metaphors, "cross-domain mappings are not as systematic as they first might seem" [SVANLUND 2007, 67], since the meaning of a linguistic metaphor sometimes cannot be decoded by the cross-domain mapping alone. He found out that, for instance, the Swedish noun *vikt* meaning 'weight', which diachronically derived from the verb *väga* 'weigh', when metaphorically projected loses the relation to *väga* in the new target domain. Although both noun and verb come from the same source domain, where they are closely related, and are both transferred to the same target domain, they seem to be transferred one by one, as the obvious relationship between them is lost. [SVANLUND 2007]²⁰ In natural discourse between native speakers of the same language mental operations such as the decoding of metaphors occur at an unconscious level. Likewise, the individual linguistic examples are projected separately instead of as components of a coherent conceptual unity. The underlying conceptual metaphor usually remains unnoticed. Therefore, Svanlund concludes that conceptual metaphors should only be considered as *cognitive tendencies* that are influenced by patterns of lexical conventionalization instead of as systematic and coherent structures. Svanlund acknowledges that conceptual metaphors may certainly "sometimes guide" lexical metaphors but they by no means govern them. [SVANLUND 2007]. Influenced by language change and thus, lexical development, originally closely related lexis may end up semantically autonomous. [SVANLUND 2007] Although from a mere linguistic point of view it may be reasonable to agree with Svanlund's argument, especially as his evidence against Lakoff's strict proposal for systematic

¹⁹For further explanation of image metaphors and relevant examples confer [LAKOFF 2006, 215-226]

²⁰Although concordance analyses of the co-occurrence of the lemmas *vikt* and *väga* provided 21 results for non-metaphorically used combinations, only 3 were found for metaphorically used instantiations, which is additionally striking when having a closer look at Svanlund's numbers in total: for both lemmas the frequency numbers of metaphorical instances by far exceed the literal instances. (*vikt* was used literally 208 times and used metaphorically 861 times and *väga* was used literally 343 times and used metaphorically 605 times.)

mappings from the source domain by citing the *vikt* and *väga* case is convincing, from a didactic perspective the focus changes. Svanlund presents an in-depth corpus study of collocation and occurrence frequencies considering all the formal aspects of language description, which does not allow for the grouping of both items under the same *conceptual metaphor*. Yet originally they come from the same source domain and the link, though perhaps not linguistically straightforward, may possibly be drawn. Consequently, foreign language learners, as will be discussed in section 4.2, may profit from respective elaborations, such as in this case the original source domain as well as the diachronic change of the words, which facilitates acquisition and recall of the vocabulary item. For language learners the fulfillment of formal linguistic criteria is not relevant. Accordingly, the formal question whether metaphorically used language is based on systematic conceptual metaphor or merely on entrenched conceptual tendencies does not make an essential difference from a didactic perspective.

2.2.1 Embodiment & experiential grounding: a typology of motivation

As discussed in section 2.1, Cognitive Linguistics objects to the traditional belief that metaphorical transfer is merely based on resemblance or similarity and instead refers to experience as the main origin of conceptual mappings. Perceptual, biological, or cultural experiences provide the basis for conceptual systems [KÖVECSESES 2002]. They are the very criteria for source domain selection and thus, constitute the specific *motivation* for metaphors. Cognitive Linguistics is convinced that all metaphors may at least be partially traced back to a general grounding that is referred to as *experiential basis*.²¹ Although proclaiming the metaphoricity of language and thought as such, Lakoff acknowledges that “though much of our conceptual system is metaphorical, a significant part of it is non-metaphorical. Metaphorical understanding is grounded in non-metaphorical understanding”. [LAKOFF 2006, 232] Naturally, the most basic grounding is what Cognitive Linguistics calls *embodiment*, where conceptions allude to the general organization of the human body or basic bodily experiences.²² Embod-

²¹In addition to metaphors, metonymies also provide multifaceted motivation for language. Whereas metaphors connect two different domains, metonymies evoke an understanding of an experiential domain by activating different aspects of the same domain, e.g. parts of entities, instruments for certain activities, locations, or time frames. Very often metaphors interact or are even based on metonymies but this is not focused on in the present discussion. An in-depth discussion can be found in [BARCELONA 2003].

²²Indeed, Christopher Johnson hypothesizes that in basic bodily experiences – and here he even refers to the very basic experience of babies being hugged by their mothers, which is considered to set the

iment affects all human beings, therefore metaphorical transfer based on embodiment in general guarantees the same positive result avoiding misunderstanding. However, Svanlund is right to question whether every individual in a speech community on the basis of his or her personal bodily experience of the physical world really creates the same metaphorical projection [SVANLUND 2007]. As often underlined by cognitive linguists, perception is an individual phenomenon that cannot be standardized. So is it possible that experiential grounding of basic bodily experiences derives the same projections across cultures? Studies of embodiment, especially in the broad field of emotions [LAKOFF and KÖVECSES 1987, YU 1995, MATSUKI 1995, LAKOFF and JOHNSON 1999, KÖVECSES 2000, NIEMEIER 2008, SIAHAAN 2008], have determined that in general, metaphorical language used to express emotions such as 'anger' or 'happiness' is embodied, but whether cultures conceptualize these feelings as part of the stomach, the head, the chest, or the liver varies. The influence of social communities and cultural background on individual perception as well as of linguistic experiences that may result in diachronic language changes are not to be underestimated. Although it might be true that metaphors alluding to bodily experience are in general easier to decode, metaphorical verbalization is a cognitive as much as a social process. As Svanlund points out, entrenchment is not a mere result of experiential grounding but is most of all a reflection of the usage of metaphors. [SVANLUND 2007] In other words, not all motivation is grounded in embodiment but the frequency of usage of certain expressions due to social conventions and circumstances also plays a significant role. And it is in this realm that culture becomes important. Thus, verbalization of bodily experiences, in spite of universal embodiment, may still cause misunderstandings as social interaction is needed to initiate as well as preserve metaphors.²³

Though it may be of prime importance to cognitive linguists, embodiment is only one motivation of metaphor. In applying linguistic findings to foreign language teaching an overview of all possible motivations that might be elaborated on to facilitate learning is important. Kövecses sums up four main categories (cf. Table 2.1) that account for the conceptual mappings between source and target domain constituting this general grounding [KÖVECSES 2002, 69-76]. First, he describes simple "correlations in very basic experience", such as between quantity and verticality. The more of something is being put in a container the higher the level of the substance or the pile

grounding for the conceptual metaphor AFFECTION IS WARMTH or AFFECTION IS CLOSENESS – human beings actually first equate or 'conflate' the two concepts interconnected and only gradually learn to differentiate between the two and store them as two separate domains. [JOHNSON 1999]

²³A comprehensive discussion of cultural models that may provide the basis as well as the framework for conceptual metaphors may be found in [HOLLAND and QUINN 1987].

(1) correlation	(2) perceived structural similarities	(3) structural similarities	(4) source domain is biological/cultural root of target domain
basic experience	subjective perception	conventionalized metaphor	basic biological state or cultural experience
MORE IS UP	LIFE IS A GAMBLING GAME	IDEAS ARE FOOD	AFFECTION IS CLOSENESS SPORT IS WAR LIFE IS A PLAY

Table 2.1: Four main categories of motivation (adapted from [KÖVECSES 2002])

of items rises: indeed, quantity and height increase at the same time. This recurrent everyday experience of the correlation between quantity or amount and verticality provides grounding for the conceptual metaphor QUANTITY IS VERTICAL ELEVATION or simply the MORE IS UP metaphor. Presumably not every language has the MORE IS UP metaphor, yet due to this very basic experience all human beings will – if asked – most likely align *more* with *up* instead of with *down*. In other words, although the MORE IS UP metaphor may not be universal across languages, there is no culture that makes use of a LESS IS UP or MORE IS DOWN metaphor. [LAKOFF 2006]

Second in the list of mapping categories are “perceived structural similarities” that are neither objective nor based on preexisting similarities but on a subjective perception that may in this way motivate metaphors. In contrast to traditional beliefs, metaphors are not based on given and objectively noticeable similarities but, as elaborated in section 2.1, actually generate the similarities themselves. As an example, Kövecses uses the conceptual metaphor LIFE IS A GAMBLING GAME, which is not based on correlation in basic experience. However, human beings view their actions in life as gambling and the respective consequences as winning or losing the game. Although “actions in life and their consequences are not inherently gamblelike” [KÖVECSES 2002, 72], that is there is no objective analogy, people may perceive these structural similarities between the two domains and then make the connection and simply generate the similarities by making use of the source domain language. Due to thought that is highly metaphorical, individual perception is metaphorical as well and thus, abstract target domains are made accessible by means of sometimes very personal, basic metaphorical alignments that trigger further comparisons.

Third, structural similarities that are induced by basic metaphors may also constitute a motivation for further conceptual mappings. Ontological metaphors are singled out in particular as belonging to the group of basic metaphors that are suggested to induce the tracing of further similarities.²⁴ Similar to his second category, here similarities are evoked by metaphors. Yet in contrast to the second category, the metaphor inducing further processes here has already been conventionalized and is not a product of subjective perception. As an example, Kövecses explains the metaphor IDEAS ARE FOOD, which is based on the basic ontological metaphors THE MIND IS A CONTAINER and IDEAS ARE OBJECTS on the one hand and THE BODY IS A CONTAINER and FOOD CONSISTS OF OBJECTS OR SUBSTANCES on the other hand. These basic ontologies induce the structural similarities between the process of receiving ideas from outside the mind and entering the mind and of food we receive from outside the body going into the body by consumption. As a result ideas are conceptualized as food – as the only “object” actually entering the body. [KÖVECSES 2002, 73-74]

Fourth and last, Kövecses lists special cases, where the chosen source is either the biological or cultural root of the target. As an example for the biological root, he cites the AFFECTION IS CLOSENESS metaphor, which is grounded in basic biological states such as early mother-child relationship or sexuality and is instantiated by utterances such as “they are very close to each other”. As an example for cultural rooting, he refers to SPORT IS WAR and LIFE IS A PLAY metaphor, claiming that “the target domain took its historical origin as its source domain” [KÖVECSES 2002, 75]. The first example is easy to follow, as sports activities were originated as training for war. As such, much of the structure of sports is reminiscent of skills needed in war (e.g. strategy, competition, etc.). The second example is less clearcut. In fact, here the target domain is the origin of or better the model for the source domain. Yet as the target domain is more abstract it makes use of the more tangible source domain that tries to depict its original model. Further influences of culture on the linkage between source and target domain will be discussed in section 2.5.

Three years earlier, Grady’s “typology of motivation for conceptual metaphor” pro-

²⁴As mentioned in section 2.1, Lakoff and Johnson amended their original tripartite typology of metaphorical transfer and clarified that the line between orientational, ontological and structural metaphors is not as easy to draw as originally believed. Yet Kövecses’ categorization of the four different types of mappings seems to presuppose Lakoff and Johnson’s original typology. He points out ontological metaphors as the basis for further mappings. The described characteristics of Kövecses’ third category, as summarized above, may thus serve as a telling example in favor of the rejection of the tripartite typology as proposed by their original authors. Indeed, this category misses the potential to actually distinguish between different mappings since more or less every metaphor may similarly induce further similarities.

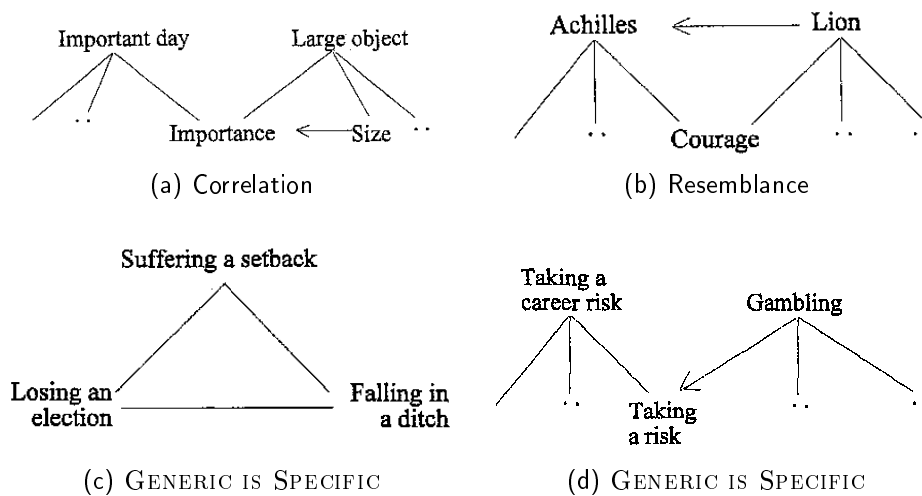


Figure 2.1: Grady's Typology of Motivation for Conceptual Metaphors
[GRADY 1997, 92-94]

posed a basic dichotomy between *correlation metaphors* and *resemblance metaphors*. [GRADY 1997] Whereas Kövecses, in the strict tradition of CMT, highlights correlations in experiences as the very motivation of most conceptual mappings and classifies every notion of similarity either as subjectively perceived or as generated by metaphor itself, Grady takes a step back, acknowledging earlier definitions of metaphor, and refers to his category opposing *correlation metaphors* as *resemblance metaphors*. Reformulating traditional *similarity theory* as *resemblance hypothesis*, Grady softens traditional claims that metaphorical links are in general based on similarity. He clearly states that *similarity theory* fails to account for a number of cases, notably all correlation-based metaphorical links. Therefore, he proposes a motivation typology built up on the basic dichotomy of *correlation metaphors* and *resemblance metaphors*. Under *resemblance metaphors* he subsumes mere *resemblance metaphors* as well as Lakoff and Turner's *GENERIC IS SPECIFIC metaphors* [LAKOFF and TURNER 1989], with the explanation that these metaphors "do appear to be alternative ways of construing what is essentially the same conceptual relationship" [GRADY 1997, 95]. The formal distinction can only be recognized by the different link that is highlighted in each case, and thus the level(s) of generality that are connected.

As demonstrated in Figure 2.1, whereas for *GENERIC IS SPECIFIC metaphors* (cf. Figure 2.1 c-d) the target is a generic schema, of which the source domain is a specific

instance²⁵, for *resemblance metaphors* (cf. Figure 2.1 b) the target as well as the source are different specific instances of the same generic schema. In brief, *GENERIC IS SPECIFIC metaphors* highlight the link between a generic schema and its specific instance; *resemblance metaphors* emphasize the link, which also may be a certain factual similarity, between different specific instances of the same generic schema. *Correlation metaphors* (cf. Figure 2.1 a), on the other hand, highlight completely different links. The relationship between different features of the same source image that are conceptualized as a fixed projection pattern are relevant for the conceptual metaphor. In this way certain features of the source domain, not the source concept as such, constitute the link and are then mapped onto the target domain that might already partially share the features. Furthermore, Grady reserves experiential correlation, as described in Kövecses' first category, as motivation for *primary metaphors*²⁶. Typically the concepts involved here constitute universal human experiences mostly independent of culture, which is why the conceptual metaphors motivated by these correlations are universal as well.²⁷ Furthermore, according to Grady *primary metaphors* are full conceptual mappings, where "virtually any lexical item which refers to the source concept can refer metaphorically to the target concept" [GRADY 1997, 83]. Indeed, with *primary metaphors* there is no such constraint as partial transfer. Although in these cases metaphors may end up lexically unconventional, they are still possible to decode and interpret on the basis of the primary conceptual pattern. Similarly, *primary metaphors* provide the basis for further complex metaphors.

In sum, there are different patterns to the way conceptual metaphors are coined and used. Most importantly, metaphors are motivated and not arbitrary, which is the very finding that opens new avenues for advancing language teaching. The types of motivation may vary but most may serve as explanations for language choice and may through elaboration facilitate basic understanding and eventually language learning. Furthermore, contributing to language economy, conceptual mappings draw upon vocabulary

²⁵In addition to metaphorical mappings, metonymical mappings are here also at play as one aspect of a domain stands for the whole domain. Nevertheless, they are here not focused on and are therefore following Grady in his argumentation left out altogether.

²⁶Interestingly, Grady, as briefly mentioned on page 12, states that with *primary metaphors* the Cognitive Linguistic claim that the target is usually more abstract than the source cannot be supported. In this category, target concepts, as they also refer to basic cognitive processes, are as close to direct experience as the source concepts they are linked up with. [GRADY 1997] This finding ties in with Christopher Johnson's conflation hypothesis [JOHNSON 1999], which is briefly introduced in the footnote on page 21.

²⁷Universal is used here not in the sense that they exist in every language, but that there is no language that includes opposing conceptual mappings, such as *MORE IS DOWN* or *LESS IS UP*. In other words, they are cognitively but not necessarily linguistically universal.

from the source domain that may already be well-known and therefore does not require further explanation in order to refer to unknown or abstract semantic fields. In this respect, metaphor motivation may advance to be a key feature of foreign language teaching for abstract discourse. Therefore in the long run, further research into the motivation of metaphors and the possible mappings between source and target domains needs to be carried out that aims at informing the foreign language classroom.

2.2.2 Active, inactive or interactive: a typology of metaphor

Being ubiquitous and frequently used, metaphors cannot be circumvented in daily discourse, yet for the most part remain unnoticed. In linguistic research these metaphors, which have become conventional and commonplace, are often referred to as *dead metaphors* – a label that is extensively discussed by different metaphor researchers. Whereas some authors [KNOWLES and MOON 2006, 6] reject the concept *dead metaphor* altogether, others set up a dichotomy of *alive*, which includes creative, novel and therefore noticeable metaphors versus *dead metaphors*. In some current approaches to CMT [PRAGGLEJAZ 2007, STEEN 1997] the dictionary is used as the source for these decisions; if a metaphor found its way into current dictionaries, it is considered *dead*, if it is without specific dictionary entry, it is *alive*²⁸. Lakoff argues that not all non-innovative metaphors can simply be labeled as *dead* but are very much *alive* even going so far as to provide four different categories for the linguistic phenomenon others refer to as *dead metaphors* [LAKOFF 1987]. With this objective, he first addresses metaphors where the original non-metaphorical sense of the word is not in current use and hence the mental mapping has disappeared. Furthermore, this first type of linguistic metaphor does not belong to a conceptual framework of cross-domain mappings or belongs to a conceptual metaphor that is not in use or productive anymore. This is the kind of metaphor Lakoff, if necessary, would probably agree to call *dead*. His second category comprises metaphors that as in the first category cannot provide a present non-metaphorical usage and lack a mental mapping due to diachronic language change. But with this type of metaphor the overarching conceptual metaphor is still current and is responsible for several other linguistic metaphors. As a third group, he sets aside one-shot metaphors that are not part of actual domain mappings. Although the metaphorical mapping may be clear to language users and both senses of the word or expression are in current use, they are the only example of a mapping between their

²⁸A discussion of the suitability of the PRAGGLEJAZ method in the context of language teaching can be found in [JUCHEM-GRUNDMANN and KRENNMAYR 2009].

	non-metaphorical sense not in current use	both senses currently used
mappings systematic	(2) e.g. <i>grasp</i> UNDERSTANDING IS GRASPING	(4) e.g. <i>comprehend</i> (Latin origin: com='together'; prehendere='grasp') UNDER- STANDING IS GRASPING
mappings not systematic (affects only one word)	(1) e.g. <i>pedigree</i> (conventional image of a crane's foot ('pie de grue') mapped onto a family-tree)	(3) e.g. <i>dunk</i> (conventional image of a tea cup mapped onto basketball image)

Table 2.2: Visualization of Lakoff's categorization of metaphors: a matrix of characteristics. (Examples are taken from [LAKOFF 1987])

two home domains. The fourth and last category suggested by Lakoff comprises conventionalized metaphors, where the metaphorical and the non-metaphorical sense are in current use and the mapping, which is part of a conceptual metaphor, is evident to the language user. In sum, all four categories include metaphors that at least in Lakoff's view are *alive* in one or the other aspect and cannot be classified as *dead*. [LAKOFF 1987] Lakoff's approach leads to the identification of the following defining aspects: diachronic versus synchronic or current existence and usage of the original, literal sense of the words and phrases now used metaphorically on the one hand and systematic mappings in a wider context versus one-shot image mappings on the other hand. Table 2.2 is an attempt to systematize Lakoff's categories in a matrix of characteristics and thus classify his examples.

However, his four categories do not provide a basis for established corpus linguistic research. Firstly, natural discourse produces borderline cases that are not clearly categorizable according to Lakoff's schema. Secondly, Lakoff's categories are based on current speakers' knowledge of different word senses, that is, data that would have to be additionally elicited. [DEIGNAN 2005, 37]

Ten years later, Goatly also offered a classification of linguistic metaphors by their degree of conventionality and distinguishes five categories that he again groups into three main areas: *dead*, *inactive* and *active metaphors* [GOATLY 1997, 34]. Although as a whole similar to a certain degree, Goatly, in contrast to Lakoff, clearly titles his first category *dead metaphors* and then proceeds to the further levels, which he subsumes under *dead and buried metaphors*, *sleeping metaphors* and *tired metaphors*, finally reaching *active metaphors*. At first glance, the degree of conventionality similarly seems to be the criterion to group examples; Goatly's main criterion for categorizing

dead		inactive		active
(1) dead metaphors	(2) buried metaphors	(3) sleeping metaphors	(4) tired metaphors	(5) active metaphors
non-metaphorical sense not in current use; diachronic change; new word for original sense	non-metaphorical sense not in current use; buried by formal change; Latin origin	no historical/etymological connection; personification, ontological comparison	sense of double reference, perception of similarities involves two referents	metaphorical meaning not lexicalized, context dependent
source domain not active				source domain active
<i>red herring</i> : a spiced fish; distraction	<i>clew</i> : a ball of thread <i>clue</i> : piece of evidence	<i>crane</i> : bird; machine for moving heavy weights	<i>fox</i> : animal; cunning person	<i>icicles</i>

Table 2.3: Typology of Metaphors adopted from [GOATLY 1997, 31-35]

is actually the degree to which the encountered metaphor is most likely processed as metaphor, “that is, that the item will be recognized as a V-term²⁹ and Grounds will be construed.” [GOATLY 1997, 32] In other words, the two most extreme categories are *dead metaphors*, which are perceived as homonyms, and *active metaphors*, for which no second meaning is listed in the dictionary, and which therefore highly depend on the context. In-between, there is the broad category of *inactive metaphors*, whose “Topic and/or Grounds are relatively fixed by habit or convention” [GOATLY 1997, 33], which is why they are often regarded as polysemous. A brief look at the next level of his categorization reveals further similarities with Lakoff’s categorization. In the first sub-category, namely *dead metaphors*, Goatly sums up all linguistic metaphors which nowadays have “no corresponding more literal meaning” [GOATLY 1997, 32]: either the original usage has not been passed on to later generations but was a victim of diachronic language change, which he exemplifies with the idiom “Red Herring”³⁰ or

²⁹Instead of referring to *source domain*, *target domain* and *metaphorical mapping* to describe metaphorical processes, some scholars, including Goatly, model their theories with the technical terms *vehicle*, *topic* and *grounds*, which explicitly shift the focus to linguistic rather than conceptual metaphors. Thus, here *V-term* refers to the conventional referent of the unit, that is the meaning that the word has in its source domain, and *Grounds* identifies the analogies or metaphorical mappings involved. In the following the terminology used by the author(s) discussed in the different parts of this paper is stuck to.

³⁰“Red Herring is used to describe something that provides a false or misleading clue” [JACK 2004, 188]. Originally it is the name of a fish that was widely caught in the seas of Britain and when salted and smoked turned into a deep brownish red color, giving off a strong smell. When hunting,

new lexical items have appeared and are now used for the original sense instead. In both cases, the original source domain is no longer accessible.

Similar to Lakoff's first and second categories, where the non-metaphorical sense of the word or expression is not currently in use, the mental mappings have disappeared. And yet, Goatly adds the reason for the non-existence of the literal sense of the word or expression as a further distinguishing feature and thus comes up with an additional class: *buried metaphors*. As a result, the following sub-category comprises metaphors that are hidden and thus buried "by formal change"³¹, such as, for instance, words of Latin origin. Whereas the metaphorical transfer of the word has been integrated into English the very same word is not used in its literal sense in English. Consequently, except for Latin scholars, the literal meaning of the words and phrases remains opaque in English. The same applies to metaphors based on literal meanings that are more rarely used than their metaphorical counterpart. In short, Goatly's two first sub-categories both lack the parallel non-metaphorical usage of the words and phrases in question but the reasons differ.

His *sleeping metaphors* (the third sub-category) sums up all metaphorical items that do not derive from historical or etymological connections but are according to his findings presumably due to personifications of abstracts or ontological comparison. These *sleeping metaphors* along with the fourth sub-category of *tired metaphors* together form the category of *inactive metaphors*. Here, Goatly explicitly states that "[t]here is no clear line on the continuum of Inactive metaphors between Sleeping and Tired" [GOATLY 1997, 33]. If the word or expression most likely involves or evokes "a sense of double reference, and the perception of similarities or analogies [involves] these two referents" [GOATLY 1997, 33] it belongs to the category of *tired metaphors*. As an example, Goatly refers to "fox", which literally means an animal but may also

red herring was dragged along the hunting route in order to confuse the hounds and have them follow this scent instead of the foxes' [JACK 2004]. Similarly, Goatly reports that "red herring" was also used by escaped convicts to put bloodhounds off their scent. Neither application is currently in use. Furthermore, the expression "Red Herring", which is here classified as metaphor is again based on metonymy, in which an entity stands for its effect, i.e. the "Red Herring" for its strong smell that attracts attention and thus sidetracks.

³¹As an example Goatly refers to the word "clew" as literal basis for the metaphorical word "clue" meaning evidence. According to Greek mythology, when sent into the Maze of the Minotaur, where he was supposed to be devoured by this half-man, half-bull monster, Theseus was given a ball of thread by Ariadne, the king's daughter. After successfully defeating the monster, Theseus was only able to escape the maze due to the ball of thread, the "clew", which he had tied to the door when entering the maze and then only had to coil up. Indeed, the "clew" gave him the clue how to escape. Again, what Goatly here refers to as metaphor is of course based on metonymical mappings. The instrument, i.e. the "clew", stands for the whole event or rather the whole story and the whole story stands for the effect.

be metaphorically used to characterize a person as cunning. Still inside the lexicon but rather close to the border, these metaphors may – according to Goatly – also be regarded as *clichéd metaphors*. Once more it is the reason for the presence or non-presence of the source domain, in this case the lack of historical connections, that constitutes a distinguishing feature. Furthermore, Goatly is convinced that with the metaphors of this subset the conventionalized secondary meaning can be reached without going back to the primary meaning in the source domain first, or in his words: “their word-forms represent two senses which are [...] wired in ‘parallel’”. [GOATLY 1997, 34]

The last category comprises *active metaphors*, which show no lexical relationship and thus have no fixed meaning but, as explained above, are highly dependent on context. In the case of active metaphors, the interaction between vehicle and topic is constitutive for the metaphor and the grounds will vary accordingly. In contrast to the preceding inactive metaphors, active metaphors are “being wired ‘in series’” [GOATLY 1997, 34].

Overall, Goatly bases his categorization of metaphors on language processing features (cf. section 2.3) he presumes. His main argument takes the receptive perspective, asking whether the original source domain is needed to decode and interpret the word or phrase in its new target domain and thus distinguishes different categories by the degree to which the source domain is actually active. In a last step, he even touches on the idea of setting aside another category that he refers to as *interactive metaphors*: words and phrases that are flexibly used in various contexts, sparking off different associations, and that are selected on the basis of “the topic or surrounding co-text” [GOATLY 1997, 35] and allow for variable mappings. Indeed, the scope of meanings the word or phrase can have in its source domain and the meaning it may now attribute in the new target domain interact to set up different mappings.

Although Lakoff declares the old literal-figurative distinction as the major difference between contemporary and classical metaphor theory [LAKOFF 2006], both of the models described here appear to be based on the distinction between literally and non-literally or metaphorically used language.³² Nevertheless, CMT clearly softens Searle’s

³²Interestingly, although he postulates a detailed classification of metaphors, Goatly goes as far as equating ‘literal’ with ‘conventional’ later on, which raises the question of whether the criterion for his categorization may also be referred to as the degree of literality, especially as he admits that “conventional classification involves the same process of feature-matching as takes place in metaphor” [GOATLY 1997, 35]. Yet if in Goatly’s model metaphors are sorted by their degree of conventionality and if he additionally equates conventional and literal, then he will also have to answer the question whether metaphorical equates with literal or at least whether metaphorical always incorporates a certain degree of literality. He partially solves the problem by referring to

claim that “metaphorical meaning is always speaker’s utterance³³ meaning” [SEARLE 1979, 84], by which he isolates metaphorical meaning from the word level. Defining CMT as a semantic theory, Cognitive Linguistics does not at all deny the possible pragmatic functions of metaphorical language but clearly investigates metaphorical meaning at the morpho-syntactic level. Throughout the preceding paragraphs the two different senses of metaphorically used words and expressions were frequently referred to without clarification. Indeed, it is presumed here that metaphorically used words and expressions carry the literal sense as well as setting up a metaphorical sense³⁴. Indeed, although there is something such as a basic, more literal meaning to a word or phrase, linguistic examples cannot simply be classified as either metaphorical or non-metaphorical. Depending on the context, a word or phrase is used literally or metaphorically to a certain degree. According to the presence of the literal meaning “some metaphors are more metaphorical than others” [HANKS 2006, 17]. Indeed, metaphors are gradable and the non-metaphorical, literal sense of metaphors may – as discussed in section 2.3 – be important for processing. However, the old literal-figurative distinction has clearly been denied by CMT: interlocutors are no longer believed to always start out from the ‘literal meaning’, applying consecutive steps of a specific process³⁵ to finally arrive at a metaphorical interpretation of the word or phrase. Metaphorical and literal meaning may be both present in an instantiation of metaphorical language use. The question to which degree the original, more literal sense is still generally in current use [cf. Lakoff’s model on page 27] or is actually active in form of a mental representation in the mind of the language user at the moment of production or reception, and is being processed [cf. Goatly’s model on page 28], seems to be the key to classification and more importantly provides a basis for the didactic considerations in section 4.2.

a “second conventional meaning”. According to him what he categorizes as *dead* and *sleeping metaphors* possess a “second conventional meaning”, whereas with his *tired metaphors* this meaning is less well established. On the other hand, *active metaphors* create a link between a target and a source domain that is highly unconventional. In sum, the literal is only a conventional meaning of a word or phrase that might be complemented by another “second conventional meaning” that is more metaphorical.

³³Searle here refers to what the speaker actually means by uttering words, sentences, or expressions. He strictly differentiates between an actual meaning of a word, sentence, expression and the meaning a speaker might utter it to mean, that is, his or her intentions.

³⁴The choice of articles also hints at the usually singular, concrete literal sense that may be looked up in a dictionary on the one hand, and the possible multitude of different metaphorical senses that, as elaborated above, are highly context-dependent

³⁵Searle suggests a specific algorithmic process to derive metaphorical meaning, he refers to as ‘speaker’s utterance meaning’, from basic sentence meaning, which is his equivalent for ‘literal meaning’. [SEARLE 1979]

As Kövecses states, the “‘dead metaphor’ account misses an important point; namely, that what is deeply entrenched, hardly noticed, and thus effortlessly used is most active in our thought” [KÖVECSESES 2002, ix]. These metaphors “have not lost vigor in thought” [KÖVECSESES 2002] but they are very much alive in governing human thought; the system of conventional metaphor is in constant use, more or less automatically and unconsciously. In agreement with Lakoff’s model, Kövecses vehemently objects to the label *dead metaphors* and additionally raises the issue of dynamics in language usage: if Lakoff determines ‘present usage’ as the very distinguishing feature, the content of the different categories may change over the years. Due to diachronic language change, words and phrases today grouped under Lakoff’s categories (4) (systematic mappings & both senses in current use) and (3) (one-shot metaphor & both senses in current use) may in the future be identified as belonging to the categories (2) (systematic mappings & no present non-metaphorical usage) and (1) (one-shot metaphor & no present non-metaphorical usage). In like manner, the notion of conventionality is subject to frequency and thereby to diachronic change: “what were once unconventional metaphorical language uses can acquire new, conventional and lexical status” [GOATLY 1997, 38]. In brief, the most creative and therefore *active* or even *interactive metaphors* of today may develop into dead metaphors in the future. Thereupon, back to the beginning of this discussion of *dead metaphors*: metaphors ‘become’ conventional and commonplace, they are not *dead metaphors* right from the start. Metaphorical language usage is as much influenced by cultural presuppositions in general, which will be discussed in section 2.5 as it is by language development in particular. Diachronic approaches examine metaphorical expressions as historical extensions of meaning and not as singular linguistic phenomena. Diachrony is therefore of valuable assistance in identifying metaphorical language usage, in decoding metaphorical meaning and finally in finding the original source domains. Indeed, metaphor has shaped the lexicon over the years and in this way continues to complicate definition approaches.

Present CMT-research, informed by intensive corpus linguistic analyses, suggests a continuum based on a synopsis of Lakoff’s and Goatly’s metaphor classifications. Although corpus linguistics, as Deignan states, finds Lakoff’s and Goatly’s categories useful, it complains about the lack of rigid descriptions that would allow for valid empirical research. Most of the criteria established by Lakoff and Goatly are not only problematic as far as clear lines between categories are concerned, but they are also highly subjective in terms of individual speakers’ processing of metaphorical language. Furthermore, earlier experiments regarding the metaphoricity of a word [CAMERON 2003, CAMERON and DEIGNAN 2003], which may be equated with the degree of

conventionality that is widely drawn on in both models described here, have shown that metaphoricity is perceived differently by different language users in different contexts. [DEIGNAN 2005, 39] Nevertheless, corpus linguistics takes over the general framework of categorization and after further refinement suggests a spectrum between the two extremes of *historical metaphors* and *innovative metaphors* as shown in Figure 2.4 that is completed by the two already well-known categories of *dead metaphors* and what – stressing possible diachronic change – are here referred to as *conventionalized metaphors* in the middle.

historical metaphors	dead metaphors	conventional metaphors	innovative metaphors
non-metaphorical sense not in current use	metaphorical sense not dependent on core sense	metaphorical sense dependent on core sense	fewer than 1 of 1.000 corpus citations
<i>comprehend</i> <i>pedigree</i> <i>pupil</i>	<i>crane</i> <i>deep</i> (of colour)	<i>grasp</i> <i>cut</i> (spending)	<i>icicles</i>

Table 2.4: Classification of metaphors (adapted from [DEIGNAN 2005, 47])

Historical metaphors derive from metaphorical extensions from a literal sense that are no longer in use. *Innovative metaphors* are infrequent and are not to be considered as conventional language. [DEIGNAN 2005] Whereas the two opposing outer categories *historical* and *innovative metaphor* are rather easily identified by using corpus data, the two inner categories of *dead* and *conventionalized metaphors* again cause difficulties: their boundaries are rather fuzzy. Relying on intuition alone, Deignan highlights the dependence on the literal sense as the fundamental feature of distinction. Accordingly she defines linguistic data as *conventionalized metaphor* if a literal sense that is more 'core' than the mostly well-known metaphorical sense is perceived. If there is nothing like 'dependency' and 'coreness' the instantiation may be classified as *dead metaphor*. [DEIGNAN 2005, 41] Thereupon, corpus linguistics needs to research examples of metaphorical instantiations for linguistic evidence of the notion of 'coreness' and 'dependency'. For this purpose concordance examinations as well as semantic analyses are performed. Interestingly, corpus linguistics found out that metaphors mapping something concrete onto something abstract result in *conventionalized metaphors* as knowledge about the source domain is important to grasp the target domain. However, metaphors mapping concrete onto concrete result in *dead metaphors*; the metaphorical sense may be perceived as equally core and thus, does not depend on the source domain. Within a fairly short period of time, the mapping retreats into the background

and the metaphor is dead. [DEIGNAN 2005] In other words, the question of whether a metaphor is dead or not is a matter of whether its literal sense in context is dead or alive.

historical metaphors	dead metaphors	conventional metaphors	innovative metaphors
			<i>traditional metaphor theory</i>
<i>conceptual metaphor theory</i>			
	<i>corpus linguistics</i>		
<i>language didactics</i>			

Table 2.5: Relevance of Typology for Different Research Disciplines

Needless to say, every researcher mainly depending on his or her discipline, as depicted in Table 2.5, decides differently on the inclusion or exclusion of different types of metaphor in operationalizing a definition of the term. Whereas innovative metaphors are the main source for literary analysts, corpus linguists aiming at current language description focus on *conventionalized* versus *dead metaphors*, as they occur most frequently. However, for the purpose of language teaching all four categories may be interesting, as they hold various opportunities to make students familiar with, and even more importantly, to help them remember, the individual words and phrases. *Historical metaphors* may provide striking etymology. *Dead metaphors* may be easier to understand and integrate into vocabulary if the literal sense is re-established. *Conventionalized metaphors* may profit from an elaboration of further mappings within the same conceptual metaphor. *Innovative metaphors* may be easier to decode and more carefully interpreted with raised metaphor awareness. Accordingly, insights into the different attempts to categorize metaphorical language provide useful linguistic knowledge on the motivation of metaphor and thus may directly contribute to the development of instructions to further explanations for the language learning classroom. The preceding paragraphs function as a basis for course or material designers as well as teachers, who should be able to analyze current metaphors, classify them and in this way explore diachronic and synchronic peculiarities in order to provide an appropriate elaboration in class.

2.3 Processing Metaphors

The pathway from traditional to cognitive metaphor theory has been long and winding and cognitive metaphor theory is still far from being firmly established: neither have all its aspects been comprehensively researched nor are the existing findings broadly accepted and agreed upon. In the meantime, the general conscious and unconscious usage of metaphors is likely to have remained the same. Therefore, in addition to dealing with the questions of 'What are metaphors?' (cf. section 2.2) and 'Why are they used?' (cf. section 2.4), the question of 'How are they processed?' is essential to set the framework for research into language acquisition. Indeed, insights into the cognitive processing of metaphorical language can facilitate foreign language didactics. Native and non-native acquisition may differ in the quality of the knowledge structures acquired, but the general processing of linguistic input as a regular cognitive process is likely the most influential component in both language acquisition processes. Knowledge about the general processing of metaphors may therefore guide teachers in their approach to model learning scenarios for the foreign language classroom. Thus, findings in metaphor processing may form the basis for the conception of experiments in language teaching and will therefore be considered next.

2.3.1 Native metaphor processing

In the summary of the different models of metaphor categorization, frequent reference has been made to metaphor processing. In Lakoff's categorization the question of whether metaphorical mappings are evident to language users is a distinguishing criterion. Making conscious usage a criterion, he implies that metaphors are separately dealt with in language processing (cf. p.27). Goatly takes it one step further by categorizing along the degree to which the encountered metaphor is most likely processed as metaphor (cf. earlier explanation on page 28). Here, a special processing of linguistic metaphors is taken for granted, but apparently is not given to all instantiations of metaphorical language or at least not to the full extent. Furthermore, he talks of metaphors "being wired in 'parallel'" and "being wired 'in series'" [GOATLY 1997, 34] in order to distinguish between his category of *tired metaphors* and of *active metaphors*. Goatly is convinced that whereas the latter require interaction between source and target domain – namely an understanding of the source domain features in order to construct meaning in the target domain – the former may be decoded without consideration of the source domain. When decoding *tired metaphors*, the listener

or reader processes the two different meanings of the word or phrase independently of each other. Indeed, the categorizations presented here widely draw on presumed language processing features without explaining how metaphor processing works.

According to the traditional view of metaphor being a creative ornamental or stylistic device, metaphors were originally believed to depend and derive from initial literal interpretation. The theory of a literal interpretation preceding a metaphorical interpretation, which the literature also refers to as the 'deviance view' [GENTNER and BOWDLE 2002]³⁶ or the 'standard pragmatics view' [GLUCKSBERG and KEYSAR 1993, GLUCKSBERG 2001, GENTNER and BOWDLE 2002]³⁷, carries two main implications: firstly, metaphors should logically take longer to process as they incorporate initial literal processing that takes time as well. Secondly, metaphorical interpretations are only initiated if literal interpretation fails or is defective [GENTNER and BOWDLE 2002].³⁸ In order to test the hypothesis of literal meanings having unconditional priority, empirical research has made use of reading and response time measurements in controlled experiments. As reported by Glucksberg, Ortony and his colleagues were first in measuring reading time of sentences in literal and metaphorical contexts. [GLUCKSBERG 2001] Replicated by different scholars, who refined the experiment through the method of eye-tracking measurements of individual words [INHOFF et al. 1984], all research in the area of reading time suggests that metaphors in context require no more processing than literal sentences. The amount of time elapsed for both decoding processes is the same.

However, these experiments only compared reading times, but did not prove that the sentences' interpretations actually involved metaphorical decoding. Thus, making use of semantic priming test activities, Blasko and Connine again refined the experimental approach to measure metaphorical processing. While listening to metaphorical phrases in neutral context, subjects were confronted visually with words that either targeted the literal meaning, the metaphorical meaning, or had no connection to the priming and thus functioned as control words. In addition to these three different sets of words an equal number of 'nonwords' were included. While reading a sentence (either in the

³⁶As discussed in section 2.1, for the longest time metaphors were taken to be deviant, peripheral aspects of language, added onto literal language. Therefore, the 'deviance view' believes that additional processing is necessary to understand metaphor.

³⁷The standard pragmatics view describes a three-stage model of metaphor processing: first the literal meaning is sought to facilitate interpretation and in a second step it is tested against the context. If the interpretation in context fails or violates Grice's discourse maxim 'to be truthful', the third and final step requires the search for an alternative, non-literal meaning that fits the context.

³⁸The notion of 'defectiveness' again refers to Grice's four maxims as explained in the footnote above.

middle of the trial or delayed by 300msec) a word from these groups flashed on the screen and participants were asked to decide as quickly as possible whether it was a word in English (i.e. a lexical decision task). The measured reaction times for the individual lexical decisions were analyzed according to the four different groups ((1) literally related, (2) metaphorically related, (3) no relation, (4) 'nonword' – group (3) and (4) both function together as controls) and the relative difference between the times for the first group compared to the control group and for the second group compared to the control group were contrasted in order to get an insight into the activation of the different meanings. For both comparisons, reaction times to the control group items were longer, implying that related words, no matter whether literally or metaphorically related, are faster to process. Furthermore, the reaction times in judging metaphorically related words were as short as those for literally related words if the metaphors were easily applicable, even when the metaphors were relatively unfamiliar. [BLASKO and CONNINE 1993] In fact, these refined experiments again showed that there is no difference in the time it takes to understand phrases literally or metaphorically and therefore suggests that the unconditional priority of literal decoding is to be questioned.

However, detailed comparisons of relative reaction times towards the immediate and delayed visual stimulus between the two experimental set of words (group (1) and (2)) suggests that the literal meaning is always activated and even remains active for at least 300msec whereas the metaphorical meaning does not continue beyond 250msec. [BLASKO and CONNINE 1993] Critics of Blasko and Connine's findings point out that the choice of words in the experiment could be one reason for the longer lasting 'effect' of literal meanings. [GLUCKSBERG 2001, 20] In most of their examples, due to close conceptual connection between the chosen literally and metaphorically related words, which would even have allowed for a substitution of the metaphor with the literally related words without losing metaphorical sense, the literal meanings were also contextually appropriate.

Consequently, the question arises: to what extent and for how long are contextually inappropriate literal meanings (that is, literally related words that are completely unrelated to the metaphor) processed and activated? As reported by Glucksberg, refined replications of Blasko and Connine's original experiment to tackle this very question showed that contextually inappropriate, but literally related meanings were not activated in the metaphorical contexts, neither immediately nor in the delayed condition. [GLUCKSBERG 2001] Indeed, not all of the source domain, especially not contextually inappropriate aspects are activated to facilitate the target domain and thus do not assist metaphorical interpretation either.

To sum up, empirical research has proven that metaphorical meanings are as quickly accessible as literal meanings although literal meanings sometimes play an important role in decoding the metaphor. Nevertheless, it is not the whole spectrum of possible literal meanings or all of the underlying conceptual domain that is activated in metaphor processing but only the aspects appropriate to the context. However, in order to decide what is or is not contextually appropriate, context as well as the possible pool of features and notions to be transferred needs to be mentally established, which again raises doubts about the logic of the priority of literal processing.

Nevertheless, research has demonstrated that literal meaning processing is non-optional, i.e. compulsory regardless of context. As Glucksberg states: “fluent speakers of a language do not have the option of refusing to understand [...] Any linguistic input will be processed” [GLUCKSBERG 2001, 21]. Here the question concerned with the second implication of the standard pragmatics view, as stated above, suggests itself: is metaphorical decoding only initiated if literal interpretation is defective according to the rules of conversation? In other words, is metaphorical processing, in contrast to literal processing, optional or dependent on the context? Experiments making use of reaction time measurements serve in the search for a valid answer. Working with speed-accuracy trade-off functions, McElree and Nordlie found that literal and metaphorical interpretations are generated in parallel, even with the same time-courses for both processes. This clearly demonstrates that neither of the two interpretation procedures is prioritized. [GLUCKSBERG 2001] In fact, Glucksberg, in his research, takes it one step further by showing that – in contrast to traditional beliefs – metaphorical processing actually begins even before the final literal judgment of true or false is reached. [GLUCKSBERG et al. 1982] Moreover, he found that processing of metaphorical meaning, as much as literal meaning, is non-optional: “we can no more shut off our metaphor-understanding machinery than our literal-understanding machinery.” [GLUCKSBERG 2001, 28]

In short, the ‘standard pragmatic view’ with its proposal of a three-stage metaphor processing model has not been supported by literature. Here, again the notion of conventionality plays an important role. Whereas *creative, novel metaphors* may be processed as described by the standard pragmatic view, processing might take place quite differently for conventional metaphors. As briefly touched upon in Goatly’s categorization, *active metaphors*, as he puts it, are “wired in series”, which means they follow the standard pragmatic view proposal and prioritize literal processing. Conversely, Goatly’s *tired metaphors*, which follow *active metaphors* already in the next category, are “wired in parallel”, that is, literal processing does not take priority. Indeed,

metaphorical processing depends on the metaphor's degree of conventionality.

Even more important, as much as the categorization of metaphors is dynamic due to diachronic changes in language usage the processing of metaphorical language evolves respectively. Through frequent usage metaphorically conveyed abstractions become easily accessible, increasingly fixed, and may eventually be stored as further additional word meanings [GENTNER and BOWDLE 2002]. In other words, whereas once-new metaphors used to be processed metaphorically as well as literally, they are now only processed metaphorically as this meaning is as easily accessible as the original literal meaning. Likewise, current new metaphors are processed literally and metaphorically in parallel – if contextually appropriate – or possibly in series. What Gentner and Bowdle refer to as “career of metaphor” in their latest works, namely the evolutionary process of metaphors through everyday language usage and thus entrenchment from *novel* to eventually *dead metaphors* [BOWDLE and GENTNER 2005, GENTNER and BOWDLE 2008], therefore becomes the criterion for native metaphor processing procedures.

2.3.2 Non-native metaphor processing

The findings considered thus far only apply to the language processing of competent users of the language in question, that is, native speakers. From a language learner's perspective the processing of linguistic input is the point where the problem with metaphorical language starts³⁹: words and phrases have different meanings as they are used in very different contexts, that is, the same word or phrase may be used literally and metaphorically. In order to ensure successful communication in the foreign language, the different meanings have to be made accessible. However, language teaching material, as discussed in section 7.4, in general does not provide the literal as well as the metaphorical meaning for new words and phrases that occur in the text books but only gives the meaning relevant for the respective context. Foreign language learners are thus forced to process according to the context: either literally or metaphorically. Yet 'process' might not be the correct choice of word here, as learners do not necessarily 'process' the word, but are more likely to develop the sentence meaning from the context with the help of the given translation or paraphrase provided in the teaching material.

In this respect, foreign language acquisition could learn from natural language development. Instead of presenting only the metaphorical meaning it attributes (as is often

³⁹Strictly speaking, this is not really true as language learners are unlikely to be aware of the problem nor are they able to actually define the obstacles. Yet from a theoretical point of view, this is the point where problems for language learners occur.

the case in textbooks) or presenting the word or phrase out of context (but with all the different nuances of meaning it may take in the different contexts) to be learned as vocabulary, language teaching could rely on a method similar to the traditional three-stage metaphor processing model. After all, language learners are likely to perceive all metaphors in the foreign language as novel, and are therefore likely to process them 'in series', just as native speakers do for novel metaphors .

In his processability theory, Pienemann describes a hierarchy of language processing consisting of five steps, in which each lower level constitutes a "prerequisite for the functioning of the higher level" [PIENEMANN 1997, 7]⁴⁰. Integrated into his model, metaphor processing directly affects the first step, the "lemma access", which is responsible for the activation of the literal and/ or metaphorical meaning of an utterance. As a prerequisite for the whole process, improved lemma access by means of explicit elaboration could positively influence steps 2 to 5. Indeed, by providing the literal meaning as well as the respective motivational background for the metaphorical mapping, and then prioritizing literal interpretations, language teaching could provide valuable mnemonics for language learners. In particular, *dead* and *conventional metaphors*, whose metaphorical meanings may have been lexicalized already, and which are therefore often considered to be arbitrary (and of course, mainly processed 'in parallel' by native speakers), may in this way be understood and consequently easier to acquire. Of course, metaphorical language that is classified as "conventional", as elaborated in section 2.2.2, has only arrived at that stage through frequent usage. Indeed, these lexical items may in any case be easier to learn and store due to their infrequent occurrence. Nevertheless, forced to process new metaphorical language input literally as well as metaphorically, language learners are enabled to draw links and eventually map out metaphorical concepts. The vocabulary item "flow"⁴¹, for instance, which appears in business discourse in both verb and noun form, is easy to learn as it is frequently used and therefore belongs to the category of *conventional*, maybe even *dead metaphors*. Thus, English natives are suspected to process the item only metaphorically. Moreover, even German learners of English may be suspected to do so, as the metaphorical concept exists in both languages. The literal translation also works metaphorically in both

⁴⁰Pienemann does not address the topic of metaphor processing. Nevertheless, his processability theory outlining the sequence in which procedural skills are developed clearly states that vocabulary in general and lemma access in particular is the gateway to all language processing. Broadening this lemma access by means of a clear delineation of concepts but at the same time interconnection of the metaphorical meaning with the original literal meaning may therefore affect all language processing.

⁴¹"Flow" is also one of the linguistic metaphors focused on in the study presented in section 7.

languages. Nevertheless, not all learners of English, especially learners with unrelated mother-tongues who are not familiar with the concept, may be able to actually take a 'short cut'. As much as language learners, in contrast to natives, try to decompose idioms⁴² that are not yet stored as lexical items in memory, language learners may decompose metaphors (especially metaphors which are novel to them) by explicitly considering the source domain in search for meaning. Accordingly, language learning can profit from literal processing and even learners with closely-related native languages may benefit. As will be discussed in section 7.4, apart from the conceptual background, learners receive mnemonic guidance by the elaboration of the motivational background and are in this way enabled to store "flow" together with other instantiations of the conceptual metaphor MONEY IS A LIQUID.

Due to the complexity of the human brain and the methodological problems of operationalizing language processing that can only measure reaction times or – even more filtered and influenced by other confounding variables – language output, findings may still be categorized as informed speculations. Some researchers frankly admit this in their reports, saying, "I speculate on ..." [PIENEMANN 1997, 2]. Thus, in spite of all research done in the field of language processing, the field is not yet well-defined. In particular, research on the metaphor processing of language learners is needed. However, in order to actually define the procedural components of metaphor processing in language learners, a methodology of teaching metaphors by explicitly activating the source domain may be a first step.

2.4 The Function of Metaphors

Metaphors are omnipresent in language and thought. Metaphors follow certain rules of production. Metaphors are entrenched to a certain degree and thus are categorizable accordingly. Whereas the preceding sections dealt with the pervasiveness and structure of metaphors, this section asks the question of what metaphors actually do, that is,

⁴²Traditionally idioms were defined by their non-compositionality, that is the meaning of the individual words of an expression (implying that idioms traditionally consist of phrase-like expressions) do not add up to the meaning of the whole expression. Today the degree of formal fixedness and the degree of conventionality complement non-compositionality as criteria to identify idioms. [WULFF 2008] Idioms and metaphors both belong into the category of figurative language, but exactly the degree of compositionality, the degree of formal fixedness, and the degree of conventionality distinguish the two. Indeed, metaphors and idioms name the two poles of the continuum sketched out by these three characteristics. In contrast to metaphors, idioms can never be novel but need to be conventionalized, and they are rather fixed and do thus not allow for lexical substitutions from the same source domain or derivation. Nevertheless, idioms may be based on metaphors in a similar way as metaphors may be based on metonymies.

what function do they fulfill?

2.4.1 From stylistic to heuristic

The traditional idea of metaphors being mere stylistic means of addressing the reader's imagination has been overcome in linguistics⁴³: although metaphors may certainly serve literature in the form of decorative ornaments or as complex structures to create cohesive texts this is by far not their sole purpose. Kristiansen elevates metaphors to the circle of three main cognitive operations by which "human thought manages to explore and conceptually structure the experiential world of man" [KRISTIANSEN et al. 2006b, 5]. According to her, metaphors – together with metonymy and conceptual integration or blending – are the main tools of conceptualization. Indeed, metaphors serve a number of different cognitive functions, the most essential one of which is their ability to make new or abstract domains "accessible through metaphorical 'scaffolds' imported from better-known domains[...]" [ALLBRITTON 1995, 43] As explained in section 2.2, structure and vocabulary from the source domain are transferred to the target domain to provide a framework for understanding a new domain. Jäkel speaks of the "*Erklärungsfunktion*" (explanatory function) and "*Verständnisfunktion*" (comprehension function) [JÄKEL 2003, 31] that is summarized here as the heuristic function of metaphor. Due to this quality of metaphor, the use of metaphors has become increasingly popular in scientific discourse, amongst specialists in the field and more so in explaining scientific interrelations to laymen or students to facilitate access to the field and improve understanding. (cf. [BIERE and LIEBERT 1997, JÄKEL 2003, LIEBERT 1997, LITTLEMORE 2001, LIEBERT 2002, DREWER 2003, DREWER 2005, LOW et al. 2008]) Referring to the research on the role of analogies and metaphors⁴⁴ in scientific discourse and learning science [DUI 1991, DAGHER 1995, LAWSON 1993, SUTTON 1993], Low gives the following summary:

"Using analogies is an essential aspect of academic expertise, whether one is discovering things or creating theories [...] they allow the teacher to communicate with learners who have not mastered a theory [...]; they

⁴³Nevertheless, textbooks for German secondary schools still give evidence of the fact that metaphors are still taught as 'stylistic devices'.

⁴⁴Analogies and metaphors are equated here. As explained in section 2.1 not all metaphors are analogies but metaphors certainly can be analogies. The research referred to here deals with the general conceptual metaphors used in scientific discourse to explain intangible phenomena. For this purpose analogies to well-known phenomena are often drawn and these analogies are also metaphors.

allow learners to visualise abstract concepts [...]; they motivate learners [...]; they allow the teacher to tailor teaching to individual needs and levels of understanding.” [LOW 2008, 216]

Indeed, upon making a scientific discovery, scientists are unlikely to already possess terminology to describe their discovery and build a theory. Hence, they draw on appropriate analogies, that is, they use metaphors to enable discourse. When completely new, these metaphors are referred to as “suggestive metaphors” [MILLER 1978, 9], as they have to be agreed upon in the scientific community first. As Aitchinson nicely puts it,

“ If researchers have to make guesses about the structure of something unknown, where do they get their inspiration from? How does one pull a guess out of the thin air, as it were? [...] They hypothesize that it is like something we already know about, and then test their hypothesis.” [AITCHINSON 1987, 33]

Offering a familiar domain to transfer from, these metaphors then actually create knowledge. In this context, Deignan gives the telling example of the “(world wide) web” [DEIGNAN 2005, 16], which though at first glance is merely a new vocabulary item, was used by speakers to develop their mental model of the target domain: that is, “thin but strong connections between nodes, and coverage of a large area” [DEIGNAN 2005, 16]. Indeed, metaphors provide insights into an unknown field by the mere use of familiar words and phrases, and in this way initiate and guide mapping processes. Using well-defined and commonly known vocabulary and knowledge structures, scientists are thus able to make their research available to laymen – teachers are able to break down complex structures into accessible and digestible knowledge available to learners. Interestingly, the cognitive ability to map from one domain to another seems to be a basic human feature. In fact, children are already able to draw analogies between domains and thus successfully understand and use metaphorical mappings. Failure in comprehension, as Cameron in a summary of research with children (cf. [VOSNIADOU 1989]) states, is “more likely to be due to lack of domain knowledge rather than to problems with the analogical process” [CAMERON 2003, 37]. That is, knowledge deficits are the only reasons why age (and strictly speaking educational as well as socio-economic background) has become a relevant factor in grading the ability to comprehend metaphors. As an ideal tool for learning in any discipline and (after adoption by means of didactic reduction or different choice of source domains) at any age, metaphor is broadly used (both consciously and unconsciously).

Cameron explicitly extends the potential of metaphors as servant of cognitive abilities in educational discourse to (1) “prompting gap noticing”, (2) helping with “problem-solving”, and most importantly for this discussion (3) “assisting recall of information” [CAMERON 2003, 37-38]. The first and second aspects address the potential of metaphor to generate a shift in perspective. That is, in (1) metaphors function as a critical challenge of one’s own understanding of the target domain by applying source domain structures, which might reveal knowledge gaps that either call for the acquisition of more information to fill these gaps or for a restructuring with a different metaphor. In (2) metaphors assist the problem-solving process, which is usually based on individual examples, by providing guiding analogies to make up for the needed abstract principles. Sticht summarizes these two first abstract functions as follows: “[A]s the repeated use of a hammer may strengthen the arm, the repeated use of metaphors may strengthen the powers of analysis and synthesis” [STICHT 1993, 631]. The third function of metaphors in educational discourse, singled out by Cameron, opens a whole new field of research. “Metaphors may help learning by working as a mnemonic for how concepts are connected, extending the capacity of memory.” [CAMERON 2003, 38] In other words, metaphors advance to be a learning device, which is one of the basic beliefs the research presented in this book is built on. In 2003 Cameron admitted that she had “not been able to find much empirical evidence to support a claim for a positive role for metaphor in reminders.” [CAMERON 2003, 38] and singles out Arter’s 1973 unpublished doctoral thesis, which deals with the effects of metaphor on reading comprehension – the only study “that shows metaphorical language use giving advantages in recall.” [CAMERON 2003, 38] Low found another earlier study by BouJaoude and Tamime, where a sample of 12-year old biology students (N=51) unanimously claimed that the given metaphors had helped them to recall concepts. [LOW 2008, 217] Since 2003, various studies have been conducted in the field of metaphor as learning tool, especially in reading comprehension or vocabulary acquisition.⁴⁵ Foremost, the empirical classroom investigations pursued by Boers’ Belgian research group are to be named here; they provide clear evidence for the supportive role of metaphors in memorizing.

The advantage of metaphorical over non-metaphorical structures is their visual component. Analogies “allow learners to visualise abstract concepts” (as above, [LOW 2008, 216]). Indeed, explaining target structures by mapping familiar knowledge from different source domains, metaphors actually draw pictures. The reader or listener is guided to understand something in terms of something else, and in order to do so, the

⁴⁵A review of these studies can be found in chapter 5

knowledge of the source domain, which is also 'stored' in images (cf. section 4.1) needs to be activated to process the metaphorical information (cf. section 2.3). The freshly generated knowledge is thus coded twice: verbally and visually, which makes it easier to retrieve from memory and thus ostensibly easier to remember. Paivio's dual coding theory [PAIVIO 1986] suggests that this ease in retrieval and remembrance through parallel verbal and visual processing of knowledge is highly applicable to figurative language, resulting in such integrated representations [PAIVIO 1986, 234].

The ability to understand new theories through analogies and take part in the respective discourse by means of common vocabulary provided through metaphorical transfer along with the ability to adopt a concrete visual approach to abstract phenomenon also increases motivation. Thus, the ability of metaphors to "motivate learners", as listed in Low's summary (see above, [LOW 2008, 216]), may not be taken as an inherent feature of metaphors but is merely a consequence of metaphoric processing. Nevertheless, the resulting increase in motivation adds to the general potential of metaphors to serve as a heuristic function and makes metaphors an ideal learning tool. As stylistic means metaphors are used to draw a coherent picture and "convey a new and quite different feeling and meaning" [PORTER et al. 1994, 48] to enrich understanding, as heuristic means they similarly impart knowledge to foster comprehension.

2.4.2 From heuristic to strategic

However, using metaphors as means to impart meaning and knowledge may raise a whole new set of problems. Just as children may have problems in understanding metaphorical analogies due to their lack of proper source domain knowledge, adults may similarly "bring partial or inaccurate domain knowledge to their understanding of metaphor" [CAMERON 2003, 38] and thus misinterpret the apparently metaphorically eased knowledge structures. Likewise, metaphorical structures may fail to structure the abstract target domain in all its complexity.⁴⁶ In fact, understanding of the target domain may be impeded because the chosen source domain lacks the relevant structures or vocabulary needed. Based on Spiro's findings, Cameron discusses three possible negative contributions of metaphor usage to thought:

1. Metaphors may initiate misconception and thus restrict alternative access.
2. Metaphors may offer too simple or only partial structure.

⁴⁶For an example of failure of metaphorical structures in advanced study of an abstract subject consult the research with medical students reported on in [SPIRO et al. 1989].

3. Metaphors may promote extensive transfer that might exceed the intended mappings.

cf. [CAMERON 2003, 39] based on [SPIRO et al. 1989]

Therefore, Spiro advises teachers to explicitly discuss the shortcomings of the chosen metaphors and counteract these with other metaphors to gain multiple perspectives, which requires full awareness of the existence and usage as well as the limitations of metaphors in the subject specific discourse.

This problematic aspect of the heuristic use of metaphor in educational discourse is in fact its power as a means of strategic manipulation in other discourses. “Using a metaphor to describe a domain can affect the way that a domain is understood” [ALLBRITTON 1995, 37], that is, the danger of metaphors arises from the same properties that were singled out to positively contribute to the heuristic potential of metaphors. The knowledge structure of the source domain is applied to the target; but apart from metaphorical mappings being unidirectional and invariant, they are also partial. Indeed, as mentioned above, the chosen source domain does not necessarily provide knowledge structures or vocabulary for all features of the target domain: mappings are provided solely for the aspects of the target that are the desired foci. This process of linguistic highlighting and selective neglect of specific aspects of the subject contributes to the establishment of questionable ‘truths’. Indeed, by facilitating but likewise limiting discourse to the perspective applied, metaphors can constitute and shape reality. Therefore, use of metaphor is a popular means of manipulation in particular amongst journalists, who consciously draw heavily on metaphor to capture the attention of their audiences. Not only journalists, but also politicians, business managers, and other influential speakers frequently draw on metaphors. Similar to teachers imparting knowledge, these strategists use metaphors in their discourse to convince, for example, voters or stake holders of their present work or future plans. For example, managers presenting company’s accounts to shareholders at the annual general meeting are well-advised to choose the right metaphors to put a positive ‘spin’ on company finances and activity (to emphasize up- and downgrade downward movement); after all, shareholders must be convinced that the company is on the right track. The choice of the source domain and accordingly the emotions that are likely to be evoked in this context as well as the associations challenged by the source domain are crucial as they will be – at least partially – transferred to the target domain. The art of conceptualizing the same phenomenon to evoke different perspectives has become a key competence for business managers. A telling example is Chateris-Black and

Musolff's research on the metaphors used in the context of Euro trading in British and German financial reports, in which they nicely depict how the Euro in the very same business transaction is conceptualized as "battered hero" or "innocent victim" by means of metaphor [CHARTERIS-BLACK and MUSOLFF 2003]. And Boers clearly provides evidence for the influence the choice of metaphors in the presentation of socio-economic issues may have on readers' reasoning and value judgment. In his experiment, two groups of business students were confronted with a case study of a company that is confronted with an overseas competitor. Whereas the first group received the scenario described by means of metaphors taken from the domains of HEALTH, FITNESS, and RACING, the second group was exposed to the same scenario, yet this time FIGHTING and WARFARE metaphors were chosen as source domains instead. The test results showed that metaphors can influence participants' decision-making processes as the suggested solutions mainly continued to elaborate in the set metaphorical framework: in accordance with the HEALTH / FITNESS domain students were more likely to suggest "downsizing" (reducing the size of the company), "slimming down" (laying off personnel), or "amputations" (closing departments) and reflecting the logic of the RACING domain, students proposed investment in research and development. However, exposed to the text with FIGHTING and WARFARE metaphors, students suggested "price wars". [BOERS 1997b, 237]⁴⁷ [BOERS 1997b]

Business-related statements such as "we are gaining ground on our main competitors", "we don't want to give up without a fight", "we need to modernize our product range in order to reinforce our market position", or "we have joined forces with another company", are telling examples of the underlying conceptual metaphor BUSINESS IS WAR. Yet thinking of economics as war, one assumes two possible outcomes: victory or defeat. Conversely, economics looked upon as a game or a dance⁴⁸, for example, opens up new possibilities of approaching the subject matter, which could lead to new solutions to apparently insurmountable problems. Highlighting and at the same time hiding aspects of the target domain by making use of a specific source domain and characteristics transferred from this source domain, metaphors advance to be an ideal means of linguistic manipulation. Consciously used and unconsciously perceived, they have an immense persuasive force that is not to be underestimated. Therefore, Goatly, providing ample evidence for the influence of metaphors on our thinking and

⁴⁷The difference in metaphor usage between the two groups individually tested for each source domain actually reached a significant level of $p > .001$ for the first set of source domains and $p > .05$ for the second set. The slight difference in significance might be due to the relatively more pervasive usage of war metaphors in business discourse in general.

⁴⁸For an example confer the former potlatch ceremonies of the First Nations in Canada.

social behavior, explicitly warns of the dangers of metaphorical reductionism. [GOATLY 2007]

2.4.3 Metaphor in language teaching

Metaphor teaching as such is only gradually being explored⁴⁹ and hence is far from systematic. It is still questionable whether it will ever explicitly find its way into the language teaching curriculum and come to an equal footing with, for instance, the distinction between *present perfect* and *past simple* in grammar teaching. Ideally, conceptual metaphors could function as guidance for language production in general and creative language usage in particular. Having been taught and internalized the basic conceptual framework, language users could creatively map source domain structures onto the target domain and make use of the respective vocabulary. Conceptual metaphor would in this way contribute to language eloquence and fluency. Indeed, similar to grammatical constructions, that set the general framework for language usage but actually need to be filled in with the respective forms of words, metaphors set the conceptual framework but need to be filled in with the respective vocabulary in order to convey meaning. The inclusion of metaphor in teaching may at first glance be plausible, language teaching practice, however, will have to travel a long way and experiment with the different aspects involved before a systematic theoretical approach to metaphor teaching is developed.

Although probably most productive and definitely most obvious, vocabulary teaching is not necessarily the only aspect of language teaching that profits from the integration of metaphors. Cognitive linguistic experiments on teaching, for instance, prepositions [BOERS 1996, LINDSTROMBERG 1998], abstract motion [DEKNOP forthcoming], or resultative constructions and simultaneity *as*-constructions [BROCCIAS forthcoming] have shown that the positive contribution of insight into the metaphorical grounding of grammatical structures is not to be neglected in foreign language learning. Yet studies in this area have remained singular and are only loosely knit together under the roof of Cognitive Linguistics – there is no cohesive body of research.

However, the function of metaphor in language teaching is clearly twofold: metaphors provide explanations for the choice of vocabulary as well as grammatical constructions and thus support insightful learning that not only results in an increase in understanding but consequently also in an increase in motivation to study complex foreign language structures.

⁴⁹In chapter 5 a review of experiments in teaching metaphors is provided.

2.5 Metaphor and Culture

As described in section 2.2.1, metaphors are embodied or grounded in human experience. Using language as a tool to construe the world, humans enable discourse in abstract domains by using metaphors according to their basic bodily, social and individual experience. Due to the general organization of the human body, some of these bodily experiences are universal. Yet other experiences are socially and culturally dependent or are even individually acquired. [QUINN 1991] Thus, some of the conceptual metaphors are found across cultures, whereas others are rather culture-specific or even vary within cultures depending, for instance, on the geographical region, the style or register used, or the context. In order to theoretically distinguish these different types of metaphors, Kövecses differentiates between 'universal metaphors', 'cross-cultural variations', and 'within-culture variations'. Although 'universal metaphors' are grounded in basic bodily experience, such as "containment [e.g. STATES ARE CONTAINERS], force [e.g. EMOTIONS ARE FORCES], [or] moving along a path [e.g. LIFE IS A JOURNEY]" [KÖVECSES 2005, 18-19], they can only potentially exist in every culture but do not necessarily have to show up in all languages. The example mainly referred to in this context is the metaphor AFFECTION IS WARMTH, which supposedly stems from early childhood experience, when a parental loving embrace accompanied comforting bodily warmth. (e.g. [KÖVECSES 2005, 2-3]) Thus, human beings – all having had this experience – are likely to make the connection between the two domains and are thereupon able to decode for instance "a warm welcome" as something positive, even though the conceptual metaphor might not be apparent in their native tongue. Similarly, as described on page 22 for the MORE IS UP metaphor, even speakers of languages that do not provide any linguistic evidence of the concept are more likely to align MORE with UP than with DOWN. Thus, in adhering to a basic conceptual human framework, non-native speakers may still be successful in transferring native concepts to the target language.

Yet in the category of 'cross-cultural variations', the chosen concepts as well as the linguistic instantiations of the respective conceptual metaphors may vary. That is, conceptual metaphors of one language may simply not exist in another language as the other language makes use of a different source domain to enable discourse in the target domain. Alternatively, the source domain may be the same in both languages, but the degree of individual mappings from a source domain to a target domain (that is, the productivity of the source domain in form of linguistic instantiations) may vary

from language to language.

Boers and Demecheleer provide some interesting corpus research on the culture-specific relevance of source domains in English and French socio-economic discourse. Starting out from national stereotypes, they found that in their sample⁵⁰, English newspaper articles were significantly more likely to use figurative language related to GARDENING than French newspaper articles. Conversely, French newspaper articles were significantly more likely to refer to the source domain of FOOD, or EATING in general. [BOERS and DEMECHELEER 1997, 127-128]. In short, languages builds on their cultural grounding: “the diversity of a particular metaphor can be taken as a reflection of a country’s history [. . .] or even its national stereotypes”. [BOERS et al. 2004, 57] And indeed, whereas the English are known as garden lovers, the French are widely known for their cuisine.

It is precisely this cultural grounding that may cause problems for non-native speakers who are not familiar with the underlying culture. Indeed, in a subsequent guessing experiment with French-speaking students, Boers and Demecheleer found that their subjects were more likely ($p < .001$) to correctly decode the meaning of unknown English idioms of the source domain FOOD than of the source domain SHIPS. [BOERS and DEMECHELEER 2001, 258] The concepts are so entrenched in the language that they not only guide encoding for language production but also decoding for language comprehension.

Even with languages and cultures as closely related as English and German, linguistic metaphors are neither translatable one by one nor do both languages necessarily make use of the same source domains or draw on the source domains with the same intensity, producing the same linguistic instantiations. [KÖVECSES 2002] As will be exemplified in chapter 3, the conceptual metaphor MONEY IS A LIQUID exists in both languages, yet in English it is by far not as productive as in German. However, due to similarities in the Western world, English and German share many basic perspectives and thus many of the conceptual metaphors referred to in English also exist in German.

A frequent source for metaphorical transfer, and a telling example for culture-dependence, is national sports. Even in the same language, cultural differences may emerge. Boers, Demecheleer, and Eyckmans compared British and American English idioms and found that whereas American English is more likely to incorporate baseball-based idioms, British English widely draws on horse racing and cricket as source do-

⁵⁰The sample consisted of newspaper editorials and background articles taken from *The Financial Times* and *Le Quotidien de L’Economie et de la Finance*– the two leading newspapers for financial matters in English and French.

mains. [BOERS et al. 2004, 56-57] Different geographical locations and ways of living may lead to different value systems, living standards, interests and professional foci that all have influenced language throughout the years and result in different shades of meaning to be expressed. Therefore, learners who are not familiar with the cultural background of a language may encounter problems with linguistic instantiations of conceptual metaphors. Indeed, what was meant to fulfill the essential function of making abstract domains linguistically and cognitively accessible may create intercultural misunderstandings. Source domains successfully used in one culture may not achieve their goal of enabling discourse in other cultures. In understanding and mentally storing a metaphor, language learners coming from different cultural backgrounds therefore sometimes have to decode the abstract target as well as the concrete source domain – the cultural background.

Littlemore's research on the problems overseas students (in her case, Bangladeshi civil servants attending a course in International Development at a British University) had with the use of metaphors in English university lectures contributes empirical evidence to the mainly theoretically generated claims of the frequent misunderstandings caused by metaphorical language usage. Although the students' level of proficiency was high and the students often understood the individual words, they were not able to actually grasp the overall meaning of the metaphors. Furthermore, Littlemore found that since metaphors were also frequently used by lecturers as a strategic device to evaluate the presented topic, the participants' misinterpretation of metaphors also influenced their interpretation of the speaker's attitude. Expectations based on possibly culture-dependent conceptual knowledge and context were constitutive for the decoding of ambiguous language usage. That is, the students constructed meanings that confirmed their expectations: not being used to publicly criticizing or questioning government affairs, the Bangladeshi students did not expect the British lecturers to distance themselves from what they presented. The students' cultural background clearly did not allow for this interpretation. Yet as Littlemore points out, *misunderstanding* part of discourse is in particular more problematic than *non*-understanding. Whereas in the case of *non*-understanding the listener or reader is aware of the fact that there is a problem, in the case of *misunderstanding* the need for clarification is not even apparent, hence clarification is not sought and false conclusions are drawn. [LITTLEMORE 2001] Indeed, in processing the language input, interlocutors from different cultural backgrounds refer to different conceptual knowledge and thus may draw different conclusions from the same statement.

The problem becomes even more complex when the interlocutors are from divergent

cultures, have different mother tongues and use English as a *lingua franca*. Which conceptual framework do they apply in order to communicate in English? Do both speakers stick to the conceptual backgrounds rooted in their cultures and try to translate them into the *lingua franca*? Do both adopt the cultural underpinnings present in the English language to communicate successfully? Or do the participants in the conversation follow different strategies? In order to avoid misunderstandings, the only solution is the adoption of the cultural and, thus, conceptual background of the language currently in use by both interlocutors. Yet most speakers, non-native or native, lack the basic language awareness to identify culture-specific usage of metaphorical language. Therefore, a contrastive analysis of the metaphorical mappings in the speaker's mother tongue and in the language in use is indispensable – especially for later applications in the foreign language classroom. In fact, limiting misunderstanding by raising language awareness in general and metaphor awareness in particular and teaching the most productive cultural underpinnings is therefore crucial, especially in courses on international business communication, where lack of understanding may result in financial complications or even in a breakdown in negotiations.

CHAPTER 3

Socio-Economic Discourse

3.1 Socio-Economic Discourse as Target Domain

Aiming at an application of CMT in Business English courses, this study also needs to briefly consider the peculiarities of the target domain – socio-economic discourse. As a typical abstract domain, socio-economic discourse lives by metaphors. Indeed, in many areas of business, basic ontology, orientation, and structure is assigned to the rather abstract business entities or interrelations by means of metaphorical transfer. Thus, business discourse is hardly possible without relying on metaphors. How are mergers to be referred to if not by linguistically making use of the vocabulary identifying concrete processes and experiences, such as liquids merging or a marriage of two individuals (or MATING [KOLLER 2007, 246]); or how is business competition elaborated on without referring to the more everyday-experience of sports competition? Metaphorical transfer is essential. A telling example of this metaphorical pervasiveness is certainly the current debate over the future of the German car-manufacturer Opel. “The German *sought to calm a growing trans-atlantic row over the fate of carmaker Opel* [...]” [REUTERS 2009]; “*Berlin could rescue Opel under GM*” [FINANCIALTIMES 2009]; or “*General Motors switches gear in its row with Germany’s government*” [ECONOMIST 2009] state the first three press releases listed on yahoo.com’s news coverage page on August 27, 2009 – and all three largely consist of figurative language. Of course, these are all newspaper articles, which are more likely to make use of metaphors to manipulate readers, and business discourse comprises a multitude of different oral and written texts apart from press releases, yet here it is the topic – the target domain – not the text type that is constitutive for metaphorical language usage. The addressed discourse on mergers or take-overs here needs to borrow from concrete domains.

In addition to the necessity to resort to metaphors to enable basic discourse, business professionals use language deliberately to manipulate and eventually promote business success: they draw on metaphors to make abstract knowledge structures accessible to the public, while at the same time strategically influencing the public decision-making processes by the choice of metaphors. Highlighting and at the same time hiding certain aspects of a topic, the choice of metaphors then often suggests the next economic steps to be taken as natural consequences. Most individual, as well as a large portion of professional decisions within the socio-economic context are founded on personal affinities, beliefs, and confidence. Therefore, the respective scenarios implied by metaphoric language use considerably influences sometimes far-reaching business decisions. As discussed in section 2.4, the conceptual metaphor BUSINESS IS WAR, for example, pre-structures and hence limits possible concept-conform action and reaction to economic problems. An early example of heuristic-strategic use, is also Adam Smith's *Invisible Hand Theory*¹ (1776), which is one of the most influential economic theories. As if guided by an invisible hand, the market is supposed to regulate itself. On these grounds, calls for further governmental interference in the marketplace can clearly be rejected as not necessary in the model set up by the metaphor. Similarly, free-market rhetoric, for instance, substantially differs from socialist-oriented discourse and thus may shed different light on the very same economic situation. In other words, economic reasoning may be based on premises that are of a metaphorical nature [BOERS 1997b, 238], and ideologically charged language use can thus deliberately limit the variety of perspectives.

Moreover, in today's global economy English is mainly used as the *lingua franca*. Thereupon, business English discourse is often intercultural discourse. Indeed, English is not a language with a culture. As a result of colonization English has become the language of different cultures, and is today still broadly used by non-native speakers as *lingua franca*, which again continue to coin the language itself. Thus, depending on the level of English proficiency and conceptual fluency of the non-native interlocutors, business English discourse provides a perfect example of culture-significance. Interlocutors with different cultural backgrounds may conceptualize business interrelations differently and moreover, dependent on their English knowledge and thus, also possible lack of vocabulary, they may simply translate conceptualizations from their native-language into English, which provides a fruitful ground for intercultural misunderstandings. Therefore, metaphoric awareness and competence is crucial for everybody involved in in-

¹Boers and Demecheeler looked at a few other linguistic examples that made use of Adam Smith's theory and at what they implied. [BOERS and DEMECHELEER 1997, 115-116]

ternational business communication. Knowledge about the manipulative potential of metaphorical language and the selectiveness of mappings that highlight and at the same time potentially hide what may be crucial aspects of the economic situation is of great significance. Indeed, business discourse mainly hosts the daily game of politics, power, and money, therefore the powerful influence of language used needs to be carefully examined.

3.2 Source Domains of Socio-Economic Discourse

To provide explanations for the complex correlations constituting the foundation and the multiple facets of micro- and macroeconomics, socio-economic discourse as a target domain makes use of a wide range of conceptual metaphors that are facilitated by diverse source domains. Yet deriving the source domains for an encountered linguistic metaphor is not always easy and straightforward. “Different metaphorical systems intersect, so that different conceptual metaphors may be at play simultaneously” [BOERS 1997b, 234] and sometimes source domains may even be hierarchically connected, thus the actual source domain responsible for the chosen linguistic instantiation can sometimes not be clearly identified. [JUCHEM-GRUNDMANN and KRENNMAYR 2009] Sport competition for instance is historically closely interrelated with war. Hence, as has been explained in section 2.2, according to the inheritance of hierarchies, WAR is already a productive source domain for SPORTS. The decision whether the conceptual metaphor BUSINESS IS WAR or BUSINESS IS SPORT COMPETITION is then responsible for a specific linguistic metaphor used in the socio-economic discourse is therefore often problematic. In the context of language teaching, this question does not need to be answered in detail. Indeed, all domains that may function as potential sources are of interest for material designers and teachers. Hence, WAR as well as SPORT are to be named together as very productive source domains for the socio-economic discourse. Companies *map out a strategy* to *penetrate* a foreign market [BUSINESS-WEEK 2009], they *invade* markets, they are engaged in *takeover battles* [CNN 2009b], and *conquer* market shares [ALLBUSINESS 2002]. Moreover, Boers and Demecheleer report results from corpus studies, in which a government is said to be *on the war-path* and inflation is predicted to be a *punch in the face*. [BOERS and DEMECHELEER 1997, 125] Similarly, companies may *catch up*, unionized workforce are referred to as *handicap* [BOERS 1997b, 233], and chief executive officers may *hand over the baton*. They may *run with the ball*, *drop the ball*, *be on the ball* and finally *start a whole new*

ball game. [WRIGHT 2002, 92-93] The comparing of forces and struggling for power as well as the race for victory in order to achieve a large market share is grounded in the concept that the market share is a restricted resource that needs to be fought for. Due to parallel processes in the development of Western civilization, the conceptual metaphor BUSINESS IS WAR exists in English as well as in German. Similarly, transfer from the domain of SPORT is very productive in both languages. Yet as has been noted in section 2.5, not all languages may draw from the same sport discipline but mainly from the ones that coined the culture. German, in contrast to English, does for instance neither incorporate cricket nor polo metaphors.

In her study, *Metaphor and Gender in Business Media Discourse*, Koller points out that the conceptual metaphor BUSINESS IS WAR is so strong that it masculinizes both discourse as well as related social practices and thereby positions “actual women [...] as an out-group in business” [KOLLER 2004, 4]. In Western civilization, women are not traditionally associated with warfare and, due to metaphorical usage in business communication, are by extension not associated with business life. In fact, Koller claims that this underlying conceptual metaphor is one reason for the intractable underrepresentation of women in well-paid business positions. That is, the conceptual metaphor entails that business is not women’s business. Here, the use of language supports the exclusion and suppression of a whole social group. As tackled in the Sapir-Whorf-Hypothesis (cf. section 2.1, footnote 12), the use of language here influences perception, which again influences behavior, which influences reality, which finally completes the circle by again influencing language.

In addition to the mainly structural metaphors BUSINESS IS WAR, the ontological metaphor MONEY IS A LIQUID is essential to business discourse. On the one hand, it sets the ontological basis for the *cash flow* – which in itself is a linguistic instantiation of MONEY IS A LIQUID – and, on the other hand as a result also structures the whole semantic field of financial transactions. Regarded as flowing movements, financial means find direct conceptualization, for instance, in the terminology *liquid assets* or *currencies*. Cash may be *pumped* into a bank [SOUTHWESTBUSINESS 2009] and retailers may *squeeze* suppliers [STRATEGYBUSINESS 1998]. According to Jäkel, what water is to human life, money is to business. [JÄKEL 2003, 191] In other words, the money metaphor is grounded in the concept that money fulfills a vital function in the economic context.

Again both languages, English as well as German, incorporate the conceptual metaphor MONEY IS A LIQUID. However, the “Finanz-Hydraulik” (*financial hydraulics*), as Jäkel calls this structural device in his research on the German language, is not as wide-spread

and exploited in English as it is in German. Especially the macroeconomic means of regulation, such as the creation of money, which translates into the German *Geldschöpfung* ('*ladling* money') or the smuggling of money, which translates into the German *ingeschleustes Geld* ('*channeling*' or '*infiltrating* money'), as well as politicians responsible for finance, that are sometimes referred to as *Schleusenwärter* (the guards of a *lock*) are very productive fields for the application of the liquidity metaphor in German. [JÄKEL 2003]

Also within the semantic field of natural resources, such as water, are plant metaphors. Yet *plant* as the well-known synonym for a factory does not necessarily call for association with the source domain NATURE. Again the metaphor is used merely unconsciously. However, ECONOMY IS A PLANT is the conceptual metaphor causing business analysts to speak of a *flourishing* or a *growing* economy, a *thriving* industry, the *blossoming* and *blooming* of a company, or the *shrinking* of an economy. [WHITE 2003] The plant metaphor entails the idea of organic growth and therefore the vertical movement of economy. Most interesting concerning this concept of organic growth, business itself with its internal vital powers is responsible for steady growth or shrinkage [JÄKEL 2003, 209f]. As the very measurement to control natural growth, GARDENING in like manner structures the target domain and supplies statements such as "banks continue to *prune* branches" [CNN 2009a] or the government needs to get to the "roots of the financial problem" [BUSINESSJOURNAL 2006]. Entailed by the PLANT metaphor, the conceptual metaphor ECONOMIC DEVELOPMENT IS GARDENING is thus the conceptual consequence to regulate the ups and downs of economic *cycles*.

Apart from the general orientation of MORE IS UP, topographical content words such as *peak*, *troughs* or *in the doldrums* linguistically facilitate the target domain ECONOMICS with orientation and play an essential role in describing economic development. Following the conceptual metaphor ECONOMIC DEVELOPMENT IS MOUNTAINEERING, economic key factors, such as interest rates, wages, earnings, or turnover may not only *go up-* and *go downhill*, but may also *climb*, *level off* or *bottom out*.

In addition to the ontological metaphors and metaphors enabling basic orientation, the widely-used CONTAINER metaphor also applies to economic discourse, and here serves as a means for localization, for instance, to specify financial activities at different states of the *cash flow*. In fact, individual companies as well as the economy itself are seen to be containers with an in- and outward-orientation: money may be *invested in* or *taken out of* a company. To be more specific, the container providing a conceptual home for companies is often seen as either a building or a ship. Owing to the conceptual metaphor A COMPANY IS A BUILDING – the *foundation* of a business may be laid

and a good business may be *built up* or *rebuilt*. English speakers also draw on the conceptual metaphor A COMPANY IS A SHIP and accordingly refer to “a ship sailing on a sea surrounded by dangers – rocks” [WRIGHT 2002, 22]. The company can be *on course* for a good year or enter *uncharted waters* and its employees once *on board* are *all in the same boat* and thus, as the *crew* need to *know the ropes*, *wait for the storm to pass* or *run a tight ship*, where not a penny is wasted. [WRIGHT 2002] Drawing on the concept of SHIP quite frequently, the English language provides a telling example of its culture-specificness. As a seafaring nation, the British are able to build onto a considerable wealth of experiences connected with ships and life out on the sea. Even today, the geographic position of England still enforces the role of ships in Great Britain and thus, traditional metaphors remain in frequent use.

Similar to being a building or a ship, economy may also be thought of as being a machine. In English economy is specifically conceptualized as a motor. [JÄKEL 2003, 196] Accordingly, economy may be *kick-started* or *fine-tuned* or may *overheat*. If it does not *function*, *parts may be replaced*, and it may be *freshly fueled*. Something may even “be planned as part of a huge economy drive” [RUNCIE 2003].

Like other abstract systems, BUSINESS is also personified. In fact, Charteris-Black and Musolff refer to the conceptual metaphor ECONOMY IS AN ORGANISM [CHARTERIS-BLACK and MUSOLFF 2003, JÄKEL 2003, WHITE and HERRERA 2002, 156] as the high-level metaphor passing structures on to lower-level mappings, such as the already mentioned conceptual metaphors ECONOMY IS A PLANT and ECONOMY IS A HUMAN BEING that may both be subsumed. Moreover, not only ECONOMY as such, but also subsystems or parts such as TRADE, STOCK MARKETS, PRICES, and CURRENCIES ARE HUMAN BEINGS [JÄKEL 2003, 201]. Consequently, they may *act* and *react*, have *aims* and *intentions*, be *strong* or *weak*, and even have emotions. Indeed, markets may be *in a calm mood*, prices may be *attractive*, and the pound's recent *weakness* may be referred to.

Being conceptualized as a person, the economy requires a family structure, which is realized by different companies belonging to the economic system in question: there are *parent* or *mother* companies and there are also *sister* companies. In German subsidiaries even translate into *Tochterunternehmen* or *Filialen*, with the German word *Tochter* and the Latin word *Filia* both translating into the English word *daughter*. (cf. also [CAVIOLA 2003, 62]) In sum, the conceptual metaphor A GROUP OF COMPANIES IS A FAMILY can be distilled.

By means of personification, ECONOMY is also frequently conceptualized as A PATIENT (cf. [BOERS 1997b, JÄKEL 2003, CHARTERIS-BLACK and MUSOLFF 2003]).

Thus, as previously stated, economy may be *strong* or *weak*, that is, profitable or unprofitable. The state of health of an economy is constantly being discussed and thus ECONOMICS is conceptualized as *health care*. As Boers points out “a high level of physical activity is a symptom of good health and vitality [...] mapped onto the target domain, this implies that a high level of economic activity is valued positively [...], whereas *economic paralysis* [...] *arthritic labour markets*” give proof of the opposite. [BOERS 1997b, 232] Companies need a good political *climate* to *stay healthy* and on the contrary may be *made ill* by taxation or suffer from a “financial hemorrhage”. [BOERS 1997b, 233] Thus, economies that are *on the verge of collapse* [JÄKEL 2003, 203] need a speedy *recovery* from the economic recession *hurting* the country. Interestingly, health metaphors are partially a seasonal phenomenon. As Boers found out in a corpus study incorporating all editorials of *The Economist* over a ten-year period from 1986 to 1996, health metaphors are significantly more likely to be made use of in the period from December to March than during the remaining months of the year. Boers suggests that this is also the time of the year, when the “bodily source domain [...] becomes more salient in our everyday experience” [BOERS 1997a, 47]. In the wintertime the human body may get sick or suffer from the cold weather. Thus, it is not only the mere existence of a basic experience, but may also be the actual availability of this experience that is decisive for the choice of metaphorical transfer.

To sum up, the literature reporting corpus analyses provides a multitude of conceptual metaphors and lexical instantiations that are productive in the socio-economic domain and thus are relevant for teaching. Table 3.1² gives a brief overview of the most important examples sorted by function, namely ontological, orientational and structural metaphors. Of course these divisions are not clear-cut. As has been explained in section 2.2, Lakoff and Johnson clarified their earlier assumption and suggest that all metaphors belong in each category. [LAKOFF and JOHNSON 2003, 264] Nevertheless, some of the metaphors introduced in Table 3.1 fulfill the primary function of providing an ontological basis or a basic orientation in order to enable the additional transfer of a complex structure and are therefore to be considered as prerequisites for other structural metaphorical mappings.

²The examples in the Table are taken from the different corpus analyses published by [BOERS 1997b, BOERS and DEMECHELEER 1997, CHARTERIS-BLACK and MUSOLFF 2003, GOATLY 2007, HAKEN et al. 1993, HERRERA and WHITE 2000, HÜLSSE 2002, JÄKEL 2003, JUCHEM-GRUNDMANN and KRENNMAYR 2009, KOLLER 2004, KOLLER 2007, MUSOLFF 2000, WHITE 2003].

Conceptual Metaphors and Examples of Linguistic Instantiations	
ontological metaphors	
ECONOMY IS A CONTAINER/ A COMPANY IS A CONTAINER	<i>to invest in, to take out of</i>
MONEY IS A LIQUID	<i>liquid assets, cash flow, ...</i>
IDEAS ARE OBJECTS	<i>to stuff into sth., to sell, to exchange, to shape, ...</i>
orientational metaphors	
MORE IS UP	<i>prices fell/ rose, dividend is up/ down, ...</i>
AHEAD IS POSITIVE	<i>to be ahead of time, a backward part of sth., ...</i>
structural metaphors	
BUSINESS IS WAR	<i>to bombard with new inquiries, to give up without a fight, to reinforce a market position, to have joined forces, to map out a strategy, to penetrate the market, to invade markets, a take-over battle, to conquer market shares, keep your head down, marching order, to capture a bigger share, to set a target, to gain grounds on a main competitor, ...</i>
BUSINESS IS COMPETITION/ BUSINESS IS A RACE	<i>to work at a steady pace, to be still on the starting block, ...</i>
ECONOMY IS A PLANT	<i>flourishing/ growing/ thriving/ shrinking industry, organic growth ...</i>
ECONOMY IS A BUILDING	<i>foundation of a business, to build up/ rebuild a good business, ...</i>
A COMPANY IS A SHIP	<i>to be on course, to run a tight ship, uncharted territory, to bail out sth., ...</i>
ECONOMY IS A HUMAN BEING	<i>attractive, in a calm mood, ...</i>
ECONOMY IS A PATIENT/ ECONOMIC ACTIVITY IS HEALTH CARE	<i>to stay healthy, to be made ill, on the verge to collapse, recovery, stabilize, a right economic remedy needs to be prescribed, depression, ...</i>
ECONOMY IS A MACHINE/ ECONOMY IS A MOTOR	<i>exchange rate mechanism, using the right tool, to tighten the screw on economy, to fine-tune inflation, the monetary lever has rusted, economy is overheating, high salaries may fuel inflation, to kick-start ...</i>
ECONOMIC DEVELOPMENT IS MOUNTAINEERING	<i>peak, trough, climb, mount, creep up, ...</i>
A GROUP OF COMPANIES IS A FAMILY	<i>parent-company, sister-company, mother-company</i>
MERGERS & ACQUISITION IS MARRYING / IS MATING	<i>corporate marriage,</i>

Table 3.1: A collection of metaphors from the socio-economic discourse.

CHAPTER 4

Cognitive Linguistics Meets Language Didactics

"You cannot learn
what you do not understand."

Professor Henri Adamchiewski, IATEL 1992

(cited in [LEWIS 2002a, iii])

4.1 Theories of Language Teaching and Learning revisited

4.1.1 State of the art in language didactics

Understanding is the keyword of the above quote and the fundamental aim of language teaching inspired by Cognitive Linguistics. Indeed, learning should always be insightful, that is based on understanding and therefore teaching should always provide assistance on the pathway to comprehension. What sounds logical and self-evident here has long been neglected in foreign language teaching. Semantic or grammatical structures were taken for granted and students were instructed to "simply" learn vocabulary and grammatical rules as well as the exceptions to these rules in order to acquire or increase their language proficiency, which for many years was equated with drill. On the contrary, teaching strategies inspired by Cognitive Linguistics (CL) aim at a deeper understanding as a basis for increasing language proficiency. Different strategies are momentarily being developed and explored by means of experimental studies. Nevertheless, CL-inspired teaching is still very much in its infancy and has a long way to travel to become a well-defined and approved didactic theory resulting in an established methodology. In accordance with the present lack of a coherent overall

system of language teaching that is currently made up for by the different, separate but as such well-established approaches to the different aspects of language learning, the various attempts to apply CL-findings in language pedagogy complement the existing methodology. However, CL-inspired strategies are by no means completely new but, as usual for supposedly new theories, they do not reinvent the wheel but partially adopt or clearly reject bits and pieces of existing theoretical beliefs and of ideas on how to translate these theories into practice. This way they further develop and refine former findings and practices to create new theoretical conglomerates. Similarly, CL-inspired metaphor teaching also avails itself of or clearly opposes existing didactic theories. Hence, the following sections discuss the contact points between linguistics and didactics and revisit the didactic theories and practices that serve as a background for CL-inspired language teaching.

Systematizing foreign language methodology, Roche, as depicted in Figure 4.1, summarizes four well-defined didactic approaches that have developed in the history of language teaching and thus are to be differentiated. [ROCHE 2005, 11-30] As his clearly delineated 'typology of methodology' was chosen as basic orientation for the theoretical positioning of the proposed CL-inspired strategies, it is briefly summarized in the following.

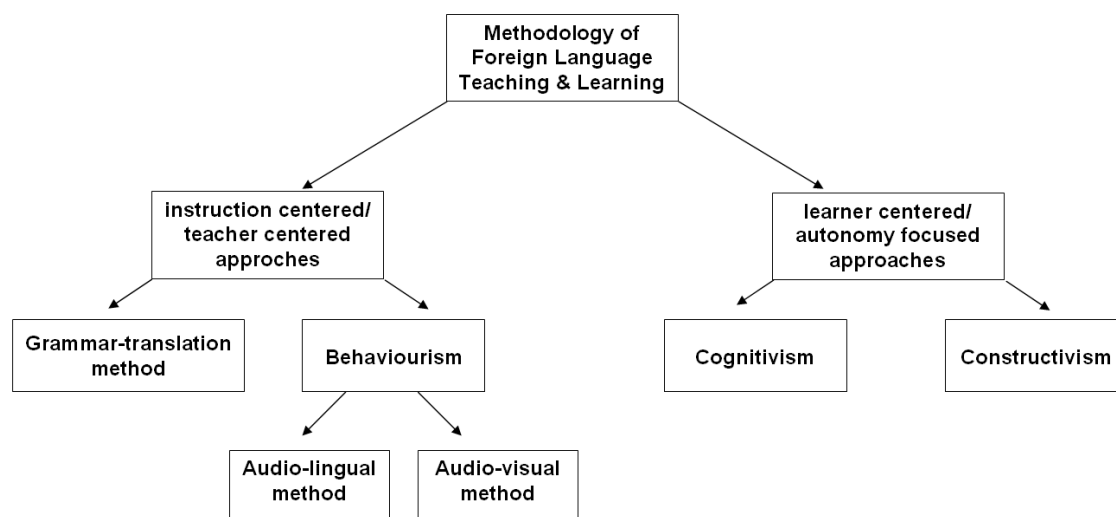


Figure 4.1: Foreign Language Teaching Methodology (adapted from [ROCHE 2005, 11-30])

The two historically earlier adopted approaches, which Roche accordingly categorizes as 'classical methods' (shown on the left side in Figure 4.1), are on the one hand the traditional *Grammar-Translation Method*, as it arose from early language instruction

and is still widely known from regular Latin courses, and on the other hand the 1950's *Behaviourism* initiated by Skinner, which sees learning in terms of habit formation and therefore teaching as conditioning.¹ Frequently introduced as separate methods, the *audio-lingual* as well as the *audio-visual method* are subsumed under the theoretical framework of Behaviourism as they follow the same processes of imitation and reinforcing repetition and only differ in stimulus. [ROCHE 2005, 15]. In general, both classical approaches are characterized by a clear focus on the teacher as the learning initiator in charge and the prestructured material he or she distributes. On the contrary, the two didactic approaches are depicted here as opposing theoretical strands (shown on the right side in Figure 4.1), namely *Cognitivism* and *Constructivism*, focus on learning as such and the learner as the main agent of this process. In brief, the traditional theories draw attention to teaching whereas the more modern theories highlight learning. With this latter objective cognitivist learning strategies concentrate on knowledge and language processing ensuring comprehension, and constructivist strategies devote attention to the process of construing knowledge. However, for both approaches learner autonomy can be singled out as a shared aim. Cognitivist theory aims at gaining detailed insights in the cognitive learning processes and develops learning strategies to optimize the storage as well as the later access and retrieval of knowledge. Meta-cognitive reflections of these processes are enhanced and become an explicit part of learning to equip language learners for the informed application of strategies to future challenges of learning. Constructivist theory actually builds on learner autonomy as such: knowledge is solely construed individually through permanent comparison, coordination, and combination of existing with newly encountered knowledge structures.

As a third strand of global methodological orientations, Roche singles out a series of communicative models that first emerged as mere counter movement to the more structuralist approaches summarized as 'classical methods'. This third strand of singular approaches to certain aspects of language learning cannot be subsumed in a coherent theoretical framework: they only share the strong belief in communicative competence as the aim of language learning, and are thus simply labeled as 'alternative methods'. Moreover, they are not to be seen as an exclusive category in itself as cognitivist as well as constructivist approaches may also integrate communicative language teaching. Therefore, they are not set aside as a distinct branch in Figure 4.1. Nevertheless, most well-established and influential amongst this pool of alternative methods and therefore interesting for later discussions of CL-inspired metaphor teach-

¹A detailed description of these two earlier approaches can be found in [NEUNER 2005, DE BOT et al. 2005, LEWIS 2002a].

ing is Krashen and Terrell's Natural Approach. As already highlighted by the chosen terminology, this approach abandons any explicit error correction but relies on input control. (cf. [KRASHEN and TERRELL 1983]) Although very influential in the 1980s and 1990s, the Natural Approach is only rarely used exclusively. In fact, the fear of fossilized production due to exclusive focus on communication [ACHARD 2008, 433] has resulted in an emerging *focus-on-form* movement [NIEMEIER 2004, 96]. In contrast to earlier attempts to focus on forms [LONG 1991], in which instruction concentrated on the mere acquisition and gradual accumulation of grammatical forms, such as passives, tenses, or conditionals in the focus-on-form approach "meaning-focused activities into which an attention to form is embedded" [GASS and SELINKER 2008, 380] are to be integrated in teaching in order to raise awareness and increase proficiency.

In sum, *understanding* – the focus set right with the opening quote – has not always been a criterion for language teaching, but has been eclipsed by word-for-word translation, imitation, or rote form learning. And even today a clear focus on *understanding* is by far not self-evident. In fact, a mix of various methods for different aspects of language learning can be noticed that make use of diverse theoretical frameworks.

4.1.2 Classifying CL-inspired metaphor teaching

Metaphor teaching in itself highlights a whole new segment of language teaching. Following traditional metaphor theory as introduced in section 2.1, in language teaching linguistic examples of metaphorical language have not yet been the focus of attention. Believed to be stylistic means used only by talented writers or speakers, metaphors have been considered the icing on the cake that language learners could easily do without. Thus, they were either simply ignored (consciously or most likely unconsciously due to lack of better knowledge) or singled out as fixed expressions listed in the vocabulary section to ensure general comprehension or to simply offer easy access for rote learning. Therefore, the language learning and teaching approach proposed for CL-inspired metaphor teaching needs to be theoretically based before the different aspects of conceptual metaphor teaching are being discussed. Overall, CL-inspired metaphor teaching interacts foremost at the interface of cognitivism and constructivism. Thus, the relevant aspects of these two main theoretical sources and their interplay are to be focused on in the following.

Human beings use their cognition to understand and thus construe the world around them. In fact, "[l]anguage allows us to impose order on the world by categorizing or grouping its phenomena into categories or concepts." [RUDZKA-OSTYN 2003, 6], and

this way to construe realities. Accordingly, language belongs to the most influential cognitive faculties in creating human environment. CL highlights this main function of language “as a tool of conceptualisation” [RADDEEN and DIRVEN 2007, vii]. Language is used to construe and classify the world by grasping or questioning existing and developing new concepts. Hence, learning a language means getting to use a construction tool; and learning a new language means getting to work with a different tool or to use an alternative approach to the world.

Furthermore, CL asserts that “language is part of a cognitive system which comprises perception, emotions, categorization, abstraction processes, and reasoning.” [DIRVEN and VERSPOOR 2004, ix] In contrast to earlier beliefs, within the framework of CL language is not an isolated phenomenon that functions alongside other cognitive abilities but is an integral part of the cognitive system - a system that lives off the mutual influence of its parts. Indeed, not only is language directly influenced by perception or abstraction processes, it also enables and simultaneously constrains the same. In other words, it might depend on the available features of the tool used whether certain phenomena are possibly perceived and reflected upon²; whether concrete lexis exists to enable abstract thought and discourse and is actually mapped from one to another domain; and whether these metaphorical mappings finally convey meaning. Johnson actually states, that “‘linguistic meaning’ is only an instance or specification of meaning(fulness) in general” [JOHNSON 1987, 176] and consequently claims that language cannot be observed and researched without taking the individual and its usage of the other cognitive abilities to construe meaning into consideration. However, newly perceived phenomena require labeling; categorization and abstraction demand description; reasoning requests vocabulary. In other words, it is language that interconnects the different cognitive abilities. Interlocutors make use of the language knowledge they have at their disposal and choose, refine, or reassign the words and phrases they believe to be able to serve all these cognitive abilities. As Tyler precisely summarizes “language is a reflection of general cognitive processes” [TYLER 2008, 459].

Interconnecting cognitive abilities, language has always been subject to change and to choice, which again results in usage-based change by the extension or the narrowing of linguistic meanings. As Aitchinson clearly summarizes, “[humans] often create new words and new meanings for words from moment to moment while speech is in progress.” [AITCHINSON 1987, 12] Yet change and choice of language is unlikely to

²As discussed on page 14 in footnote 12 (Sapir-Whorf’s linguistic relativity hypothesis), the degree to which our perception of the world actually depends on language and its integrated concepts remains an issue yet to be resolved.

be exclusively arbitrary but there must be some reason behind it in order to guarantee mutual understanding. In fact, the arbitrariness of language questioned here does not completely reject de Saussure's essential finding that relationships, namely intrinsic connections, between linguistic terms and the things they represent do not exist but are mere symbolic.³ Basically, language is arbitrary, with people having 'agreed' "upon the pairing of a particular form with a particular meaning" [DIRVEN and VERSPOOR 2004, 2]. However, this cannot be considered as a universal principle to be applied to all words and phrases. "[O]nce arbitrarily chosen word forms (symbols) may be put together to form new words whose meaning is transparent." [DIRVEN and VERSPOOR 2004, 5]. In building new words to label phenomena, describe categories, or reason with someone, people make use of the already existing, and as such to them already meaningful, words and reapply this knowledge in a new way. (cf. also [AITCHINSON 1987, 13], [DIRVEN and VERSPOOR 2004, 12-13]) Therefore, although made of arbitrary components, compounds, for instance, may be considered as non-arbitrary. Their meaning can be derived from the meaning of their components and thus they become more transparent. Similarly, other multi-word-units, such as the metaphors focused on here⁴, may this way also become transparent in meaning. However, it is not solely the components metaphors are made of that constitute the metaphoric meaning but these components often need to be transferred back into the original source domain and to be decoded in this context to construct meaning in the target domain. The general grounding of the metaphorical mapping, as described in section 2.2, objects to the notion of arbitrariness. CL researches these possible motivations of language and formulates reasons for language choice that may serve as a basis to explain language in the foreign language classroom and thus foster understanding. However, as discussed in section 2.5, different cultures frame different concepts that result in different language choice from source domains and use in the target domains. Nevertheless, the different usage of metaphors across cultures cannot be used as further argument to back up the generally believed arbitrariness of language. Different use is by far not a sign of arbitrariness but a result of different socio-cultural experience and grounding. Thus, insights into the meaningfulness of language serve as an excellent basis for metaphor teaching but should be fostered by a contrastive approach, highlighting the differences in metaphor range and scope between native and target language.

In addition to the belief in the construction of meaning and knowledge as based on

³A finding that is often considered to be the "foundation idea of modern linguistics" [FINCH 2000, 6]

⁴Certainly, not all metaphors addressed here are multi-word-units, but some metaphors are and these may be explained by decoding their components.

cultural, social, and individual experiences, which is the first pathway to understanding, the cognitive-constructivist paradigm highlights the importance of integration and interaction of knowledge. That is, comprehension is always a result of the full integration of newly encountered matters into the web of already experienced, successfully processed, and acquired knowledge. Referring to Hörmann's psycholinguistic research Bellavia clearly states that comprehension is the search for coherence of perceived with existing knowledge about the world. [BELLAVIA 2007] Individually existing structures of knowledge⁵ are thus constituent for all further learning processes: they provide the background that new information is adapted to. Consequently, learning processes are mere processes of re-construction.⁶

But what exactly is being re-constructed? According to the neurologist Antonio Damasio and his research findings, human beings while perceiving something simultaneously form "images of varied sensory modalities" that constitute the basis for all further thoughts. In other words, "[t]he factual knowledge required for reasoning and decision making comes to the mind in the form of images." [DAMASIO 1994, 96] Most importantly Damasio provides neurological findings to support a basic tenet of CL that lines up spoken as well as unspoken words with shapes, colors, movements, and tones, that is with the sensory modalities, as an equal constituent for images. Indeed, linguistic information is 'stored'⁷ (and later accessed) in the same way as the other cognitive processes: in the form of mental images. Damasio distinguishes between *perceptual images* and *recalled images* - the first referring to the images formed while perceiving; the latter one being the label for all images that are already 'stored' but are recalled to think or speak about past events or about set future plans. [DAMASIO 1994] Consequently, he denies the popular belief that "thought is made up of much more than just images" [DAMASIO 1994, 106], namely abstract symbols and words, that are commonly named as further components of thought. Abstract symbols as well as words

⁵The individually existing structures here also comprise knowledge based on social and cultural experiences that found entrance into the individual storage.

⁶This is only one reason for the popular claim to meet the students' abilities in teaching. Indeed, learners need to be made aware and to be encouraged to make use of their pre-acquired knowledge as the foundation to build up on.

⁷The word 'stored' is here put into quotation marks to highlight the metaphorical sense of the word. As Damasio points out the brain does not function like a library keeping a hard copy or different permanent medium to store pictures of everything, otherwise it would similarly "run out of shelves" soon. [DAMASIO 1994, 100] On the contrary, as Bartlett clearly states memory is essentially reconstructive. [BARTLETT 1964] In other words, mental images are not permanent but rather flexible and dynamic. Nevertheless, human beings are at all times able to recall approximations of images previously experienced. Yet these are only approximations and Damasio suggests that they are therefore momentary constructions of once experienced patterns. [DAMASIO 1994]

likewise exist as images in our mind, otherwise “they would not be anything we could know” [DAMASIO 1994, 106]. Thus, it is images that are being reconstructed when existent and freshly acquired knowledge interact. Unfortunately, all (re-)constructions being underway are individually framed. In other words, different people end up with different images, and ‘absolute’ reality might still be quite different, too.⁸ Indeed, it is not only different languages as tools of construction that evoke different concepts but the human being itself similarly influences these concepts individually. Therefore, it is an essential aim of communication to reach a supposedly common understanding of the individually construed images of issues or of concepts discussed or referred to. Hence, language teaching also needs to focus on awareness raising by making different underlying concepts and images explicit.

Furthermore, as the essential interaction of new with already acquired knowledge implies, not all language acquisition and usage is re-construction. Using again de Saussure’s terminology, Stegu distinguishes between *langue* as the system of “fixierte Konstruktionen” (*fixed constructions*) and *parole* as “Ad-hoc-Wirklichkeitskonstruktionen” (ad-hoc constructions of reality), which both dialectically influence each other. [STEGU 2000] In this way he explains that knowledge is not constructed anew with every utterance or thought, but that language also makes use of already constructed and widely entrenched conceptual knowledge to make statements about the world. Although this explanation is a sound basis to draw the essential conclusion of the permanent existence of fixed constructions and therefore may basically be followed, it needs to be asserted that not everything constituting *la langue* may actually be considered to be fixed constructions. As implied by Stegu’s reference to the dialectic relationship between *langue* and *parole*, language is dynamic and usage-based, which are two of the major foundation stones in CL [GEERAERTS 2006, 19]. In other words, the constructions that are labeled ‘fixed’ by Stegu are still subject to change: their meaning might change or expand. Due to usage these new structures may gradually become entrenched and may eventually enter the realm of *la langue* as fixed (contextual) concepts. Yet again, not all linguistic instantiations will do so; some constructions are simply one-off attempts to make perspectival statements about the world that cannot be verified and thus are not fixed and ‘stored’ as *langue*. Nonetheless, whether these new utterances in the realm of *parole* are being fixed and ‘stored’ as *langue* depends on their interaction with existing pre-knowledge. Consequently, the activation of and following interaction

⁸“If our organisms were designed differently, the constructions we make of the world around us would be different as well.” [DAMASIO 1994, 97] It is mainly the basic set-up of the human organism that can be taken as the unified foundation for all experiences.(cf. 2.2.1)

of new structures with pre-knowledge is essential. In other words, language teaching on the one hand needs to enforce the integration of conceptual links, which present themselves in the form of linguistic metaphors, and on the other hand, it needs to ensure interaction with pre-knowledge in order to have the linguistic examples enter the realm of fixed constructions.

As much as the use of language and the acquisition of knowledge or learning in general are means of construction, learning a language as such is likewise a dynamic process of (re-)construction. In learning a language, new insights into the lexis-grammar continuum are being encountered and linked with individually existing knowledge structures. And only then new insights can actually be understood. [BEISSNER 2002] Therefore, (1) explicitly activating already acquired and for in a new context again relevant knowledge structures, (2) showing possible links between existing and new knowledge structures, and (3) encouraging the embedding of new information into the existing web of language knowledge should be considered the basic threefold principle of explicit language teaching. Indeed, metaphor teaching theory can only benefit from the neurological and psycholinguistic research findings cognitivism and constructivism is based on.

In sum, metaphors ideally lend themselves to teaching in the framework of the cognitive-constructivist paradigm for three main reasons:

1. Metaphors that are grounded in the general organization of the human organism or socio-cultural experience provide a basis for cognitive explanation and cognitivism focuses understanding.
2. Metaphors enable abstract discourse by means of figurative extension of source domain meaning in new contexts. Metaphors equip mental images. Cognitivism deals with the effective storage of knowledge structures as mental images.
3. Metaphors are means to construct or re-construct concrete knowledge structures in abstract domains and constructivism understands learning processes as mere processes of (re-) construction.

As visualized in section 4.2, CL-inspired metaphor teaching is to be theoretically embedded at the interface of the cognitivist and the constructivist paradigm but does not incorporate all constitutive principles of both. In fact, although following the constructivist paradigm, CL-inspired metaphor teaching does not reject instruction but actually puts emphasis on the explicit integration of CL-explanations in the foreign

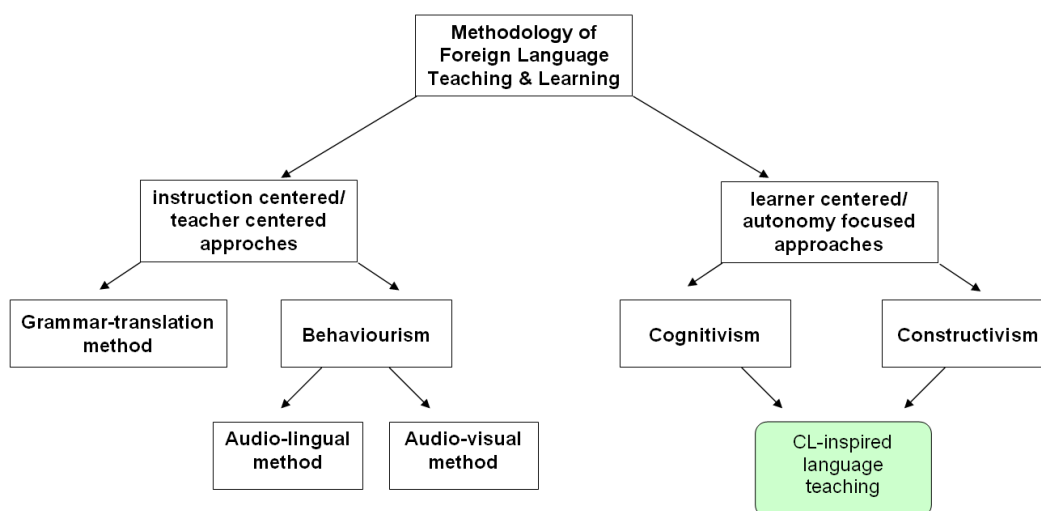


Figure 4.2: Classification of CL-inspired Teaching in Roche's Framework.

language classroom. Language learners do not only naturally encounter new information but are being explicitly instructed or pointed to the piece of information and given background information on the cognitive grounding.⁹ Nevertheless, they process the new information themselves to acquire knowledge, that is, they synchronize the new information with their individual pre-knowledge. Thus, getting to know, for example, the conceptual metaphor MONEY IS A LIQUID through explicit instruction, business English students are challenged to organize their personal source domain vocabulary respectively and transfer it to the abstract domain of MONEY. Indeed, instruction on the existence, conceptual grounding, and productivity of metaphors follows the cognitivist paradigm, personal application of the knowledge to enable creative language use and transfer to similar conceptual metaphors belongs into the realm of constructivism.

Figure 4.3 presents a hierarchical model of learning processes, which develops in eight steps from (1) “*Signallernen*” (learning at a signal) directly followed by (2) “*Assoziationslernen*” (stimulus-response, that is, classical behavioristic learning) to finally (8) “*Problemlösen*” (problem-solving) as proposed by Gagné. With this model he makes two important claims: first, types of learning are organized hierarchically from easy to complex and each category builds onto the previous one. Second, language learners apply different learning processes to exercises and tasks at different levels of complexity

⁹Therefore, Roche's understandable concern to apply constructivist language learning theory into practice only with strongly motivated students that already dispose of an advanced language knowledge is not applicable here. The support from cognitive language learning theory, as it is described here, also assists students at a lower level of proficiency and might even increase their motivation to deal with complex language structures that suddenly become explainable.

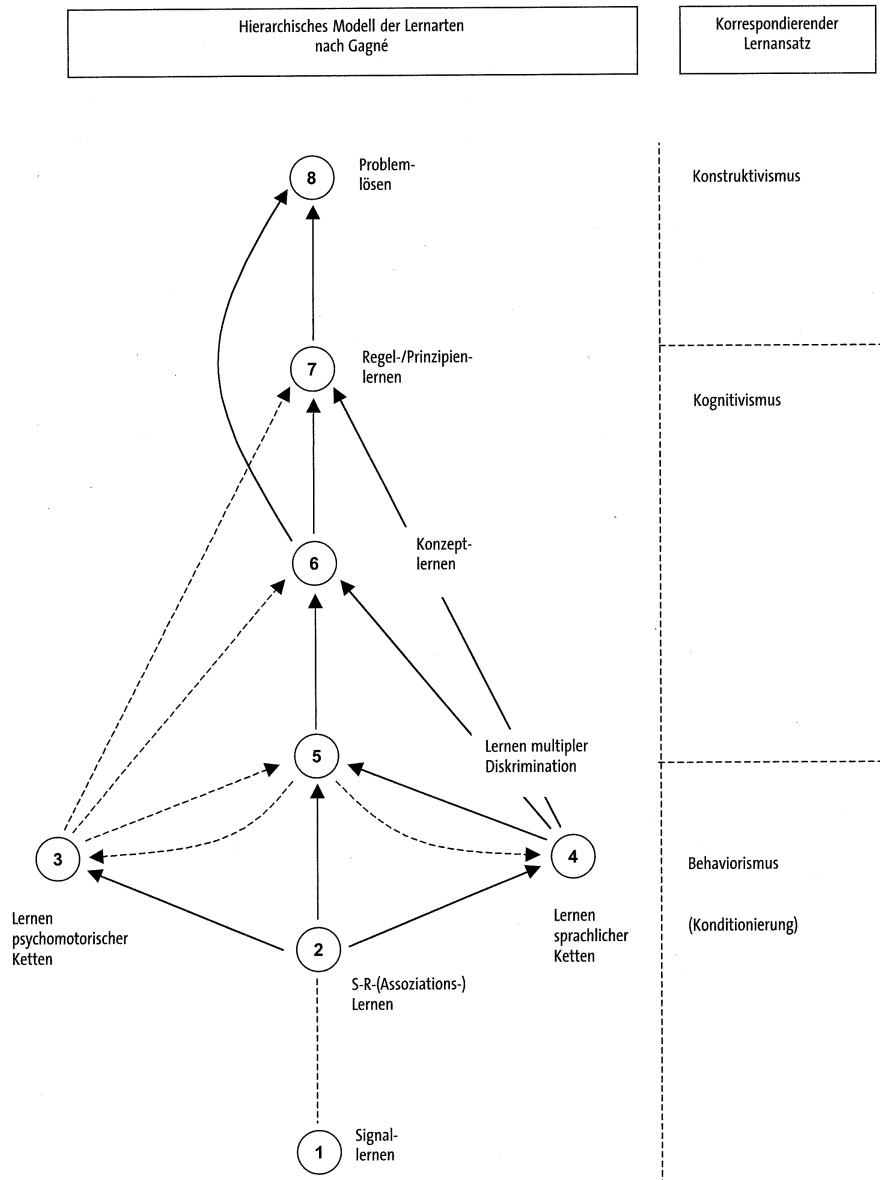


Figure 4.3: Hierarchical Structure of Learning Processes.
(adapted from Gagné [ROCHE 2005, 207])

and make use of inferior learning processes as tools to come to grips with more complex ones. Roche adopted Gagné's basic model and assigned the main didactic approaches as they were distinguished in his language learning methodology. [ROCHE 2005, 207] Although not explicitly stated in the text, with this visualization Roche also claims a hierarchy of language didactics that contributes to the mixture of learning methods proposed for metaphor teaching: constructivism is the main theoretical background

but in teaching, aspects of the cognitive and potentially behavioristic paradigm are made use of.

However, the use of certain techniques should not always be confused with earlier methods. Visualizations, for instance, play an essential role in the imparting of metaphorical meaning and thus the extension of vocabulary. Nevertheless, they are not to be compared with the visualizations singled out as main means of comprehension in the audio-visual method as part of the behaviorist framework: whereas visualizations used in the behaviorist approach served as colorful stimuli, the visualizations used within the cognitive-constructivist approach support the construction of meaning. Here learning is not seen in terms of habit formation, but as conscious reflection on language and thus insightful acquisition of knowledge through awareness and understanding. On the contrary, behaviorism equates the meaning of words with the objects referred to. Accordingly, meaning may not be construed by individuals but preexists - a hypothesis that is clearly falsified as the foundation of CL.

Furthermore, CL-inspired metaphor teaching is based on some of the important claims made by Lewis' Lexical Approach but is for important reason definitely not to be classified in the same strand. Although certainly thinking of language as "grammaticalized lexis, not lexicalised grammar" [LEWIS 2002a, vi], and thus emphasizing the need for students to build "a large vocabulary much more quickly than in any traditional approach" [LEWIS 2002a, 7] as well as similarly following the Lexical Approach in his rejection of the clearly behavioristic "Present-Practice-Produce" paradigm and replacing it by the "Observe-Hypothesize-Experiment" paradigm [LEWIS 2002a, 6]¹⁰, that is fostering learner-autonomy by equipping students with strategies to pick up language also outside the classroom, CL-inspired metaphor teaching strongly believes in the motivation of language and therefore does not agree with Lewis' dogmatic assertion of the arbitrariness of language. Following de Saussure, Lewis also singles out arbitrariness as the "fundamental principle of linguistics" [LEWIS 2002b, 17]. Yet, in contrast to the approach proposed here, the Lexical Approach insists on the arbitrariness of all lexical items and even explicitly extends the notion to multi-word items such as idioms or metaphors [LEWIS 2002b, 18]. Indeed, Lewis even encourages teachers to answer students' question of reasons for language choice with as simple "*English is like*

¹⁰In fact, CL-inspired metaphor teaching most likely proposes a four-fold paradigm that integrates an initial presentation of the conceptual metaphor into Lewis' paradigm. Indeed, Lewis' proposal models learning by speaking of "endlessly repeating the cycle of Observe-Hypothesis-Experiment" [LEWIS 2002a, 56], whereas the approach proposed here models teaching and learning of metaphorical language and therefore integrates the "Present" in the first 'circles' in addition to the threefold paradigms proposed.

that[. . .][as] the only accurate answer.” [LEWIS 2002b, 18] Hence, the exploitation of linguistic motivation – as one of the key feature of CL-inspired metaphor teaching – conflicts with the Lexical Approach. In fact, it is not even possible in Lewis’ conception as language constructions are “not susceptible to explanation” and any attempt to explain is merely based on coincidence. [LEWIS 2002b, 18]

In sum, following Gagné’s proposed hierarchy, the CL-inspired teaching method mainly avails itself of cognitivist and constructivist principles but also integrates other ideals to be theoretically grounded.

4.2 Didactic Implications of Theoretical Findings

4.2.1 Cornerstones in CMT & didactic consequences

In the following, the theoretical basis is recapped in ten CL-cornerstones and first didactic consequences for the integration of metaphors in foreign language are formulated.

1. Metaphors are **ubiquitous** in everyday communication; they are being used consciously as well as unconsciously. Therefore, metaphors cannot be considered the ‘icing on the cake’ that may be learned last. Language learners need to be made aware of metaphorical language usage and learn to make use of metaphors themselves as soon as possible. That is, metaphors need to find their way into the language teaching curriculum
2. Metaphors are **not arbitrary** but motivated. Therefore, language teaching should provide insights into the embodiment or different experiential grounding of metaphors in order to foster understanding.
3. Metaphors **do not come singly**; they are linguistic instantiations of coherent concepts. Therefore, language learners need to be made familiar with the conceptual metaphor or should be qualified to pinpoint the overarching concept themselves, trace the individual mappings and successfully decode them in order to be able to eventually draw creatively on metaphorical concepts.
4. Metaphors are **a phenomenon of thought** and not merely of language, and as such they have a physical, that is a neuronal basis. [LAKOFF 2008, 18] The theory of enactment has actually shown that whether someone perceives something and acts respectively or only visualizes himself acting, more or less the same parts of the brain are active. [LAKOFF 2008, 19] Accordingly, the

acquisition of metaphors does not require the storage of whole copies of the source domains with the target domain, in fact solely the establishment of new neural connections from the source to the target domain are necessary, which saves mental space. [LAKOFF and JOHNSON 2003, 258] Therefore, language learners need to be encouraged to reassign, and in this way link, already existing vocabulary by comparing source and target domain structures.

5. Metaphors are figurative, that is they **draw mental pictures** in assigning an ontological basis, orientation and/or structure to the target domain by use of source domain vocabulary. Metaphor teaching should use visuals to make the underlying mappings explicit to language users.
6. Metaphors **make abstract domains accessible**. Thus, they are the cognitive tool to impart scientific knowledge to the public and are most frequently used in academic discourse. Therefore, language learners, especially business English students, who are most likely to encounter abstract discourse, need to be able to decode linguistic metaphors.
7. Metaphors **highlight and at the same time hide** certain aspects of target domains by choosing particular source domains and then utilizing only parts of the source domains for understanding. Therefore, language learners need to be sensitized to this construction of ambivalent reality and guided perception.
8. Metaphors **vary in degree of conventionality** and are thus most likely processed differently. However, the difference in metaphor processing between native and non-native language users has not been resolved yet. Indeed, language learners may profit from awareness raising for and elaboration on *dead* or *sleeping metaphors* as the categories of conventionality, and thus the degree of entrenchment, are differently perceived by language learners and elaboration may foster improved storage and retrieval.
9. Metaphors are **highly culture-specific**. Therefore, language learners need to learn about the cultural underpinnings of individual concepts used in the target language. Even metaphors that are biologically grounded in the organization of the human organism may lead to intercultural misunderstandings as they are not always universal.
10. Metaphors are **different from language to language**. Therefore, the foreign language classroom needs to include a contrastive approach to the way people

express their ideas and thoughts in their native tongue and compare this to the target language.

The ten theoretical implications for practical metaphor teaching, as sketched out above, serve as the foundation for a didactic framework of conceptual metaphor teaching as applicable in language teaching that is to be filled in the following sections.

4.2.2 Theories of cognitive psychology & didactic consequences

Apart from the CL-findings on CMT, another set of theories needs be taken into account when designing a didactic framework for teaching metaphors, namely theories of input processing and remembering or rather recall. Frequently cited in discussing the results of experiments in CL-inspired language teaching, these are (1) the Theory of *Levels of Processing* as first proposed by Craik and Lockhart [CRAIK and LOCKHART 1972, BARCROFT 2002], (2) the *Theory of Dual Coding* as developed by Paivio [PAIVIO 1986, CLARK and PAIVIO 1991], and, recently added to the list [BOERS and LINDSTROMBERG 2008b, 11], (3) *Trace Theory* as put forward by Baddeley [BADDELEY 1999]. Furthermore, (4) Schmidt's *hypothesis of noticing* [SCHMIDT 1990] and (5) Smith's proposal for *input enhancement* [SMITH 1993] are here added to the list of contributing theories. Especially the first two theories, as stated above, are mainly drawn on to explain the output of research into figurative language teaching but are here also dealt with as foundation to formulate guidelines for successful metaphor teaching. With this purpose in mind, all five theories are briefly looked at in the following and their implications for teaching metaphors are discussed.

Levels of processing

The *Levels of Processing Theory of Human Memory*, as the name already suggests, proposes different levels, on which stimulus items are cognitively processed in memory. In this model the relative depth at which an item is processed is decisive for the learner's ability to store and recall it. That is, the more deeply information is mentally processed, the more likely the information is to be 'stored' in and accordingly available to long-term memory. [BARCROFT 2002, BADDELEY 1999] The aim of metaphor teaching to be successful in this respect is therefore to encourage deep processing. Barcroft explains "deep processing" with "more elaborate manipulation of information" [BARCROFT 2002, 324], that is the learner needs to actively perform mental operations

with the encountered or presented information, and accordingly to “informationally elaborate it” [BOERS and LINDSTROMBERG 2008b, 12]. In other words, teachers need to provide detailed background on the metaphors to be acquired in order to encourage ‘deep processing’ on the learner’s side. For this purpose especially the previously mentioned CMT-cornerstones (2) and (3), that negate the arbitrariness and the singularity of linguistic metaphors, provide ample insights to elaborate on as is discussed in section 4.3.1.

Dual coding

According to the *Theory of Dual Coding*, again as implied in the name, knowledge is coded twice. In fact, Paivio claims that the human memory consists of a verbal memory and an imagery memory, in which information may independently be stored, once as verbal representation and once as mental image. With this proposal Paivio originally aimed at explaining the powerful mnemonic effect of imagery, by means of which two separate links are established, which increases the possibilities of recall. [THOMAS 2008] In the context of metaphor teaching, dual coding attracts new attention. Implying a mental image, metaphors should obviously benefit from dual coding as the learner is already provided with the image to store. Paivio, however, also draws the distinction between what he calls ‘familiar’ and ‘novel’ metaphors. Whereas for ‘familiar metaphors’ “the metaphorical meaning has been overlearned” [PAIVIO 1986, 234], that is, the image is not believed to be present, for ‘novel metaphors’ the image still needs to be created during the comprehension process but most likely results in an integrated representation. Thus, at first glance both types of metaphor do not seem to profit more than non-metaphorical items from dual coding. However, Paivio sketches five specific ways in which the parallel imaginal and verbal processes could contribute to the comprehension and production of metaphors.¹¹ (1) Dual coding “enhances the probability to find a common ground” and connect the source with the target domain in memory; (2) the “integrated nature of the imagery enables large amounts of potentially relevant information to become available quickly”; (3) imagery is more flexible, as it is not constrained by any sequence of processing; (4) both, source and target domain, are cues to retrieve relevant information; and (5) the verbal nature of the linguistic metaphor constrains the flexibility to keep search and retrieval on track. [PAIVIO 1986, 235] In

¹¹Honeck and Kibler claim that Paivio’s dual coding approach, like others, fails to explicitly clarify how images are described or interpreted, and thus does not really provide insight into metaphor processing. [HONECK and KIBLER 1985, 408-411] Yet here the focus is not on metaphor processing but on the contribution of imagery to understanding and accordingly acquisition and retention.

sum, metaphors do not benefit from dual coding due to the fact that they directly provide imagery but due to the fact that they additionally provide imagery, and thus offer two possible pathways for cognitive processing that may both be dually coded.

Nevertheless, Paivio clearly states that especially with 'novel' metaphors, imagery plays an important role in comprehension. As has been suggested in section 2.3, 'novel' metaphors are still *active*. Especially if novel linguistic metaphors use concrete terms that readily evoke imagery, comprehension is supported. However, imagery may also negatively affect metaphor interpretation and comprehension. Paivio reports a study by Billow in which images were found to add irrelevant details (cf. CMT-cornerstone (7)) to the scene that were not appropriate for the successful decoding of the metaphor as they interfered in construing an integrated representation. [PAIVIO 1986, 236] In view of this result, the use of visualizations in metaphor teaching, as suggested in CMT-cornerstone (6), needs to be carefully considered: interfering with the mental image, they may impede instead of support interpretation. On the contrary, they may also provide relevant support for language learners, that - in contrast to native speakers - have not construed a fixed image for a metaphor that is already well-entrenched in the language as suggested in CMT-cornerstone (8).

A last important finding of Paivio's research setting the framework for the study presented in chapter 7 is the result of his priming experiments to test the *conceptual-peg hypothesis*. Originally, topic and vehicle¹² - if comparable in imagery value - were believed to be equal conceptual pegs for semantic memory information, and therefore believed to fulfill the retrieval function equally well. However, priming experiments (in which the subjects were given the topic, or the vehicle noun, or no prime just before they saw the whole metaphor, and were asked to press a button to indicate metaphor recognition that would stop the system for them in order to write down their understanding of the metaphor) showed that "topic-priming speeded up metaphor interpretation relative to the no-prime condition, whereas vehicle priming retarded interpretation time". [PAIVIO 1986, 237] In other words, the vehicle may still take up a dominant function in metaphor processing but the topic needs to be known first in order to be able to actually choose the relevant meaning aspects of the vehicle and successfully decode the metaphor. In other words, the target domain sets the scene and the source exclusively serves as a vehicle to facilitate understanding. Hence, in metaphor teaching the target needs to be clear before source domains are researched for their productivity. That is, a curriculum mainly based on source domains does not

¹²In accordance with Paivio's research, the terminology here again changes to "topic" and "vehicle" to enable exact reproduction of his findings.

suffice as the focus of attention is not directed. The students need to know that they will be talking about money before the source domain of liquids is activated, they need to be focusing on competition before the source domain for war or sports is dealt with.

Trace theory

Trace theory builds on the assumption that each use of a linguistic item, if productively or receptively, leaves a trace in memory. Consequently, repeated encounters tend to entrench the traces in memory. These traces are detectable in neuro-science in form of chemical and structural changes in the neurons that are occupied with processing information and storing it. [BOERS and LINDSTROMBERG 2008b, 11-12] In accordance with Lakoff's *Neural Theory of Metaphor* [LAKOFF 2008, 17-38], Baddeley's *Trace Theory* suggests that metaphors have a neural basis as explained in CMT-cornerstone (4). In order to entrench the trace metaphors need to be explicitly perceived and used.

Noticing hypothesis

Similarly, the *noticing hypothesis* deals with the role of consciousness in input processing. In this respect, it foremost provides the "theoretical underpinnings of form-focused instruction" [LAUFER and GIRSAI 2008, 697] but may also contribute to metaphor teaching. According to Schmidt's research, "noticing is the necessary and sufficient condition for converting input to intake" [SCHMIDT 1990, 129]. In other words, in order to initiate processing and consequently learning, the targeted item needs to be brought to consciousness. However, incidental learning does take place even when the task as such demands the focus of attention. Due to the unresolved questions this way posed to the notion of incidental and implicit learning, the noticing hypothesis has been immensely questioned. However, Ellis and Robinson, who also argue in favor of the possibility of subconscious learning, similarly point out: "What is attended is learned, and so attention controls the acquisition of language itself." [ELLIS and ROBINSON 2008, 3] Yet, whereas Schmidt's hypothesis in general seems to exclude any other learning, Ellis and Robinson only put the spotlight on attention as one supportive factor for learning. Laufer and Girsai highlight that especially in language learning features may be "infrequent, non-salient, and communicatively redundant [and] may go unnoticed unless attention is drawn to them" [LAUFER and GIRSAI 2008, 697]. Indeed, speakers of a language may be able to successfully decode metaphorical language without knowing that it is metaphorical. However, as Littlemore and Low point out, in order to improve non-native metaphor processing, learners need to gradually become aware of

“how they process metaphorical expressions” and that there actually is an “incongruity that signals” the need for such a processing. [LITTLEMORE and LOW 2006, 53] In this respect Littlemore and Low recommend to draw the students’ attention to different signals for new metaphors, such as intonation, or body language, and to increase the students’ general expectation to encounter metaphorical language. Having been taught according to traditional metaphor theory, students do simply not expect to be asked to process metaphorically in discourse different from literature. Thus, students need to experience the ubiquity of metaphors in everyday communication, as proposed in CMT-cornerstone (1), as well as their different functions, as tackled in CMT-cornerstone (5) and (7), and eventually need to be made aware of the possible problems metaphorical language may cause in intercultural exchange (cf. CMT-cornerstone (9) and (10)).

Input enhancement

Following the theoretical direction of the *noticing hypothesis* and again mostly applied to grammar teaching, the *theory of input enhancement* may be seen as one application of the afore mentioned approaches. Smith summarizes three main reasons for the necessity of input enhancement: (1) language learners may not benefit from a large amount of target language available as they are not sensitive to the grammatical features of the input; (2) grammatical features are non-salient and thus not noticed, and (3) the learners’ native language may impede their ability to notice certain linguistic features. [HAN et al. 2008, 598] In other words, in addition to the students’ individual ability to actually notice certain features and thus profit from target language input, the characteristics of the input are decisive. Accordingly, one way to initiate learners’ processing for form and for meaning is to increase the quality of the input. Thus, in order to secure noticing as a prerequisite for intake, Smith suggests¹³ to highlight the targeted features in the input by means of visual adaptation (e.g. italics, boldfacing, color). However, this ‘external input enhancement’, that is, enhancement provided by the teacher or the material does not guarantee noticing nor does it necessarily support it. In fact, the ‘internal input enhancement’, as generated by the learner itself, may not at all overlap with the external input enhancement and thus not result in the noticing aimed at. [HAN et al. 2008, 598]

On the whole, ‘enhancement’ in the form of elaboration to initiate ‘deep processing’,

¹³Smith suggests a whole list of techniques to create input enhancement but here the textual enhancement of input is focused on as it is the one relevant for the study presented in section 7.

in the form of visualization to provide double access for 'dual coding', in the form of repetition to contribute to more 'entrenched traces', in different verbal or non-verbal forms to initiate 'noticing', or in the form of textual layout to contribute to 'input enhancement' - 'enhancement' is one of the key terms of successful metaphor teaching. However, on the one hand different types of enhancement require different cognitive abilities and on the other hand visualization mainly addresses learners who according to their preferred cognitive style may be categorized as holistic-imagers [BOERS 2004, 222-224]. Indeed, all theories, as has already come up in the discussion, although actually tackling learning are here addressed to teaching. They were dealt with in this context to provide a theoretical grounding on which to develop didactic guidelines for metaphor teaching. Nevertheless, it is the individual student who is then supposed to make use of the offered teaching methodology and material. As Niemeier points out, "[l]earners are not a homogeneous group; everybody has their own ways and strategies of how to construct knowledge" [NIEMEIER 2004, 98]. Boers and Lindstromberg clearly summarize, "Not all learners may be equally susceptible to the effectiveness of CL-inspired pedagogy" [BOERS and LINDSTROMBERG 2008b, 41]. Individual aptitude, cognitive style and level of language proficiency as well as affective motivation are important learner-influencing characteristics that also decide on the success of the teaching. Thus, in researching the effects of incorporating the CL-inspired methodology and material in teaching on the acquisition and the retention of metaphorical language, these factors need to be taken into account as much as possible.

4.3 Teaching Conceptual Metaphors

After almost three decades of theoretical analysis of metaphors in the CL-paradigm, researchers are now challenged to actually apply the theoretical findings to practical language teaching. In the following sections, some basic ideas along these lines are discussed and the potential of teaching conceptual metaphors is explored.

4.3.1 Elaborating on motivation

The long persistent fallacy to believe that metaphors are arbitrary, lengthy lexical units of speech has been successfully eliminated. In fact, metaphors are neither necessarily lengthy lexical units of speech nor are they arbitrary. There are also one word metaphors and there is reason for choosing a particular source domain for a specific target domain. This cognitive semantic proposal carries a great potential of alternative

learning and consequently innovative teaching strategies in the foreign language classroom. [BOERS 2004] The traditional method of isolating large chunks of words, which is what metaphors were for the longest time believed to be¹⁴, and listing them to be learned by heart has more than once proved to be an ineffective technique. As Radden points out, the idea of combining the teaching of linguistic metaphors with insights into their cognitive motivation results in insightful learning that is more successful than schematic rote learning. [RADDEEN 1997] Indeed, the 'reason' for language choice, as suggested by linguistic motivation, is very likely to facilitate foreign language learning.

The foundation of Cognitive Linguistics, as discussed in section 2.1 and section 4.1 proposes that language, as an integral part of general cognition, reflects cognitive processes. Therefore, the reasons for language choice, that are to be made evident in foreign language teaching, are grounded in human perception and experience of the physical, social and cultural surroundings. Indeed, elaborating on metaphoric motivation means asking the basic question of how humans, and in foreign language teaching most importantly, native speakers of the language, perceive and accordingly construe the world and in which way this is shown in language. For this purpose, CL-research provides a three-fold typology of motivation in language, namely, (1) 'form-form connections', (2) 'meaning-form connection' or 'form-meaning connections', and (3) 'meaning-meaning connections' [RADDEEN and PANTHER 2004, BOERS and LINDSTROMBERG 2006, LITTLEMORE forthcoming], of which metaphors are most likely to be categorized as examples of the third one, which is up to date also the most widely researched one. Before considering this last category, the other two types are briefly delineated for reasons of completeness. The first type, addressing the phenomena of rhyme, alliteration and assonance, that is 'form-form connection', has long been neglected and was not even illustrated with an example when first introduced by Radden and Panther. Only two years later Boers and Lindstromberg gave "pick-pocket", "playmate", "publish or perish" as examples [BOERS and LINDSTROMBERG 2006, 312]. However, currently, a lot of research is being done on the notion of 'form-form connections' and explainable phonological patterns, as such are found to also make a significant contribution to language acquisition and retention. [LINDSTROMBERG and BOERS 2008, BOERS and LINDSTROMBERG 2008c, MACARTHUR and LITTLEMORE 2008] The second type of motivation deals with the connection between form and meaning. However, there is, as mentioned before, ample evidence for new word creations (e.g. compounds, as exemplified in section 4.1), but also for basic motivation, such as onomatopoeic words (in

¹⁴In the Lexical Approach metaphors are still considered to be unmotivated chunks. Thus, in this context rote learning is the only strategy suggested to acquire metaphors.

Cognitive Linguistic theory referred to as *imitative iconicity* [TAYLOR 2002, 46])¹⁵ or the constructions deriving from the often cited 'more-form-is-more-meaning' principle (in Cognitive Linguistic theory referred to as *structural iconicity* [TAYLOR 2002, 46] or *diagrammatic iconicity* [BOERS and LINDSTROMBERG 2006, 312]). This last phenomenon addresses the notion that longer words express more complex meanings or, for example, longer sentences for simple requests construct more distance between the interlocutors and thus convey politeness. Although metaphors, as can especially be seen in this last example of implying politeness through creating distance (EMOTIONAL DISTANCE IS SYNTACTIC DISTANCE or simply MORE FORM IS MORE MEANING), may certainly also be motivated on the level of form or contrarily motivate form, the main focus of the metaphors dealt with in the course of this study lies in the 'meaning-meaning connections' as proposed in the third category, where polysemy is the focus of attention. Hence, prepositions and particles of phrasal verbs, known to be highly polysemous, were first to be analyzed in this category and only later figurative language, first in the form of idioms, was taken into account. [BOERS and LINDSTROMBERG 2006] Yet metaphor is probably the most powerful tool of meaning extension by transforming a basic or central sense of a word or phrase into a figurative sense by means of conceptually mapping it onto a different context, that is by 'meaning-meaning connection'. In contrast to, for instance, prepositions, metaphorical 'meaning-meaning connections' are less constrained by grammatical conventions and may thus also be creatively used within the boundaries of the given concept. The 'meaning-meaning connections' provided in the linguistic research on metaphors should therefore serve as a fruitful source for semantic elaboration, and thus explanation, in the foreign language classroom.

The motivation of linguistic metaphors is mainly based in the underlying conceptual metaphor. Therefore, these concepts in their coherent structure, that is the different mappings between source and target domain, should be made explicit in the foreign language classroom. Concepts become the organizing principle for vocabulary in order to create semantic webs that provide learners with vocabulary for at least two domains: the source and the target domain. Vocabulary would not be learned twice in different contexts but simply reassigned, that is explicitly linked to another domain. [JUCHEM-GRUNDMANN and KRENNMAYR 2009] Already simple statements such as for instance 'the company set up a new business' or 'the company had to close down a factory', as

¹⁵As Littlemore points out onomatopoeia is not common in English but may be productive in other languages. In Japanese even three different types of sound-symbolism are distinguished. [LITTLEMORE forthcoming, 109]

are very likely to be found in almost every business English book, are suitable for such elaboration. To most students' surprise, both sentences actually draw on conceptual metaphors. Introduced to the conceptual metaphor ACTIVE IS UP and HEALTHY IS UP, students are not only enabled to recognize the metaphorical usage of language in 'to set up' and 'to close down', but they also understand the choice of the particle. In later recall, students are less likely to question whether the newly acquired phrases actually used 'up' or 'out' for the first example, 'down', 'out' or 'in' for the second example. As they are able to conceptually explain the choice of particle and realize that except for the correct 'up' and 'down' none of the others fits into the conceptual framework, learners are well equipped to decide which particle the verb requires. Memorizing is substituted by understanding.

Moreover, in spite of learning individual expressions, learners are introduced to whole mindsets. Following the three-fold principle of explicit teaching, as described in section 4.1.2, teachers should provide additional linguistic input or devise exercises to activate familiar vocabulary of the same concept and in this way encourage linkage between the newly encountered metaphorical expressions and other already familiar linguistic instantiations. Likewise, newly discovered source domains for specific target domains could be compared with the already acquired source domains for the same target in order to enable students to link the new concepts within their individually constructed networks of linguistic and cultural knowledge. With insights into the conceptual motivation of metaphors, students will not only be able to decode several verbal expressions and actually understand their choices, but they will also be able to usefully organize the newly acquired expressions. Thus, acquiring concepts becomes the guiding tool towards learning as well as towards organizing this learning.

The experiential grounding of conceptual metaphors may be very different from language to language as it might draw on culture-specific experiences. Hence, the underlying conceptual motivation may not be as comprehensible to learners. In order to achieve the beneficial effect of semantic elaboration, teachers need to provide learners with a thorough understanding of the target culture, from which students can start decoding the linguistic metaphor. In fact, being a powerful tool of conceptualization, metaphors actually open a window to the target culture. Language teaching in general and metaphor teaching in particular should therefore always be accompanied by giving insights into the underlying culture-specific mindsets that serve as bases for the linguistic instantiations. In addition to familiarizing themselves with the target culture, students should also be encouraged to conduct contrastive research, that is, investigate which concepts are used in their native tongue in comparison to their tar-

geted language. Awareness of the general differences between conceptual metaphors in the native and the target language as well as of the existence of different scopes of the same conceptual metaphor in different languages is most likely to diminish first language interference, for instance one by one translations of expressions and whole concepts. Having experienced and discussed possible differences, students will be more skeptical of metaphorical use and the use of transfer strategies from native to target language might decline. Therefore, class time should be set aside for discussing the existence and scope of conceptual metaphors across the languages. For example, exercises could be devised that research the range and scope of conceptual metaphors by collecting linguistic examples from authentic material or creating borderline metaphorical expressions and try them out with native speakers. This way, teaching metaphors requires and at the same time supports intercultural competence.

In fact, according to Danesi's research, conceptual errors are even more disruptive of comprehension than linguistic or communicative errors and mainly result "from the tendency of SL [second language] learners to assume that conceptual structures in the native and target languages are encoded in grammatically and lexically parallel ways" [DANESI 2008, 231]. On these grounds, he postulates an expanded contrastive analysis of conceptualization and claims the alignment of 'conceptual competence' with the traditional language learning goals of 'linguistic' and 'communicative competence'. He is convinced that insight knowledge into the conceptual system of a language can significantly contribute to "the acquisition of true SL proficiency" [DANESI 2008, 223] and should therefore complement the widely propagated 'formal fluency'. As a first step towards 'conceptual fluency', Danesi actually singles out the learner's knowledge of "how a language encodes abstract concepts on the basis of metaphorical reasoning" [DANESI 2003, 72]. Consequently, he calls for a conceptual curriculum that is based on a catalogue of source domains that deliver concepts relevant for the targeted discourse. [DANESI 2008, 250] With this proposal, Danesi suggests a radical shift of focus from target to source domain. The target domain, in this case business, sets the necessary¹⁶ framework for teaching but it is the different source domains productive in economic discourse that are hold liable for the development of the curriculum. The study presented in section 7 follows this idea of a conceptual curriculum. Similarly, in this study the source domains identified as important for the relevant topics served as a basis for the design of the material.

Together with the described didactic exploitations of embodiment, of experiential

¹⁶As discussed in section 4.2.2 it is always the topic, that is the target domain, that needs to frame metaphor processing and thus teaching.

grounding, or of the resulting conceptual basis, that may all be categorized as *etymological elaborations* [BOERS et al. 2004], the proposed investigation of the cultural differences, that may be referred to as *contrastive elaboration*, describes the various possibilities of *semantic elaboration*. Consistent with the original grouping of metaphors with the 'meaning-meaning connection' type of motivation, *semantic elaboration* is most productive in the foreign language classroom and can take very different forms. In addition to the systematic semantic elaboration of the motivation of conceptual metaphors that involve insights in the individual mappings, etymological background (cf. [SWEETSER 1990]) may also be provided by simple re-etymologizing activities [JÄKEL 1998] with individual instantiations of conceptual metaphors. Here, the linguistic metaphor in question is put into the context of the original source domains in order to bring the "historically earlier form to consciousness" [TRAUGOTT 1985, 21]. Some metaphors actually lend themselves to the most simple form of etymological elaboration, that is writing the expression with a hyphen (cf. 2.1) to encourage a different perspective: for example "mis-take", "dis-cover" or "re-collect" (cf. section 2.1). Especially re-etymologizing *dead metaphors* may function as a valuable eye-opener for language learners and may support active as well as passive retention. [JÄKEL 1998, 108] Indeed, almost "anything which helps [students] to remember things [, in this case vocabulary grouped by conceptual metaphors,] is important and if the language [they] are learning is more colourful and interesting, there is more chance that [they] will remember it" [WRIGHT 2002, 9] Teachers therefore have to promote the students' interest into a language by discovering hidden correlations.

Indeed, "figurative usage is derived from literal sense", learner's attention thus needs to be drawn to the literal senses in order "to enhance in-depth comprehension" [BOERS 2000b, 1]. Research states that language users process *novel metaphors* literally as well as non-literally. (cf. section 2.3) For language learners many of the metaphors to be grouped as *sleeping* or *dead* according to the classifications discussed in section 2.3 are still *novel* and therefore *active* as they are simply a new item of vocabulary. Thus, language learners may also profit from insights into the etymological basis of supposedly *dead*, that is lexicalized, metaphors.

To sum up, the motivation of metaphors offers multifaceted ways of elaboration and thus can facilitate insightful learning. Linguistic metaphors do not need to be taken for granted and learned by heart, but mere memorizing is substituted by understanding through semantic elaboration. The embodiment and experiential grounding of conceptual metaphors and the resulting mappings, as described in section 2.2, serve as a basis for explicit elaboration in language teaching. Most importantly, all types of

metaphors as classified in section 2.2.2, may contribute to a conceptual systematization of linguistic use in the language classroom and may not be conventional to language learners. Thus, they should all find their way into explicit metaphor teaching in the foreign language classroom. In teaching concepts instead of singular linguistic instantiations conceptual fluency is aimed at, which is a key feature for foreign language comprehension. Elaboration on the conceptual background, as suggested in section 4.2.2, contributes to deep processing and thus eventually results in entrenched traces. In this way, the acquisition and retention of the linguistic items is believed to first of all improve comprehension and secondly to improve storage as well as boost retrieval.

4.3.2 Exploiting visuals

Apart from verbal or rudimentary graphic elaboration (e.g. hyphenating), the motivation of metaphors may also be visualized. As discussed in section 4.2.2, visuals enhance the possibility of dual coding, which doubles the access channels for later retrieval. Therefore, visuals may generally contribute to increased retention. Similar to verbal re- or para-phrasing, visualization may be used to alert the learner to the etymological bases of the linguistic metaphors. The targeted item may be put in a source domain surrounding or the chosen source domain feature appears in a target domain setting. For example, business managers in suits, the target, could be visualized on a playing-field, the source domain surrounding, as elaborated on in section 7.4.1. Or at a cashier's desk, the target domain setting, a businessman could receive a cash injection, ontology transferred from source domain, from a banker. Likewise, line graphs, that are popularly being used in the socio-economic discourse, could for example be illustrated with drawings of mountains or rockets (depending on the conceptual metaphor used in the text or targeted in the assignment) and thus, function as eye-openers to recognize the underlying source domains.¹⁷

In this way, learners are explicitly guided to cognitively process the linguistic instantiation in the source domain and are more likely to actually apply their source domain knowledge to the target domain. Indeed, in interpreting visuals entailments of the conceptual metaphor may become apparent that are not as obvious in the linguistic

¹⁷Analyzing conceptual models of economy in German and English discourse, Jäkel provides a nice collection of examples for diagrams and schemata used in economic discourse that make use of visualizing the source domain and could also be used for language teaching. (cf. [JÄKEL 1998, 304-309]) In fact, as Jäkel suggests, cartoons are also a nice source for teaching as their puns are usually based on the visualization of the literal word meaning [JÄKEL 1998, 110]. Recognizing the source domain is thus a prerequisite for understanding the pun.

form and hence support the construction of mental representations. Especially visuals that show the target entity in the source domain may thus serve in making the metaphor-inherent underlying imagery explicit.

However, as much as students may be assisted by visuals they may also be hindered. As pointed out in section 4.2.2, pictures do not always contribute to the learning process. Due to their complexity, they may impede the individual construction of mental representations and in this way inhibit successful interpretation. Learners may perceive details as foregrounded that were chosen to set the scene. Indeed, since pictures are likely to be perceived and maybe even interpreted first, the linguistic instantiation of a conceptual metaphor that is presented along with a picture is already visually loaded. Teachers should be aware of this superiority of visuals and use them carefully. Visuals should provide stimuli for contemplating the verbal input and encourage learners to independently invest cognitive effort to interpret imagery and to come up with images themselves.

4.3.3 Encouraging productive usage

Metaphor awareness and conceptual fluency may well serve for language comprehension but may also be fruitful for language production. Due to the fact that “different languages are motivated in different ways”, Littlemore concluded that “much of the analysis of motivated language is necessarily retrospective rather than predictive” [LITTLEMORE forthcoming, 108]. On this basis, Littlemore also justifiably claims that insights into the motivation of metaphors mainly serve language comprehension. However, working with whole concepts as motivation for individual linguistic metaphors in the classroom, the students are, as stated in the previous section, provided “with a sound foundation, on which further mappings may be constructed”. Thus, what is in general claimed to assist language comprehension, namely teaching the decoding of metaphorical language by referring to the underlying concepts, is here purposefully implied to be expandable to language production. Not only the basic motivation of the linguistic metaphor is backed up but also a sound conceptual foundation is laid, on which further mappings may be constructed. Indeed, insights into the conceptual grounding naturally sketch a bigger picture, namely the connection of whole concepts, and may thus facilitate language production as much as language comprehension.

Similarly, Caballero, as presented in section 5, argues in favor of encouraging the productive use of conceptual metaphors in the English for specific purposes classroom. She comes up with a whole list of activities focusing on production. Her students

of architecture are for example asked to describe and evaluate buildings by means of linguistic metaphors. [CABALLERO-RODRIGUEZ 2003, 190] However, she does not provide any empirical evidence for the successful applications of her ideas that could be resorted to but argues on the basis of experience. Thus, the hypothesis that conceptual fluency successfully contributes to language production is yet to be proved and therefore also addressed in the empirical study presented in chapter 7.

Indeed, exploiting conceptual metaphors also for language production should be a next step in language teaching. In productive use two strategies need to be discriminated: (1) making use of existing linguistic metaphors and (2) creatively extending metaphorical language within common conceptual frameworks. Although the first aspect seems to be a natural aim of vocabulary teaching and should thus be - if only theoretically - rather unproblematic, only little evidence can be found up to date of students explicitly having been encouraged to make productive use of conceptual metaphors. In most studies, as can be seen in section 5, students - if at all - are mainly asked to reproduce linguistic metaphors in cloze exercises. Naturally, metaphor awareness raising should be the first step, and providing activities requiring controlled usage should be the next, but then it is time to actually exploit conceptual metaphors for language production. “[M]etaphor provides learners with a tool to extend the meaning of simple, concrete words to denote more complex, abstract concepts for which they have not yet acquired the precise terms.” [BOERS 2004, 221] Thus, students should *dip into their savings* and apply already acquired vocabulary to new domains in order to make themselves understood in this context. However, apart from one of Boers’ experiments [BOERS 2000b]¹⁸, open writing assignments, which would provide more space for the students to actually try out the application of metaphors, have not yet been integrated into research. Questioning the productivity of conceptual metaphor teaching as such and especially highlighting this research gap, Low argued that “there is a chance that A IS B presentations might aid the acquisition of at least some lexis. Whether they will aid learners to *use* [Low’s emphasis] the lexis productively is entirely another matter.” [LOW 2008, 217] Thus, research along these lines is needed.

Putting the cart before the horse, Boers researched native speaker’s acceptability of creative linguistic metaphors, which he hypothesized to potentially be produced “if learners were actually encouraged to ‘take risk’ and to exploit their knowledge of a prevalent metaphoric theme [...] to ‘coin’ figurative expressions through creative thinking” [BOERS 2004, 218]. Indeed, he researched presumed student output before

¹⁸Boers’ experiment is described in section 5.

even trying out whether students would actually come up with creative metaphorical usage. Nevertheless, his findings are promising. Although his research concentrated on idioms, which are in general more fixed, he found out that some native speakers even graded completely novel instantiations as correct. He concluded that completely novel instantiations within an existing conceptual framework might be more likely to be considered as correct by native speakers than slightly deviant ones. [BOERS 2004] In other words, novel linguistic metaphors, as long as they affirm the established concept, may remain unnoticed. Furthermore, the findings concerning the instantiations Boers referred to as “deviant”, that is complex verb-plus-noun-phrase idioms, in which the verb or the noun had been exchanged for synonyms, are less applicable to research on linguistic metaphors as these are less fixed, and ‘deviation’ therefore is a misleading category in this context. Moreover, apart from being correct, in international business communication interlocutors foremost aim at being understood. Likewise, Boers adds “if the programme is oriented towards using the language as a medium for intercultural communication [...], then learners could possibly exploit their knowledge of attested metaphoric themes to create figurative language themselves” [BOERS 2004, 220].

Thus, for the business English classroom teachers should encourage their students to make use of the vocabulary they have at their disposal and by following the conceptual framework to try to creatively map knowledge structures from the source to the target domain. As much as students should also experience the ubiquity of metaphor in awareness raising activities, they should experience the productivity of metaphors in activities aiming at oral or written language production. In section 7 four writing assignments are introduced that were part of the study and aimed at triggering productive usage.

4.3.4 Exploring functions

Experiencing the ubiquity of metaphors in everyday communication and in business discourse in particular, students should be sensitized to the different functions of metaphors. (cf. section 2.4) They should be encouraged to and assisted in decoding metaphorical usage and in investigating what kind of knowledge is being imparted by means of metaphorical usage, that is what is highlighted and what is hidden. Furthermore, they should be made curious to find out what the metaphorical constraints are this way imposed on the subject, namely what cannot be explained or reasoned about due to the lack of available metaphorical mappings within the same concept. Moreover, a whole set of associations and metaphorical mappings may be implied instead

that might not be aimed at. Students need to critically discuss what is highlighted and what is hidden by the choice of a particular metaphor and which effect this has on the reader or listener. For this purpose, they should be encouraged to rephrase or paraphrase the given sentences by using different concepts and thus change the suggested perspectives in order to offer new pathways and maybe even new solutions. The line graphs, referred to in the section on visuals, for instance, provide an interesting basis to productively explore the effect of metaphorical language. The same graph could be described in class by different groups applying a different conceptual metaphor and results could be discussed.

4.3.5 Existing material

Gradually teachers' resources adopting a CL-approach towards metaphor are appearing on the market and are waiting to find their way into the classroom or become a basis for the development of further material.

Lazar published *Meaning and Metaphors*, an A4-size collection of ready-made hand-outs and worksheets for the language classroom with activities to get to know and practice figurative language at different levels of proficiency. In 34 units Lazar covers a wide range of topics to do with figurative language: whereas some of the units aim at explaining what figurative language is and what it is used for (e.g. *Metaphors & Similes*, *Describing feelings*, *Proverbs*, or *Metaphors in Rhetoric*) and provide activities to foster understanding and raising awareness, others explicitly activate source domain vocabulary (e.g. *Games & Sports*, *Machines*, or *Health and Illness*) to apply it to specific target domains, and again others actually focus on specific conceptual metaphors (e.g. LIFE IS A JOURNEY or TIME IS MONEY). [LAZAR 2003] Most interestingly for teachers, each of the units has a detailed lesson-plan and several topics are revisited at different levels of proficiency from lower-intermediate to advanced.

Wright published the *Idioms Organiser*, a practice book with 110 two-page units and additional revision material organized in four sections: (1) "Areas of Metaphor", (2) "Individual Metaphors", (3) "Topics", and (3) "Keywords". What he calls "Areas of Metaphors" are 12 selected conceptual metaphors, including the conceptual metaphors BUSINESS IS WAR, A COMPANY IS A SHIP, THE OFFICE IS A BATTLEFIELD, A PROJECT IS A RACE, ECONOMICS IS FLYING, and ORGANISATIONS ARE GARDENS, which are especially relevant for the business discourse. In contrast, the "Individual Metaphors" units each single out a source domain, for instance 'Building Idioms', 'Water Idioms', or 'Sports Idioms', and look at the different expressions drawn from

this area. The “Topics” section, on the contrary, looks at the various target domains, such as ‘Money’, ‘Work’, ‘Time’, or ‘Power and Influence’. Although the book does not make use of meta-linguistic vocabulary such as source and target domain, these sections can be clearly delineated. Only the final “‘Keywords” section is not as easy to group along the lines discussed so far, here conjunctions or prepositions, such as ‘And’, ‘Of’, or ‘Or’, are used as unit titles and subsume fixed expressions like *give **and** take*, *time **and** again*, or *wait **and** see*. [WRIGHT 2002] Although titled *Idioms Organizer*, this book thus goes far beyond mere idioms and especially the first three parts also provide a valuable resource for teachers aiming at a systematic integration of linguistic metaphors. Each of the units explicitly tackles the basic source domain meaning as well as the transferred figurative meaning and provides ample exercises for practicing both domains.

A last useful teachers’ resource to be named along with these two books is the OneStop English Internet Site, which currently contains twelve units on metaphor teaching, each dealing with a specific conceptual metaphor. Again worksheets and accompanying teachers’ notes are provided that can readily be used in the language classroom. As far as the business context is concerned four units may be useful, which are ‘Winning’, ‘TIME IS MONEY’, ‘Responsibilities are like weights’, ‘MONEY IS A LIQUID’. [MACMILLAN 2009] As can already be seen from the selected listing of unit titles, the approach - which might also be due to the different authors feeding the webpage - is rather mixed: some units explore a certain conceptual metaphor, others give insights on the productivity of specific source domains and provide activities to activate source domain vocabulary for the different target domains. On the whole, the activities presented on this page are clearly aimed at classroom discourse and mainly require additional language input from the teacher, thus they cannot be seen as self-study exercises.

Furthermore, Low is right in criticizing that all¹⁹ these activities are stand-alone exercises that are not part of a coherent concept and would need to be integrated into a broader instructional design. [LOW 2008, 226] Nevertheless, they are valuable resources for teachers to start from. A systematic integration of metaphor teaching into a course book, not to mention a course book for Business English is yet to be developed.

¹⁹Low actually only refers to Lazar and the OneStop English webpage. [LOW 2008, 226]

4.3.6 Essentials for the classroom

The following list summarizes the points made so far, which may be seen as guidelines for the teacher to become engaged in CL-inspired metaphor teaching.

1. Examine course book texts for linguistic metaphors. If necessary, design new or edit existing texts so that they systematically make use of linguistic metaphors and thus lend themselves more easily to teaching conceptual metaphors.
2. Organize vocabulary along conceptual metaphors.
3. Identify individual mappings as well as their entailments.
4. Draw attention to the type and function of metaphors.
5. Conduct etymological and diachronic research for linguistic metaphors.
6. Elaborate on cognitive motivation of metaphors.
7. Visualize metaphors or initiate visualization.
8. Re- and paraphrase linguistic metaphors and discuss changes.
9. Include contrastive research.
10. Encourage productive usage.

Thus, most importantly teach concepts not expressions as they ease understanding, improve storage and retrieval, and enable a creative application.

CHAPTER 5

Research Strands in Figurative Language Teaching

Language teaching research has gradually started to become aware of the potential (still mainly theoretically generated) benefits to be gained from integrating cognitive linguistic findings. Thus, a series of experimental studies and interventions that has already been conducted in the language classroom aiming at the evaluation of the actual benefit as well as possible problems of following such a Cognitive Linguistic approach can be reported. In this context, for two simple reasons the scope of this chapter, as the title already suggests, has been further enlarged from mere metaphor to figurative language teaching: (1) studies on conceptual metaphor teaching are still rare and (2) metaphor teaching can also learn from insights in some of the issues raised by related studies, that is studies researching the teaching of other lexical aspects by means of a Cognitive Linguistic approach. After all, metaphor teaching is only one aspect of figurative language teaching, which itself is only one aspect of vocabulary teaching, which again itself is only one aspect of foreign language instruction, and since Cognitive Linguistic findings have only recently expanded towards language teaching, it is not surprising that the number of studies addressing a similar subject, such as the one aimed at here, is still very small.¹ In fact, a direct comparison with earlier studies

¹Actually all of the research recently being conducted in applying cognitive linguistics to teaching vocabulary in the foreign language classroom has been initiated by a few individuals that may be considered as islands on the scientific map. Most innovative and productive in the area of figurative language teaching is certainly the Belgian group around Frank Boers, with Murielle Demecheleer, June Eyckmans, Seth Lindstromberg (although not Belgian, he should definitely be named here), and Hélène Stengers. But there is also the Hungarian group initiated by Zoltán Kövecses, with Peter Szabó, Marta Beréni and Szilvia Csábi, and the English school around Graham Low, Lynne Cameron, and Jeannette Littlemore. Outside of Europe especially the work by Thomas Fuyin Li (China) and Masuma Azuma (Japan) are to be named. This list is not exhaustive but puts the most important names on the map. Only gradually these individual enterprises seem to develop

addressing metaphor teaching in German business English courses is not possible due to the lack of respective publications. Therefore, the following survey is subdivided into two sections, that is (1) Basic Contributory Studies, and (2) Studies in Metaphor Teaching, and concludes with a third section that summarizes key features and thus serves as a basis on which open issues are discussed and desiderata are formulated.

5.1 Contributory Studies

5.1.1 Studies in teaching particles and prepositions

The first studies on CL-inspired teaching concentrating on vocabulary to be reported here focus on English phrasal verbs with their particles and on prepositions. Motivated polysemy was the center of attention and respective studies put the effect gained in the language classrooms with explanations along these lines to the test. After being made aware of the central sense of the polysemous items, learners were then guided to the literal and/ or metaphorical extension, which mainly requires figurative thought. [BOERS and LINDSTROMBERG 2008b, 28] In other words, already these first studies strictly speaking built on metaphor teaching, as the basis of polysemy is often metaphorical extension.

Already in 1996 Kövecses and Szabó reported on an intervention study with 30 Hungarian university students. The study focused on the acquisition of ten phrasal verbs with *up* and *down* as particles. In a classical independent group design, the experimental group (N = 15) had only been informed about the underlying conceptual metaphors motivating the particles of the phrasal verbs (e.g. MORE IS UP, HAPPY IS UP), whereas the control group (N = 15) had been given the translation in Hungarian as mnemonic support. Both groups had been instructed to explicitly study the verbs and were immediately tested by a gap filling exercise, in which the experimental group significantly outperformed the control group. [KÖVECSES and SZABÓ 1996, KÖVECSES 2001] This produced first empirical proof for the theoretical suggestion that presenting vocabulary along conceptual metaphors may be beneficial for retention.

Expanding Kövecses and Szabó's research, four years later Boers published a similar experiment with phrasal verbs instantiating the conceptual metaphors MORE IS UP/ LESS IS DOWN, GOOD IS UP/ BAD IS DOWN, and VISIBLE IS OUT & UP/ INVISIBLE IS IN & DOWN. The study was conducted with a larger sample, namely 74 French-

into something like a movement, with co-authored publications appearing.

speaking university students. Similarly, both groups were presented with the same set of linguistic examples and explicitly instructed to study them. Yet instead of providing a translation into the native tongue, Boers provided both groups with explanations from an English grammar with the only difference that the control group received an alphabetically sorted list, whereas the experimental group's vocabulary was grouped under the respective underlying conceptual metaphors. Again an immediate post-test in form of a gap filling text served as research tool. However, of the 20 items given in a box to choose from and fill the gaps with, this time only ten had been included in the set of phrasal verbs previously studied and the remaining 10 were new and especially incorporated in order to test for the possibility of transfer strategies. Interestingly, the experimental group significantly outperformed the control group ($p < .01$) in the 10 studied verbs, but for the remaining 10 gaps no significant difference could be measured. [BOERS 2000b] Indeed, the original claim that presenting phrasal verbs along their underlying conceptual metaphor is beneficial for vocabulary retention could thus be additionally demonstrated, yet could not be expanded to transfer strategies.

Already two years earlier, Boers and Demecheleer had reported experiments with the prepositions *behind* and *beyond*. Again the conceptual metaphors motivating the figurative extension of prepositions from their originally spatial sense were the center of research. Contrastive cognitive semantic analyses had shown that in French neither the causal sense of *behind* (e.g. The motive behind the crime./ The force behind the revolution.) nor the preposition *beyond*, as such, existed. Along with this finding, the assistance of cognitive semantic explanations for the English prepositional usage to French learners of English was put to the test. As part of a reading comprehension exercise two groups of students ($N = 73$) were first asked to translate and rephrase sentences containing different senses of *behind*. Both groups had received an additional vocabulary list to exclude any misunderstandings. In the experimental group this list included the different senses of *behind*. Nevertheless, the experimental group showed no better performance than the control group. In their conclusion, finally presented as mere diagnostic to "anticipate comprehension problems" [BOERS and DEMECHELEER 1998, 203], this first experiment in comparison with the second, which is described in the following, may actually give rise to further argumentation in favor of contrastive cognitive elaboration especially in the case of existing native-tongue equivalents. Indeed, native language knowledge may actually impede cognitive explanations if not explicitly targeted.

The following reading comprehension targeted the use of *beyond*. Again students were asked to translate and rephrase, and again students were provided with additional

vocabulary lists, yet this time including definitions of the spatial senses of *beyond* for both groups. The difference lay only in the quality of explanation; i.e. traditional in contrast to cognitive explanations. In this second experiment the experimental group significantly outperformed the control group ($p < .007$). Impressed by the significant result, Boers and Demecheleer repeated the last experiment with another group and this time even refined the input as follows: in the control condition the students received a complete dictionary entry on *beyond* including all figurative senses and in the experimental condition the students received only the cognitive explanation of the spatial sense of the preposition (“located at the other side at some distance from” and “moving into another region at the other side of”). Most impressive, although the experimental group had not been informed about the figurative sense (ABSTRACT INACCESSIBILITY IS DISTANCE/ ABSTRACT ACCESSIBILITY IS PROXIMITY), they drew level with the control group. [BOERS and DEMECHELEER 1998] In other words, emphasis of the core meaning, which is here the spatial sense, seems to be most productive as students are this way equipped with a sound basis to build up figurative extensions. On these grounds, Boers and Demecheleer suggest offering learners sequences of examples that guide towards metaphorization. [BOERS and DEMECHELEER 1998, 203] To pick up the additional argumentation at the end of the previous paragraph, it may also be suggested here that cognitive explanations may be more successful where no conflicting and entrenched native tongue concept is available as it is the case with *beyond*.

Revisiting these studies, Boers and Lindstromberg question the actual research output. They claim that students’ success on the exercise cannot clearly be assigned to figurative thought, that is to deep processing and dual coding, but could also be due to the simple presentation of vocabulary as sorted, which is easier to learn than unsorted lists. Furthermore, they point out that “[f]rom a learner’s perspective, the benefits of presentation of meaning extensions as motivated may well depend on the perceived plausibility of motivations” [BOERS and LINDSTROMBERG 2008b, 29]. Especially this last evaluation supports the suggested influence of the mother tongue as singled out at the ends of the previous paragraphs. In case of conflicting mother tongue concepts, this plausibility is hard to reach and calls for additional contrastive elaboration.

In sum, this first set of empirical studies dealing with prepositions and particles of phrasal verbs taught by a Cognitive Linguistics approach names two important features to be taken care of in further research: first, the amount of sorting in presenting vocabulary should be made comparable among both groups in order to ax out the legitimate claim that the experimental group is only more successful due to the grouped vocabulary. Second, explicit contrastive elaboration to increase face-validity is essential

especially where conflicting mother-tongue concepts exist.

Recent research on cognitively explaining phrasal verbs reported by Condon tackled the questions whether (1) integrating a Cognitive Linguistics approach into an existing language program effects the students' actual phrasal verb knowledge, whether (2) learners are likely to transfer motivational insights to their general decoding and remembering of phrasal verbs, and whether (3) certain phrasal verbs lend themselves more productively to the Cognitive Linguistic approach than others. [CONDON 2008, 135] With her research results, Condon clearly backed up the earlier findings that "explicit knowledge of CL motivations underlying phrasal verbs [which is mainly based on conceptual metaphors] helps retention" [CONDON 2008, 148], yet similar to Boers she did not detect any attempts to transfer the decoding strategy and thus answered the second question with 'No'. Not surprisingly, she also found out that phrasal verbs with less opaque motivation (verbs more closely related to the basic/ the literal meaning) lend themselves more productively to semantic elaboration. Yet, in addition to presenting these findings on the didactic exploitation of the linguistic motivation, she also convincingly suggests that integrating the CL-inspired teaching into a real course and thus extending it to several weeks "yield[s] significantly superior results for the experimental group." [CONDON 2008, 148] Especially this last finding generates important input for the design of the study presented in 7. In fact, Condon is the first researcher to actually integrate a Cognitive Linguistic approach into a real classroom scenario and thus, first to add the criterion of 'sufficient input' to the always claimed 'face validity of the motivation'. According to Condon, the amount of exposure is crucial for subjects to "fully grasp the systematicity" and thus "appreciate the use of individual CL motivations" [CONDON 2008, 150-151]. Trying to understand and internalize coherent concepts, students long for linguistic examples to verify their newly acquired knowledge. Likewise, in teaching metaphors whole concepts need to be mapped out with linguistic examples to provide evidence for the learners that the concepts are not only coherent but also useful to learn and broadly applicable.²

²Condon's attempt to systematically vary the teacher variable in order to find out whether the approach was successful regardless of the teacher is also important to point out but more crucial for the concrete design of the later presented intervention study. After the pilot study, she exchanged the teachers (one of which was the researcher herself) of experimental and control group for the main study. Although the results of pilot and main study turned out to follow the same pattern, with the experimental group outperforming the control group, she pointed out that the experimental group in the pilot (taught by her) did much better than the experimental group in the main study (taught by the regular teacher) and additionally explains these findings by Larsen-Freeman's explanation that the investment of the teacher is crucial for the success of the study. [CONDON 2008, 152] Yet with this variation the question poses itself whether the output of groups taught by different teachers is still comparable. In fact, in order to be able to exclude

5.1.2 Studies in teaching polysemous verbs

Similar to the particles in phrasal verbs, polysemous verbs were taught exploring the theoretical findings of the CL-paradigm. An important study to learn from is Csábi's study of the English verbs *hold* and *keep*. In an independent-group-design experiment with 52 Hungarian secondary school pupils, Csábi in the experimental condition explicitly explained the core meaning and the meaning extensions of the two verbs in making use of conceptual metaphors and metonymies to construct semantic networks and in the control condition she worked with the same linguistic examples but gave translations instead. In an immediate post-test in form of a gap-filling exercise the experimental group significantly outperformed the control group, and in a one-day delayed post-test the difference between the groups even increased. [CSÁBI 2001, BERÉNDI et al. 2008] Whereas Berendi hypothesized that especially these last results of Csábi's study are due to the stronger rooting in long-term memory in the case of the experimental group, which she suggested to have derived from the cognitive mechanisms and activities initiated by the CL-teaching approach, and thus implying that CL-inspired teaching fosters long-term memory [BERÉNDI 2005, 43], Boers and Lindstromberg criticized exactly this aspect in questioning the comparability of the two group results due to the additional cognitive effort put into the understanding of the individual sentences in the experimental group in contrast to simply going by the translations in the control group. [BOERS and LINDSTROMBERG 2008b, 32] In other words, in order to actually measure the actual effect of integrating a Cognitive Linguistic approach, the cognitive effort needs to be controlled for in both groups. That is, in an ideal experimental set up the control group should be forced to put as much effort into dealing with the targeted vocabulary than the experimental group. Another important issue that comes up in discussions of Csábi's experiment is her usage of additional pictorial support to elucidate meaning in the experimental group, which may have partially supported the better output. In sum, in addition to similar cognitive effort, similar pictorial support should be integrated into the teaching of both groups in order to control for these additional variables and be able to assign potential success to the Cognitive Linguistic teaching approach only.

Tackling exactly the aspect of visuals, Lindstromberg and Boers conducted an experiment with manner-of-movement verbs, such as *hobble* or *stagger*. The experimental

the teacher variable, that is, have both groups instructed by the same teacher and additionally avoid the transfer of enthusiasm for a chosen method from the researcher to the students, the researcher should stick to his or her original role as an observer and have another more 'neutral' teacher instruct both groups.

group students were asked to mime the core sense of the verbs for their fellow students to guess the words, whereas the control group students explained the same verbs verbally for the other students in their group to guess the words. In an immediate post-test in form of a gap-filling targeting the core meaning, the experimental group already outperformed the control group in re-collecting the correct verbs. In a delayed post-test the figurative extensions of the core meaning were targeted and therefore, presented in the form of sample sentences that were accompanied by rather vague translations as explanation. To test their understanding of the figurative extension, students of both groups were then asked to evaluate the proposed translations. Interestingly, experimental group students were more likely to discredit translations for lack of precision, especially in the verbs they had taken turn to mime themselves in the previous session. [LINDSTROMBERG and BOERS 2005] Revisiting their work, Boers and Lindstromberg summarize two important results of this experiment: (1) students are able to transfer enhanced understanding of the core meaning to their appreciation of the figurative extensions, and (2) miming or acting out meaning, that is, total physical response, suggests a strong mnemonic effect of dual coding. [BOERS and LINDSTROMBERG 2008b, 32] In other words, enhanced understanding results in enhanced precision and visual or even motoric support results in dual coding.

5.1.3 Studies in teaching idioms

In addition to particles, prepositions, and polysemous verbs, idioms have been one of the first aspects of language that were cognitively explored in the language classroom. Since idioms are mostly grounded in conceptual metaphors and studies working with the underlying motivation resort to conceptual metaphors, these studies provide interesting insights into the effectiveness of conceptual metaphor teaching.³

Yet the first and most cited study in teaching idioms, which is also chosen to open the section here, does not resort to conceptual metaphor as it aimed at the students actually researching the meaning. Boers asked 54 Dutch-speaking college students to make sense of 10 idioms by consulting a dictionary, but whereas the experimental group was asked to additionally hypothesize about the etymology of the idiom, the control

³In fact, some of the studies that explicitly claim to be working with idioms are here dealt with in the section 5.2.2 on *Studies in Teaching Metaphors* as some of the items targeted should actually count as metaphors. As such, the concepts of *metaphor* and *idiom* are hard to delineate. Indeed, Boers and Lindstromberg introduce idioms as “traditionally described as ‘dead’ metaphors” and confirm that from a Cognitive Linguistic perspective idioms are either to be explained by the underlying conceptual metaphor or by tracing the idiom back to the literal context. [BOERS and LINDSTROMBERG 2008b, 33]

group had to come up with a context in which the idiom could be used (both tasked were believed to trigger comparable processing). An immediate post-test measuring the retention of meaning as well as of form in a gap-filling exercise showed the experimental group to exceed the control group at a significance level of $p < .001$. [BOERS 2004] The same results were found in a one-week delayed post-test, in which students were explicitly asked to explain the meanings of the idioms. With these results, Boers provides empirical evidence to support his claim for the use of etymological elaboration as one of the most important forms of semantic elaboration. [BOERS 2004, BOERS et al. 2004]

On the basis of these findings, Boers, Demecheleer, Eyckmans and Stengers developed the online program *Idiomteacher*, which is aimed at Dutch learners of English and provides 1200 exercises to increase comprehension and retention of 400 idioms by raising awareness of the literal origin, namely the source domain of the expressions. Each idiom is tackled with three different exercises: (1) a multiple choice format offering three different source domains to choose from, (2) another multiple choice format offering three different definitions of the idiom to choose from, and (3) a gap-filling exercise, where students have to put in the correct keyword of the idiom targeted. Whereas the two multiple-choice exercises were meant to complement each other and targeted receptive understanding, the third task aimed at more active knowledge and productive recall. The *Idiomteacher* served as research tool for several experiments. Most importantly, distinguishing experimental and control group in splitting the access to the first and second exercise (e.g. experimental group exercise 1, control group exercises 2) and using the third exercise as a one-week delayed post-test measurement for both groups, the researchers found out that students that had accessed the first, the origin exercise were significantly more likely to recall the idiom in the gap filling than the students that had accessed only the meaning, the second exercise. Furthermore, the study showed that the mnemonic effect of naming the origin as explanation is equally strong for opaque and for transparent idioms. [BOERS et al. 2004] Latest research with the *Idiomteacher*, in which the three different types of exercises systematically varied in order of appearance, has shown that students' performance on the meaning task was likely to be better after having completed the origin exercise for the idiom. [BOERS et al. 2007] That is, students were more likely to choose the correct definition for the idiom when they already knew about the source domain.

With reference to the finding that the idiom becomes motivated for the students who know about the original source domain meaning, Boers, Eyckmans and Stenger suggest the following sequence for teaching idioms: "(i) ask the student to hypothesize

about the origin of the expression; (ii) refine or rectify their hypothesis; (iii) ask the students to interpret the figurative meaning of the idiom by combining etymology and context; (iv) refine or rectify their interpretation.” [BOERS et al. 2007, 56] Apart from the importance of directing the students’ attention first to the origin (i) and only then to the meaning (iii), phase (ii) and (iv) are also important. As Boers and Demecheleer had found out in an earlier experiment, in which 78 French-speaking students had been asked to ‘guess’ the meaning of unfamiliar idioms without giving them any contextual clues, cross-linguistic and cross-cultural differences may impede comprehension. [BOERS and DEMECHELEER 2001] In fact, similar to what the research findings on the preposition “beyond” had suggested, idioms reflecting a metaphoric concept that does not exist in the students’ native language or idioms that may be confused with apparently resembling native-tongue concepts are rather problematic to decode, here corrective feedback is very important. Nevertheless, these findings provide evidence for the benefit of explicitly activating the source domain but also call for guiding the learners in their decoding process, and thus identify important steps to approach metaphor teaching.

The last important study to be named in the research on teaching idioms contributing to the approach proposed in chapter 7, is Skoufaki’s experiment with 40 Greek students of English, addressing the autonomous usage of conceptual metaphors as decoding strategy. She asked the students to interpret ten unfamiliar English idioms and simultaneously to describe aloud the decoding procedure they used, i.e. their line of reasoning. This showed that only very few students actually made use of conceptual metaphors. On this basis, Skoufaki argued that learners need to be carefully instructed in how to apply conceptual metaphors in order to successfully use the strategy in decoding idioms, which is why she is also not convinced that conceptual metaphors may become a useful tool in autonomous learning scenarios. [SKOUFAKI 2005]

In a follow-up study, Skoufaki put earlier proposals in favor of guessing idiom meanings – believed to be a successful method if properly guided [BOERS et al. 2007] – to the test by combining the guessing method with the method of grouping idioms under conceptual metaphors as guidance. For this purpose, she chose a threefold-design consisting of the presentation of material, a practice phase and a test phase. Moreover, she had three different research conditions. The first group was in the first phase confronted with idioms grouped under conceptual metaphors that were accompanied by definitions in translations as well as by example sentences illustrating the meaning. In the second, the practice phase, these learners then had to read texts which included the same idioms, that were additionally enhanced by italics. In the third phase the learners

of this first group were tested by a cloze test and a set of questions that called for the knowledge of the idiom meaning. The second group was presented with the same set of grouped idioms but without any additional definitions or example sentences. The practice and the test phase were the same as for the first group. The third group received the same input as the first group, namely grouped idioms, definitions and examples and was also tested with the same tool as the first and the second group, yet here the practice phase varied: in contrast to the other groups which focused on meaning in the practice phase, this third group was engaged in form-focused cloze exercises. Whereas the last variation was added to control for possible congruency effects⁴, mainly the comparison of the output of the first and second condition are of interest here. She found out that the combination of grouping the conceptual metaphors and engaging the students in guessing activities, which was the second test condition, led to more success in the final cloze tests. That is, the second group reached significantly higher scores than the first group. In other words, the method of presenting idioms grouped by conceptual metaphor can be significantly improved by engaging the students in guessing activities. In reverse, as Skoufaki also pointed out, this finding supports the claim that guessing activities should be guided and that insights into the basic motivation are an ideal guidance. Nevertheless, in stating that it may be “the extra effort invested in the guessing task that led to superior retention” [SKOUFAKI 2008, 118], she already admitted that it does not necessarily have to be guessing that assists the learner, but could be any other procedure that requires additional cognitive effort and therefore initiates deeper processing. In fact, as far as the meaning retention in the second test, where students had to answer comprehension questions, is concerned, Skoufaki was not able to detect any significantly higher scores for the second group. That is, the additional guessing definitely drew more attention to form⁵ and thus, supported form retention, yet the basic understanding seems to have been clarified by the conceptual grouping. Furthermore, recapping the guessing results, Skoufaki singled out the amount of time needed, as some students need a lot of guidance for the guessing task,

⁴Congruency effects address the issue of meaning- versus form-focus. Whereas some researchers claim that comprehension practice is as effective for production tests as production practice, others claim that in order to comprehend comprehension practice is needed, whereas in order to produce production practice is required. To support the first statement, Skoufaki draws on [VANPATTEN and CADIerno 1993a, VANPATTEN and CADIerno 1993b] and for the second opinion she cites [DEKEYSER and SOKALSKI 2001]. Due to the finding that no significant difference in form-retention between the first and the third group could be found, Skoufaki rejects any learning-test congruency effects. [SKOUFAKI 2008, 110]

⁵More attention to form is already drawn if students keep reading the idiom (aloud) while thinking, which is, as probably everybody has experienced him-/ herself, a common practice when trying to make out the meaning of an unknown word.

and the possible continual failure, which decreases face-validity and increases negative affect, as cause for concern. [SKOUFAKI 2008, 118] To sum up, conceptual metaphors may assist the students' understanding and thus meaning retention of idioms. In order to further foster form retention additional exercises drawing attention to the specific form may be useful.

5.2 Studies in Metaphor Teaching

5.2.1 Studies in awareness raising

Accompanying the studies dealing with particles, prepositions, polysemous verbs and idioms, which mainly build on the metaphoric grounding of figurative language, studies in raising awareness for the metaphoricity of language were conducted and also contribute to the development of a didactics for explicitly teaching metaphors. These are briefly summarized in the following.

Boers' 1997 experiment with French business English students, in which the choice of the source domain (HEALTH, FITNESS, and RACING versus FIGHTING and WARFARE) was demonstrated to guide the students' problem-solving strategies [BOERS 1997b], as explained in section 2.4, laid the foundation for the need of further research. Language users, especially in strategic discourse, need to become aware of the subliminal power of metaphors. Thus, in 2000, Boers reported another study of metaphoric guidance in specialized reading (again focusing on economic discourse), yet this time with a different focus: instead of researching the guidance potential of metaphoric language, this time Boers researched whether metaphor awareness made a difference in the students' ability to decode a metaphor and interpret the entailments. In his experiment two groups (N = 85) were presented with a reading text and a vocabulary list that also incorporated explanations for the five metaphorical expressions explicitly put into the text for the purpose of the study. Yet whereas the control group's glossary gave explanations of the figurative sense of the five items in the context of economics, that is the target domain, in the experimental group the targeted items were explained in their original context, the source domain. Thus, in the experimental design mere target domain processing in the control group and forced meaning processing in the source domain followed by the necessary transfer to the target domain in the experimental group were deliberately contrasted in order to assess the added value. For this purpose, after having read the text, the students were tested on their comprehension by means of statements concerning the text content, which they had to agree or disagree

with. As far as the comprehension was concerned, both groups did equally well, yet the question addressing the author's intention was answered significantly differently. The experimental group that had to process the linguistic metaphors from the source to the target was convinced that the choice of two targeted metaphoric items, namely "bailing out" and "weaning off", had implied that the subsidies, which were dealt with in the text, were in the author's opinion only temporary solutions. Yet the control group was not able to interpret this notion from the author's choice of words. This finding provides empirical evidence for two aspects in favor of raising metaphor awareness: first, the students are able to successfully make the transfer from source to target domain if sufficient context is given. Second, raised metaphoric awareness may improve the ability to interpret texts in detail. [BOERS 2000a]

Similar to the experiments conducted for teaching particles, prepositions, verbs, or idioms, Boers also did a follow-up gap-filling test three days after the reading exercise, with which he researched the effect this first presentation of unfamiliar vocabulary in the source domain context had on the retention of the five targeted items. He summarized his result with "[t]he subjects in the experimental group turned out to be more likely than [SIC] the others ($p = .03$, using a chi square test) to reproduce at least one of the targeted figurative expressions." [BOERS 2000a, 143] In other words, the metaphor awareness, which had supposedly been increased by presenting the vocabulary with the source domain explanations, might have contributed to a significantly different retention of vocabulary. However, first, as Boers already pointed out, this might simply have to do with the additional cognitive effort put into decoding; and second, the result referring to an average reproduction of mainly one correct item is not impressive and rather suggests that simply presenting the vocabulary with a source domain explanation is maybe not enough to actually increase retention. As far as the students' more "critical perspective on economics" [BOERS 2000a, 144-145] and on "argumentative discourse in general" is concerned, Boers is certainly right to conclude that drawing students' attention to the source domain of linguistic metaphors they come across in their reading is worthwhile. Nevertheless, as far as semi-productive retention, as demanded in the gap-filling, is concerned, and especially as far as productive use in open exercises is concerned, the technique might have to be refined.

Also in 1997, Deignan, Gabry and Solska reported an experiment with 143 Polish students of English, who in the context of a teacher training seminar had been asked to translate 68 English sentences into Polish. The linguistic metaphors that were part of all sentences were not made an issue in either the oral nor in the written instruction, yet students were told to aim for natural Polish rather than word by word translations.

Since the experiment did not aim at comparing the different output of students after certain interventions but addresses the issue of contrastive research as a necessity for gaining metaphor awareness, the study did not work with an independent group design but small randomized groups working on different sets of the same pool of metaphors. As a result four different types of cross-cultural metaphor variations used in the students' translations were identified that required different degrees of contrastive research and therefore metaphor awareness: (1) same conceptual metaphor and equivalent linguistic expression, (2) same conceptual metaphor but different linguistic expression, (3) different conceptual metaphor, or (4) words similar in literal meaning but different in metaphorical meaning. [DEIGNAN et al. 1997, 354] On the basis of these difficulties, which students may encounter in translation, they developed the following awareness raising activities: The first task provided the students with a Polish text and its English translation in which the linguistic metaphors were enhanced in bold print. Students were here simply asked to read the text and discuss the highlighted expressions. In the second task, the students were provided with a set of six isolated English sentences and a source domain concept, here "plants", were asked to underline all the words and phrases in the sentences to do with the source domain, define these words in the given context by consulting a dictionary, and finally they were instructed to think about the concept of "plant" in their native tongue and whether the linguistic metaphors used in the English sentences could also be used in a Polish translation. The third task again provided students with six isolated English sentences, yet in this task, the students were instructed to underline words for the same target concept, namely "increase" and "decrease" of economical key data such as prices, inflation, or unemployment. Furthermore, they were supposed to use a dictionary to find the literal meaning of the expressions and instructed to find the differences to the metaphorical context used in the example sentences. [DEIGNAN et al. 1997] Unfortunately, these three tasks remain ideas and were not actually tested in the classroom⁶. Nevertheless, they provide first insights on how to possibly deal with metaphors and draw attention to linguistic metaphors in the foreign language classroom. Most importantly, once more the explicit guidance back to the literal meaning, the source domain, and the comparison of the different meanings was the focus of attention.

⁶Deignan, Gabry and Solska's paper did not give any account of empirical investigations along these lines.

5.2.2 Studies in explicit teaching

Up to date, only a few studies have been published that serve as foundation to the approach suggested in the study presented in section 7. However, constitutive was Boers' experiment with 73 French students of Business English, in which he again tackled the metaphoric description of up- and downward movement (cf. section on particles [BOERS 2000b]) but this time he first researched the actual benefit of metaphor awareness raising for productive language output, that is for a written assignment. Provided with a list of vocabulary with lexis for up- and downward movement and given 10 minutes to study this vocabulary, students were presented with graphs depicting the growth of economic key data and asked to write a short essay describing the graphs. Although this general experimental setup was the same for both groups, the handout with the sample lexis varied in the last sentence of the instruction: whereas the experimental group's attention was explicitly drawn to the source domain, the control group's attention was focused on the speed of development or change. The analysis of the student texts showed that the experimental group significantly outperformed the control group in productive usage of the targeted linguistic metaphors ($p < .001$). [BOERS 2000b, 558-560] Boers here successfully expanded the third task of [DEIGNAN et al. 1997], as described above, from a mere receptive and analytical task to a productive and creative task. Indeed, linguistic metaphors were here explicitly taught to expand productive vocabulary and provided students with a tool to become more "precise" [BOERS 2000b, 558].

Inspired by the excellent results, Boers did a follow-up test one-year after the initial treatment, in which students again were asked to write a short essay on a graph description. Yet, with no additional input, after one year a comparison of the use of up- and downward vocabulary in experimental and control group did not show any significant difference. [BOERS 2004, 215-217] Interestingly, in his discussion of the results, Boers introduced a third group: a subgroup of the original experimental group had not been grouped with the original experimental group for the follow-up test as it had received additional tuition on the motivation of metaphorical language in the regular English courses that took place in the year in between the two tests. Yet the analysis of the data provided by this last group showed a highly significant difference ($p < .007$). Along with this result Boers tentatively concluded that students' whose metaphor awareness had been raised on several occasions are unlikely to profit from the activities on a long term basis. That is, one-off eye-opener was not sufficient but recurring awareness raising activities did actually have a long-term beneficial effect.

[BOERS 2004] To sum up, Boers' experiment gives first empirical evidence for the idea that explicit teaching of linguistic metaphors may also result in productive vocabulary acquisition, yet states that a practice of continuous explicit awareness raising seems to be needed to actually reach a long-term effect.

In the same paper, Boers reports another experiment that, similarly to some of the previously described experiments with other word classes, explicitly teaches linguistic metaphors by means of grouping them under source domain headings. 118 Flemish secondary school pupils, subdivided into two groups, read a sample text dealing with emotions⁷ and received additional vocabulary notes. They were supposed to study for 10 minutes. Again, whereas the experimental group's vocabulary was sorted by concepts (e.g. "anger welled up inside me" was grouped under "anger as a hot fluid in a container"), the control group's vocabulary was grouped along different pragmatic or functional lines (e.g. again "anger welled up inside me" was grouped under "to describe anger as a process"). Most importantly there were no written explanations or translations given, the vocabulary was only presented in groups. [BOERS 2000b, 555] After the reading and subsequent study of vocabulary, the students were engaged in a guided class discussion about anger and conflicts. There, they had the chance to make use of and try out their newly acquired vocabulary, which was finally tested in a cloze test. Yet, in contrast to most gap-fillings, the students were here explicitly encouraged to give alternative possibilities for the different gaps in order to offer more opportunities to actually make use of the targeted vocabulary. The output analysis of the targeted vocabulary compared between the two groups revealed a significant difference in reproduction ($p < .05$). On this basis, Boers concluded that a basic awareness of the source domain behind the vocabulary can facilitate retention.

But Boers additionally critically confined his results to the particular target group, as the conceptual metaphors along which the targeted vocabulary had been organized did also exist in the learners' mother tongue. Therefore, he hypothesized a possible underlying transfer strategy from mother tongue to target language that students had made use of and that had additionally contributed to the significant output. However, transfer may not always result in a positive effect as the scope of metaphors may be different across languages, thus confusing "oil" with "fuel" in the linguistic metaphor "to add fuel to the fire", as 12 of the students did, is a telling example for Dutch interference with English metaphorical usage. Interestingly, of the 12 students 9 belonged to the experimental and 3 to the control group. [BOERS 2000b] Thereupon, there may be

⁷As suggested in section 4.3, Boers adapted an existing text to integrate systematic usage of metaphors, that is several linguistic instantiations of the same conceptual metaphors.

reason to suggest a negative effect of overgeneralization or rather imprecision. Backed up by insights into the source domain, experimental group students may be more likely to infer the English word from the Dutch equivalent, which, in this case, fulfills the requirement of being a hot liquid, whereas control group students simply learn the whole expressions and thus may pay more attention to the actual form. Therefore, future experiments should also tackle the issue of native-tongue interference, especially in cases of similar conceptual and even more importantly similar linguistic metaphors.

Five years later, Berendi also reported on a study with linguistic metaphors of anger (she refers to as idioms), which is quite similar to Boers' experiment concerning the language material used as well as the teaching and the testing procedure. Again, students were confronted with a text filled with linguistic metaphors of anger and additional vocabulary notes that listed all targeted items but were asked to first read and then translate the items. Afterwards they were given some time to "memorize" the vocabulary and finally had to do a cloze test, again with the encouragement to list all alternatives for the individual gaps. Likewise, the vocabulary for the control group was listed in order of appearance and for the experimental group the source domain was highlighted. Yet, in contrast to Boers, Berendi actually differentiated four different groups. Apart from the regular control group (group 1), Berendi distinguished three experimental groups that received different degrees of information on their handouts: the "metaphor group" (group 2) received the vocabulary sorted by source domain. The "metaphor-finder group" (group 3) received the vocabulary similar to the control group sorted in order of appearance but was told about the four metaphoric themes prevalent in the text, and instructed to identify these and group the vocabulary respectively (to give an example two of the four conceptual metaphors were already given). The last, the "image-group" (group 4), also received the vocabulary list in order of appearance but was additionally provided with illustrative drawings and further instructed to match the examples with the drawings. In addition to the four different sets of material, Berendi also varied the degree of instruction. In the "metaphor group", she started with a general discussion of idioms, activated students pre-knowledge, triggered their attitude towards idioms and then explicitly introduced the idea of underlying metaphoric motivation followed by a discussion of the conceptual metaphor ANGER IS HOT FLUID IN A CONTAINER. The "metaphor-finder group" also started with a general discussion of idioms but did not go into detail with the underlying metaphoric concepts.⁸

After the varied starters, the reading and the working with the vocabulary, all four

⁸Berendi does not give any information on the teaching in the control or the image group.

groups had to translate the targeted items, which functioned as a check on the comprehension of the figurative meanings. Analyzing the quality of the translations, Berendi found out that the rate of misunderstanding was significantly lower in the metaphor-group than in the control group, which provides clear evidence for the hypothesis that knowledge about the underlying conceptual metaphor facilitates understanding. Yet the comprehension findings for the “metaphor-finder group” and the “image group” drew a different picture, which made Berendi conclude that “only the explicit awareness raising was effective, the implicit attempt at the activation of metaphorical competence in the form of images and encouraging the self-reliant recognition of common sources without prior instruction was not” [BERÉNDI 2005, 81]. She is convinced that the introduction to the conceptual framework in the introduction made all the difference as it encouraged students to realize the connection between source and target right from the start and to use these when decoding the expressions. Consequently, as far as comprehension is concerned, Berendi clearly argues in favor of explicit teaching, that is making metaphorical mappings the topic of teaching.

The gap-filling exercise was used as an immediate post-test to research the impact of metaphor awareness on vocabulary retention. In order to also make statements about medium- and long-term retention, Berendi had planned to re-administer the gap-filling exercise again after two days and after five months⁹. In the immediate post-test as well as the two-days delayed post-test the difference between the “metaphor group” and the “control group” turned out to be statistically significant. Similar to the comprehension findings, the “metaphor-finder group” and the “image group” did not even exceed the control group in their retention but were by far at the bottom of the score. With regard to this result, Berendi hypothesized about differences in proficiency, interest (the image group were not English majors), intellectual abilities, and time management (the metaphor-finder group did not have more time although they had a more time-consuming task) as possible reasons for the interesting output [BERÉNDI 2005, 90]. Yet, whereas these are all factors addressing the sample and the design, the question remains whether the results would have been different if these confounding variables had been controlled for, that is whether “implicit” (as Berendi refers to it) metaphor awareness raising is actually less useful to comprehension and retention than regular vocabulary teaching (control group) because it is too cognitively demanding or maybe even confusing.

⁹Unfortunately, already for the two-days delayed post-test, she was only able to access the first three groups. For the five-months delayed post-test only some of the original students were available. Thus, these results are not considered in detail here.

Similar to Berendi, Li reported on a program of explicit metaphor instruction trying out different methods of teaching. He conducted a series of experiments with 394 Chinese learners of English, which is up to date the biggest sample, testing for the effect of conceptual metaphor knowledge on vocabulary recall. Again explicitly guided classroom discussions, explicit application of conceptual mappings, and the use of visuals for mnemonic support constituted the experimental conditions. Interestingly, in contrast to familiarizing students with linguistic metaphors by introducing the conceptual metaphor, Li made use of simple semantic sets as experimental condition, that is the phrases were for instance grouped under superordinate terms, such as anger, insanity, or revelation. This way, he meant to control for the legitimate claim that positive effects are mainly due to the reasonable grouping and not to the conceptual metaphor, that is the common belief that vocabulary just needs to be grouped no matter in which way. The other experimental condition explicitly addressed imaging in questioning the students what image they had in mind when processing the linguistic metaphors and what the implications were. This way, Li hoped to initiate visual processing. In other words, all three conditions actually made more or less use of concepts, only the degree of cognitive activation differed. In the experiments the “conceptual metaphor-group” significantly outperformed the other groups in post-tests. [LI 2002] Yet, as Boers and Lindstromberg in their survey of Li’s experiments already point out, this might also be due to the fact that the control group had not received any explicit instruction to learn the vocabulary and thus, this group did not put as much cognitive effort into the tasks as the experimental group. [BOERS and LINDSTROMBERG 2008b, 34] Furthermore, Li’s experiment tackling linguistic metaphors of different degrees of complexity, that is from simple linguistic metaphors to multi-word idioms, suggest that a conceptual metaphor approach fosters meaning recall but does not significantly influence the recall of form as the results for the most complex category showed. [LI 2002]

A last study suggesting an interesting target group-oriented approach to be pointed out here is Caballero’s ideas to teach metaphors to architects. Focusing on the analysis of specialized architecture discourse for the use of metaphors, Caballero does not present an empirical study of teaching metaphors but rather suggests how to approach teaching on the basis of this experience. Nevertheless, she makes an interesting contribution that is briefly introduced here. For her, “(a) the explicit presentation and explanation of a few metaphor ‘basics’ [. . .] and grading the different data according to the teacher’s informed views about their relative productivity, and (b) awareness-raising activities demanding the active role of the learner in accomplishing both comprehension and production tasks” [CABALLERO-RODRIQUEZ 2003, 188] are the ingredients

of successful metaphor teaching. Most importantly, Caballero explicitly addressed the productive aspect: teachers are supposed to grade metaphors by productivity, which implies a thorough knowledge of conceptual metaphors on the teachers' side, and learners are explicitly asked to also accomplish production tasks, that is, make use of the linguistic metaphors they have learned. Unfortunately, she did not provide any classroom data along these lines. Nevertheless, referring to the pedagogical claim that "students' learning styles and abilities should be taken into account when learning materials are designed" [CABALLERO-RODRIQUEZ 2003, 186], Caballero singled out that according to their disciplinary choice most architects are most likely to prefer a visual cognitive style. On this basis she makes suggestions for teaching. Highlighting the discrimination of description and evaluation in the comprehension and production activities, Caballero proposes to encourage the students to translate the linguistic information into drawings and viceversa. [CABALLERO-RODRIQUEZ 2003, 188] In this way, the individual students have to deeply process the linguistic material, form a mental image and even come up with a drawing, which may be very different in perspective and outward appearance in comparison with their fellow students, which again may offer interesting grounds for discussion. Indeed, with these activities Caballero nicely integrates the different aspects of metaphor teaching and thus is a role model for similar language teaching scenarios.

Overall, different research studies in raising metaphor awareness and explicitly teaching metaphors have shown that making metaphors a topic in the language classroom and elaborating on their cognitive motivation and function may improve students' ability to interpret texts and thus eventually possibly guide them to different solutions for set problems, may assist translation and thus cross-cultural understanding, may foster vocabulary retention and expand vocabulary for productive use. Nevertheless, this is all influenced by different factors that range from the type and amount of vocabulary input and the style and frequency of teaching to the assigned tasks and types of output aimed at; which of these characteristics of metaphor teaching are decisive is an issue yet to be resolved.

5.3 Issues yet to be resolved

Although very different in set-up and research questions, the existing studies may be summarized by a series of characteristics that serve as a basis to draw up an agenda for further research.

Due to the few scholars actually engaged in empirical research, the target groups that have up to date served as subjects is rather limited. As far as the language background is concerned, naturally, mainly Dutch and French learners of English plus a few Greek, Hungarian, and in one case Chinese students have participated in studies. Similarly, most of them were English majors, which presumably implies that they were interested in getting insights into the chosen target language. A few studies were also conducted in English for Specific Purpose courses, such as business English courses, where students might not be as susceptible to linguistic reflection. Most of the participants were young adults at an intermediate level of English proficiency. Moreover, insights into the metaphorical background have mainly been used to foster understanding of other phenomena, for example particles. Indeed, metaphor awareness has mainly been raised to support comprehension and thus, to improve receptive language skills. Only a few studies have had a look at explicitly teaching metaphors for productive usage. Furthermore, apart from one exception [CONDON 2008] all studies provide only singular instruction, that is a one-off eye-opener, followed by output measurements, which are mainly cloze tests, that is simple vocabulary recall or gap filling exercises that measure short-term retention. Indeed, most studies are rather controlled experiments and far apart from classroom reality. In sum, research with different target groups, as far as language background, age, interest and level of proficiency is concerned, with explicit metaphor teaching to support receptive and productive vocabulary expansion, and thus, with more open tasks measuring also medium- and long-term effects is needed. Eventually, curricula for metaphor teaching are to be developed and tested in the every-day language classroom.

In spite of these desiderata, future research can learn a lot from the reported studies and further refine methods in eliciting data. With this objective, three components should be the focus of critical attention: the specification (1) of input, (2) of intervention, and (3) of output measurements.

As far as the first aspect is concerned, the most important issue coming up over and over again is the question of how to present material. The studies have provided different variations of experimental conditions in order to evaluate the actual impact of sorting vocabulary along conceptual metaphors. Yet, since critics keep claiming that vocabulary simply needs to be grouped no matter by which criterion, further research is needed that empirically addresses the subject in comparable set-ups.¹⁰ Likewise, visual input is frequently used to support CL-inspired metaphor teaching. Yet critical

¹⁰The impact of the use of translations in vocabulary lists should also not be underestimated, as it is the form of vocabulary presentation students are most likely used to.

voices identify these visuals as being partially supportive to the improved retention that CL-scholars mainly assign to their method of teaching conceptual metaphors. Thus, in order to actually make valid statements about the effect of CL-inspired metaphor teaching on language proficiency, visual input also needs to be controlled for in the different experimental conditions. Indeed, the treatment of the different groups in intervention studies ideally differs in the CL-inspired presentation only.

Before actually setting up the experimental design, the general organization and amount of input also needs to be evaluated. Previous studies suggested that 'sufficient input' is essential as a first step towards the 'face-validity' of a system of conceptual metaphors. Thus, on the one hand, existing material may need some editing to finally lend itself to systematic elaboration on conceptual metaphors in language teaching and on the other hand, metaphor teaching may need to be incorporated on several occasions in order to mature from a one-off eye-opener to re-current awareness raising, that is, metaphor teaching should ideally become part of a real language course and be evaluated as such.

Apart from the critical amount of input, input enhancement by means of layout or repetition may crucially contribute to improved retention. After all, linguistic metaphors first need to be noticed. However, ideally they are being noticed in all experimental conditions as otherwise critics may again justifiably claim that the experimental groups' attention was drawn to the linguistic items, whereas the control group may have encountered but not necessarily noticed the linguistic metaphors. In brief, improved retention in the experimental group could in some studies be due to mere noticing.

As far as the second aspect, namely instruction, is concerned, a first confounding variable that should be excluded as much as possible is the teacher. Comparing output of students instructed by different teachers, researchers directly attract justifiable criticism. In order to argue in favor of a new method, research needs to provide empirical proof for its success with different teachers. Moreover, the actual intervention in studies need to be comparable in order to make reliable statements on the success of the method. In other words, apart from making all participating groups notice the items in focus, namely enhancing their awareness, the cognitive effort requested from the learners to be put into comprehending and studying the targeted item by means of additional activities (e.g. identifying, guessing, grouping, visualizing, translating, or comparing to mother-tongue) and the form of instruction (e.g. explicitly instructing to learn, or giving (more) time to process and comprehend) needs to be comparable.

The last component singled out as important factor to be critically looked at in

refining experimental designs is the form of output, that is, what is being tested as consequence of which input and which intervention. The empirical results concerning the transfer of decoding strategies to newly encountered linguistic instantiations of conceptual metaphors, and thus the evaluation of conceptual metaphor knowledge as a tool for autonomous learning are conflicting, which might be partially due to the unclear set-up of designs. In sum, further research is needed along these lines.

One of the most important methodological questions concerning output addresses the notion of creativity: is the research focus set on form- and meaning-retention or merely on meaning-retention; have learners been encouraged to creatively explore conceptual metaphors or instructed to acquire the targeted items only, that is, do not yet conventional but acceptable creative linguistic instantiations of conceptual metaphors positively count towards the learners' metaphoric competence or rather not? Indeed, whether conceptual metaphor awareness and knowledge is used as a tool to improve retention or to expand the learner's productive vocabulary needs to be differentiated.

All in all, research strands in exploring the potential of conceptual metaphor seem to have developed from mere teacher-led presentation of figurative words and phrases to activating students to explicitly work with these metaphors, from focusing on meaning to also focusing on form, from comprehending metaphorical language to productively using it.

On their mission to implement CL-inspired teaching most profitably, Boers and Lindstromberg drew up an agenda for further research in the field, in which they summarize three key areas: Research tackling the question whether students actually profit from the "specifically CL-inspired presentation of lexis" or (1) only from the fact that the lexis is grouped, or (2) only from the pictorial support, or (3) only from the cognitive effort additionally required? [BOERS and LINDSTROMBERG 2008b, 38] Taking up a slightly broader perspective, Low is also convinced that research needs to sort things out and develop a clearer picture. Thus, he identifies five key directions, into which future studies should expand: (1) Studies with "larger, mixed-level samples [and] delayed post-tests" are needed that in addition to significances also report effect sizes. (2) Studies incorporating indirect instruction to increase learning as well as direct instruction to increase retention are needed. (3) Studies in the "variety of methods and techniques of teaching metaphor" is needed. (4) Instructional "research needs to go hand-in-hand with innovative attempts to develop innovative metaphor teaching materials and to integrate metaphor teaching at both semantic and pragmatic levels, into learning tasks and activities. (5) Studies testing learners' metaphoric competence. [LOW 2008, 226-

227] Although both, Boers and Lindstromberg's as well as Low's research agendas were published only after the study presented here had already been conducted, several of the aspects are actually addressed and thus, further empirical evidence is provided that contributes to answering some of the questions.

CHAPTER 6

Research Questions

6.1 Terminological Basis

Based on the set-up and results of the empirical studies that were discussed in section 5, the study presented in the following focuses on four basic research dichotomies that are to be understood as continuums:.

1. receptive to productive vocabulary
2. closed to open exercises
3. short- to medium-term retention
4. elementary to advanced levels of language proficiency

As has been discussed in chapter 5, these are four of the main cornerstones of metaphor teaching that are to be examined. Whereas some studies have already dealt with the effects of CL-inspired metaphor teaching on short-term vocabulary recall in closed performance measurements, or the efficiency of decoding linguistic metaphors in language awareness activities and thus, tested the more receptive skills such as reading or listening, so far only little progress has been made in the utilization of this new method of vocabulary teaching for more open tasks. However, it is the less controlled, less pre-structured and therefore more creative tasks, such as writing exercises, that test the impact of CL-inspired metaphor teaching on productive language skills.

6.1.1 Vocabulary Acquisition

In the literature on vocabulary teaching and learning the terms 'receptive' and 'passive' as well as 'productive' and 'active' are by some scholars used as synonyms [DOYÉ 1971,

MEARA 1990, LAUFER 1998], whereas others strongly object to the respective second set, namely the characterization of activities as 'passive' or 'active' [NATION 2001, 24]. Indeed, after the originally used dichotomous 'passive-active' terminology has finally been successfully overcome as far as the categorization of language skills is concerned, that is grouping reading and listening as passive and speaking and writing as active, this distinction is also to be questioned for the description of vocabulary. In as much as the language skills reading and listening consist of *actively* decoding and understanding the foreign language, 'passive' vocabulary knowledge comprises *actively* construing meaning when encountering words and phrases. According to Doyé's categorization, which still uses the 'passive-active' terminology, vocabulary additionally differs in extent and type of acquisition: whereas passive vocabulary is first larger and richer in extent and second acquired through exposure, active vocabulary is more limited and is a result of instructed or intentional learning and intensive practice. [DOYÉ 1971, 17]. In short, for Doyé passive vocabulary is unintentionally acquired, active vocabulary is intentionally learned. Hence, he declares a strict distinction of the two categories as essential and is convinced that only explicit teaching and routine can transfer words and phrases from passive to active vocabulary. [DOYÉ 1971, 16]

On the contrary, referring to Melka Teichroew's work [TEICHROEW 1982], Nation describes the receptive-productive categorization more as a continuum than as a strict dichotomy. He refers to the different degrees of knowing a word that are more applicable to a scale. As the two poles of the knowledge scale, he defines on the one side "receptive vocabulary use [, which] involves perceiving the form of a word while listening or reading and retrieving its meaning" [NATION 2001, 24] and on the other side "productive vocabulary use [, which] involves wanting to express a meaning through speaking or writing and retrieving and producing the appropriate spoken or written form" [NATION 2001, 25]. Similar to Doyé, Nation here bases his categorization on the type of acquisition. Yet whereas Doyé only refers to natural exposure in contrast to instructed learning, Nation directly connects receptive and productive vocabulary with the respective receptive and productive language skills. In other words, from his perspective, for receptive vocabulary to become productive it must not necessarily be explicitly taught or practiced but may be unintentionally acquired (through reading or listening) and then be used intentionally as a tool of communication (in writing or speaking). Interestingly, Nation does not speak of "vocabulary" as such but of "vocabulary use", which obviously precludes the passive-active terminology altogether as the

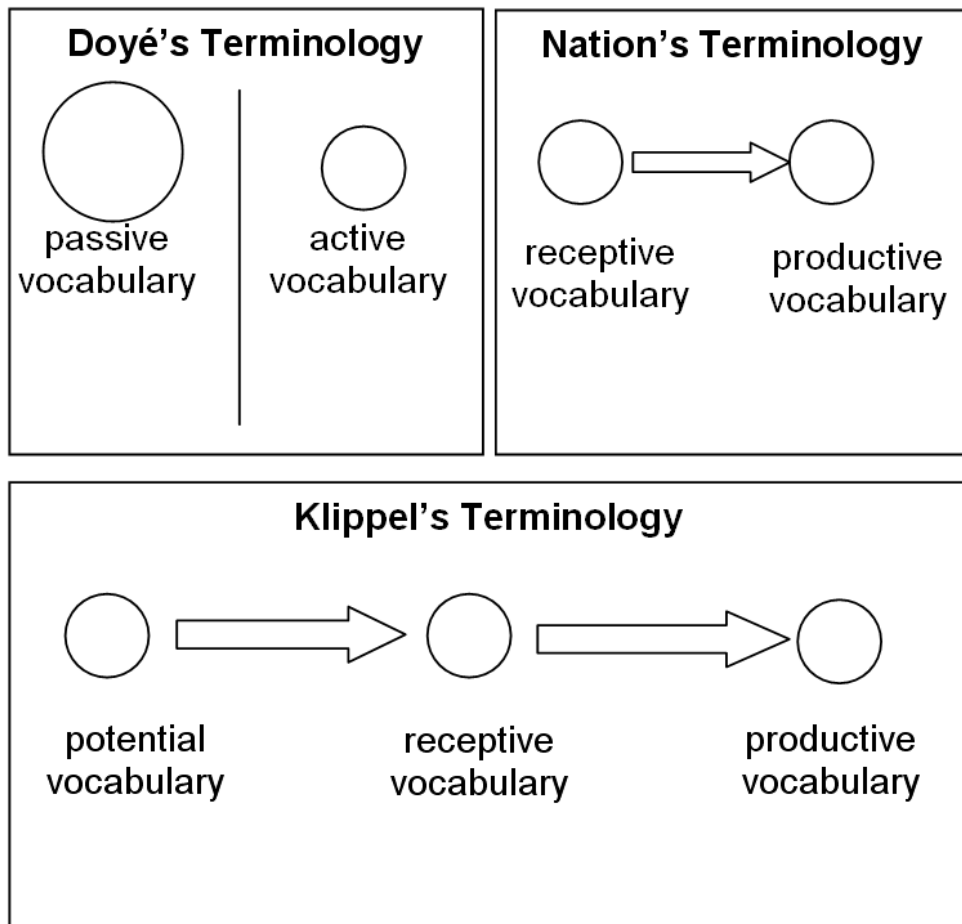


Figure 6.1: Doyé's, Nation's and Klippel's terminology to classify vocabulary

two words 'passive' and 'use' are rather contradictory.¹

Likewise Klippel speaks of a continuum with different stages and describes the transfer from receptive to productive vocabulary as a gradual process. (cf. Figure 6.1) Referring to Denninghaus' work, she shifts the category of 'receptive vocabulary' more towards the center of the scale and introduces the additional category of 'potential vo-

¹Further information on the different points of view on the categorization and terminology for vocabulary may be found in [NATION 2001, 23-58]. There, most interestingly, Meara is reported to see vocabulary knowledge not as a continuum but more as a web. This point of view adds an additional dimension for categorization by focusing on the possible associations with other words and phrases that are part of each individual's vocabulary and comes to the conclusion that due to the manifold links with other words, active vocabulary may be activated by mere word association, whereas passive vocabulary needs external stimuli. Nation clearly criticizes Meara's approach with the objection that language is "not only associationally driven, but, more basically, is meaning driven" [NATION 2001, 25]. Indeed, it is the external stimuli and not mere word association which is the main impulse for language production. However, Meara's web approach implicitly acts on a similar assumption as CL-inspired metaphor teaching: active vocabulary are the words and phrases that are manifoldly linked.

cabulary'², which is supposed to subsume all words and phrases that learners are able to decode by means of linguistic knowledge. [KLIPPEL 1995, 102f]. Although this categorization may theoretically be possible, the distinction between 'potential' and 'receptive' vocabulary is problematic to draw in practice. As with the presented study, CL-inspired language teaching is meant to provide the linguistic knowledge needed by the learner to decode unknown vocabulary and draw systematic conclusions for further language use. Thus, the category of 'receptive vocabulary' actually comprises all 'potential vocabulary', in fact 'potential vocabulary' items immediately becomes 'receptive vocabulary'. Language use is at the center of the presented study here and thus rejects a further distinction between receptive and potential vocabulary. The terminology used here only labels the extremes of the continuum with 'receptive' and 'productive vocabulary'. The learner's ability to merely understand or to actually make use of words and phrases in the foreign language is used as grading feature. Thereupon, shifting the focus from receptive to productive vocabulary, and consequently from closed to open exercises, the study aims at analyzing the effect of CL-inspired metaphor teaching on learners' language productivity and general language performance. However, the unintentional acquisition of metaphorical vocabulary is not researched here and therefore, the chosen intervention does not distinguish between explicit CL-inspired metaphor teaching and no teaching, but between two explicit versions of metaphor teaching: even in the control group the students' attention was drawn to the targeted language items. Furthermore, in order to be able to reliably contrast the findings of this study with the outcome of earlier studies, along with productive tasks there are also receptive exercises and besides open there are also closed exercises that are part of this study. In brief, the same groups of students are tested on the continuum from receptive to productive vocabulary and therefore with closed to open exercises.

6.1.2 Vocabulary Retention

In addition to short-term retention, that is right after the treatment, medium-term retention is approached, and long-term retention is also briefly touched upon.³ Of course,

²According to Klippel Friedhelm Denninghaus introduced the term *potentieller Wortschatz* (potential vocabulary) in a 1976 article.

³Unfortunately, courses at university level do not follow a similarly strict system as at school. Thus, the formation of groups for individual courses varies from semester to semester and hence consecutive courses with the exact same students are rather unlikely, which additionally complicates the testing for long term retention. That is why, although originally planned to incorporate long-term retention, this study had to be finalized and written up before the testing of the necessary number of the same students in the experimental and the control group had been finally secured.

the exact definition of short, medium and long-term retention is open to discussion and different authors may draw different lines for categorization on the continuum. Boers explicitly categorizes a follow-up test administered one year after the initial treatment as long-term [BOERS 2004, 215] but categorizes the post-tests of different learning experiments that took place within two weeks after the vocabulary input as “rather short” [BOERS 2004, 215]. In cognitive psychology, short-term memory is equated with ‘working memory’ or ‘temporary storage’, where information is only stored to perform various functions. “Once the task has been achieved, the subsidiary information is no longer required.” [BADDELEY 1999, 15] To experimental psychologists, ‘long-term memory’ refers to “information that is stored sufficiently durable to be accessible over a period of anything more than a few seconds.” [BADDELEY 1999, 16] In other words, everything that can be remembered for longer than seconds must have already been transferred into long-term memory. However, although vocabulary may already have become a building block of long-term memory according to cognitive psychologist’s theory [RANDALL 2007], in the context of foreign language learning even short-term retention addresses the ability to recall and make use of learned vocabulary (though after a short period of time has elapsed). In other words, even short-term retention implies a learning process and thus retrieves language material from long-term memory. Taking the contrasting, discipline-specific concepts of length into account, the study terminologically distinguishes between short-term retention, which refers to immediate post-tests, and medium-term retention, which subsumes all performance measurements from a delayed post-test a day after a treatment to the final exam at the end of the semester.

6.1.3 Levels of Proficiency

Approaching the question whether “language learners of different levels of proficiency respond to (and benefit from) the technique of metaphor awareness in comparable ways” [BOERS 2004, 228], the study aims at correlating students’ output with the standardized levels of language proficiency as published by the Common European Framework of Reference for Languages (CEFR). [TRIM et al. 2001, OF EUROPE 2001] Therefore, a sample was chosen that, as described in detail in section 7.3.1, consisted of students at all levels of proficiency from A1 through to C1 and all were assessed with the same metaphor exercises and tasks.

6.2 Research Questions

Five research questions have been formulated that provide the basis for further operationalization as necessary in empirical research. Does the incorporation of CL-inspired metaphor teaching and learning methodology and material into a regular business English course at university have an effect on ...

1. ... the students' acquisition of metaphorical language for their receptive vocabulary use?
2. ... the students' acquisition of metaphorical language for their productive vocabulary use?
3. ... students' short- and medium-term retention of metaphorical language?
4. ... students' learning of metaphorical language and general language performance at the different CEFR levels?
5. ... students' motivation to study complex foreign language structures and vocabulary?

The enumeration above first deliberately states research questions rather than directed hypotheses. In fact, the expected direction has not been explicitly formulated yet because the basic parameters of the study, as discussed in section 7.1, are strictly speaking not exactly comparable to preceding studies. The results of other studies can only provide guidance to a certain extent. In fact, this study is not designed to replicate former empirical approaches and affirm or disprove their findings but to explore the specific interrelations in a regular course setting. However, the main motivation to conduct the study was the strong belief that in general the practical application of Cognitive Linguistic findings in the context of metaphorical language teaching will exert positive effects. Moreover, based on the studies discussed in section 5 and the underlying hypotheses as implied in section 4.2, the research hypotheses derived from the first two research questions are both positively directed. Whereas the operationalization for the first aspect, receptive vocabulary, is designed to provide measurement output comparable to earlier studies of metaphor awareness (cf. [BERÉNDI 2005, BOERS 2004]), the parts of the study dealing with productive vocabulary use are designed to extend the original design of earlier studies (cf. [BOERS 2000b, BOERS 2004]). Likewise, the outcome for the third research question was expected to be positive. As far as short-term retention is concerned, a positive effect in one and two actually already implies a

positive answer to this first aspect of research question three. However, medium-term retention adds a different issue to the list, namely the question of sustainability: does CL-inspired metaphor teaching really have a prolonged effect and if this is the case, is it the receptive or the productive vocabulary that mainly benefits? Although the outcome is believed to be positive this cannot be concluded from available empirical studies but is a conclusion from mere theory following the reasoning in section 4.2.2 and 4.3.

The fourth research question, concerned with the effect of CL-inspired metaphor teaching in correlation with CEFR-levels, addresses the field most difficult to predict. Although some experiments in the area of metaphor awareness or explicit metaphor teaching have already been reported dealing with students at a proposed⁴ CEFR-level B2 [BERÉNDI 2005] or proposed CEFR-level C1 [LITTLEMORE 2001], there is no study available that explicitly contrasts the impact at different levels. Besides, for most of the studies the description of the sample, namely “English majors” [BERÉNDI 2005], “advanced learners of English” [DEIGNAN et al. 1997], or students of “English for specific purposes” [BOERS 1997b, BOERS and LITTLEMORE 2000, BOERS 2000b, BOERS 2004], allows the conclusion that the involved subjects have already acquired a certain degree of competence in the English language. On the contrary, studies researching elementary or pre-intermediate students’ benefits from CL-inspired metaphor teaching have not been conducted or at least published yet. Coincidentally, Boers’ concluding assumptions to his theoretical analysis of the ideal type of learner suggest a similar approach. To him “elementary language learners would face most difficulty in applying a strategy of metaphor awareness to newly encountered expressions, quite simply because they would often lack the lexical knowledge needed to interpret such expressions in the first place.” [BOERS 2004, 221] Yet Boers focuses on strategies of metaphor awareness, that is language decoding, which is certainly more difficult with restricted vocabulary. However, at the same time the productive usage of metaphorical language, which implies using one and the same word or phrase in different domains, might open new perspectives for elementary learners. Indeed, with metaphorical language they obtain a tool to describe more complex or abstract issues in basic, more concrete vocabulary. Moreover, in contrast to more advanced foreign language learners they are probably more adventurous in trying out new, creative constructions without securing accuracy first. Especially if the target group, as is the case with business English students, consists of adult learners, it is not the lack of concepts but actually

⁴None of the studies, to my knowledge, that have been conducted actually pretests its subjects’ general language performance by a CEFR-validated placement test

the lack of vocabulary that inhibits the individual language production. Thus, the technique of using basic vocabulary to refer to more complex topics might especially facilitate adult learners that have not yet proceeded as far as CEFR B2-level. Needless to say, this also depends on the general language learning aim, namely whether the focus is on fluency or accuracy. It is evident that the higher the level of proficiency the more is the focus on accuracy. The question arises whether very advanced foreign language learners are at all willing to adapt and creatively apply conceptual metaphor theory in their everyday language production. To sum up, the effect of CL-inspired metaphor teaching on students' language proficiency at different CEFR-levels might depend on the specific task and the required skill: whereas, for instance, a positive correlation between the success in closed exercises that require language decoding and the CEFR-level may be hypothesized, for more open tasks the correlation may not end up to be as striking or even move from positive to slight negative, that is high numbers of metaphorical language usage associated with lower CEFR-levels of proficiency. Furthermore, as Boers also acknowledges in his analysis the amount of guidance by the teacher [BOERS 2004, 222] plays an important role in metaphor acquisition. Whereas students at a higher language level, partially due to their considerable amount of lexical knowledge, may be able to pick up metaphorical language more easily even when they are only confronted with the notion of conceptual metaphors a few times, students with more limited vocabulary and less proficiency certainly need more support.

The last question proposed in the context of this research study addresses the more general issue of students' motivation to study the English language, namely the contribution CL-inspired teaching and learning material and methodology can make to the individual student's interest and willingness to deal with the English language. Based on the general Cognitive Linguistic tenet of the meaningfulness of language, the developed material aims at systematically elaborating the reasons for lexical choices and thus, paves the way for a deeper understanding of language that is gradually supposed to replace mere memorizing of new words and phrases. Indeed, the cognitive semantic proposal put forward by Cognitive Linguistics presents a strategy to actually master the foreign language - at least to a certain degree - by rational understanding. Accordingly, the direction for the correlation researched here is believed to be positive, that is students exposed to the CL-approach are predicted to become more interested and motivated to study the language as there is light at the end of the tunnel of mere memorizing.

CHAPTER 7

Design and Methodology of Empirical Study

7.1 Preliminary remarks

The following study is mainly characterized by the - for empirical studies - rather unusual fact that it was conducted in a regular business English course at the University of Applied Science in Koblenz.¹ Indeed, the data presented and discussed in the following do not always meet the stringent requirements of laboratory-style, controlled experiments but are enriched by the well-known characteristics of authentic teaching and learning scenarios in institutions of higher education. That is, students were sometimes simply not willing to do the additionally assigned exercises or hand in writing assignments that would have been interesting for the researcher but did not count towards the final course mark, which interested them. Although quite normal for a classroom scenario, missing data is a problematic issue for empirical research. Nevertheless, the real classroom approach was deliberately chosen and in order to make up for the predictable formal weaknesses of the data, as caused by the setting, appropriate measurements were taken up to prepare the data for and later in dealing with the data in computational statistics. Indeed, the data that was obtained reflects different aspects of everyday classroom reality that may be highly valuable to researchers in the field. In fact, apart from straightforward vocabulary performance tests and measurements of students' written performance, teacher's and students' personal attitude

¹I am very grateful to the Business Administration students of summer semester 2008 that were willing to take part in my experiment and allowed me to use their data for my statistical analysis. Furthermore, I owe a debt of gratitude to their business English teacher Ellen Rana, who agreed to incorporate my self-developed material into her teaching and allowed me to sit in on all of her courses. Thus, I was not only able to collect several sets of different data of the same group of students and take minutes of the individual lessons, but I also obtained profound insights into teaching and learning business English in higher education in general.

towards material and treatment was questioned and observation notes of the individual sessions were available. Due to the real classroom research lasting for a whole semester, the exact same number of participants per session could not be controlled for. Therefore, what has been referred to as one study up to here needs to be subdivided into three separate sub-studies for reasons of empirical analysis. In this way, the number and identity of students taking part in the individual sub-studies can be guaranteed in order to enable further statistical computation.

Moreover, the original curriculum developed for the three semesters of business English that is compulsory in the Business Administration program at the University of Applied Science had to be followed. In other words, neither topics nor focus was to be changed and the language material originally assigned to the course was to be covered. Measurements of student's performance are designed to serve a dual purpose - (1) testing the achievements towards the regular course aims as well as (2) the progress in vocabulary acquisition made due to metaphor teaching. Accordingly, some of the data available for statistical computation were not taken into account. The exercises or tasks generating this data had not been incorporated into the course for theoretical reasons of the study but as a matter of regular course requirements and were thus - from a researchers' point of views - only by-products to measure the students' general language ability. In section 7.4 and 7.5, which introduce the material and the research tools used throughout the study, this issue is discussed in detail and illustrated with examples.

In general, studies examining the impact of teaching methods or learning strategies on students' individual performances and behavior in classroom environments always face problems with the required independence of measurements. [PALLANT 2007, 123]. Of course, participants of a group, in this case a business English course, may mutually influence each other. As Pallant exemplifies, "all students could be influenced by the presence of a small number of trouble-makers" [PALLANT 2007, 123]. However, it is the explicit aim of the study to observe and examine metaphor teaching in a real classroom scenario. Hence, total independence in the sense of a statistically stringent requirement can certainly not be formally guaranteed but this claim may be counteracted by the following two arguments: first, the monitoring protocols of the sessions provided valuable insights into the classroom atmosphere and the on-going discourse, on which ground all reasons for concern and possible reservations may be resolved. Second, both groups compared throughout the study were randomized and

both groups were being taught and learned within the same organizational framework.² And although the teaching took naturally place with groups of students, the data collected and discussed here, is the result of individual performance tests.

However, the conclusions drawn from the data presented here do not claim to be exhaustive but are meant to explore the effects of CL-inspired metaphor teaching in the business English classroom and hence, to be a first step towards drawing up a systematic agenda for (1) further empirical studies tackling different aspects of research into teaching methodology and content and (2) the development of specific material and teaching guidelines for different business topics.

7.2 Outline

7.2.1 Operationalization

The main objectives of the study, namely to conduct the research within a regular business English course and to address the five research questions discussed in 6.2, required a complex design. Specific business topics, the formulated hypotheses, the different methods of material presentation or teaching strategy and task as well as the various types of performance measurements had to be aligned first. The business English course chosen for the field study scheduled the following nine topics for the semester: (1) Business Objectives, (2) Entrepreneurship, (3) Corporate Culture, (4) Leadership, (5) Motivation, (6) Money, (7) Mergers & Acquisition, (8) Competition, and (9) Ethics. The course comprised a regular German semester period of twelve weeks with two sessions per week, namely a total of 48 hours per semester (SWS)³. That is, with the introductory sessions in the first week (4 SWS), two repetition sessions in the middle of the course (4 SWS), as well as a mock exam (2 SWS) and the final exam (2 SWS) at the end of the course, each of the nine topics was dealt with in two consecutive sessions (4 SWS). In order to allow for all results of the Study to be reported and discussed in detail and not to exceed the time frame set for the whole project, the number of business topics selected for research was decided to be limited to three. *Money*, *Mergers & Acquisition*, and *Competition* were chosen.

As theoretically explained in detail in section 7.1 and visually systematized in Figure

²The care taken with securing equal and therefore comparable organizational frameworks for both groups is explained in 7.3.1.

³The standardized German abbreviation SWS, which will be used in the following, stands for *Semesterwochenstunde(n)* and translates into 'hours per semester' with 1 SWS comprising 45 minutes of instruction.

7.1, the whole Study thus consists of three sub-studies that each comprises the two sessions on each of the three individual topics. In the following these three sub-studies will be referred to as Study I, Study II, and Study III: Study I deals with money vocabulary, Study II looks at vocabulary for change and development, which is the major issue in the material on mergers & acquisition, and Study III is concerned with competition vocabulary. Yet, apart from the individual topics, each of the three studies also addresses distinctive aspects of the different research questions and thus, the studies differ in the particularly chosen teaching approach and the foci of testing. Whereas Study I concentrates on the research issue of receptive-oriented vocabulary acquisition and therefore mainly tests with closed exercises, Study II focuses on the acquisition of productive vocabulary offering an open writing exercise as measurement, and Study III pays attention to both, namely receptive as well as productive vocabulary acquisition and retention, by integrating a closed and an open testing scenario. Likewise the explicitness of metaphor teaching increases from Study I through to Study III and similarly the degree of required retention builds up from study to study. Whereas Study I offers an immediate post-test and a one-week delayed post-test, Study II measures retention in a one-day delayed writing exercise, and Study III assigns a one-day delayed writing exercise and a week-delayed closed exercise with the difference that in Study III the target vocabulary had not been practiced in class but only derives from the same conceptual metaphor and is presumably completely new to the students. Thus, Study III tackles the question of functionality of conceptual metaphor knowledge in decoding freshly encountered but concept-conform vocabulary.

Furthermore, Study I integrates different types of visualizations in order to enable a critical evaluation of Csábi's hypothesis that positive retention results of explicitly teaching figurative language are partially due to pictorial support [CSÁBI 2001], Study II deliberately excludes pictorial illustrations only using schematic arrows to show directions and trusting in the set up of mental imagery, and Study III explicitly uses illustrations for the activation of the source domains. In contrast to the aforementioned teaching and testing aspects of the study, the issue of students' motivation raised in the fifth and last research question is mainly operationalized in the final questionnaire and is additionally approached on the basis of the observations of the individual sessions in the different groups. Likewise a general language placement test validated with the CEFR was conducted before the actual course in order to determine the level of proficiency of each individual student. Both, the questionnaire and the placement test, also constitute a bank of student data that allows for a more detailed description of the sample.

In sum, the effects of implicit and explicit CL-inspired teaching approaches on receptive and/ or productive vocabulary acquisition and the degree of retention as well as the role of visualizations in metaphor teaching and the students' motivation to study complex vocabulary structures are thoroughly operationalized by the usage of different teaching methods, instruction material, and assessment instruments, plus an exclusively developed questionnaire. Although some of the aspects are measurable across the data of the whole study, for reasons of clarity and accessibility the three different sub-studies as well as the accompanying placement test, questionnaire and the final exam are dealt with in individual sections.

7.2.2 Pilot study

In the run-up to the main study reported here, some of the developed material had been piloted with different groups of business English students. Unfortunately, the fact that the main study was designed to take place in a real course setting again imposed constraints on the research procedure as far as a possible comprehensive pilot study was concerned. Finding a similar group of students that followed exactly the same topics, using the same material in their business courses without changing their course set up was impossible in the given time frame.⁴ Therefore, the complex study was not piloted as a whole but the different aspects of the study were individually focused on. Hence, some of the material was tested before and was improved for the main study according to feedback received by students and teachers (e.g. the worksheet in Study II). Some of the material could not be empirically piloted at all as there was either no group of students available at the time (e.g. the visualizations for the control group in Study I), where the topic would have fitted, or the decision to integrate a particular aspect of research into the main study was only reached as a result of the individual pilot studies (e.g. the delayed vocabulary test in Study III). Furthermore, some of the piloted methods and material were, although scheduled for the main study, after all not integrated for reasons of curricular change and time constraints (e.g. TIME IS MONEY or strategies of source domain activation).⁵ The main issues raised by

⁴Due to the small size of the institution and the rather strictly organized study programs at German Universities of Applied Sciences, the chosen course is offered only once every three semesters. In other words, for a comprehensive pilot study to pretest all aspects in a similar setting, the whole study would have had to be extended for at least another one and a half years. The tight time frame for the whole project did unfortunately not allow for this additional time.

⁵An analysis of the material used only in the pilot study is not part of this work but is briefly dealt with in [JUCHEM-GRUNDMANN and KRENNMAYR 2009] and may become the basis for further research.

students and teachers as feedback to the pretesting regarded material layout, clarity of instruction for tasks and in a few cases choice of vocabulary. All of the remarks have been constructively taken into account and used to improve the material and methods for the main study.

7.2.3 Main study

The main study was set up as an independent group design with an experimental group (Group 1⁶) and a control group (Group 2⁷). In order to ensure parallel test conditions and control for potential confounding variables as much as possible both groups were taught at the same days of the week at alternating times (Group 1: Mondays 11:00-12:30a.m. and Tuesdays 9:00-10:30a.m. and Group 2: Mondays 9:00-10:30a.m. and Tuesdays 11:00-12:30a.m.) by the same teacher: their regular business English teacher, who is not the researcher and had not had any experiences with CL-approaches yet, but was instructed in detail and trained on what and how to teach the two groups and how to use the provided material. Additionally, the control group – as can be reconstructed by the times given above – always received the more traditional treatment first in order to secure that students were not able to tell their fellow students from the other group about their new insights. For similar reasons the testing phase for the control group – contrary to the treatment – followed the testing of the experimental group. This way, an influence of the control group's knowledge about the performance measurements on the output of the experimental group by means of possible students' exchange was excluded. However, due to the study not being conducted under strict test conditions but in regular courses, the possible influence of the control group onto the experimental group before the treatment and the passing on of insights into the different performance measurements from the experimental group to the control group before the testing could not be controlled for. Whereas the former is rather unproblematic as the experimental students were confronted with a very different approach towards the vocabulary anyway,⁸ the latter pathway may provoke potential criticism. However, first of all, the students were right from the start of the course led to believe that it was not their performance that was of interest for the ongoing study. With the researcher attending all the sessions (presumably⁹) taking

⁶The experimental group is abbreviated as EG in charts and tables.

⁷The control group is abbreviated as CG in charts and tables.

⁸This sequence was only chosen to secure that the teacher would not get carried away by the CL-insights supposed for presentation in the experimental group and also touch upon them in the control group. With the control group being instructed first this was hardly possible.

⁹This is what the students were told the researcher would do

notes on the teacher's movement and taking minutes of the sessions, the students believed their teacher to be at the center of attention. Similarly, the students did not know which parts of the course were used for the study and thus, they probably did not really see the need of informing their fellow students of the other group about what their exercises and tasks had been. Second, if they actually did successfully inform the control group about what was being asked for in the performance tasks, which unfortunately cannot be reconstructed¹⁰, the performance of the control group would not solely be possible to attribute to the traditional teaching but could partially be influenced by information from the CL-taught group. Accordingly, the potentially measurable difference in effects may possibly adjust to become even bigger as the output caused by students' exchange of information would have to be deducted and the results of the study thus head towards more significance.

Altogether the study comprised 48 SWS with 16 SWS of exclusively teaching metaphorical language and testing the students' performance. To ensure comparability both groups were taught the same metaphors, confronted with the same amount of material, and as much as possible even the same content.¹¹ The tasks for both groups were created to encourage similar and thus comparable cognitive effort and the performance tests were identical. The main and decisive difference lay in the method of teaching and the layout of some of the material as well as the accompanying tasks: the experimental group dealt with the vocabulary in the framework of conceptual metaphoricity and the control group dealt with the same set of vocabulary as relevant for the business topics. The difference in students' performance between experimental and control group was analyzed in detail and gave insights into the effect of CL-inspired teaching of figurative language on the different aspects formulated in the five research questions (cf. section 6.2). Concentrating on the difference in treatment, the study thus followed the general experimental design of pretest - treatment - post-test, with each of the groups receiving a different treatment. In fact, both groups sat the same pretest, each group underwent the different types of treatment in the individual parts and both groups took the different post-tests.

¹⁰It may only be stated here as a general impression that the observable exchange of information, especially course relevant information, as the groups of students exchanged rooms, converged against zero.

¹¹The control group was of course not made familiar with the notion of conceptual metaphors.

Overview of Study				
	Study I	Study II	Study III	Exam
Week	8-9	10-11	12-14	15
Topic	Money	Mergers & Acquisitions	Competition	
Data	(1) Gap filling (2) Writing Assignment I	(1) Writing Assignment II	(1) Writing Assignment III (2) Delayed Vocabulary Test (3) Questionnaire	(1) Writing Assignment
N	(1) EG:30/CG:31 (2) EG:5/CG:14	(1) EG:36/CG:32	(1) EG:29/CG:30 (2) EG:31/CG:25	(1) EG:42/CG:40

Table 7.1: Overview of the Studies

7.2.4 Open issues

As some of the factors influencing the measured student output may be attributed to the real classroom scenario, the results of the studies only provide ground for context-bound research hypotheses and conclusions. In fact, the study discussed here was deliberately designed as an empirical exploration into the possibilities and constraints of CL-inspired metaphor teaching in regular business English courses. It provides data to critically reflect on the different aspects of a possible application of the theory discussed in the previous chapters of this book. In a further step, a large-scale study disregarding the discussion of the theoretical basis provided here and focusing on the implementation of the here studied methods and materials would need to be conducted in order to be able to draw conclusions on a broader basis. The systematic variation of different variables in the context of the experiment sheds light on the complex interplay and impact of the different aspects and provides guidelines to draw up a schedule for the further integration of CL-inspired metaphor teaching into real business English courses.

However, apart from the study being more complex, the set-up of the pretest does not follow the regular conventions for pretesting learner's knowledge in the different areas relevant for the experiment. Metaphors are not part of the curriculum yet and thus, in contrast to grammatical phenomena, such as tenses or preposition that are very often in focus in CL studies, metaphors, especially multi-word metaphors, cannot be tested in regular performance measurements without giving away too much that is supposed to be tested as part of the study. If the students in both groups had, for instance, been confronted with the linguistic metaphor *to pour your money down the*

drain (which is part of the targeted vocabulary in Study I) and had been asked to explain or translate the metaphor in a pretest, (1) the amount of cognitive effort put into this item by the students of both groups and (2) the notion of frequency of encounter would have been altered. Yet both influence the ability to better remember words and phrases especially for further language production. Thus, confounding variables that were problematic to exclude in later statistical computing would have emerged. Therefore, the pretest usually conducted before the main study and controlling for the students' knowledge in the research field of interest was abandoned. Instead, a general placement test was set to assess the individual students' level of performance in order to make a statement about their expected knowledge of metaphorical language. This procedure may definitely be considered as a weakness of the study. But the other possibility, which would be to test a similar group of students on the metaphorical expressions targeted in the study and then draw conclusions from this new group's output onto the prerequisites of the two groups chosen for the study, seemed even more problematic. Not only would the transfer of findings from group to group be debatable, but also it could be problematic to sample another group of participants consisting of a comparable range of representatives for the different CEFR-levels.

7.3 Groups of Learners

7.3.1 Sample

93 Business Administration students (50 male/ 43 female) were enrolled in the business English courses chosen for this study.¹² Yet, as explained in section 7.1 the number of students could not be controlled for throughout all the teaching and testing phases taking place in the course of the semester. Thus, the final exam providing data for 90 students is the research tool giving the best overview of students' usage of metaphors as far as student numbers are concerned. None of the other methods and tools applied in the course of the study were used with an equally high number of students.¹³ Yet not only the data elicited as part of the teaching and testing was influenced by the overall schedule, but also the questionnaire was effected, which had been designed to

¹²All students have been given an identification number between ID 1 and ID 93.

¹³This is also partially due to the fact that some of the students had enrolled for the course for a second time only in order to be able to resit the final exam. They attended the course on no regular basis and thus their data was eliminated for the final statistical computation.

elicit further data to describe the learner variables in more detail.¹⁴ Thus, the personal data to describe the sample in more detail, such as the participants' age, educational background, mother tongue, or language learning biography is not available for all 93 students. Nevertheless, since each of the three studies was conducted with a slightly different subgroup of the 93 students and since the whole study did not aim at researching the relationship between the students' output in the different studies with all their personal variables, the missing questionnaire data is not to be judged as problematic but serves to give a general overview of the participants' background. Furthermore, the most important personal variables, namely gender and level of English proficiency, were asked for and respectively measured in the placement test¹⁵, in which 89 students took part.¹⁶ Although the sample looked at here is not comparable to the statistical sampling in large-scale studies, it fulfills the basic requirements of experimental studies: first, the students in the two parallel groups were randomized, that is all students enrolled for the study program were unsystematically organized in two courses of roughly equal size. Second, as reported with the results of the individual studies (cf. chapter 8), great care was taken in preparing the elicited data for statistical computations. That is, in order to ensure comparability of the participants' output between experimental and control group due to the possibly different level of proficiency, the data was again cleaned before statistical computation.¹⁷

Apart from the fact that the proportion of male and female students was rather balanced, a very positive coincidence for empirical research, overall the pool of students populating the two groups nicely represented the general population in economic or technical study programs at German Universities of Applied Sciences:¹⁸ Most of the students (55.6%) possessed a general German university-entrance diploma (the German *Abitur*) or at least a vocational diploma (the German *Fachabitur*¹⁹; held by 34.9%), that only qualifies for the admission to a German University of Applied Science, but as

¹⁴Some of the students did not attend the particular lesson, for which the questionnaire was scheduled, or simply refused to hand it in.

¹⁵Details on the Placement Test are discussed in section 7.5.1.

¹⁶The four students who did not take the PT, namely ID1, ID88, ID92, and ID93, are again the course repeaters that started to show up in the middle of the course but on an irregular basis and thus, did not qualify to be taken into consideration for statistical computation in the different studies.

¹⁷Details on the matched samples derived from the original pool of participants are also reported with the results of the individual studies (cf. chapter 8).

¹⁸The information presented here corresponds to the whole group of students who participated in all three studies, or is at least representative for the whole group as it of course only comprises the data of the students who took part in the questionnaire study.

¹⁹This vocational diploma does not qualify for a regular German university.

usual for these institutions there were also students that qualified for their studies by a basic certificate of apprenticeship or an examination for master craftsman's diploma (the German *Meisterprüfung*) and extended work experience of at least three years in the specific area of interest (6.34%).²⁰ This is important to point out here for two reasons: first, the time that has elapsed between school and further university education varied considerably from student to student, which is a specific characteristic of the learner groups at German Universities of Applied Sciences. Second, the level of formal education was on average lower than in language courses at regular universities, as the requirements for admission to a University of Applied Sciences are not as strict. Furthermore, the age range of students in the same semester was more likely to be extended for similar reasons: students follow rather different careers to qualify for studying at a University of Applied Sciences. In the sample of freshmen discussed here, the mean of age is 23 years, within a range of 19 to 30 years.

The questions eliciting data on the students' personal language learning biography (cf. Appendix, Figure 4 item 7-11) showed that 60% of the students had only German as their mother tongue, 26% of the students were bilingual with German as one of their native tongues and 14% indicated to come from other language backgrounds. All in all, the number of different mother tongues specified by the group members adds up to eleven different languages.²¹ As for these students communicating in different languages has become part of their everyday lives, one would expect a certain affinity for languages or at least a greater awareness of the need for learning how to properly use a language as well as a basic understanding of cultural differences transported in languages. Nevertheless, having to learn English²² as a third or maybe even fourth language as part of their formal education, students may face different problems, e.g. with the additional cognitive load of learning yet another system especially with languages as far apart as for instance English and Tamil (3 students had Tamil as mother tongue). However, most of the students (64,5%) reported to have had already a minimum of seven years of English lessons and only two students have had less than one year. All others ticked the box for four to seven years of English lessons. Apart from the institutionalized instruction only two students indicated to have spent some time abroad in an English speaking country (ID3 and ID76). On the basis of this information on the students' individual language learning biography it can be concluded that

²⁰The remaining percent are constituted by the two students that indicated to already hold a first university degree and are now heading for their second diploma in further education.

²¹In alphabetical order these were Arabs, Bulgarian, Chinese, Indonesian, Korean, Macedonian, Polish, Russian, Serbian, Tamil, and Turkish.

²²None of the students were bilingual with English as one of their native languages.

the general level of English in the class is very likely to exceed an intermediate level (comparable to CEFR-level B2). Yet, as the interpretation of the data elicited with the placement test showed (cf. section 7.5.1), the overall situation is worse: 79% of the students are below the proposed CEFR-level B2.

Age, educational background, learning biography – all three factors have influenced the students' learning habits and development of cognitive abilities. Thus, when evaluating the teaching and testing data in chapter 9 and drawing conclusions for a wider target group of business English learners these factors need to be taken into account. In fact, what might have been rather complicated for these students may be quite easy for instance for managers who are professionalizing their business English in one to one teaching settings and vice versa. It is evident that the impact of individual learner variables can never be conclusively controlled for in experimental studies but the group chosen here nicely sampled the main target group, namely students of Business Administration that prepare for international communication in English in their study integrated business English courses.

7.3.2 Comparability of test groups

The two groups²³ with randomized students are of roughly the same size²⁴, with the experimental group consisting of 43 students and the control group comprising 40 students.²⁵ Although randomized, the proportion of male and female students could also be evaluated as balanced in both groups: the experimental group consists of 23 male and 20 female students and the control group of 19 male and 20 female students. The gender factor could thus be neglected in further analyses.

As shown in Figure 7.1 the distribution of the students' levels of proficiency over the six CEFR-levels was also comparable in the two different groups. However, it needs to be pointed out that with 22.5% the control group has a few more students on the higher CEFR-level B2 than the experimental group (16.3% on B2 level). In order to

²³This description of the two groups of students again refers to the whole pool of students originally scheduled for one or the other group. However, not all of the students incorporated here participated in all different parts of the three studies and so the description of the two different groups may vary slightly from study to study.

²⁴The slight discrepancy in number of students is due to the fact that all students that for whatever reason were not on the original list to be placed but only showed up after the official semester had started, were placed in the experimental group in order to increase the buffer in case of dropouts or students missing the relevant sessions.

²⁵Eight of the original 93 students (ID 24, 49, 59, 70, 81, 82, 92, and 93) did not take part in the sessions selected for the study and two students (ID 1 and 88) took part in few of the sessions but had missed the placement test and thus could not be reliably categorized according to their CEFR-level. The few data of these 10 students were eliminated before statistical computing.

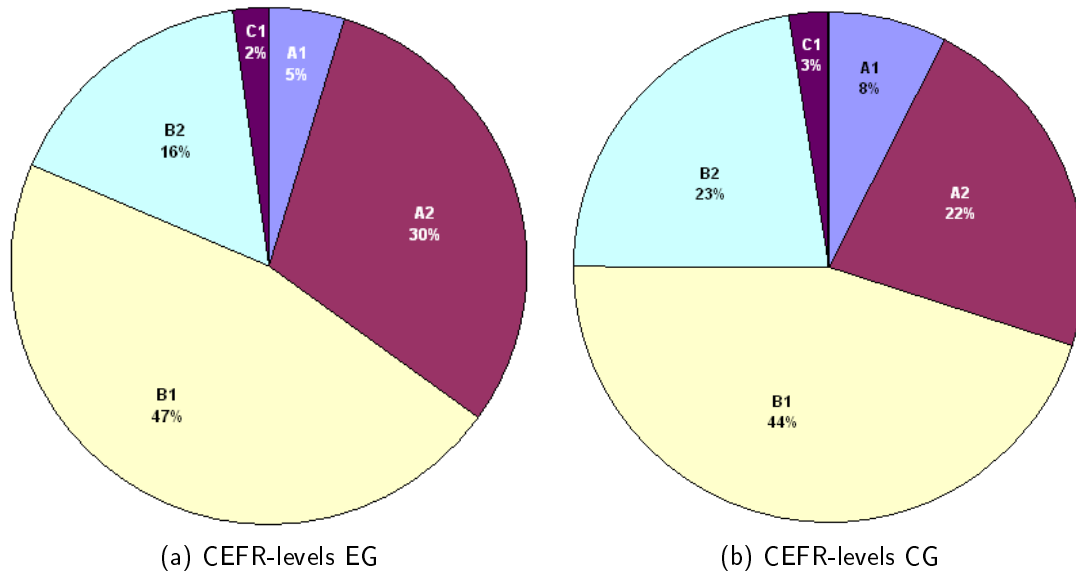


Figure 7.1: CEFR-levels in experimental and control group

control for a fully comparable sample in each of the studies, the samples were manually matched by CEFR-levels²⁶ before each of the statistical computations were conducted.

7.4 Material

The material to be used for the different topics assigned for the course by the curriculum was compiled by the teacher. Due to the fixed list of topics, which were hard to find all sufficiently covered in one book, the teacher had decided against using one particular business English textbook for all of the course but to take the material she found most suitable for the set topics from mainly four different resources:

- *Market Leader Intermediate Business English Course* [COTTON et al. 2005]
- *PASS Cambridge BEC Vantage* [WOOD et al. 2001]
- *The Business Intermediate Student's Book* [ALLISON 2007]
- *Best Practice Intermediate Coursebook* [MASCULL and COMFORT 2007]

For the topics identified as relevant for the study, namely *Money*, *Mergers & Acquisition*, and *Competition*, the teacher had originally planned to use material from the first three books listed above. The following paragraphs give a brief overview of the selected

²⁶The matching procedure is explained in section 7.5

material from the chosen books as far as content, structure, focus of vocabulary and metaphorical language usage are concerned.

7.4.1 Published material

Study I: *PASS Cambridge BEC Vantage*

For the first study, namely the topic *Money*, the *PASS Cambridge BEC Vantage* and its unit on *Cash Flow* [WOOD et al. 2001, 35-40] was selected. Nicely introducing the unit topic by the compound that immediately inextricably links the target domain MONEY with the source domain LIQUIDITY, and thus implicitly introduces the underlying mapping, at first glance this unit seems to be ideal to focus on the conceptual metaphor MONEY IS A LIQUID/ IS WATER. However, a linguistic analysis of the whole unit produced only a low yield for metaphorical usage consistent with “flow”. Apart from the compound “cash flow”, which is used 14 times throughout the six-page long unit, only the specifications “inflow” and “outflow” come up twice each on page 35 but no other linguistic examples of the conceptual metaphor MONEY IS A LIQUID is made use of. There are, of course, several other examples of metaphorical language usage, but none elaborates on the headline metaphor “flow”, which would invite systematic didactic consideration.

The core of the unit is a case study titled “The cash flow gap” dealing with Steve and Sue Quick’s computer company and their problems with the cash flow. All exercises given on the first three pages of the unit accompany this case study by either providing pre- and post-reading exercises (cf. [WOOD et al. 2001, 35-1 to 4]) or suggesting further tasks (cf. [WOOD et al. 2001, 36-5 and 37f] for a detailed analysis or transfer. As explained in the introduction to the students’ book [WOOD et al. 2001, iv], the texts used within the book may be authentic, semi-authentic or especially produced for examination training. Particularly texts in the last category follow certain layout, structure and content conventions, which could be one reason for the lack of more vocabulary used metaphorically, as the text might have been reduced to suit the exam preparation. The case study “The cash flow gap” is referenced to be adopted, which implies semi-authenticity, from *CCH Business Owner’s Toolkit* [WOOD et al. 2001, 36]. Interestingly, a comparison with the original source [TOOLKIT 2009] clarified that only the textual framework, namely the succession of terminology used to explain processes, and the numbers, that is costs and dates, is taken from the original case study: the names of the people involved and type of business as such were changed and the text

was shortened and linguistically reduced in vocabulary. Nevertheless, an analysis of the original source did not provide a better yield for metaphorically used vocabulary supporting the concept of LIQUIDITY either. It needs to be taken into account here that *www.toolkit.com* is a website providing business know-how for small businesses. In other words, the texts produced here are also written for didactic purposes and are therefore not to be considered as regular examples of everyday language usage. Nevertheless, in the business English course this first piece of written input was left as it is in order to ensure a general understanding of the subject matter without focusing on the language used. As can be seen in the Appendix Figure 1, both groups of students worked through the general introduction, read the same text and did the same pre- and post-reading exercises.

As follow-up to the case study, the book presents another piece of written input, an email by Steve Quick, the owner of the computer company, addressed to a management consultant. The email functions as introduction to the writing section: students are here prompted with a summary of the company's problems and are asked to apply their own business knowledge and experience to suggest solutions in a reply. In other words, here we have a clear focus on business content: new vocabulary is not presented here but already introduced vocabulary is mainly repeated and in this way entrenched. The content of the email is a summarized repetition of the main findings presented in the case study on the previous page. This is the input that ideally lends itself to adaptation in order to be able to evaluate CL-inspired metaphor teaching. In section 7.4.2 the changes to the email will be explained in detail.²⁷

Study II: *The Business intermediate*

The basic material for the sessions on *Mergers & Acquisitions* was taken from *The Business* [ALLISON 2007, 84-88]. Whereas the first part of the unit covered business risks and opportunities in mergers and acquisitions by means of listening and reading comprehension, the second part, which is the vocabulary section, focuses on giving financial information. There vocabulary such as "go under" (7.2.:1-1)²⁸, "hit" (7.2.:1-c), "collapse" (7.2.:1-e), "soared" (7.2.:1-g), "took off" (7.2.:1-g), "sank" (7.2.:1-h), or "tip of the iceberg" (7.2.:1-h) is used. All of these examples are linguistic instantiations

²⁷Due to the additional exercises developed for the study, the remaining pages of the unit were not at all integrated into the teaching and will therefore not be taken into consideration here.

²⁸The numbers refer to the published material and name in order of appearance unit, part, exercise, and sample sentence or chunk, that is Unit 7 (Mergers & Acquisitions). Part 2 (Vocabulary): Exercise 1 (Match the newspaper headlines) - Sample sentence 1

of different conceptual metaphors that are productive in describing economic change and development. Thus, the first double page was covered in the session but did not become part of the study; it functioned as introduction providing background knowledge for the general topic. The main focus of Study II was on giving financial information and describing the up- and downward movement of the company's financial situation.

The following exercise (7.2.:2) introduces even more examples of up- and down-movement vocabulary, which derives from different source domains. Yet instead of highlighting the underlying conceptual domain mappings in order to raise awareness and foster understanding students are simply asked to mark "whether the words in bold indicate an increase, a decrease, or stability" by means of arrows. In contrast to Study I, in the present sub-study a whole set of relevant linguistic metaphors that calls for systematic awareness raising was already made available and even drawn attention to by the common textual input enhancement of bold print. Furthermore, the integrated exercises gave insights into the traditional way of teaching these vocabulary items. Thus, Study II did not require development for control group exercises - they were already part of the book.

The remaining pages of the unit *Mergers & Acquisitions* did not become part of the study and are therefore not introduced or discussed here.

Study III: *Market Leader intermediate*

Market Leader intermediate with its unit on *Competition* formed the basis for the third part of the study. The unit opens with a picture of a pole vault athlete as background for a self-assessment questionnaire titled "How competitive are you?" [COTTON et al. 2005, 116], and thus indirectly guides the learner immediately to one of the source domains targeted by the study. Competition is associated with sport, thus choosing a picture of an athlete as visual input seems natural, yet the questionnaire items (apart from maybe the first one that touches on winning in general) do not address sports competition but more general situations in which ambition might play a role. In this first section the source domain is present but remains in the background and is not made an issue.

The following vocabulary section, however, explicitly mentions "sport" and even states the metaphorical transfer by introducing a section on competition idioms with the sentence: "There are many idioms from sport used in business, particularly when talking about competition." [COTTON et al. 2005, 117] In this instance, it is made clear that

vocabulary “from” one domain, in this case SPORT, is “used in” another domain, here BUSINESS. With this knowledge students are then asked to (a) complete the idioms by choosing the correct nouns from a box, (b) match them with a paraphrase, and c) use them for a gap filling exercise. For example, the idiom “flogging a dead . . .” was to be completed with “horse” from the items given in a box, then matched with “wasting time on a hopeless situation”, and finally filled into “It’s a waste of time to continue with this project. It will never work. We are . . .”. [COTTON et al. 2005, 117] Whereas the first exercise a) simply lists certain lexical parts of the fixed expression, such as the verb, adjective or first part of a compound, and thus focuses on semantic accuracy, exercise b) provides the metaphorical meaning to clarify understanding, and exercise c) offers a target domain scenario and hence allows metaphorical application. This is a first important step in the direction of explicit and systematic figurative language teaching made by a course book. Nevertheless, especially the presentation of idioms in a simple, unsorted list²⁹ without elaborating on the phrases in the source domain and the possibility to apply the new vocabulary only in isolated target domain sentences calls for improvement. Furthermore, the one drawing visualizing the idioms “move the goalposts” and “keep your eye on the ball”³⁰ that at least layout-wise accompanies the exercises may function as a first eye-opener as it shows business men in striped suits on a playing field running after a soccer ball. Indeed, the aspect focused in the target domain, namely business men’s behavior, is here visualized in the source domain setting, and in this way re-etymologized as discussed in section 4.3. However, with no explicit guidance to the drawing in the course of the exercise³¹, it remains in the margins and thus is likely to continue to be as much a background illustration as the pole vault athlete on the previous page.

A linguistic analysis of the article “Nokia and the insistent ringing of competition”, which forms the core of the reading section following the vocabulary exercises in the competition unit, produced a good yield of linguistic metaphors that perfectly lend themselves to systematic metaphor teaching. As can be reconstructed in Figure 7.2

²⁹The list is not even sorted by the different kinds of sport, such as soccer, horse racing, car racing, which would ideally serve as starting point to discuss mappings.

³⁰Due to the visually emphasized necks of the two business men running after the ball, the idiom “to be neck and neck” may also be targeted by the visualization here. Yet since this idiom originally derives from a different source domain, namely horse racing and not soccer, the drawing can hardly count as source domain visualization for this particular idiom.

³¹There is no explicit link to the picture within the phrasing of the exercises and even the Teacher’s Resource Book (cf. [MASCULL 2006, 118]) does not instruct teachers to make use of the drawing or at least elaborate on the transfer between the different domains. Certainly, teachers could make use of the drawing and thus build up on it to elaborate the BUSINESS COMPETITION IS SPORT COMPETITION metaphor, yet whether this is actually done would warrant another study.

altogether 38 linguistic examples were identified, of which 14 could be summarized by the conceptual metaphor BUSINESS IS COMPETITION/ IS A GAME and three more by the conceptual metaphor BUSINESS IS WAR. Examples of this last conceptual metaphor systematically interconnect, as both conceptual metaphors inherited their structure from the conceptual metaphor COMPETITION IS WAR, which is higher up in the hierarchy of mappings [cf. page 17]. Of course, with *Competition* as unit title this might not seem surprising. Yet, as shown with the analysis of the unit on *Cash Flow* for Study I it cannot be taken for granted that the texts chosen for language teaching – as they may be linguistically reduced for didactic reasons – incorporate the targeted linguistic phenomena. However, the Market Leader course book series cooperates with the *Financial Times* [COTTON et al. 2005, 4] and therefore mainly makes use of their authentic articles. Although some of the material is only presented in extracts adapted for teaching purposes [COTTON et al. 2005, Acknowledgements inside the Cover], authenticity is ensured and a regular amount of metaphors can be found. In other words, students are here confronted with the usage of competition metaphors that they are also likely to encounter in later business discourse, which is an essential step in the right direction. Nevertheless, the exercises framing the text again miss the opportunity to systematically raise awareness for these metaphors. The post-reading exercise c on page 119, for instance, singles out the words “crush”, “match”, “exceed”, “regain”, “dominate”, “overtake”, and “rival” as the “verbs [from the article] related to competition” [COTTON et al. 2005, 119] and asks the learner to match these with the idea of “being in a strong position”, “equality”, “moving in front of”, “recovery”, and “doing better than”. Again competition vocabulary is here the focus of attention and the words used metaphorically are even drawn attention to. However, they are not highlighted for their metaphorical usage, therefore, the specific source domain is not explicitly mentioned and the students are only implicitly guided to decode the verbs while assorting the general meaning. Overall, reading comprehension is the focus of the exercises. Further elaboration on the vocabulary’s origin to facilitate integration into the mental lexicon and thus, to transfer the items from the learners’ receptive to their productive vocabulary is not identifiable.³²

³²The following parts of the unit focus on modals of probability in the “language review” section, negotiating in the “skills” section, and offer a Case Study for discussion. As they did not become part of the study, they will not be discussed here.

Nokia and the insistent ringing of competition

By John Gapper

In 1983, Nike enjoyed dominance of its industry, with a market share of more than 35 percent, having crushed Adidas, its original rival. But a tiny competitor was about to knock it sideways: Reebok.

A similar situation exists today with Nokia and Samsung. Although the Finnish company's share of the global market for mobile handsets is similar to Nike's in athletic shoes 21 years ago, its South Korean competitor has momentum. Samsung's camera phones, with twisting flip-up screens that allow users to take, send and display photos quickly and easily, are hot; Nokia's are not.

Samsung's market capitalisation exceeded that of Nokia last week as this fact became evident in the companies' first-quarter results. Even more annoying for Nokia is the transfer of something intangible, yet highly valuable: market leadership. The high end of the market – phones that retail for \$300 or more in the US – is no longer Nokia's. Samsung makes the expensive camera phone that a young consumer wants to have.

Nokia seems to realise how potentially serious its situation is, but two obstacles stand in the way of Nokia regaining authority. One (product design) should be solvable, given the company's heritage. The other (that Samsung is South Korean) will be harder to tackle, as other western companies are likely to find as well.

Design should be Nokia's strength, since it originally overtook Motorola by turning handsets into handsome and desirable consumer goods, rather than bland technological objects. Yet in its recent models, Nokia appears to have forgotten the first rule of modernist design – that form follows function. Instead, it has placed most emphasis on making its handsets colourful and zappy, with snap-on covers.

Samsung's approach to digital communication has more substance. Its twisting flip-up screen is a neat way of making the most of camera technology. The screen can even be folded outwards, so friends' photos appear when they call.

There is no obvious reason why Nokia should not regain its lead in design. But Samsung has another advantage, which is more difficult for any European rival to counter: the willingness of young South Koreans to pay high prices for new electronic devices. In terms of access to broadband and telecommunications infrastructure, Samsung happens to be sitting in one of the world's most wired – and wireless – markets.

Nokia had a similar advantage in Finland in the 1990s and exploited it to establish a strong presence round the world, including in Asia. But Europe has trailed Asia in high-speed mobile services. South Korea has more than 5m subscribers to third-generation services. That has helped Samsung to develop better designs for camera handsets at home before applying the lessons in Europe and the US.

One thing Samsung learnt – and Nokia did not – was to make its camera handsets small. Masamichi Udagawa, co-founder of Antenna Design in New York, says he was 'shocked' when he saw one of Nokia's first camera phones in Tokyo; companies such as Panasonic and Sharp were already making much smaller models for Japan. It was a nice design, with a sliding lid, but its sheer size made it unacceptable, he says.

For consumer companies in Europe and US, Nokia's experience points to a broader challenge. Nike has remained innovative by developing a range of premium-priced shoes in the US and then selling them around the world.

Samsung has shown that companies in Asian economies can use their own domestic markets to develop global products. Of course, Japanese companies, including Sony and Toyota, have done that for several decades, blending design and technology in ways unmatched by western companies. But countries such as South Korea have a demographic advantage over Japan and Europe – a plentiful supply of young people. As south-east Asian economies develop, those consumers will become increasingly valuable.

From the *Financial Times*

FINANCIAL TIMES
World business newspaper.



Figure 7.2: Study III: Nokia-Article with metaphorical language marked

7.4.2 Newly developed material

In addition to the material provided by the units in the three different books, new material was developed to provide additional vocabulary and appropriately systematize it according to CMT.³³ In order to secure comparability and thus, to control for material- and task-dependent variables, such as types of input enhancement, retention assisting layout and visualizations as well as cognitive load, the new material was always devel-

³³Since the students did not work with one assigned book but were provided with a specific set of material week by week that had been compiled by their teacher, new additional material could easily be integrated into the course without the students even noticing that particular texts or worksheets had not originally been planned for the course. Students were simply supplied with a different set of copies that at first glance looked similar to the regular units set up of the regularly used published material. Thus, the test motivation variable, namely the often voiced criticism that students worked exceptionally hard or maybe even not at all or did extremely well or badly on something only because they were tested could thus be controlled for.

oped for both, experimental as well as control group. This way, the general textual input as well as the page layout and at least the graphic form of input enhancement were possible to be kept the same for both groups. In order to dispute Csábi's claim of CMT-inspired teaching being partially due to pictorial support [CSÁBI 2001], the usage of visualization were also taken great care with. In fact, Study I, explicitly integrating the research aspects of visual support, deliberately includes but systematically varies the visualization of the targeted vocabulary. Furthermore, the tasks that were designed to accompany the material were set up to assign a comparable cognitive load to the students of the parallel groups.

Study I: Money

The material developed as input for the first sub-study consisted of an adaptation of the original material and an accompanying worksheet with visualizations. The material chosen for adaptation was Steve Quick's email to the management consultant Barbara Capel. As can be seen in the Appendix, keeping the original page-layout and the text as much as possible (cf. [WOOD et al. 2001, 37]), the email body was extended to four paragraphs incorporating eight additional examples of linguistic metaphors for the conceptual metaphor MONEY IS A LIQUID. The following list of further linguistic examples of the notion of liquidity were inserted in order to flesh out the concept of *cash flow*, which was introduced in the unit title.³⁴

- *to pour money down the drain*
- *cash injection*
- *the cash leakage*
- *to level the stream of inflows and outflows*
- *to liquidate fixed assets*
- *dried up government funds*
- *to dip into savings*
- *to bridge temporary gaps*

³⁴The linguistic metaphors are here sorted in order of appearance in the text.

Both groups received the same email and thus, the same textual input without differences, not even any different forms of graphical input enhancement were used for one or the other group. After clarifying and summarizing the content of the text in class, the members of both groups were asked to read the email again, underline a certain set of words and phrase, which is the crucial difference, and match their findings with visualizations on an additional worksheet.³⁵ The layout and content of the worksheet is the sole difference made between experimental and control group: first the header introducing the following exercises, second the focus of the exercises itself, and third the visualizations varied in several respect.

The experimental group was introduced to the conceptual metaphor MONEY IS A LIQUID right in the header of the worksheet, where the following elaboration was given:

Business English is full of metaphors, which means that words and phrases from everyday life are used to explain complex financial systems. In English “money” is, for example conceptualized as being “liquid” like water.

Money is to business what water is to life: it is vital!

Due to the underlying metaphor MONEY IS A LIQUID or MONEY IS WATER, a lot of the vocabulary used with money comes from the word field “water”.

Here, the focus of attention was explicitly drawn to the source domain, which in order to cut short on terminology and metalanguage is referred to as the word field “water”, and in addition to explicitly spelling out the underlying conceptual metaphor, the metaphorical transfer was elaborated on by concisely summarizing the basic semantic motivation, namely the notion of vitality: money enables business life.

In the next paragraph, the experimental group was then instructed to “*read Steve’s email again and underline all the words and phrases that have to do with liquid or water*”. Although this procedure may be formally categorized as explicit teaching since the students’ attention was directly drawn to the lexical phenomena by explicit instruction, it is necessary to emphasize again that the teaching at this point was limited to the fact that the students were provided with the handout and were told to follow the instructions given there. Indeed, there was no further interaction between teacher and students scheduled. Yet in order to ensure the students’ comprehension of the exercise, a first example was given that was supposed to clarify the basic idea:

e.g. In the email header we find “*cash flow problems*”, which clearly refers

³⁵All material referred to in the text can be looked at in the appendix.

to money as being able to flow, as being liquid. Try to find similar phrases and match your findings with the following drawings.

The title of the unit perfectly lent itself here as an example, as it is certainly the linguistic metaphor all students who have taken part in the teaching of this unit so far should have had contact with. Furthermore, as problems with the *cash flow* was the main topic, most students should by then have a clear concept of what the term means from an economical point of view, and therefore the additional semantic elaboration especially for this concept should be the most impressive eye-opener.

The eight visualizations following the example are pencil drawings illustrating the eight linguistic metaphors that were additionally integrated in the text as listed above.³⁶ All of them show the relevant target domain concept, which is money, here illustrated by coins and bills, in the framework of the source domain, that is water.³⁷ The students' attention was explicitly drawn to the source domain as the source domain provided the framework of the drawing³⁸ and it takes a second step to realize that in these drawings there is money where one would expect water. Thus, the original meaning of the transferred linguistic item in its source domain context functions as an explanation for the role the concept serves in the target domain and is thus supposed to help the learners to grasp the full meaning of the linguistic item by transfer of the knowledge structures from source to target domain. In brief, the learner is guided to first mentally process the item by decoding the word or phrase in the source domain and only then transferring the concept to the target domain.

Moreover, the language learner is not left alone in the process of coming up with an integrated mental representation of the introduced linguistic metaphors but drawings are provided as assistance. Accordingly, the visualizations might contribute to an extended retention as the learner is helped in his or her own attempts to dually code and then effectively store vocabulary.³⁹ At the bottom of the worksheet the students were given room to list their findings of additional linguistic examples to do with water or liquidity that according to their point of view were not matchable to any of the visualizations. This section served as a double check as the additional listings gave

³⁶All the drawings were especially made for the exercise. I am very grateful to have such a patient and gifted mother to transcribe all my ideas into the different pencil drawings.

³⁷Needless to say in the drawing illustrating the cash injection it is not water but a liquid medicine.

³⁸First decoding the item in the source domain and then transferring it to the target domain does not contrast Paivio's finding that the target domain needs to set the scene. ([PAIVIO 1986, 237], cf. also section 4.2.2) Although the source domain is here explicitly activated, the target domain is still the dominant one. This all takes place in a business English course, that is, the course framework is business as target domain.

³⁹In order to ensure comparability the control group also works with visualizations.

proof of the students' general comprehension of the exercise: if there were additional items listed that had neither to do with liquid nor with metaphorical transfer a level of basic comprehension was rather questionable and if there were words and phrases listed that could have been matched with one of the drawings either the students did not understand the linguistic example or were not able to decode the drawing.

The control group on the contrary read the following as introduction to their exercise:

Financial transactions are complicated procedures. Visualizing the different connections mostly helps to understand the consequences.

Again the focus is explicitly set on visualizations, which are here recommended to usually help in understanding complex organizations or processes and the students are explicitly asked to work with them. However, the control group's attention is not drawn to the coherent linguistic characteristics of the text but to the economical content. Thus, their instruction read:

Read Steve's email again and underline all the words and phrases saying something about Sue and Steve's problems and about possible solutions and fill in the table below.

Neither is the control group introduced to the underlying metaphor nor are its members asked to pay attention to words implying water. Yet in order to ensure comparability between the groups' cognitive effort put into working with the same vocabulary, the control group students' attention had to be drawn to the same set of words and phrases under a different pretext. All of the linguistic instantiations of the conceptual metaphor *MONEY IS A LIQUID* in the email body were used in the context of the couples' financial problems, therefore the students' focus was set along these lines. In the first rather open exercise students were asked to elicit the vocabulary from the email and group it by "problems & consequences" or "possible solutions" in the provided table. In this way, it was secured that the students at least once wrote down all the words and phrases explicitly targeted by the experimental group. Apart from this main objective, the first step fulfills a similar function as the open list at the bottom of the experimental group's worksheet. Here the students' general understanding of the content and the exercise could be double-checked. If students did not come up with the correct wordings in this exercise, their reading comprehension or understanding of the exercise was to be questioned.

In the next exercise the control group students' were similarly provided with a visualization, yet this time a schematic diagram, as it is likely to be found in economic

discourse, and were asked to “*match their findings with the arrows*”. Due to the fact that the students were not supposed to choose from a given list of words and phrases to label the arrows and boxes but had had to come up with the list themselves in the first exercise, some gaps had already been filled in and individual letters or parts of words had been given to guide the learners and thus reduce the complexity of the exercise. For the same reason, namely the manageability of complexity, it had not been possible to construct a schematic drawing that actually incorporated all linguistic metaphors at length. But since all of the words and phrases explicitly targeted in the experimental group were also asked for in the table to be filled in by the control group, and the control group in addition to matching also had to write them down, the necessary cognitive effort required from the students is here claimed to be comparable across both groups.⁴⁰ Although both groups were (1) concerned with the same text, Steve’s email, and thus (2) were confronted with the same vocabulary, and were (3) even instructed to pay attention to the same set of targeted words and phrase, and (4) worked with them in the same way, namely eliciting and matching to visualizations, there was a big difference in raising awareness. Nevertheless, the formal methods of awareness raising did not differ in the usual form of textual input enhancement. In fact, if there was any form of input enhancement that needed to be pinpointed then this would be input enhancement by means of an increase in the frequency of occurrence of linguistic examples from the targeted conceptual metaphor. Yet this form of input enhancement is irrelevant to discuss here as it applies to both groups and thus cannot be singled out as influencing independent variable.

Whereas the control group was focused on the set of vocabulary by means of content, the experimental group was made aware of the underlying conceptual system and with this focus paid attention to the same vocabulary from a different perspective. Indeed, it was only the quality of attention and focus that varied from group to group, all other variables were controlled for. Thus, it was only the written instruction on the worksheet that had been systematically varied in order to gain insights into the effect of CL-inspired metaphor teaching. Apart from the adapted email and the two different worksheets for the groups no further teaching material was used in Study I. The gap-filling exercise and the writing assignment for homework that were also developed for

⁴⁰In fact, with the control group students having to analyze the diagram and to understand the economical interrelations, the cognitive effort required might even be higher for this group. Yet a slight extension of the cognitive effort called for in the control group is to be judged as unproblematic as later possible positive evaluations of CL-inspired metaphor teaching could then definitely not be attributed to the lack of cognitive effort put into the exercise by the control group students.

this first study served as performance measurement tests and are therefore introduced and explained in section 7.5.

Study II: Change & Development

As reported in section 7.4.1 the vocabulary section of the unit on *Mergers & Acquisition* in *The Business* focused on giving financial information and with this object introduced, that is, included vocabulary of up and down movement taken from different source domains. Indeed, the relevant vocabulary is already targeted in the given exercises, that is, the traditional way of teaching the vocabulary is already given in the book, and does not need to be developed as in the other studies. Nevertheless, presenting the experimental group with a new worksheet for the vocabulary section and having the control group simply stick to the book could have called for critical questions concerning the layout and accordingly the student's possibly differing general attitude towards new material. Thus, similar to Study I, two worksheets with identical layout, the same content, namely the same vocabulary items (cf. Table 7.2), but different instructions were developed. Most importantly this time, the targeted vocabulary was mainly provided by the unit itself⁴¹ and the instructions for the control group remained similar to the exercise in the book. In order to secure the comparable cognitive effort required in both groups, the instructions on the control group's worksheet were extended from mere marking each sentence with an arrow to additionally grouping the words and phrases by speed and direction of movement, in "gradual upward movement", "fast upward movement", "gradual downward movement", "fast downward movement", "high or low point" and "others" as a group for miscellaneous items, such as no change. In sum, the control group students were confronted with a worksheet showing a table with 24 vocabulary items in alphabetical order, which they first had to identify with the correctly pointing arrow (up, down or straight) and then fill them into the table consisting of the six categorizing columns spelled out above.

The experimental group was given a similar worksheet that actually looked very much the same at first glance. The overall layout, the length of instructions, the list of vocabulary items, and the prepared table with the six columns were identical. For both groups the introduction read:

Instead of always repeating simple and rather general vocabulary, such as

⁴¹Yet, since a new worksheet had to be created anyway for the reasons stated above, the opportunity was taken advantage of to integrate more instantiations of linguistic metaphors that were taken from similar exercises or units in other textbooks, e.g. *Market Leader intermediate* Unit 5 Money, Language Review: Describing Trends, p.43

bottom out	dive	recover
climb	drop	shoot up
collapse	go downhill	skyrocket
crash	grow	slide
creep up	level off	soar
cut	mount	stabilize
depression	peak	take off
dip	plunge	trough

Table 7.2: Study II: Vocabulary Items.

“go up” or “go down”, you can make your description of financial facts more precise and interesting by varying your choice of vocabulary.

The following alphabetical list offers you helpful additional vocabulary to present graphs and trends.[...]

1. Have a look at the box and try to figure out what the given verbs and nouns mean.
2. Indicate whether the words describe *upward* or *downward movement*.
3. [...]

The two incidents marked with [...] show the difference between the instructions in both groups. What is left out there was deliberately varied for both groups. Whereas the control group was focused on “direction” as the sorting criteria with the sentence “Some of the words in the box describe upward, whereas other words describe downward movement.” filled in for the first parentheses, the experimental group was explained that “Some of the words in the box are borrowed from other word fields. To ‘mount’, for example, is taken from the word field ‘landscape/ mountaineering’”, and thus made aware of the metaphorical transfer from one to another domain. Furthermore, step (3.) in the instruction varied: whereas the control group was told to “Match as many words as possible with the according direction and speed”, the experimental group was asked to “Match as many words as possible with the according word fields given below”. For this purpose the headlines of the six different columns differed as well and in the experimental group were thus labeled as “landscape/ mountaineering”, “water/ diving”, “health care”, “weapon”, “rocket/ airplane”, “gardening”. In order to avoid any confusion with meta-linguistic vocabulary the word “metaphor” was avoided altogether and substituted by “borrowed from other word fields”.⁴² In this way, the students in

⁴²Theoretically this substitution may raise questions and maybe legitimate criticism but the didactic

the experimental group are forced to process and understand the vocabulary items in the source domain before using them in economic discourse in a following exercise.⁴³

Study III: Competition

The focus of Study III was the impact of explicit source domain activation in class. Thus, the reading section described in section 7.4.1 was preceded by a general introduction to the topic that varied from group to group. With “Competition” as main topic, both groups were as a pre-reading exercise simply asked to brainstorm on the topic with the difference that the experimental group’s brainstorming activity was additionally accompanied by the teacher showing a transparency with different pictures of sport competition [cf. Appendix, Figure 3], whereas the control group had to do without further input. Although both groups concentrated on the same topic, the students of the experimental group were explicitly visually guided in the direction of the source domain by the pictures and, while collecting their brainstorming results on the board, the teacher gave positive feedback even for produced keywords deriving right from the domain of SPORTS or GAME, even if their specific relevance in business discourse was not obvious at first glance [cf. chapter 8].

For the reading exercise that followed the initial brainstorming, the *Financial Times* article on “Nokia and the insistent ringing of competition” [COTTON et al. 2005, 118] served as a basis. According to the linguistic analysis of the original article the conceptual metaphor BUSINESS IS COMPETITION/ IS A GAME is most prominent with 14 linguistic examples, and the number even increases by four if the closely related conceptual metaphor BUSINESS IS WAR is also taken into account. Thus, these two conceptual metaphors and their examples became the focal point for the teaching unit on *Competition*. Nevertheless, in order to make the notion of an underlying conceptual metaphor even more obvious, and increase the chance for the control group to also pick up the transfer, the text was slightly edited. Altogether three paragraphs (a total of 224 words), which gave details on the design of mobile phones, were cut out and replaced by an additional self-written paragraph⁴⁴ (a total of 125 word) focusing on the competition between Nokia and Samsung. Most importantly the new paragraph incorporated nine additional linguistic examples taken from the source domain SPORTS

reduction is necessary here as the students are supposed to get a basic understanding of the phenomenon as such and do not need to be able to clearly distinguish the linguistic terminology.

⁴³The consecutive exercise served as a performance measurement and is thus described in section 7.5.

⁴⁴The additional paragraph was proofread by a native speaker.

or WAR. As can be seen in Figure 7.3, the linguistic analysis of the adapted new text version⁴⁵ produced a yield of 24 linguistic metaphors as examples of the conceptual metaphors BUSINESS IS COMPETITION or BUSINESS IS WAR.

line	linguistic metaphor	source domain
1	enjoyed dominance	WAR
3	having crushed Adidas	WAR
3	original rival	WAR
4	tiny competitor	COMPETITION
5	to knock it sideways	COMPETITION
10	competitor	COMPETITION
15	bombarded	WAR
19	dropped the ball	COMPETITION
21	major player	COMPETITION
22	minefield	WAR
23	kept their heads down	WAR
24	gained ground	WAR
26	worked at a steady pace	COMPETITION
26	captured	WAR
27	set their sights on	WAR
36	market leader	COMPETITION
46	harder to tackle	COMPETITION
50	regain its lead	COMPETITION
51	advantage	COMPETITION
52	rival to counter	COMPETITION
60	exploit an advantage	COMPETITION
62	trailed	COMPETITION
72	unmatched	COMPETITION
74	demographic advantage	COMPETITION

Table 7.3: Linguistic metaphors in the adapted article on Nokia

After reading the text for a first time and working through the reading comprehension exercises, students were asked to read the text again and underline any vocabulary to do with competition they could find. Apart from the visual support in the opening brainstorming sequence both groups were confronted with the same input: the same text and the same instruction. In a next step, they were instructed to extract and group the targeted vocabulary by different categories, which differed from group to group. Whereas the control group was told to sort their elicited vocabulary into positive and negative aspects of competition, the experimental group was asked to sort by source

⁴⁵The new text version is given in the appendix in Figure 3

domain, namely “ball games”, “racing”, and “war”. In order to control for similar conditions, this exercise was done with the whole class by means of a prepared transparency. As can be seen in section 11, Figure 3, the transparency for the experimental group picks up the same illustrations as used for the introductory brainstorming.

The material described in section 7.4.1 and section 7.4.2 constituted the linguistic and visual input used in the Business English sessions selected for the studies. However, these two sections do not discuss all new material that had been developed in the course of the project. All additional material developed for the study that has not been introduced yet, functions as research tool. Gap filling and translation exercises as well as writing assignments are designed to measure the students’ intake and this way elicit the data for further statistical computation. Therefore these additional materials are described and discussed in the following section 7.5.

7.5 Research Tools

The research tools are different from all other material as they are used for both groups entirely identically. Different output results for two statistically comparable groups in identical tests under identical conditions can thus (at least partially) be attributed to the differences in teaching method and material used within the two groups. The degree of possible attribution is apart from the confounding variables mainly a question of reliability and validity of the research tools, namely the test items. A comprehensive description of the individual measurements and their components is therefore the purpose of this section.

7.5.1 Closed performance measurements

Placement Test

As first closed format the placement test is to be mentioned. For practical reasons the placement test was not especially developed for the study but chosen from the pool of placement tests available from the different renowned test centers and publishers. The main criteria for selection were (1) the measurement of a mixture of skills and (2) the validated alignment of the final score with the levels of the CEFR. Thus, the decision was made in favor of an Oxford Placement Test version [ALLAN 2004] that combined a listening part with the usual grammar and vocabulary test. This general placement test was also chosen due to its standardization, which makes it

quick to take, easy to mark and easy to interpret. The total of 200 points was equally split between the listening section (possible score: 100) and the grammar section (possible score: 100). All 200 items were to be answered by marking one of the three answers offered in a multiple-choice format. Indeed, this first research tool was the most controlled and therefore least productive of the measurements used within the whole study, also concerning the possible interpretation of the output but as explained in section 7.2.1, the placement test only served the function of enabling a better description of the sample by determining each student's individual level of language performance according to the CEFR.⁴⁶

Gap filling

The gap-filling test is one of the two research tools that constitute Study I. Whereas the other tool, the writing assignment, is to be categorized as open performance measurement and will therefore be introduced in section 7.5.2, this first tool may be categorized as a structured item-response format (cf. [COHEN 2008, 518]). The gaps as well as the items to fill into the gaps are provided on the worksheet, thus the student's activity is completely pre-structured and controlled: on the one hand students are restricted by the provided pool of choices for the gaps, on the other hand they are restricted by the given gaps, in which they have to fill in their choices. Thus, with the gap filling exercise the students' ability to decode the possible meanings of the provided vocabulary items and fill in the gaps in order to form meaningful sentences is measured.

All 14 sentences were taken from economic discourse and made use of linguistic metaphors within the conceptual metaphor MONEY IS A LIQUID. They were not connected by a common story line but remained individual example sentences. As shown on page 231, the gap filling test consisted of a box with 29 lexical items, from which the students had to choose the correct item for each of the gaps in the succeeding sentences. In order to assist and at the same time challenge the learners, the 29 items were sorted by lexical and grammatical categories, that is, verbs in the infinitive, phrasal verbs, inflected verbs, nouns, and multi-word expressions. Learners might be easily able to decide for the lacking part of speech that needs to be filled in the gap to form a grammatical sentence. Thus, they have all options for the missing category listed together.

In contrast to regular gap filling exercises focusing the vocabulary that has been

⁴⁶A further analysis of the placement test items and the students' scores was not conducted.

targeted in the previous teaching, the 14 sentences here extended the procedure for reasons of research. Half, that is seven of the sentences targeted linguistic metaphors that had already been part of the teaching, namely that had occurred in the email and were then again focused in the matching exercise (cf. section 7.4.2) and the other seven sentences targeted further examples of linguistic metaphors within the conceptual metaphor *MONEY IS A LIQUID* that had not been part of the teaching. With this research set up, the difference between the experimental group's performance, who had been explicitly made aware of the existence of the conceptual framework, and the control group's performance, who had been in touch with only half of the examples⁴⁷ and had not been explicitly made aware of the conceptual framework, was to be measured. In short, as illustrated in Figure 7.4, the gap filling exercise integrated "recall items" as well as "extension items". The "recall items" clearly measured the students' comprehension of the metaphorical meaning of the taught lexical items and the influence of knowledge of the underlying concept on the item retention. Thus, the main question is whether the experimental group due to their conceptual metaphor background knowledge did better in recalling meaning and matching the items than the control group. The "extension items" were incorporated to measure the difference between the two groups as far as the degree is concerned to which the knowledge of conceptual metaphors in specific discourses can assist in decoding the meaning of unknown words or of familiar words in new contexts. In sum, the question whether both groups are equally able to decode the meaning of the different items and fill them into the correct gaps, or what the actual difference in performance is, tackles the first as well as the third research question as introduced in section 6.2, namely (1) CMT's possible contribution to the learner's receptive vocabulary use and (3) the effects on short-term retention of metaphorical language.

Apart from one sentence (cf. Appendix, Figure 1 sentence no. 10) that offers three gaps altogether and another sentence (cf. Appendix, Figure 1 sentence no. 11) that incorporates two gaps, each of the 14 sentences only asks for one item. Thus, altogether 17 gaps are to be filled in by the students. As listed in Figure 7.4 the seven new examples for linguistic metaphors within the set framework of the conceptual metaphor *MONEY IS A LIQUID* that were added to the recall items for the mentioned assessment reasons varied from simple nouns, such as "drop", to fixed expressions, such as "test the waters" and from phrasal verbs, such as "splash out" to nominalized

⁴⁷None of the second half of expressions had been part of the course. It cannot be excluded that the students knew some of the expressions before but the likelihood that this is the case is the same for both groups of students and may thus be neglected in the considerations.

RECALL		EXTENSION	
GER/ENG similarities	ENG only	GER/ENG similarities	ENG only
cash flow	dip (into savings)	laundering	test the waters
outflows	pour (down) the drain	drop (in the ocean)	bottle up
injections		wage freeze	splash out
dried up		drowning	
liquidating			
bridge (gaps)			
(repair) leakages			

Table 7.4: Study I: Gap Filling Grid of Targeted Vocabulary

verbs, such as “drowning”. Hence, the new vocabulary covered as many different lexical categories as the vocabulary that had been taught already and only needed to be recalled.

12 Distractors	
GER/ENG similarities	ENG or GER only
<i>same TD</i>	<i>word by word translation</i>
finance	throw; the window
pay	
<i>same SD</i>	<i>same SD</i>
flow	kick the bucket
level	
sailing (additionally visual distractor)	
inflows (additionally content-distractor)	
<i>general/ unspecific option</i>	<i>another idiom/ multi-word phrase</i>
put	hit the ball
<i>visual</i>	
jumping	

Table 7.5: Study I: Gap Filling Grid of Distractors

In the box of 29 gap fillers 12 of the lexical items are distractors, that is they allow for an exact knowledge measurement as they force the student to explicitly decide between similar answers, of which only one is correct instead of simply filling in the easiest ones first and more or less matching the left over fillers with the remaining gaps by following for instance the principle of excludability. Needless to say, the distractors also cover all lexical categories targeted by the vocabulary required to properly fill the gaps. Hence,

the distractors force students to think about every individual gap as even for the last gaps there is a choice of fillers. Moreover, the quality of distractors was here chosen to be rather different in order to be able to make qualified statements concerning the advantages and disadvantages of the used teaching methods. As can be seen in Table 7.5, fundamentally two types of distractors can be distinguished: (1) distractors that are similar in English and German, that is they can be translated word by word and (2) distractors that exist either in English or in German, that is they cannot be translated word by word but are conceptualized differently in the different languages. In order to challenge the student's exact performance the category of contrastively considered similar distractors comprises eight lexical items that distract the learner in various ways. The first couple of items, which is "finance" and "pay", are simple verbs of the same target domain. At first glance these two possibilities are rather likely to be fillers for the gaps in sentences taken from economic discourse and are therefore believed to be initially considered by the students for several different gaps. The next group of distractors are taken from the same source domain, namely LIQUID. This category comprises the words "flow", "level", and "sailing". Being aware of the conceptual metaphor MONEY IS A LIQUID, the experimental group is very likely to consider these three lexical items for several gaps and is here tested for overgeneralizations, that is do they still pay attention to the actual meaning of the sentence or are the words simply chosen as they fit the right source domain. The lexical items "level" and "flow" are particularly distracting as they belong to the set of targeted vocabulary but do not belong to the pool of correct answers in the gap filling here. Similarly "inflows" belongs to the source domain LIQUID. Yet instead of grouping it with the previously introduced group of distractors it is here singled out as content distractor⁴⁸ as it forces the students to think about whether the list in sentence no. 8 "wages, cost for material and cost for property rentals" (cf. Appendix, Figure 1) are typical "inflows" or "outflows" for a company. Likewise, the lexical item "sailing", here introduced as distractor from the same source domain, may also visually distract the experimental group. A brief look at Figure 1 in the Appendix, and here at the second drawing in the first line, where "to level the streams of inflows and outflows" had been visualized with a ship in a lock, explains the visual distraction: students might remember the ship illustration but not the exact wording. Thus, misled by a new association with the drawing, they

⁴⁸The lexical item "inflows" may of course also be grouped as distractor of the same source domain but the focus on content is here decisive; especially because the control group, which has not explicitly been made aware of the common source domain, is also faced with "inflows" as distractor, and there the content is certainly in the focus.

might choose “sailing” as the correct answer. Similarly, “jumping” tackles the possible negative influence of the visual input (cf. section 4.2.2 and 4.3) as the drawing for “to dip into their savings” could easily have been remembered as “jumping” as well. However, this lexical item distracts on the visual level only. As more general or unspecific verb alternative “put” is the last lexical item in this distractor category.

In the category summarizing distractors that exist either in English or in German “throw” and “window” as (non-existent) English word-by-word translation for the German metaphor *das Geld aus dem Fenster werfen* (*to throw the money out of the window), which would properly translate into the here targeted English metaphor “to pour the money down the drain” was chosen. Not having been taught the ontological concept of money, students in the control group are hypothesized to choose “throw” instead of “pour” and “window” instead of “drain”, which if significantly would certainly prove the advantage of knowing concepts in different cultures. In order to extend the test for overgeneralization in the experimental group, “kick the bucket” was listed in the box of fillers. This common English idiom, which is listed as humorous for “to die” in the Macmillan English Dictionary [RUNDELL 2007, 826], could also be associated with the concept targeted here: buckets are mainly used to carry liquids, therefore “kick the bucket” could easily be decoded as “spill/ waste money” and thus fulfills all distracting criteria. Last on the list is the multi-word-phrase “hit the ball”, which does not belong to the same source domain but structurally mirrors “test the waters” and/or “kick the bucket” and hence functions as distractor for these expressions.

Delayed vocabulary test

The vocabulary assessment, which also belongs to the category of closed performance measurements, was developed as delayed test for the third study. The assessment consists of multi-word expressions taken from the domains of SPORT COMPETITION and WAR that are only contextualized in the framework of ten individual sentences. The students are asked to indicate what these expressions mean in the presented context. In contrast to the gap filling test, the response format is open-ended, i.e. students were not instructed to explain in full sentences or even use English - thus, answers were expected to deviate from mere translations to lengthy explanations of the different meanings of the items in English as well as in German. Apart from the two expressions “set our sights on” (cf. Appendix, Figure 3, sentence no. 3) and “work at a steady pace” (cf. Appendix, Figure 3, sentence no. 5), which had both occurred in the reading comprehension featuring the text on *Nokia and the insistent ringing of competition*,

none of the expressions had been part of the teaching yet. However, the expressions “it is not a level playing field”, “moved the goalposts”, “to keep your eye on the ball”, “in the driving seat”, and “to be neck and neck”(cf. Appendix, Figure 3, sentence no. 6-10) are taken from the original Market Leader material [COTTON et al. 2005, 117], where – as described in section 7.4.1 – competition items are listed context-free. In the developed test they are at least given in a sentence, nevertheless the option of further contextualization was abandoned in order to tackle research question no. 1 (cf. section 6.2), which is concerned with effects on receptive vocabulary use and therefore also with the learners’ ability to properly decode metaphorical language that has not been taught yet. The question is whether students who have been familiarized with the underlying conceptual metaphor BUSINESS IS COMPETITION are better in decoding new vocabulary of the same conceptual metaphor than students who have not been taught accordingly. Furthermore, this measurement addresses the third research question (cf. 6.2), which relates to short- and medium retention. Handed out to the students together with the final questionnaire at the end section of the semester, this vocabulary test picks up vocabulary items that had been part of the text on *Nokia* and thus also tests medium retention of these vocabulary items. In fact, as the vocabulary targeted for recall had been taught in both groups, the question of whether CL-inspired teaching and material assists retention can also be briefly touched upon in the analyses of the data.

7.5.2 Open performance measurements

Writing assignments

Four writing assignments were part of the whole study, that is each of the three parts of the study incorporated one writing task and the whole course finished with a final exam that also included a writing assignment. In spite of the fact that they are all open-ended formats [CELCE-MURCIA 2001, 518] focusing on the measurement of effects of CMT-inspired vocabulary teaching on productive vocabulary use, each of the four assignments was carried out under different conditions and thus is to be evaluated slightly differently.

In addition to the gap filling exercise, Study I assigned a short writing task as homework. After having elicited the words and phrases to do with water (experimental group) or to do with the cash flow problems and possible solutions (control group) from Steve Quick’s email (cf. section 7.4.2) and after having matched these words

and phrases with the provided visualizations in a first exercise, and filled in the gaps with vocabulary of the same source domain in a second exercise, in this third part of Study I students were instructed to put themselves into the position of the management consultant and write a 70-100 word email reply to Steve. As shown in Figure 1 in the Appendix four bullet points gave hints on what to include in the answer. The final sentence, i.e. "Try to use as many newly learned words and phrases as possible.", clearly brought vocabulary into focus. Indeed, in contrast to the controlled exercise, this open writing assignment only provokes the targeted vocabulary usage but does not necessarily call for it. The line-graph may be described and discussed, that is students may write a semantically and grammatically correct reply without using any of the discussed vocabulary items. Therefore, the sentence pointing towards the focus on vocabulary plays an important role. Moreover, this first writing assignment is characterized by two important features: due to the fact that it was a homework, neither the time taken to complete the assignment nor the auxiliary material, such as for example dictionaries, could be controlled for.⁴⁹ In this way, both measurements of Study I elicited different types of data from the students: whereas the gap filling exercise measured exact retention and decoding ability, the homework assignment focused on productive use of the same vocabulary.⁵⁰

In Study II, the students were confronted with a writing assignment immediately after the teaching of the linguistic metaphors and were given 25 minutes of class time to work on the assignment. In contrast to the writing assignment in Study I, here external factors, such as the amount of time allocated and the additional usage of dictionaries, were controlled for. As shown in Figure 2 in the Appendix, the handout consisted of a given situation, that is the fictitious EAC Ltd. holding its monthly meeting, after which the students, in the role of staff members, were supposed to write a 120-140 word report comparing the performance of the company's two product groups. Additionally, a line-graph showing the total sales development of the two product groups and a table providing the staff turnover in both production lines were given as visual information and commented on in the material. Hence, students were given the chance to make use of the taught vocabulary of up- and down-movement. Yet again the writing assignment only prompted the usage of the targeted vocabulary by means of the line graph and the table, as the data given there is a telling example of

⁴⁹As will be discussed in chapter 9 the homework also carried the risk of low return numbers as students were not used to doing homework in the course and additionally the homework was not marked as part of the final grade. Thus the degree of extrinsic motivation was rather low.

⁵⁰Both sets of data together provide a more complete picture of the effects on student's abilities and are therefore interpreted together in chapter 8.

up- and downward movement, but, of course, the target vocabulary is not necessarily required - it can be circumvented by using more general vocabulary, such as “go up/down”, “increase”/ “decrease”.

The third writing assignment, which is part of Study III, is quite similar to the second one (cf. Appendix, Figure 4): students are asked to write a report to their boss explaining the sales numbers of a product that have decreased dramatically, and again they are given additional visual material to analyze and base their findings on. Here, the worksheet provides a line graph showing the development of total sales, a table with the quarterly budget spent on marketing and two pie charts depicting the results of a customer survey on satisfaction. In contrast to Study II, here the two lines given in the graph and the two columns with marketing budgets reflect two competing products of two different companies. In this way, the notion of competition, which is the topic of the unit, is added and is supposed to trigger the competition vocabulary targeted in Study III. The assignment serves as productive vocabulary usage test for Study III (BUSINESS IS COMPETITION/ WAR) as well as a delayed vocabulary test for the up- and downward movement vocabulary targeted in Study II. Furthermore, this third writing assignment was given as mock exam, that is students had to complete it under exam conditions: time as well as use of additional material was controlled for.

The last of the four writing assignments was part of the final exam. In addition to the first two parts of the exam, that consisted of controlled exercises on grammar and vocabulary, the third section of the final exam was a writing assignment similar to two previous assignments (cf. Appendix, Figure 3). The required text type was again an email to be written to a superior by using the material provided as basis. Comparable to the third writing assignment a diagram depicting the monthly turnover, a table showing the staff turnover and two pie charts describing the sales by product group and all of these annotated with prompting comments served as visual support. In contrast to the previous assignments, the scale of the bar chart gave British pounds instead of units. Thus, this final writing assignment is formulated to trigger vocabulary of all three targeted areas: money, graph description and competition. In other words, this last assignment can also be taken as delayed test for all of the individual sessions.

7.5.3 Further research tools

Questionnaire

The questionnaire is covered in a separate section as it did not measure language performance but elicited background information about the individual students and thus allowed for a detailed description of the sample as well as a better evaluation of possible extraneous or confounding variables. Indeed, in order not to measure any language performance but to exclude any misunderstanding as far as the language used in the questionnaire is concerned and thus to increase the return rate, the whole questionnaire was set up and distributed in German. As can be seen in 4, altogether it consisted of six different sections. In the first part the general personal variables, such as age (item 1), gender (item 2), educational background (item 6), that is degrees or practical training, and language learning biography (item 4, 5, and 8-11), namely mother tongue(s) and amount of instruction in English, as well as stays abroad, were asked for. Apart from a few half-open questions, that are age, placement test score, number of semesters and mother-tongue, where students were simply asked to write their answers on given lines, for all other items a range of different choices was given as response format, and students could choose by ticking the boxes in front of their choice. Section 2 to 6, that is item 12 to 53, had a similar response format: these were Likert items, where the respondent decided for her or his degree of agreement with the given attitude statement by ticking a box on a five-point scale ranging from *strongly disagree* to *strongly agree*. IN this way, the individual students' attitudes towards (foreign) language learning in general (section 2), the business English course in particular (section 3), former learning of English at school (section 4), vocabulary learning as such (section 5), and towards their chosen study program (section 6) were researched.⁵¹

Addressing foreign language learning in general, section 2 queried the students' interest in languages and the English language in particular (item 12 and 13) but also elicited data about their learning goals concerning grammatical, lexical, or phonological accuracy (item 16, 18, 25 and 26) on the one hand and fluency (item 15,17, and 19)

⁵¹In formulating the items for section 2 to 6 the following sources served as a basis [RHEINBERG et al. 2001, RHEINBERG 2000, DECI and RYAN 2000, PISA-KONSORTIUM 2000, TRIER 2007]. However, as explained above, the questionnaire is to be taken as mere accompanying measure. Therefore, neither of these very detailed questionnaires were fully integrated. Not even all items of single scales measuring different theoretical constructs, such as "effort and importance" or "pressure and tension", that might be interesting for studies with a different focus or further in-depths research in the field, were adopted.

on the other hand as well as the strategies or working attitudes the students adopted to reach these aims (item 20 to 24). Repetition and continuity as well as precision and the use of additional sources, such as dictionaries, helped to evaluate the students' overall attitude.

The third section dealt with the particular business English course. Apart from the students' interest (item 30) and the students' evaluation of the course relevance for their later profession (item 36), the challenge (item 28, 29, 34, and 35), the students' working attitude (item 31, 32, and 33) and the set focus (item 37)⁵² as well as the effectiveness of the visualizations used (item 38) were inquired about. In fact, this last item addressing the perceived learning assistance of the visualizations used in class (item 38) is most interesting in the course of this study as it asks for an evaluation of the pictorial support in both groups.

The fourth, rather short section was included to shed light on past experiences with instructed language learning in school in order to exclude any personal animosity that might influence the output of the study and which was believed to be mirrored in extreme disagreement with the statements given here. Thus, the students' general attitude towards the school subject English (item 39 and 41) was tackled and an evaluation of their former teachers in terms of their professional competence (item 40 and 42) was asked for.

The following, fifth section dealt with vocabulary learning. There, different strategies to acquire, learn and memorize vocabulary items were given for the students to assess. Each of the six items addressed a different strategy: simple creative mnemonics (item 43), writing vocabulary down (item 44), orally repeating vocabulary aloud (item 45), connecting vocabulary items to given pictures or individually visualizing them (item 46), knowing the etymological origin of vocabulary items (item 47), and knowing the translation of vocabulary items (item 48). In testing for the students' preferences for the different strategies or routines, section 5 also researched the presumed cognitive styles of the individual students. Especially the positioning of individual students on the analytic-holistic-continuum (item 44, 45, 47 and 48) and the verbaliser-imager-continuum (item 44, 45 and 46) was aimed at here. From a pool of various cognitive styles identified by psychological research, Boers singled out these two dimensions as particularly relevant for an individual's metaphor processing. [BOERS 2004, 223] Indeed, students' of holistic rather than analytic and verbal instead of imager cognitive

⁵²Whereas items 31 to 33 provide additional information to sketch a picture of the students' working habits already queried in section 2, item 37 further contributes to the students' learning goals as measured in section 2.

style might, for example, face difficulties when dealing with drawings of target objects in the source domain setting as used in Study I. Furthermore, specific types of elaboration, namely semantic or syntactic, might have a different effect depending on the different cognitive styles, that predisposes the students' ability to deal with elaborations.

The sixth and last part of the questionnaire was titled "Studium allgemein" (*study program in general*) and asked the students to do a general self-assessment of their ability and capability in the context of their studies. All of the statements given were rather general offering the students the possibility to assess their individual performance as they perceive it and to additionally rank it in comparison to their fellow-students' performance. The degree of the challenge perceived and the self-perceived ability to deal with it as well as the perceived competence or talent were asked for here. Thus, all section 6 items (49-53) contribute to the construction of the student's self-concept and their general learning ability in order to be able to make statements whether the sample selected for research and used to form the two research groups incorporated a normal distribution of abilities⁵³ and is comparable.

Most of the sections' output contributes to the "multifaceted theoretical construct" [DÖRNYEI 2003, 1] of motivation in one or the other aspect: the general attitude and interest in the subject as well as the learning goals, that is the achievement motivation, were here integrated as according to Rheinberg they constitute important motivational factors. [RHEINBERG et al. 2001] And since it is widely agreed upon that motivation "has a very important role in determining success or failure in any learning situation" [DÖRNYEI 2001, 2] and is "a key factor in L2 learning" [ELLIS 1994, 509], the questionnaire was also designed to provide insights in the students' overall motivation. However, the questionnaire as conceptualized and made use of here cannot be taken as traditional motivation measurement⁵⁴: neither were all components of motivation taken into account nor did the measurement follow the traditional test design of pretest, intervention, post-test. Therefore, the change in motivation due to

⁵³Of course the normal distribution addressed here refers to the general target group of business English students at universities. Thus, a general high level of cognitive ability and talent is predicted for the group.

⁵⁴Theoretical discussions of motivation in the context of (foreign) language learning ask for a more integrated approach, namely leaving aside the traditional macro-perspective on the theoretical construct "motivation", which is only valuable in order to compare whole learning communities, and taking up a micro-perspective, a more situated approach that also considers the classroom environment with all its course-, teacher-, and group-specific components, that is taking the whole process of language learning and the actual motivation at the different stages into account. [DÖRNYEI 2003, 11-23] However, the focus of the study conducted was also on a product, that is the effect of CL-inspired metaphor teaching on student's proficiency. Thus, a more integrated approach is preferable for future studies but would have been out of place here.

the CL-inspired teaching or traditional teaching cannot be evaluate but the language learning biographies as well as the language teaching in school are explicitly tackled and summarize the individual students' interest in dealing with the English language.

CHAPTER 8

Results of Empirical Study

The data collated through the research tools introduced in section 7.5 was coded and fed into SPSS in order to conduct statistical computation. Yet before the analysis of the individual measurements took place, subsamples were generated that consisted of matched pairings. For each group, the same number of students on each CEFR-level was randomly drawn in order to control for a comparable level of proficiency in the experimental and control groups. In this way, not only the level of language ability but also the number of students was matched between experimental and control groups.

Due to the rather low number of students actually taken into account after the pairing procedure – group sizes not exceeding 30 subjects – non-parametric alternatives for independent samples were chosen to check the quantitative difference in the overall performance of both groups. Yet not only the small sample but also the less stringent requirements set for the sample, namely neglect of any assumption of the underlying population distribution, which is rather problematic with classroom research, were reasons to choose non-parametric techniques. In contrast to the regular parametric t-test, which compares the means of two independent groups, the non-parametric alternative, which is the Mann-Whitney U Test, compares the medians. [PALLANT 2007, 210-211] “It converts the scores on the continuous variable [which in this case is the number of correct fillers, the number of used metaphors, or the number of correctly decoded vocabulary] to ranks, across the two groups.” [PALLANT 2007, 220]. The necessary assumptions for non-parametric tests, which is (1) a random sample, and (2) an independent observation, namely the fact that one subject cannot appear in more than one category and cannot influence the data of another subject, can be made. [PALLANT 2007, 211] As discussed in section 7.1, although this last assumption may be questionable due to the classroom setting that might challenge the issue of independent data, it was here taken for granted in order to allow for statistical computation.

Furthermore, it is important to state from the outset that the experimental group outperformed the control group in all tests, yet as statistical computation has shown, not always at levels reaching statistical significance.

8.1 Placement Test

As stated in section 7.3.1, the placement test mainly served as an information resource to describe the sample. However, the placement test results play the leading role in generating the subsamples relevant for statistical computation. According to their placement test scores, students were grouped into the different CEFR-levels. Within these categories of proficiency they were randomly chosen depending on whether data of a level counterpart for the other group was available. If, for example, in one of the groups data for only two students at CEFR-level A2 were available for the specific performance measurement, two corresponding data sets were randomly drawn from the pool of data sets of the same CEFR-level in the other group and all remaining data sets of the same CEFR-level were deleted for the statistical analysis of this test. In this way a more balanced subsample for the individual measurements is offered.

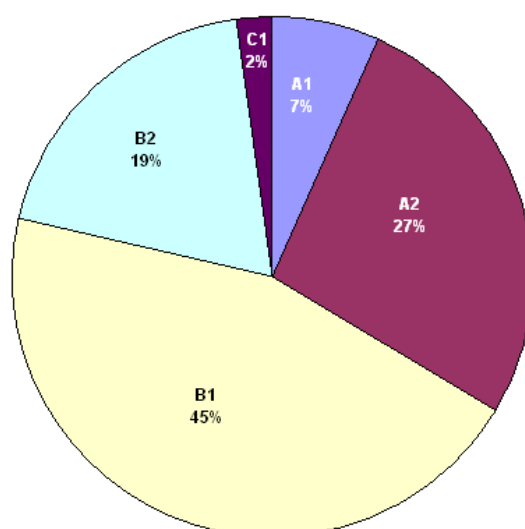


Figure 8.1: CEFR-Levels of Both Groups

As shown in Figure 8.1, a total of 88 students took part in the initial placement test¹ and apart from the CEFR-level C2, which certifies near-native competence, all other CEFR-levels were represented. That is, the distribution of students across the different

¹5 students are missing as they entered the course later, did not sit a placement test and were thus could not be reliably ranked into a CEFR-level of proficiency.

levels was widespread. As predicted, the largest group of students (roughly 45 %) were on CEFR-level B1. Although 90,5% of the subjects possessed a German school leaving degree that presupposes at least six years of English and a good CEFR-level B2, (cf. section 7.3.1) hardly 22% have actually reached CEFR-level B2, which is the level allotted to the “Abitur”, the German university entrance diploma (comparable to the British ‘A-levels’). Even more striking for this framework is the fact that one third of the subjects are still on CEFR-level A, which is categorized as “Basic User”. [OF EUROPE 2001] Although varying levels of proficiency are usually considered problematic for teaching, in this case, it is conducive to address the fourth research question focusing on the effect of CL-inspired metaphor teaching on different CEFR-levels. Thus, apart from serving as a basis to pair the group members in order to receive a more balanced subsample, the placement test also provides the values for the independent variable in all effect correlations.

8.2 Study I

Centering on money and the conceptual metaphor MONEY IS A LIQUID, Study I provides data from two different research measurements (cf. section 7.5.1 and 7.5.2): the controlled gap filling exercises conducted in class and the open writing assignment given as homework.

8.2.1 Gap filling

Overall performance

The matched sample relevant for statistical computation with data elicited by the gap filling exercise comprised 50 subjects: 25 students in the experimental and 25 in the control group. First of all, the overall performance was checked by a Mann-Whitney U test which revealed a highly significant difference in overall performance of the participants of the experimental group ($Md = 13$, $n = 25$) and the control group ($Md = 7$, $n = 25$), $U = 129.5$, $z = -3.569$, $p = .000$, $r = .50$. That is, if all the 17 gaps are taken into account, the experimental group not only outperforms the control group, but the difference is highly statistically significantly, showing a large effect size. [COHEN 1988]

In order to canalize the output of the gap filling exercise and draw first conclusions in the framework of the set research hypotheses, in a second step two scales were

developed that grouped the 17 items asked for in the gap filling.² Two complementary scales were developed (as described in section 7.5.1): the first summarized all “recall items” while the second clustered all “extension items”. The reliability of the two scales was checked over both groups (N=50).

Reliability of 'recall-scale'

With a Cronbach alpha coefficient of .830 the internal consistency reliability of the recall-scale (10 items incorporating (1) dip, (4) cash flow, (6) dried up, (8) outflows, (10a) injections, (10b) bridge, (10c) leakage, (11a) pour, (11b) drain, (14) liquidating) can be suggested. However, the Item Total-Statistics for this first recall scale indicated a possible higher Cronbach's alpha if three of the items, namely 'dip', 'cash flow' and 'outflows' were deleted. Thus, these three items were examined in detail. A comprehensive survey of all answers given for gap (8), which is 'outflows', showed that all of the students who had actually filled in gap (8) put in the correct answer. Hence, the item 'outflows' lacks differentiating qualities and may thus be deleted from the scale without questioning or changing the theoretical basis. In fact, in the course of the unit the financial categories 'inflows and outflows' had been dealt with in detail. Therefore, the metaphorical mapping within the conceptual metaphor MONEY IS A LIQUID, if at all, served as an additional link for the mental lexicon. Indeed, the control group, who had also dealt with the content-focused distinction of company 'inflows and outflows', remembered the word and was able to use it as properly as the experimental group. Similarly, the lemma 'cash flow', as title of the whole unit and thus main focus of attention, was equally well stored in both groups and hence lost his differentiating function. Gap (1) requiring the verb 'dip' is a very different phenomenon with quite similar consequences. 'Dip' was neither part of the unit vocabulary nor was it dealt with content-wise. Yet after a student's open enquiry for the meaning of 'dip' in the control group, the word was explained in class and written on the blackboard. This added a new set of possibilities to store the word in the mental lexicon. Accordingly, in this case, CL-inspired metaphor teaching cannot solely account for the efficient recall of the item and even more importantly, does not compete with traditional metaphor teaching but with the additional attention paid to the lemma by putting it on the blackboard. In sum, the deletion of all three items as suggested by the Item-Total Statistics can be corroborated by didactic and practical reasons and was adopted accordingly. The

²An analysis of students' performance on the individual items does not contribute to the research question as output would be too fragmented.

Cronbach alpha coefficient for the new revised recall-scale, incorporating only seven items, that is (6) dried up, (10a) injections, (10b) bridge, (10c) leakage, (11a) pour, (11b) drain, (14) liquidating, is .865, suggesting even greater internal consistency reliability.

Reliability of 'extension-scale'

Unfortunately, the extension-scale regularly consisted of seven items only, that were (2) test the waters, (3) laundering, (5) splash out, (7) drop, (9) bottle, (12) wage freeze, (13) drowning. Moreover, 'splash out' had to be deleted from the start, as a survey of the individual answers showed that none of the participants in either group were able to decode the lemma. In contrast to "outflows" in the recall-scale, which was too easy for the participants, this item was too opaque to trigger successful decoding strategies and thus also lacks differentiating qualities.³ For the extension-scale incorporating the six remaining items a Cronbach's alpha coefficient of .665 can be reported. According to statistical conventions, "values above .7 are considered acceptable; however, values above .8 are preferable" [PALLANT 2007, 98]; in other words the .665 is lower than generally acceptable. However, empirical research has shown that it is rather hard to report decent Cronbach alpha values for small scales (less than ten items) [PALLANT 2007, 98] and that in these cases the mean value of the inter-item correlation is to be reported. This mean value was .254, demonstrating weak correlation between the individual items. Furthermore, the Corrected Item-Total Correlation shown in the Item-Total Statistics reported a value less than .3 for gap (13) 'drowning' and thus indicated that this item is likely to score differently than the scale as a whole. Likewise, the same item was singled out as the one to delete in order to gain an increase in the Cronbach's alpha value. Yet since the Cronbach's alpha value possible to reach as a result of the elimination of 'drowning' (Cronbach's alpha = .667)⁴ was not impressive and did not secure reliability of the internal scale consistency in the first place, and since there was no content-dependent theoretical or practical explanation for the values calculated at

³An analysis of the answers given instead of "splash out" showed that the experimental group chose examples presumably fitting the taught conceptual metaphor MONEY IS LIQUID, namely "laundering" and "kick the bucket", whereas the control group decided for more general alternatives such as "put" and "pay". Thus, although this item did not work as far as the predicted decoding of extended vocabulary from the same source domain is concerned, the alternative choices from the pool of distractors shows that explicit teaching of the conceptual framework runs the risk of initiating overgeneralisations, which will be discussed in chapter 9.

⁴Interestingly, after eliminating 'drowning' the column in the *Item Total Statistics* headed 'Alpha if Item Deleted' did not single out any other item for deletion in order to receive better Cronbach's alpha values. Hence, the remaining items of the scale seem to measure the same after all.

hand, 'drowning' remained part of the scale and the implication for further material development and research into CL-inspired metaphor teaching and learning is discussed in section 9.

Performance per scale

After the reliability of the two scales had been checked, the performance of the two groups was again contrasted by means of the Mann-Whitney U test. This time, the performance per scale was compared in order to draw conclusions on the different functions of CL-inspired metaphor teaching. As explained in section 7.5.1, the "recall-scale" here measured the students' ability to remember the taught items and the "extension-scale" quantified the students' ability to construe meaning when informed about the underlying conceptual metaphor(s). Similar to the overall performance check, for both scales the experimental group outperformed the control group and a significant difference in performance between the two groups can be found. Whereas the effect size for the revised "recall-scale" slightly decreased from $r = .49$ (large effect [COHEN 1988]) to $r = .45$ (medium effect [COHEN 1988]), as can be seen in Figure 8.1, the effect size for the revised "extension-scale" remained the same with $r = .36$. In spite of the slight decrease in effect, the level of significance remains below .005 for the ability to recall items and below .05 for the ability to decode new vocabulary of the same conceptual metaphor.

Scale	RECALL		EXTENSION	
	<i>original</i>	<i>revised</i>	<i>original</i>	<i>revised</i>
Mann-Whitney-U	136.000	153.00	184.000	184.00
Z	-3.497	-3.160	-2.538	-2.538
Significance	.000	.002	.011	.011
Effect Size	0.49	0.45	0.36	0.36

Table 8.1: Mann-Whitney U Test per Scale

8.2.2 Writing assignment I

Given as a homework assignment that did not count towards the final grade, this first writing assignment lacked the ability to initiate extrinsic motivation and thus, did not produce the intended return. Only roughly one third of all the students, namely 19 out of 61, handed in the homework. After pairing the students of the two groups by level of

proficiency, the total number of students relevant for statistical computation dwindled to ten. Nevertheless, the individual texts were coded for the targeted metaphorical usage, that is, every instantiation of the conceptual metaphor MONEY IS A LIQUID counted towards the final “token score” of which a “type score” was generated.⁵ The distinction of “type score” and “token score” for linguistic metaphors used was chosen to accurately display the difference between students simply making use, for example, of the lemma “inflow” over an over again and students using a variety of metaphorical expressions and maybe even creatively inventing new examples.

	TYPE	TOKEN
Mann-Whitney-<i>U</i>	10.000	10.000
Z	-.542	-.539
Significance	.588	.590
Effect Size	.17	.17

Table 8.2: Study I: Mann-Whitney *U* Test for Writing Assignment I

Although the experimental group again outperformed the control group and a Mann-Whitney *U* test of the token count revealed a difference in the performance of the experimental group ($Md = 2.00$, $n = 5$) and the control group ($Md = 1.00$, $n = 5$), $U = 10$, $z = -.539$, $p = .590$, the result is not statistically significant (cf. Table 8.2). However, a small effect of $r = .17$ can be calculated. Similarly the statistical computation for the type count revealed a non-significant probability of .588 with the same effect size of $r = .17$. The analysis of an additional, revised count that neglected the most frequently used “flow” derivatives, that is “cash flow”, “inflows” and “outflows”, resulted in no effect.⁶

Furthermore, the relationship between the number of metaphor types used and the levels of language proficiency according to the CEF was investigated using the Spearman-Rho rank order correlation. This non-parametric correlation measurement showed a medium, negative correlation between the two variables, $r = -.458$, $n = 10^7$, $p = .183$ with high numbers of metaphor types associated with low levels of lan-

⁵The “type score” counts instantiations of the same metaphor only once, that is neither repetitions nor derivatives count towards the final score. One exception is the case of “cash flow”, “inflows”, and “outflows”: although all three examples may be considered as derivatives of “flow”, they were separately aimed for in the teaching session and therefore also count individually for the coding procedure.

⁶Interestingly, the revised counts for type and token show the same numbers, that is only “flow” and its derivatives were used repeatedly.

⁷The matched sample here existed of six students on CEFR-level A2, two students on CEFR-level B1, and another two students on CEFR-level B2

guage proficiency. Apparently, less proficient students may also profit from CL-inspired metaphor teaching, maybe even more than more advanced students. Although the output is not statistically significant, there is a small effect, which is more closely examined in chapter 9.

8.3 Study II

8.3.1 Writing assignment II

The second writing assignment, focusing on the metaphorical vocabulary used to describe up- and downward movement, draws a different picture as it was not given as homework but completed in class. Thus, a 100% return was guaranteed and the total number of assignments handed in for coding increased to 68. Even after the procedure of pairing subjects by CEFR-level in order to generate groups comparable in language proficiency, the total number of data sets ready for statistical computation was 60, that is 30 student texts from the experimental group and 30 texts from the control group. Again all student texts were coded for targeted metaphor usage⁸ and “token” as well as “type scores” were derived.

	TYPE		TOKEN	
	min	max	min	max
EG	0	11	0	14
mean	4.53		5.6	
CG	0	13	0	16
mean	4.07		2.13	

Table 8.3: Study 2: Frequency Table for Writing Assignment

Overall the experimental group again outperformed the control group, but as the frequency histograms in Figure 8.2 nicely show, there is one text in the control group that incorporates a higher token as well as type score for metaphor usage than the experimental group text with the highest score, that is 16 linguistic examples in the control group text versus only 13 in the experimental group text with the highest score for token and even 13 versus 11 linguistic examples when considering the type score. However, a closer look at the histogram affirms the prediction that the control group

⁸For this second writing assignment not only the linguistic examples instantiating the conceptual metaphors taught in Study II but also the examples used from Study I, that is “liquid/ water - vocabulary” were coded as metaphorical usage.

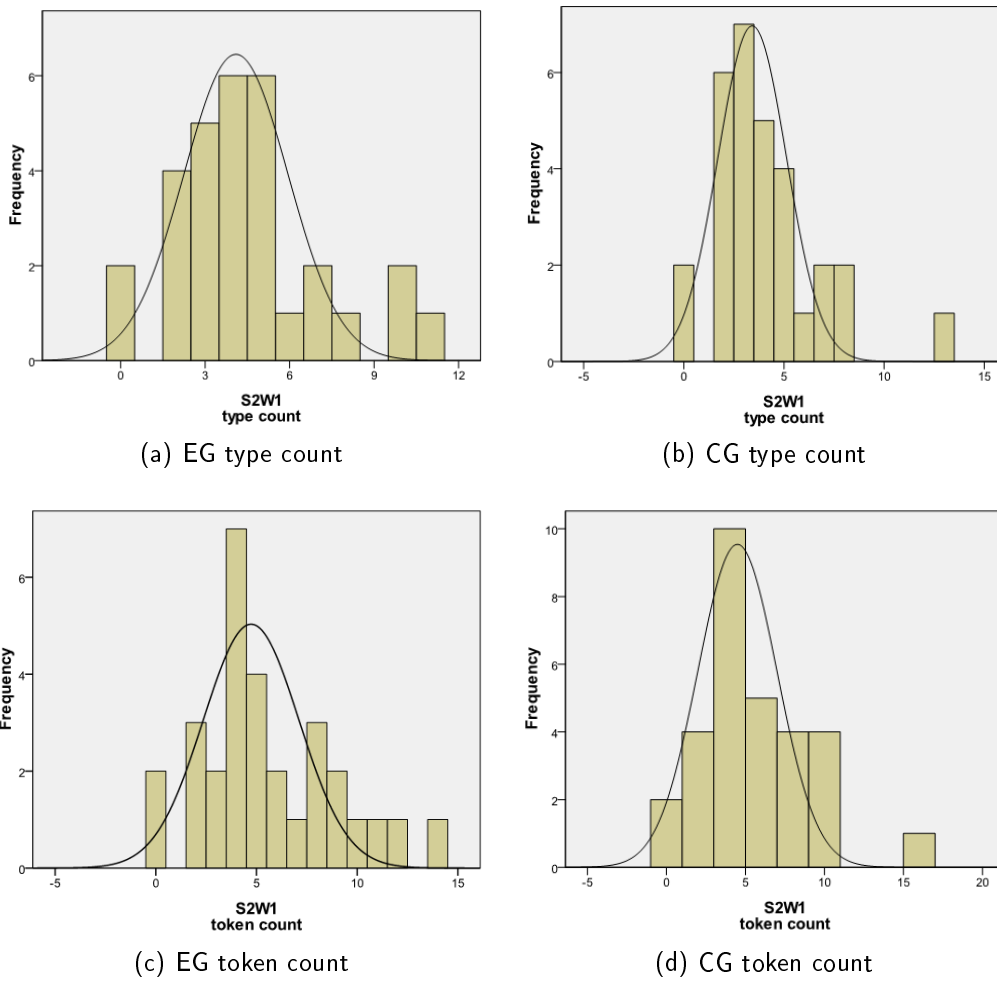


Figure 8.2: Study 2: Frequency Histograms for Writing Assignment

text with 16 metaphor types is to be categorized as an outlier. The texts following on the next ranks only produced a yield of 8 metaphor types, which is 10 tokens of linguistic metaphors. Accordingly, the means of type and token scores in the experimental group exceed the means of the comparable control group scores. Additionally, it needs to be stated here that the outlier text belongs to ID 29, which is the only control group student on CEFR-level C1. Nevertheless, neither the Mann Whitney *U* Test measuring the difference in performance between the two groups for token nor for type usage was statistically significant. However, for the type count (EG: Md = 4.00, n = 30 and CG: Md 3.50, n = 30; $U = 392.000$, $z = -.868$, $p = .385$) at least a small effect of $r = .112$ was calculated.

Furthermore, the relationship between the number of metaphor types and the levels of language proficiency according to the CEF was investigated for both groups using the Spearman-Rho rank order correlation. There was a weak, positive correlation between the two variables, $r = .218$, $n = 60$, $p = .095$ with high numbers of metaphor types associated with high levels of language proficiency. Yet the small effect did not show statistical significance. Surprisingly, a repetition of the Spearman-Rho rank order correlation for the individual research groups produced different results. Whereas in the experimental group the number of metaphor types used and the level of language proficiency did not show any correlation, in the control group there was a medium, positive correlation between the two variables of $r = .444$ with high numbers of metaphor types associated with high levels of language proficiency. In addition to the medium effect size, a significance level of .05-level ($p = .014$) was reached. In other words, in the control group merely students at an advanced level of English were able to actually pick up the vocabulary traditionally taught, whereas in the experimental group all students seem to have profited from the CL-inspired teaching to a similar degree, which will be discussed further in chapter 9.

8.4 Study III

The last part of the teaching, focusing on competition vocabulary, elicited two different data sets. The first consisted of type and token scores deriving from a third writing assignment similar to the ones dealt with already. The second data set was based on a delayed vocabulary test.

8.4.1 Writing assignment III

As explained in section 7.5.2, this third writing assignment was given as mock exam to prepare for the upcoming final exam and thus, was completed under time pressure but without the consequences following the regular exam. Therefore, this third writing assignment is believed to give the best picture of reality: students try to do a good job but are not working under the sometimes negative pressure of a final exam.⁹ After pairing the subjects by level of proficiency the final number of texts taken into account for statistical computation was 50, that is, 25 per group. This time, linguistic examples of the conceptual metaphors taught in all three studies were considered as target vocabulary and thus counted towards the type and token score. Again the experimental group outperformed the control group on all measures. Frequency counts show that the highest number of different metaphors used in one text is 12 in an experimental group assignment (ID 4) and even more importantly by a participant on CEFR-level A2. This level is labeled “Basic User: Waystage” [OF EUROPE 2001] and describes language learners as being able to “understand sentences and frequently used expressions related to areas of most immediate relevance [. . .] communicate in simple and routine tasks [. . .][,and] describe in simple terms aspects of his/ her background, immediate environment and matters in areas of immediate need.” [OF EUROPE 2001, level description] A graph description depicting the sales of two competing products has certainly not yet been the area of immediate relevance, environment, and need for these students but still even at CEFR-level A2, a student was able to pick up the vocabulary and successfully use it in context. In contrast to the other writing assignments, a Mann-Whitney *U* Test for the type score revealed a significant difference in the performance of experimental group ($Md = 6.00$, $n = 25$) and control group ($Md = 4.00$, $n = 25$), with $U = 213.00$, $z = -1.943$, $p = .052$, and a small to medium effect size of $.27$.¹⁰

Moreover, again the relationship of the frequency of different metaphors used (type score) and the levels of language proficiency according to the CEF was investigated for both groups using the Spearman-Rho rank order correlation. Interestingly, the statistical values computed with the experimental group data ($n = 25$) showed no

⁹As the students were told in advance that a mock exam would take place in the last session of the course, the students who did not appreciate this form of exam training or did not take it seriously most likely did not attend the revision session. This could also function as a possible explanation for the fact that the numbers of students attending this last session decreased. Compared to the 68 students who actually handed in the second in-class writing assignment, only 56 took part in the mock exam.

¹⁰The same measurement with the token score provided similar data: a significant difference and a small to medium effect.

correlation between these two variables ($p = .244$) and only a small effect size ($r = .227$). However, the same statistical computation with the control group data revealed a medium correlation of $r = .426$ between the two variables, with high numbers of metaphor types associated with high levels of proficiency, that is significant at .05 level ($p = 0.34$). Thus, the two variables share about 18% of their variance. Indeed, whereas in the experimental group the output is not explainable by the level of proficiency, in the control group it is: mostly students who were at higher levels already were able to profit from traditional metaphor teaching.

8.4.2 Delayed vocabulary test

The second measurement, referred to as the “delayed vocabulary test”, elicited different data sets. Here the underlined expressions (cf. Appendix p.242) had to be explained in the context of the ten sentences. The students’ answers were sorted into three different categories, namely (2) correct answer, (0) wrong answer, and (1) on the right track but not fully explained, and then coded respectively. Of the 59 returned worksheets, 52 constituted the matched sample¹¹ for statistical computation. A Mann-Whitney U test with the total scores revealed a significant difference in overall performance of the participants of the experimental group ($Md = 10.00$, $n = 26$) and the control group ($Md = 8.50$, $n = 26$)¹², $U = 229.000$, $z = -2.004$, $p = .045$, with a small effect of $r = -.28$. Indeed, overall the experimental group outperformed the control group again, yet not for every item. Nevertheless, as far as the comparison of medians is concerned the control group did not manage to outperform the experimental group on any item, but was able to draw level for some items. A closer look at the individual items provided some interesting insights.

As can be seen in Figure 8.4, for the items 1, 2, 4, 6, and 10 the median was the same for both groups. Yet apart from item 10, where the frequency of the full two points is the same with 16 in each group, the other four items still feature a higher frequency of two points in the experimental group. Indeed, only for items 3, 7, 8, and 9 a higher median was calculated for the experimental group than for the control group and with these items the frequency for full points for each of the items is also higher in the experimental group. Strikingly, for item 5 the same median was calculated for

¹¹The students had again been matched by CEFR-levels, that is, the same number of students at a certain level in each of the two groups.

¹²Calculating and working with a median with nominal data is not possible, but these categories (0, 1, and 2 points) are not to be taken as nominal but ideally as interval or at least ordinal values as they depict point scores.

Item	Experimental Group				Control Group			
	Md	0	1	2	Md	0	1	2
<i>... run with the ball ...</i>	1.00	7	9	10	1.00	12	7	6
<i>... put a brake on ...</i>	1.00	9	5	12	1.00	12	2	12
<i>... set our sights on ...</i>	2.00	3	6	17	1.00	10	4	12
<i>... get their marching orders ...</i>	.00	14	4	8	.00	18	3	5
<i>... work at a steady pace ...</i>	.50	13	6	7	.50	13	5	8
<i>... not a level playing field ...</i>	.00	18	7	1	.00	22	4	0
<i>... move the goalposts ...</i>	1.00	9	7	10	.00	17	6	3
<i>... keep your eye on the ball ...</i>	1.50	6	7	13	1.00	6	11	9
<i>... in the driving seat ...</i>	2.00	6	5	15	.00	14	3	9
<i>... be neck and neck ...</i>	2.00	8	2	16	2.00	5	5	16
Total Score	10.00				8.50			

Table 8.4: Study III: Frequency per Item for Delayed Vocabulary Test

the output of both groups but the control group surpasses the experimental group in the number of students reaching full two point scores by one student. Yet item five is one of the two expressions that had already been part of the reading exercises, which both groups had completed before. That is, control group students had the chance to familiarize themselves with the expression.

The additional correlation measurements drew quite a new picture compared to the correlation statistics for the other assignments. Here the relationship between the number of correctly decoded metaphors and the levels of language proficiency according to the CEF for the whole group was again investigated using the Spearman-Rho rank order correlation, but there was a weak, positive correlation between the two variables, $r = .279$, $n = 52$, $p = .045$ with high numbers of correctly decoded metaphors associated with higher levels of proficiency. In contrast, the correlations for the individual groups did not show any significant difference and the shared variance for the two variables did not exceed 8,5% for any of the correlations. Furthermore, a glimpse at the statistics of probably the most opaque linguistic example, namely “(6) not a level playing field”¹³, shows that in contrast to the control group where no student was able to fully decode the meaning of the expression, in the group of students familiarized with the conceptual background one student did successfully explain the linguistic example and seven more

¹³Opaqueness is not assigned here due to the wording alone but also due to possible assistance to be gained from the context of the sentence given here. The only hint towards a possible decoding of the metaphor may be found in the adjective “small”, which is used to describe the company, and which in connection with the targeted “level” may imply a notion of inferiority or at least difference.

came close with their definitions.

8.5 Final Exam

The last written assignment that was coded and statistically evaluated in terms of metaphor usage was the last section of the final written exam. In its function as a performance assessment, this writing assignment displayed a few peculiarities that need to be pointed out. First, it is the only writing assignment taken under real exam conditions (with both time and psychological pressure) and after having already worked through the first three sections of the exam, reading, vocabulary, and grammar. Second, it is the only written assignment handed in by all students (including retakes) and thus, 91 student texts were available for coding, which is the largest subsample. Third, vocabulary targeted in all three studies could be used as the graph (Study II vocabulary) compared the turnover (Study I vocabulary) of four competing branches (Study III vocabulary). Therefore, the texts were all coded not only for type and token, but also for type and token for the vocabulary used from the individual studies. Moreover, a separate type count for creative expansions of the conceptual metaphors was set up. In addition to the CMT-derived type and token scores, two general evaluations of the texts were available for this last writing assignment which were highly valuable for further interpretation: the point score for the texts given by the teacher¹⁴, who had taken language and content into account, and the final exam grade constituting a key reference for the students overall performance in reading, vocabulary and grammar. Yet before any statistical computation took place again a balanced subsample was derived by alternately drawing subject texts from the two groups for the different CEFR-levels. Then, a matched sample of 70 student texts, that is 35 from the experimental and 35 from the control group, was compiled.

A frequency analysis indicated that the highest number of metaphor types used in a single text is 17 (ID 67), which is depicted as an outlier by SPSS. The next lower type count is 16 (ID 3) and then 15 examples of linguistic metaphor usage (ID 43), nevertheless all three cases were categorized as outliers. Due to the fact that the next lower number of examples is still two-digit, namely 12, and that these are altogether three example texts from the experimental group that are very close in

¹⁴The coding for metaphorical language usage only took place after the teacher had graded the exams and published the results, in order not to influence the grading procedure. The exam texts had been copied before the regular marking procedure took place and names were exchanged for ID numbers in order to ensure data privacy.

	N	Minimum	Maximum	Mean
Total type count	70	0	17	4.70
Metaphors S1	70	0	4	.19
Metaphors S2	70	0	10	4.00
Metaphors S3	70	0	6	.49
Creative metaphors	70	0	1	.06

Table 8.5: Frequencies for metaphors used in the exam

metaphor frequency, they need to be pointed out here. In contrast, the maximum number of metaphor types used in the control group is eight (ID 14, 17, 29) and thus does not reach two-digits. However, the usual Mann-Whitney U Test indeed revealed a difference in the performance (total type score) of the experimental group ($Md = 5.00$, $n = 35$) and the control group ($Md = 3.00$, $n = 35$), $U = 462$, $z = -1.784$, yet this was not significant ($p = .074$) and only depicted a small effect ($r = .21$).

As shown in Figure 8.5 as far as the different sets of vocabulary targeted in the three parts of the whole study are concerned, Study II heads the ranking with a maximum of 10 instances of metaphor types, followed by a maximum of 6 types counted as Study III vocabulary and finalized by 4 items from Study I. Of course, describing a graph, students simply have a certain need for vocabulary to describe up- and downward movement. However, Study I, that is linguistic examples of the conceptual metaphor MONEY IS A LIQUID, as well as Study III vocabulary, that is from the framework BUSINESS IS COMPETITION/ IS WAR was deliberately chosen to describe the company's situation. Thus, the taught vocabulary was still at hand to be productively used in context. One student even creatively made use of his conceptual knowledge by writing that one of the branches "is stabilizing its *midfield* [own emphasis]" (ID 2, l. 7), and thus extending the conceptual metaphor BUSINESS COMPETITION IS SPORTS COMPETITION. As an existing English word, only taken from the domain of football or hockey and transferred to business, the English teacher, who is a British native, took it for granted and did not comment on it.

In a second step the two general evaluations provided by the teacher were used for statistical computation: a Mann-Whitney U Test with the absolute score assigned to the texts by the teacher was run and revealed a difference in the performance of the experimental group ($Md = 17.00$) and the control group ($Md = 16.00$) but this time neither a statistical significance ($p = .433$) nor an effect ($r = .094$) were to be reported. Thus, although the experimental group outperformed the control group in type count as well as in absolute score the calculated difference is not statistically significant and

the small effect measured for the type count disappeared in the absolute text score testing.

Nevertheless, a Spearman-Rho rank order correlation testing the relationship between the number of metaphor types and the score for section 3 showed a strong, positive correlation between the two variables ($r = .509$, $n = 70$), with high numbers of metaphor types associated with high scores in the writing assignment. In fact, the difference was highly significant ($p = .000$) and states that the two variables share 25.9% of the variance.

Another Spearman-Rho rank order correlation of the same variables but this time separated by research groups drew an even more impressive picture: in the experimental group ($n = 35$) the degree of correlation increased to $r = .611$ and the shared variance to 37.3% and in the control group ($n = 35$) the correlation decreased to a medium strength of $r = .393$ and the shared variance value dropped to 15.4%.

The last Mann-Whitney U Test carried out addressed the second general evaluation available, which is the overall grade given by the teacher, and which here served as an additional measurement to analyze the reliability of the balanced subsample. It revealed only a slight difference in the performance of the experimental group ($Md = 3,3$, $n = 35$) and the control group ($Md = 3,3$, $n = 35$), $U = 593.500$, $z = -228$, $p = .820$, $r = .027$ that was neither significant nor showed any effect and thus was to be neglected. However, interestingly, for the first time of the whole study the control group here outperformed the experimental group by some degree (EG Mean Rank: 34,96; CG Mean Rank: 36,04). In other words, overall the groups seem to be at the same level, with the control group being slightly better than the experimental group.¹⁵ In order to verify the placement test results, another rank correlation test was run investigating the relationship between the supposed CEFR level as determined by the placement test and the overall exam grade. Interestingly, there was a strong, negative correlation between the two variables, $r = -.522$, $n = 70$ with higher CEFR-levels associated with small numbers, that is better grades¹⁶. This highly significant ($p = .000$) relationship provides further evidence for the reliability of the placement test. The obligatory non-parametric rank order correlation between the metaphorical output, that is the overall type score, and the CEFR-level was neither significant nor did it show any effect. Likewise, there is nothing essential to be reported about the

¹⁵However, the control group exceeding the experimental group in general performance only strengthens the statistical results of better performance in the tasks used as measurement for the impact of the intervention and therefore are to be positively evaluated.

¹⁶In Germany the grading system is reversed, that is 1 is the best grade, whereas 6 is the lowest.

score – CEFR-level correlation for the individual groups.

With the type counts for metaphorical language usage as targeted in the individual studies available, the proportion of the different sets of vocabulary was calculated by different correlation measurements. In this way the question of which vocabulary set was most remembered, that is which intervention was most successful, was to be approached. Yet this connection cannot be established that easily. First, as previously mentioned, the data was elicited by an open performance measurement, that is certain vocabulary was not explicitly asked for but it was the student's choice what lexis to use. Therefore, it cannot be stated that the student did not have the other vocabulary at his or her disposal but maybe simply chose to use different vocabulary items. Apart from the student as the agent to choose vocabulary, his or her choice was also determined by the task and the provided material. In brief, the exercise asking for the description of a graph requires vocabulary for up- and downward movement, whereas the competition and especially the money vocabulary as targeted in the interventions of Study I and II may be circumvented. Nevertheless, the results should be reported here as they may serve as a basis for further research. With an impressive shared variance of 84,27% the large, positive correlation between the general type score and the type score for metaphorical expressions targeted in Study II, namely up- and downward movement, led the hierarchy ($r = .918$, $n = 70$, $p = .000$). Next to follow was the competition vocabulary as targeted in Study III with a shared variance of 27.35% and last the financial vocabulary as targeted in Study I with a shared variance of 5.42%.

8.6 Questionnaire

The questionnaire, as the last data set elicited in the study, is mainly to be considered as background information on the students' personal variables and was used to describe their biographical background as well as their supposed level of proficiency in more detail (cf. section 7.3.1). However, as explained in section 7.5, the questionnaire also elicited information on the students' general attitude towards (foreign) language learning in general, their past experiences with English as a school subject and present experiences with it as a subject at university. Furthermore, the answers provide insights into the students' preferred strategies in acquiring and learning vocabulary and finally, on the students' self-concept.¹⁷ Altogether 63 students returned a filled-in question-

¹⁷As the questionnaire was mainly used as accompanying measurement to elicit additional personal student data to describe the sample, it will not be discussed in detail here. However, in addition to the results focused on in the following, further results are provided in section 4.

naire¹⁸ and thus their answers became part of statistical computation. Due to the fact that the questionnaire was not used to compare the performance of experimental and control group students, the sample did not need to undergo any matching procedure by level of proficiency to generate a balanced subsample as it was the case with all other measurements.

The focus of attention for the main study is the output of chapter 4, which is vocabulary learning. Different techniques to memorize and remember the targeted linguistic metaphors were integrated within the CL-inspired teaching sessions, which might have been very effective or might in contrast have diminished in effectiveness depending on the students' degree of familiarity with or preference for the individual techniques. Indeed, learning strategies, as defined by Dörnyei, are "techniques that students apply of their own free will to enhance the effectiveness of their learning." [DÖRNYEI 2003, 16] In other words, altogether they are dealt with explicitly in instructed learning scenarios, eventually students decide for themselves what they choose to continue working with.¹⁹ Therefore, the six most common vocabulary learning techniques were chosen as items for the questionnaire to gain insights into the students' preferred approach. Mnemonics (item 43), different systems of written records (item 44), repeating input aloud (item 45), connecting verbal information to pictures and images (item 46), etymological elaboration (item 47), and translation into mother-tongue (item 48) are the learning strategies to acquire new vocabulary that were chosen and explicitly asked about in the questionnaire.

As can be seen in Figure 8.3, the written record of new vocabulary and the translation into the mother-tongue head the rank order with a median of 3.00 and both histograms show a clear clustering of scores to the right. Conversely, the other strategies offered as choice display a median of 2.00, which is the middle category of the scale and suggests the students' indecisiveness towards the other techniques.²⁰ In other words, apart from

¹⁸At first glance, it is interesting to note that overall, the students provided personal estimations for all questions apart from item 22, where the regularity in grammar exercises is to be graded. Here only 37 students actually chose a level on the Likert-scale, whereas the others did not even bother to answer. This phenomenon might have two possible reasons: (1) Grammar is not the major focus of concern and the students aim at fluency instead of accuracy, which is supported by the output of item 19, where exactly the priority of fluency over accuracy was explicitly asked for and reached an overall estimation with a median of 3.00 (scale 0-4) showing a clear preference for fluency. (2) Students believe to have already learned enough grammar in school or simply lack exercises to practice. However, both reasons support the semantic approach followed here.

¹⁹In fact, in educational psychology the term "learning strategies" is gradually being replaced by "self-regulatory learning" in order to clarify and emphasize the learner's responsibility and choice. [DÖRNYEI 2003, 17]

²⁰As can be seen in the histograms the resulting curve for item 46 (imaging) is even slightly bent to the left.

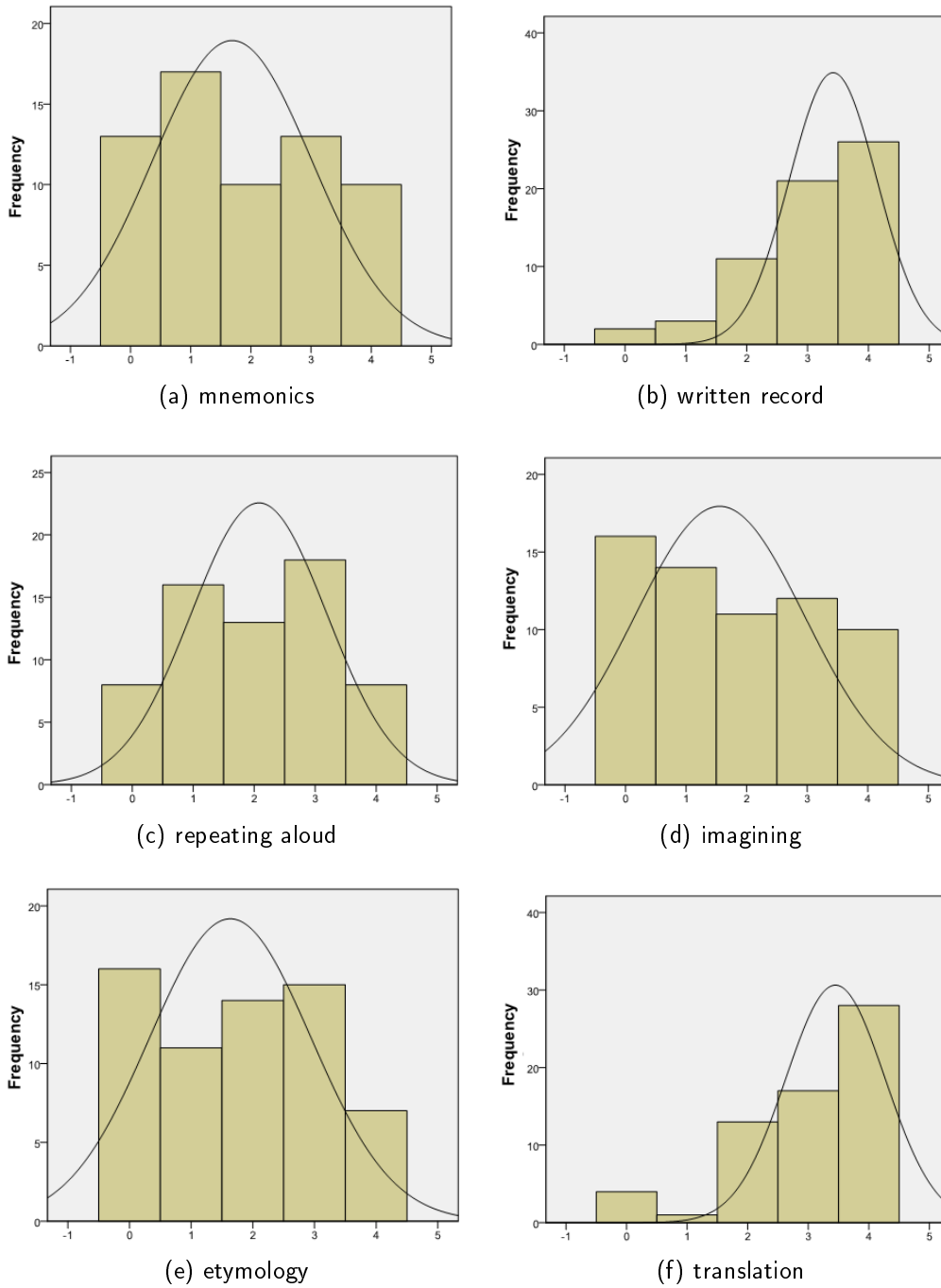


Figure 8.3: Questionnaire: Frequency Histograms for Vocabulary Learning Strategies

Vocabulary Learning Strategy	Median
(1)mnemonics	2.00
(2)written record	3.00
(3)repeating aloud	2.00
(4)imagining	2.00
(5)etymology	2.00
(6)translation	3.00

Table 8.6: Questionnaire: Median for Vocabulary Learning Strategies

the interpretation that students have not experienced these strategies as helpful and therefore categorize them here as less productive, they might simply not yet have used these strategies. The German school system mostly relies on writing, which is the main test format in all official assessments. Additionally, the school books for learning English as a foreign language accredited for use in German secondary schools work with long lists of vocabulary at the end of the book. There, next to the English expression, the German translation is given. Only gradually have text books started to integrate example sentences and explanations in the target language. Consequently, the business English students were trained to write down vocabulary and generate lists giving the English word and its supposed German translation. Mnemonics and pictorial support or even creating a mental image were probably not targeted in their former instructed learning and therefore might need some training first in order to be evaluated more decisively.

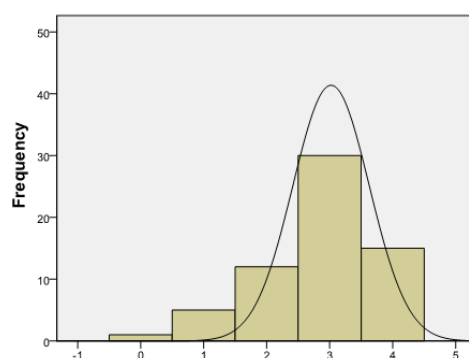


Figure 8.4: Questionnaire: Evaluation of the visualizations that were provided as learning material.

At the same time, it is interesting to point out that the median for item 38, which questions the assistance of the visualizations explicitly made a focus of attention in the course (cf. e.g. Appendix, Figure 1 and Figure 1, or 3), is 3.00 showing a clear

dislocation of the normal curve to the right end of the histogram (cf. section 8.4). A detailed look at the frequency analysis shows that only 6 students chose negative values, 45 students clearly decided in favor of the visualizations, and 12 students were rather indecisive and chose the middle value labeled “stimme eher zu”, which translates to “tend to agree” and hence also implies a positive tendency.

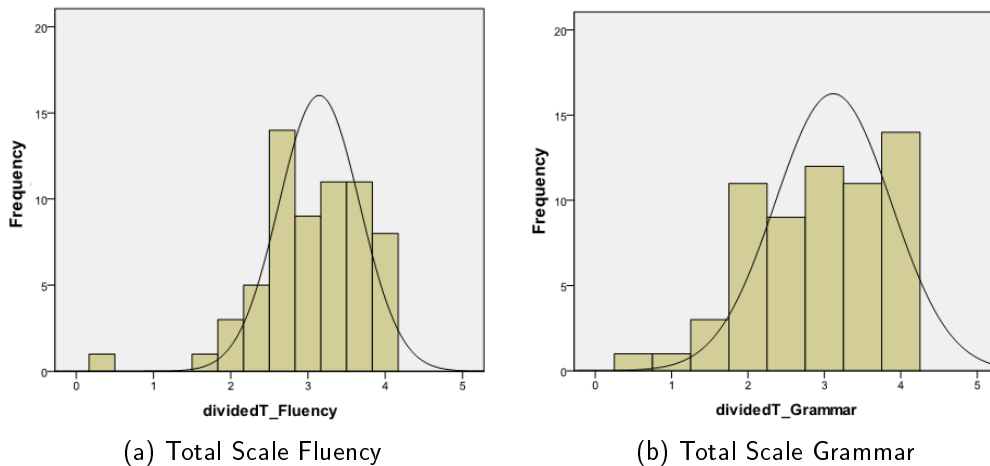


Figure 8.5: Questionnaire: Total Scales for the Importance of Fluency and Grammar

Two other interesting scales to briefly consider in this context are the distinction between focus on accuracy (measured by item 16, 18 and 33) and focus on fluency (measured by item 15,17 and 19) (cf. Figure 8.5). Item 19, which is part of the fluency scale and in its formulation clearly prioritized fluency over accuracy, reached a median of only 2.00 showing the students' indecisiveness concerning preference. Likewise, frequency analyses of the whole scales showed that for both scales the median was 3.00. Moreover, the Mann-Whitney U test revealed no significant difference between the two groups. Despite earlier predictions concerning the language focus that were based on the pilot study, where students clearly prioritized fluency over grammatical correctness, this sample did not show clear preferences.

CHAPTER 9

Discussion of the Empirical Results

In the attempt to complement previous research, the study addresses several different aspects of metaphor teaching and is thus, as presented in section 7, rather complex in design. In order to ease theoretical access to what was done, after a general outline and comments on the sample, in chapter 7 first the existing material was introduced, then the worksheets additionally developed to facilitate CL-inspired teaching were presented, and finally the research tools measuring the impact were discussed. The general organization of chapter 8 then resorted to chronological order and presented the results of the different studies separately one after the other. The present chapter 9 chooses yet another order of discussing the results. This time neither the difference in category, namely teaching material or research tool, nor the chronological order of the studies serve as structuring devices, but the research questions as formulated in section 6.2 are revisited and dealt with successively.

9.1 Receptive Vocabulary Use

The first research question addressed the effect of CL-inspired metaphor teaching “on the acquisition of metaphorical language for the learners’ receptive vocabulary use” (cf. section 6.2), which was especially tackled by the two closed language performance measurements, the gap filling exercise in part I and the delayed post-test in part III. In both measurements the students’ activity is pre-structured, with the gap filling offering possible items to explore the targeted metaphorical language and the delayed post test providing the full sentence and asking students to explain, paraphrase, or translate metaphorical language in order to show their comprehension. Overall the statistical computation of both measurements provided positive results, that is the experimental

group significantly outperformed the control group. Furthermore, whereas the delayed post test only revealed a small effect size ($p = .045$, $r = .28$), for the gap filling test a large effect size ($p = .000$, $r = .50$) could be reported. Both tools tested cued recall, that is they explicitly asked for the vocabulary item by the provision of cues, namely a box full of gap fillers in Study I and the context of a full sentence in Study II. In this way, it was ensured that students actually considered the metaphor when being tested and did not simply resort to different lexis (which is one of the major difficulties with open performance measurements).

As explained in section 7.5, both tests measured mere recall, that is effective receptive vocabulary acquisition as well as transfer strategies. Yet having been informed about the underlying conceptual metaphor *MONEY IS A LIQUID*, the experimental group students did significantly better in finding the correct fillers for the gaps than the control group students, and having been informed about the underlying conceptual metaphor *BUSINESS IS WAR* and *BUSINESS IS SPORTS COMPETITION*, the experimental group had significantly less problems in correctly decoding the set sentences. In fact, recall and extension revealed positive results. In Study I, the performance on the items merely requiring recall ('recall-scale') was significantly higher ($p = .002$, $r = .49$), which allows for the conclusion that basic conceptual knowledge is likely to foster vocabulary acquisition. Furthermore, on the basis of these results Berendi's earlier finding that knowledge of the underlying conceptual metaphor facilitates understanding [BERÉNDI 2005] may be backed up. As shown in the analysis of the 'extension-scale' in the gap filling exercise as well as in the analysis of the majority of items in the delayed post-test on competition vocabulary (8 out of 10 items were extensions), conceptual knowledge assists in correctly constructing meaning of new linguistic examples of the same conceptual framework. Hence, in contrast to Boers' findings [BOERS 2000b], in this study students were able to apply the conceptual background to new linguistic examples. Thus, on the basis of these findings the often suggested receptive transfer strategy of conceptual metaphor knowledge may be confirmed.

At the same time, the brief analysis of the distractors chosen instead of the correct fillers also depicted the potential dangers of explicit metaphor teaching. Students that had become aware of the underlying conceptual metaphor were likely to overgeneralize the concept. They chose, for instance, 'kick the bucket' as they most likely associated 'bucket' with 'water' and thus thought it to be an instantiation of the *MONEY IS A LIQUID* metaphor. Ignorant of the actual meaning of 'kick the bucket', students did not hesitate to use the expression as it apparently fulfilled the requirement of having

something to do with LIQUID. Control group students on the other hand did not make use of the expression. In other words, conceptual metaphor teaching may support over-generalization, yet as long as the words and phrases additionally used in the framework do not have a different fixed meaning, such as the idiom 'kick the bucket', this may not be as problematic. If the conceptual transfer is taken care of and does not violate any of the structural principles as introduced in section 2.2, creative usage, as discussed in the following section, may not disturb understanding.¹ However, especially with this finding, the necessity of introducing the scope of metaphors as well as integrating contrastive reflection on the conceptual metaphors in the classroom becomes obvious.

To sum up, the first research question can be answered positively – on the basis of the results, the positively directed hypothesis may be confirmed. Conceptual fluency may contribute to receptive fluency.

9.2 Productive Vocabulary Use

The second research question addressed the effect of CL-inspired metaphor teaching “on the acquisition of metaphorical language for the learners’ productive vocabulary use” (cf. section 6.2), which in the present study is mainly followed up in the four writing assignments. Obviously, critics may claim that the students also productively make use of the newly acquired vocabulary in the gap filling, yet in the closed format they cannot really choose to use the lexis as the task explicitly asks for it by a context cue. On the contrary, in the open formats the students are free to choose whether they make use of the targeted vocabulary or not. Thus, productive vocabulary use is not as easy to assess. Students might simply have chosen different vocabulary for whatever reason and not using the targeted vocabulary does therefore not necessarily have something to do with not having acquired the word or phrase.

The analysis of the students’ writing assignments for metaphor usage (type and token) has shown that on all four occasions, the experimental group outperformed the control group. However, in three of the assignments, namely the homework in Study I, the graph description in Study II and the final exam task, the difference in metaphor type usage was not significant and only small effect sizes were reported (Study I: $p = .588$, $r = .17$; Study II: $p = .385$, $r = .112$; Exam: $p = .074$, $r = .21$). Only

¹From the current point of view it may even be suggested that non-native speakers that are familiar with the conceptual metaphor MONEY IS A LIQUID and do not know the meaning of the fixed idiom 'kick the bucket' may even decode it as 'splashing out money'. The bucket contains liquid decoded as money and is kicked, which results in spilling the money out. Further experiments would certainly be needed to provide evidence for this hypothesis.

the writing assignment in Study III revealed a significant difference ($p = .052$) and a effect size heading towards medium size ($r = .27$). Moreover, most of the metaphors used were targeted in Study II, that is vocabulary of up- and downward movement. On the basis of these findings the research question cannot clearly be answered positively. Furthermore, Boers' original finding of a significance of $p < .001$, which he reported for a similar task [BOERS 2000b, 558-560], cannot be replicated. Yet, in contrast to Boers' experiment (cf. chapter 5), in this study the students were not explicitly instructed and given time to memorize the vocabulary. They were rather kept engaged in sorting the vocabulary. In other words, both groups actively dealt with the targeted vocabulary, which might have been more influential, that is reach the same effect than the actual exposure to the idea of conceptual metaphors.

Although the positive effect of CL-inspired metaphor teaching on productive vocabulary cannot be empirically attested and thus, the positively directed hypothesis formulated in section 6.2 must strictly speaking be rejected, a brief look at the usage of creative extensions of the taught conceptual metaphors may support the claim that it is after all the right track and more refined research in the field is needed.

Expanding MONEY IS A LIQUID in the writing assignment of Study I, where solutions for the cash-flow gaps were to be found, one student wrote about "drifting into debts" (ID 19) and another one suggested "filling up the leak with a credit from the bank". Both expressions were only wiggly underlined by the teacher, which in her code means 'understandable but not fully correct'. In other words, she actually did accept the metaphoric expansion.² Similarly, in the third writing assignment, in which the students had to compare the two competing products, the examples of Table 9.1 were found.

Creative examples of conceptual metaphors	Participant identification
... <i>gave the ball to</i> ...	(ID 57)
... <i>captured the flag</i> ...	(ID 62)
... <i>took the leadership</i> ...	(ID 72)
... <i>hit the ball again</i> ...	(ID 72)
... <i>lost the leadership</i> ...	(ID 72)

Table 9.1: Creative Examples of Metaphor Usage in Writing Assignment III.

None of these linguistic metaphors were targeted in the previous teaching, but all are examples or creative expansions of the conceptual metaphor BUSINESS IS SPORTS COMPETITION or BUSINESS IS WAR that had explicitly been taught in the sessions.

²If the teacher had not at all accepted these expressions, they would have been underlined with a straight line and marked in the margin.

Even the writing task in the final exam, where students are very unlikely to simply try something out, contained examples of creative expansion.³ One student suggested “stabilizing the midfield” (ID 2), that is transferring knowledge structures from football and another student advised to “check the water” and not “to drop the money down the drain” (ID79). Especially these last two examples demonstrate that the students understood and acquired the conceptual metaphor but at the same time did not focus on the actual form of the targeted vocabulary. Semantic elaboration had backgrounded form.⁴ Indeed, on both occasions the verbs were changed, from “test” to “check” and from “pour” to “drop”, while the rest of the expressions stayed the same. Again two rather fixed expressions are involved here, which is one reason why native-speakers might hesitate to accept these two examples as correct English. Yet neither of them violates the conceptual framework. In fact, choosing “drop” instead of “pour”, if it had been done by a native, might even have been interpreted as ‘wasting gradually’ instead of ‘in large sums’. Hence, in international business communication, interlocutors from different linguistic backgrounds that are aware of the conceptual metaphor may easily be able to decode these creative examples and may thus not even identify them as unusual.

In sum, although statistical significance in the output could not be gained and although some of the linguistic examples are creative up to not fully acceptable, CL-inspired metaphor teaching opens up new or reassigns existing resources for productive use. Thus, conceptual fluency contributes to productive fluency. However, the methods of teaching may need to be refined by, for instance, drawing more attention to the form and discussing the scope of the individual metaphors. Of course, this is a balancing act between securing face-validity of the functionality and productivity of conceptual metaphors and at the same time preserving students’ skepticism as far as the boundaries to metaphorical productivity are concerned.

9.3 Vocabulary Retention

The third research question addressed the effect of CL-inspired metaphor teaching “on short- and medium-term retention” (cf. section 6.2). In earlier controlled experiments,

³Indeed, these students seem to be convinced that the idea of conceptual metaphors is productive, which provides evidence for the required and here assumed face-validity of the system.

⁴The expression “test the waters” did only come up in the gap-filling exercise of Study I and was not further elaborated on. Thus, the productive use of the metaphors, even with the ‘wrong’ verb, suggests that the student did internalize the metaphor and consciously acquired the linguistic example as instantiation of the conceptual framework MONEY IS A LIQUID.

vocabulary retention was usually measured on the same day, a day later or at the latest a week later. Planned measurements of long-term retention have always been complicated to conduct due to changing institutional conditions that makes it hard to access the same group of students after a longer period of time. Up to date only Berendi's test administered after five months [BERÉNDI 2005] and Boers' investigation after a whole year [BOERS 2004], which both incorporated also only a few of the original students, have addressed the topic of long-term retention. Yet neither can provide any positive results.

In the present study, apart from the first gap-filling exercise, which took place right after the treatment, all measurements qualify as testing medium retention as they are carried out at least a day after the instruction. Especially the final exam, which took place at the end of the semester, namely almost two months after the first intervention up to three weeks after the last study, may be seen as measurement of medium retention. Yet again the writing exercise that served for statistical computation is an open performance measurement, which, as previously explained, is rather problematic to analyze for this purpose: no evidence of the targeted vocabulary does not necessarily mean no retention.

According to the results of an additional coding by origin, as described in section 8 and depicted in Table 8.5, Study II, namely linguistic metaphors to describe up- and downward movement, seems to be best remembered. However, as previously stated, they might also simply be the ones most productive for the set task. In fact, what is more interesting are the results for Study I and Study III vocabulary. Even two months after the instruction there is still an assignment with four different linguistic examples of the conceptual metaphor MONEY IS A LIQUID. Three weeks after the session on competition there was an assignment of six different linguistic examples of the conceptual metaphor BUSINESS IS SPORT COMPETITION. In other words, although the examples have not all been taught explicitly, students retained the vocabulary and made use of it even productively. According to the basic tenets discussed concerning active and passive, that is receptive and productive vocabulary acquisition and use (cf. section 6.2), receptive retention is here to be assumed, too. Further research with closed formats explicitly demanding the use of specific vocabulary is needed in order to come to a definitive statement. Yet on the basis of (1) the result of the gap-filling test in Study I (especially the highly significant difference in the 'recall-scale' ($p = .000$)), (2) the result of the one-week delayed vocabulary post-test in Study III, (3) the results of all writing assignments that strictly speaking also constitute retention measurements as they provide the basis to productively use the vocabulary, and in particular (4) the

result of the final exam, it may be concluded that in this study CL-inspired metaphor teaching did foster retention.

9.4 Impact of and on Proficiency

The fourth research question addressed the appropriateness of CL-inspired metaphor teaching at different levels of language proficiency. The correlations of the number of used metaphor types with the CEFR-levels provided different results for all four writing assignments.⁵

Writing Assignments	Correlation		per group	
	Strength	Direction	EG	CG
Study I	medium	negative		<i>N too small</i>
Study II	weak	positive	no	medium, positive
Study III	medium	negative	no	medium, positive
Exam	no	no	no	no

Table 9.2: Impact of proficiency on metaphor use.

As summarized in Table 9.2, the only consistent result is 'no correlation' between CEFR-level and usage of targeted metaphors in any study if only the experimental group is taken into account. Yet this is in fact also the most important finding: students at all levels of proficiency were equally well able to pick up on CL-inspired metaphor teaching.⁶ Thus, with the results of the present study, earlier suggestions that mainly students at intermediate level benefit from metaphor teaching [BOERS 2004] cannot be supported. In fact, in Study III the writing assignment with the highest type count, namely 12 different metaphors, was written by a student at CEFR-level A2. Obviously, this cannot be taken as a statistical result but is certainly a telling example and thus, the benefit of CL-inspired metaphor teaching is concluded to be very likely to have a positive effect on students at all levels of proficiency.

On the contrary, the results for the control group mainly depicted 'medium, positive correlations', that is high numbers of metaphor types are associated with higher CEFR

⁵The two closed measurements do not show any significant results as far as the correlation with CEFR-levels is concerned that needs to be discussed here.

⁶It is important to point out that these measurements only take the number of metaphors used into account and are not to be compared to a regular performance test, in which the students at higher levels of proficiency are assumed to perform better and therefore, a positive correlation would be expected as the norm.

levels. In other words, in the control group merely the advanced students did profit from traditional metaphor teaching. In other words, in order to facilitate figurative language learning at all levels, CL-inspired metaphor teaching may be of great assistance.

So far, only the impact different levels of proficiency have on the effectiveness of CL-inspired metaphor teaching was evaluated, in the following the perspective is reversed and the effect CL-inspired metaphor teaching has on student's proficiency is taken into account. In this respect only the exam, where the general performance was also measured, provides results. Most importantly, the correlation between the number of used metaphor types and the score for the task is strong and positive, significant at .000-level and even shows a large effect ($r = .509$ for both groups together; even $r = .611$ only for the experimental group). In other words, the more metaphors were used, the better was the overall score for the assignment. Interestingly, the teacher who did the exam marking and thus also the scoring for the integrated writing assignment did not analyze the texts for metaphor usage but still graded the texts with more instantiations of the conceptual metaphor better than the texts with less. The texts are likely to be more idiomatic, which is usually taken as more native-like and thus, linguistically better. Again, the question why metaphors are not explicitly taught in the language classroom, although they are likely to increase perceived proficiency, poses itself.

To sum up, research question four does not draw a clear picture. However, it may be concluded that explicit metaphor teaching and thus acquisition may also assist less proficient students. Less proficient students may not profit from conceptual fluency in closed exercises because cued recall asks for one particular linguistic example. However, in open tasks, where students have the chance to productively draw from existing concepts, these less proficient students may find new doors into existing rooms. Although these students may not be proficient in the realm of business English, they may have vocabulary in the more concrete source domain, from which the conceptual metaphor transfers the knowledge structures, and may thus become more fluent and appear to be more proficient.

9.5 Students' Motivation

The last research question posed in section 6.2 addressed students' motivation. Yet as explained in section 7.5 and 8, in the present study the students' motivation did after all not become the focus of attention. Due to institutional constraints that did

not allow for the conduction of two questionnaire surveys, students' motivation was only really tested for at one occasion, namely with the final questionnaire. Thus, the change in motivation cannot be evaluated. Furthermore, the two groups of students were observed in their reaction to the teaching methods and in their interaction with the material in the classroom. Although based on personal observation that does not fulfill the strict requirements of statistically drawn conclusions, it needs to be pointed out that the students as well as the teacher were much impressed by the idea of using vocabulary of one domain in a different, usually more complicated domain. Moreover, experimental group students explicitly praised that vocabulary could be understood instead of learned by heart. In Study I, they particularly liked the mnemonic that *money is to business what water is to life* and tried to play around with it, that is while doing the worksheets with the visualizations, they discussed in what way money really was like water. In Study II, they explicitly appreciated the fact that they could make use of already acquired vocabulary such as "grow", "collapse", and "take off" in order to vary their writing. In Study III, the experimental group students were very productive in coming up with sports vocabulary in the opening section, where the students were asked to brainstorm on 'competition': in contrast to the control group that produced rather slowly for instance "more choice", "better prices", "share holders", or "customer service", the experimental group guided by the sport pictures on the transparency rather fired vocabulary items, such as "ball", "keeper", "players", "rivals", "tackling", "referee", "clutch", "speed up", and "changing gear". In fact, although on the same level of proficiency, the two groups of students' brainstorming varied quite a lot in quantity and in the type of vocabulary listed. In fact, the experimental group seemed to have fun in coming up with a multitude of sports vocabulary trying out whether the teacher would put it on the board. Suddenly, they seemed to have vocabulary that was ready at hand for use in business discourse. They only had not made the connection between the two domains yet, that is, they were not aware of the conceptual metaphors BUSINESS IS SPORTS COMPETITION.

To sum up, although not statistically measurable, in contrast to the control group, the experimental students' motivation to deal with complex foreign language structures, such as metaphors, seems to have increased as a consequence of CL-inspired metaphor teaching. However, more research along these lines is needed to draw straightforward conclusions. After all, new approaches are usually interesting for students to try out. It would need a long-term study to measure the actual effect on motivation after the approach will have been used for a while, which goes beyond the scope of the present project.

In dealing with these five research questions, the study took care of eliminating most of the confounding variables that were identified by earlier studies. Thus, for both experimental conditions the lexis was grouped (e.g. in Study II EG: by source domain/ CG: by speed and direction, in Study III EG: by sports activity/ CG: positive or negative competition), the required cognitive effort was kept the same in both tasks (e.g. Study I EG: mark everything to do with water/ CG: mark everything to do with the problems and solutions), and if visuals were used, they were used in both groups (e.g. Study I EG: pencil drawings, CG: economic flow chart). Furthermore, in both groups textual input enhancement was comparable and in both groups attention was drawn to the targeted vocabulary, only under different pretexts. Most importantly, the comparability of the two groups as far as number of participants, distribution of gender and level of proficiency are concerned, was secured right from the beginning and again refined before any statistical computation for the individual studies was conducted by means of matched subsamples. On this basis the research results are to be attributed to the difference of intervention, namely the CL-inspired metaphor teaching. However, it needs to be pointed out again that the whole study was conducted in a real classroom environment and would need to be replicated in different classroom settings in order to allow for far-reaching conclusions. The results are to be taken as exploration into real applications of CL-inspired metaphor teaching in the business English classroom and provide important insights for the further development of material and tasks to prepare language learners for international business communication.

CHAPTER 10

Implications for Teaching and Research

10.1 Didactic Consequences

On the basis of the empirical results, a few didactic consequences may be drawn in order to improve the benefit of metaphor teaching. In the context of the study, 'conceptual fluency' has become the key word for receptive and productive vocabulary acquisition and retention. In order to improve 'conceptual fluency', explicitness seems to make a major contribution. Students need to be made aware of the underlying conceptual metaphor and ideally encounter more examples in the following discourse that they can decode themselves. In this way, the perceived face-validity of the system and a deeper understanding of the actual productivity of conceptual metaphors may be secured. Similar to Nation and Laufer's proposal concerning vocabulary in general [LAUFER 1998, NATION 2001], metaphors are not acquired by incidental uptake but multiple encounters and sufficient noticing are necessary to facilitate actual learning. In other words, on the one hand metaphor teaching relies on receptive input control as proposed by Krashen's Natural Approach (cf. section 4.1) but is on the other hand essentially complemented by explicit awareness raising and teaching.

In fact, output might have increased if students had been explicitly given time to memorize [BERÉNDI 2005] or only study [BOERS 2000b] the listed metaphors. In contrast to Berendi's and Boers' research, in the present study, students were neither explicitly instructed to study the linguistic examples nor were they told that the items would be tested later on. Both treatments would have gone beyond the regular classroom reality as vocabulary tests were not scheduled for the course and could have alerted students to the experimental condition. When implementing metaphor teaching in the regular course, teachers may, however, inform their students about the

productivity of the vocabulary and explicitly advise them to store this vocabulary.

Apparently most motivating and productive for the students was the explicit activation of the source domain in the third part of the study. Students were surprised to have so many different vocabulary items right at hand to be transferred and used in the more abstract business discourse. Thus, teachers are well advised to start with an activation of the source domain vocabulary and then explicitly reassign this existing vocabulary to the more abstract target domain. However, it remains to be tested whether vocabulary from other source domains is as present to the students as the vocabulary from the domain of *SPORTS* was in this study. Indeed, in order not to complicate the learning process, the strategy of activating the source domain vocabulary should at first be reserved to the source domains closest or most relevant to the target groups' daily reality as language learners are most likely to have already acquired the vocabulary facilitating these source domains. Otherwise an activation of the source domain vocabulary may already constitute a hurdle and result in reduced motivation. In these cases, the linguistic metaphors should be encountered first and only then traced back to their source domains to enable the construction of target domain meaning. Furthermore, in order to avoid the encountered overgeneralizations that similarly frustrate students and make them question the real productivity of the conceptual transfer, discussing the scope of the different conceptual metaphors as well as integrating contrastive reflection in the classroom is indispensable.

Along with this focus on the semantic boundaries of metaphor, in order to avoid fossilized production and bolster understanding, attention should also be drawn to form, that is which verb or noun is used to form longer multi-word expressions which are also grounded in the conceptual metaphor. As has been discussed, idioms in particular are too static to be understood if one of its components is exchanged for a synonym, even if the conceptual framework is not violated.

To sum up, in addition to the ten essentials for the classroom, as introduced in section 4.3.6, the explicit activation of the source domain and the use of input enhancement to sensitize students to the pervasiveness of metaphors may be added as an eleventh and twelfth point. Moreover, especially in order to assist the students in their later application of the conceptual metaphor contrastive elaboration is to be emphasized and expanded to a discussion of the semantic boundaries of the transfer.

10.2 Methodological Consequences

In chapter 5, the summaries of two different research agendas were introduced. Low suggested five issues for further research [LOW 2008, 226-227] and Boers and Lindstromberg identified another set of three factors to be empirically investigated [BOERS and LINDSTROMBERG 2008b, 38]. As previously mentioned, both of these research agendas were only published after the presented study had been carried out, yet several of the aspects listed there might have been taken into account on the basis of a similar survey of the existing literature. Hence, the present study will be revisited in the context of these two research agendas.

Boers and Lindstromberg's key areas of research are (1) the grouping of lexis, (2) pictorial support, and (3) the comparability of cognitive effort. As has been explained, in the present study all three factors were controlled for. Thus, the results presented here, namely the increase in receptive and productive vocabulary acquisition and retention, may not be attributed to grouped lexis, to pictorial support or to additional cognitive effort. A claim that critics may justifiably make is that the type of visuals used in the present study is rather different. Indeed, the more concrete drawings provided in the experimental condition may have positively contributed to the statistical results. Yet the schematic diagram given to the control group is similar to the diagrams that are likely to be found, for instance, in textbooks on microeconomics. As students tend to be familiar with these types of visuals, the control group diagram could also have contributed positively to their vocabulary acquisition and retention. This would consequently strengthen the position of CL-inspired metaphor teaching, as the experimental group significantly outperformed the control group.

In sum, the present study contributes to working off the research agenda proposed by Boers. Obviously, similar studies that replicate and even improve the results are needed to finally reject the hypothesis that significant results are partially due to pictorial support, to additional cognitive effort or to the grouping of lexis. This study is a first step in this direction.

Low recommended five different, more practical and more constitutive approaches for integration into further research. First, he calls for studies with larger samples including different levels of proficiency and requests the report of significance as well as effect size. In comparison to the studies reported in chapter 5, the present study with 93 students of business English already stands in the forefront as far as sample size is concerned. Furthermore, it provides a mixed sample of students at five different

CEFR-levels of proficiency (A1-C1). Responding to Low's request, the presentation of the different results not only gives values for significances, but always reports effect sizes, too. Indeed, Low's first recommendation is fully followed.

The second aspect singled out by Low as desirable calls for studies that test the claims that indirect instruction increases learning and direct instruction increases retention. Although these two approaches are not contrastively researched in the present study, both claims may be backed up with the data generated in the course of this study. On the one hand students' noticing of metaphorical language was indirectly increased by input enhancement (layout as well as quantity) in Studies I and III and on the other hand linguistic metaphors were also explicitly taught in Studies II and III. Furthermore, vocabulary acquisition and retention was tested in all studies and, although not always with significant results, showed that the experimental group outperformed the control group in all measurements. In sum, the results of the present study support the claim that indirect and direct teaching increases learning and retention, yet whether indirect or direct teaching triggered learning or retention was not controlled for by the study design. In order to make a clear statement, additional research distinguishing between the two strategies is needed.

In his third point, Low asks for further research into the variety of methods and techniques of teaching metaphors. As examples he points out total physical response and "varied application of visual, tactile, and behavioural support [...] as well as contextual factors like more-less metaphoric style jumps" [LOW 2008, 226]. In this respect the present study is less contributive. Visuals and possibly contextual factors are merely used as teaching technique, but are not researched contrastively and can thus not be used to draw conclusions with respect to Low's third recommendation.

The fourth aspect of Low's list addresses the necessity to design instructional research that goes hand-in-hand with the development of innovative metaphor teaching materials. Low criticizes that most of the existing materials are stand-alone exercises that can hardly be integrated into broader instructional scenarios. This was the starting point of the present study. Conducted in the real business English classroom, carried out over a whole semester, and using adapted course material, this study is a first step towards integrating CL-inspired metaphor teaching into coherent institutional programs. The study exemplifies how metaphors could be successfully integrated and argues in favor of drawing up a schedule to teach the conceptual metaphors that are most productive for the topics or domains listed in the curriculum.

The last research direction identified by Low addresses the relationship between metaphoric competence and general language proficiency, especially "with regard to the

'productive' skills" [LOW 2008, 227]. Although 'metaphoric competence' is a concept yet to be properly defined, the current piece of research practically approaches the idea by focusing on written output and counting the types and tokens of the metaphorical language used. Furthermore, correlation between the usage of linguistic metaphors and the general score for the writing assignment in the final exam has been computed and proved to be highly significant ($p = .000$). Indeed, although the teacher did not analyze the text for metaphors, she graded the assignments rich in metaphorical usage better than the ones with less metaphorical language. Hence, there seems to be a relationship between general language proficiency and metaphor use. In other words, 'metaphoric competence', if it not only refers to receptive skills but also incorporates the competent and prolific use of metaphors, seems to contribute to general language proficiency.

On the whole, the research directions followed up in the present study correspond to the aspects identified in Low's research agenda. The study provides empirical results for and contributes insights into the possibilities and constraints of metaphor teaching that may lend further focus to the introduced agenda. However, as the presented results are based on a field study and are not the product of a controlled experiment, not all confounding variables could be controlled for. Further studies conducted in the real classroom replicating these results are needed to provide clear empirical evidence for the positive contribution of conceptual metaphor teaching and to convince material designers to come up with coherent concepts of methods and materials. Indeed, from a business English perspective, the design of institutional programs can be singled out as the most important research direction. Neither of the existing materials on teaching figurative language (cf. section 4.3) specializes in business English, yet this particular target domain is very productive as it lives by metaphors.

As consequences of the presented results, the following future research agenda may be sketched out:

1. Consecutive material raising awareness of and explicitly teaching metaphors is to be developed and even more importantly needs to be tested in the real classroom. Large-scale implementation studies need to be conducted.
2. Tasks encouraging productive metaphor use in written and oral communication need to be developed and again tested in the classroom.
3. Long-term studies on the impact of metaphor teaching on students' motivation and general proficiency need to be designed and conducted.

4. Studies with students at lower levels of proficiency, ideally CEFR-level A2, need to be conducted to investigate the impact of metaphor knowledge on general language proficiency.
5. Experimental conditions need to systematically tackle the question of how much linguistic meta-language is actually needed in teaching metaphors. That is, do the students need to know what a source and a target domain are and how the transfer works, or do they even profit from additional structural knowledge?

Moreover, the unresolved issues identified in chapter 7 call for further methodological consequences when conducting research in real classroom scenarios. First, a pretest assessing the students' metaphor knowledge is to be developed that does not give away too much information and may therefore also be used with the control group. Second, means of external motivation, such as for instance a graded portfolio, need to be found that secure constant numbers of participants and less missing data due to decreased return rates of assignments.

In sum, although the constraints of classroom research are evident, research into teaching and learning in the real classroom is invaluable for gaining insights into the bigger picture of classroom reality. With the results of the present study, several hypotheses underlying future research strands singled out by earlier research agendas could be supported, and as a result, a refined agenda for future research was developed.

CHAPTER 11

Summarizing Conclusion

The shift in perspective in metaphor theory has provided conclusive empirical results that linguistic metaphors are pervasive in everyday language and as such are instantiations of conceptual frameworks. (cf. section 2.1) Embodied or experientially grounded, they enable discourse in abstract domains by unidirectional transfer from a source to a target domain. (cf. sections 2.2 and 2.4) The pervasiveness, motivation, heuristic functioning and conceptuality of metaphors make conceptual metaphor theory essential for the business English classroom.

As an abstract domain, socio-economic discourse – the very target domain students are prepared for in the business English classroom – lives by metaphors. (cf. chapter 3) Thus, students need to gain awareness of metaphorical usage and be enabled to decode metaphors and eventually encode abstract knowledge in metaphors to successfully communicate in the business environment. Insights into the motivation of metaphors by means of elaboration can assist students in receptive and productive vocabulary learning and retention. (cf. section 4.3) In contrast to native speakers, who may not be aware of most of the metaphors used in socio-economic discourse, non-native speakers are most likely to perceive metaphors as novel constructions and thus process metaphorical language in series (cf. section 2.3). Indeed, the source domain meaning is constructed and then transferred to the target domain. Following these natural structures of language processing, language learning is hypothesized to profit from explicit metaphor teaching that includes source domain processing.

The teaching and learning of metaphorical expressions in the foreign language classroom has historically resulted in rote learning of individual expressions. Neither the underlying concepts and their respective mappings from the source domain were investigated, nor were these actively and creatively drawn on. In changing teaching strategies for business English courses to CL-inspired teaching, namely by integrat-

ing metaphor awareness raising activities and explicit conceptual metaphor teaching, students are believed to be equipped with a learning tool that improves receptive vocabulary acquisition and retention, as well as productive fluency (cf. sections 4.2 and 5).

Based on linguistic and didactic theories, the present study supports and refines earlier findings and provides empirical evidence for the positive effects of using conceptual metaphors in acquisition and retention of receptive vocabulary use. Furthermore, the aspect of productive metaphorical use of vocabulary is addressed and results pave the way for further studies. Productively using metaphors as tools to conceptualize aspects of the socio-economic discourse, students experience a vocabulary expansion that is not based on learning new words and phrases but on re-assigning existing vocabulary to a new conceptual domain. After all, lexical items are not metaphorical or non-metaphorical; this depends on their use. Thus, they only need to be learned once and then linked with different domains. However, mother-tongue interference through simple translations that are not possible due to cultural differences (cf. section 2.5) or incorrect expansions of the scope of conceptual metaphors require contrastive investigations and explicit discussion of possible mappings. What has been shown to work in closed exercises will still need to prove successful for open assignments. Further research to refine respective teaching strategies is as much needed as research on the acceptability of creative expansions in international business discourse.

“The study of metaphorical expressions has played a central role in the development of Cognitive Linguistics.” [TAYLOR 2002, 489] Now it has the chance to play a central role in the successful application of CL-tenets to language teaching. Future managers must be prepared for the language of economics in international business discourse. The teaching of conceptual metaphors may contribute to saving time, as it supports economic language learning in learning English for economics. Concepts instead of expressions need to be taught in order to enable the students to dip into their savings.

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Appendix

1 Study I: Material and Research Tools

Study I: Lesson Plan MONEY IS LIQUID		
p.35,1 p.35,2 + p.36 p.35,3 p.35,4 p.37 NEW	Introduction: typical <i>inflows and outflows</i> Case Study: “The Cash Flow Gap” + Reading Comprehension Focus on Vocabulary: Sort inflows and outflows Complete a bar chart calculating inflows and outflows Read email (modified material).	
NEW	Experimental Group Underline words and phrases to do with liquid or water. Underline words and phrases to do with problems and solutions.	Control Group Match your findings with the given visualizations. Match your findings with the given visualizations.
NEW p.37,2	Gap Filling Writing Assignment I: Email reply	

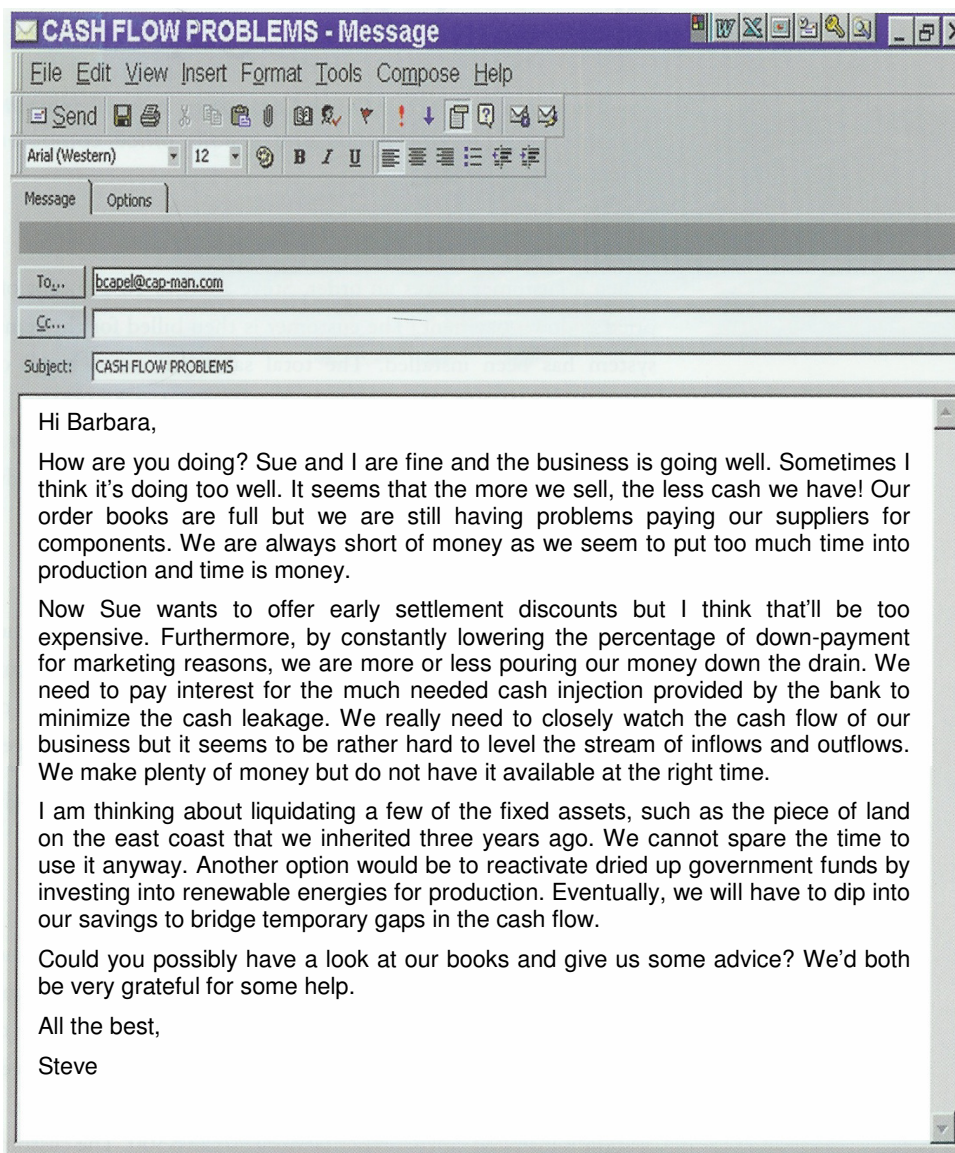
Table 1: Study I: Lesson Plan (page numbers refer to [COTTON et al. 2005])

1. Steve’s email (adapted material cf. 7.4.2)
2. Worksheet for experimental group & for control group (new material cf. 7.4.2)
3. Gap filling for experimental group & for control group (new performance measurement cf. 7.5)
4. Homework (adapted material cf. 7.5)

Improving cash flow

Writing

Steven and Sue are finding it difficult to pay suppliers because of a shortage of cash. Steve e-mails Barbara Capel, a friend and management consultant, to ask for help. Read the e-mail. What solutions are Steve and Sue considering?



Vocabulary

drain > Abfluss

fixed assets > feste Anlagen

leakage > Leck, Auslauf

to liquidate > verflüssigen

to dip > eintauchen

to inherit sth. > erben

to pour > schütten

to spare something > etwas entbehren

Name: _____

Date: _____

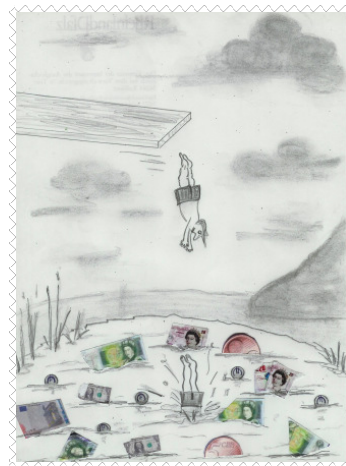
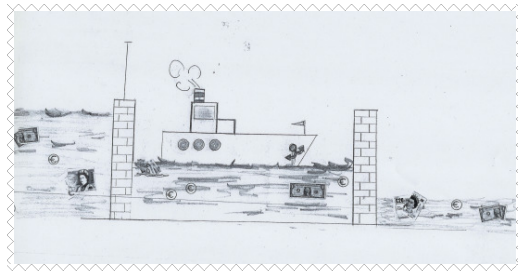
Vocabulary Money and Finances

Business English is full of metaphors, which means that words and phrase from everyday life are used to explain complex financial systems. In English "money" is, for example, conceptualize as being liquid like water.
Money is to business what water is to life: it is vital!
Due to this underlying metaphor
MONEY IS A LIQUID or MONEY IS WATER,
a lot of the vocabulary used with money comes from the word field "water".

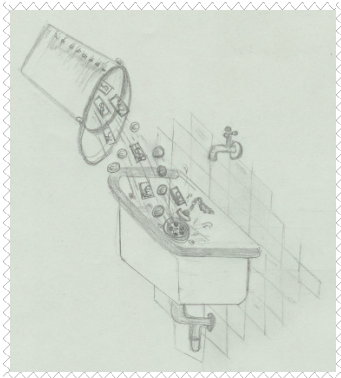
Read the e-mail again and underline all the words and phrases that have to do with **liquid** or **water**.

e.g. In the e-mail header we find "cash **flow** problems", which clearly refers to money as being able to flow, as being liquid.

Try to find similar phrases and match your findings with the following drawings.



Appendix



Write down all additional words and phrases you underlined in the e-mail:

Appendix

Name: _____

Date: _____

Vocabulary Money and Finances

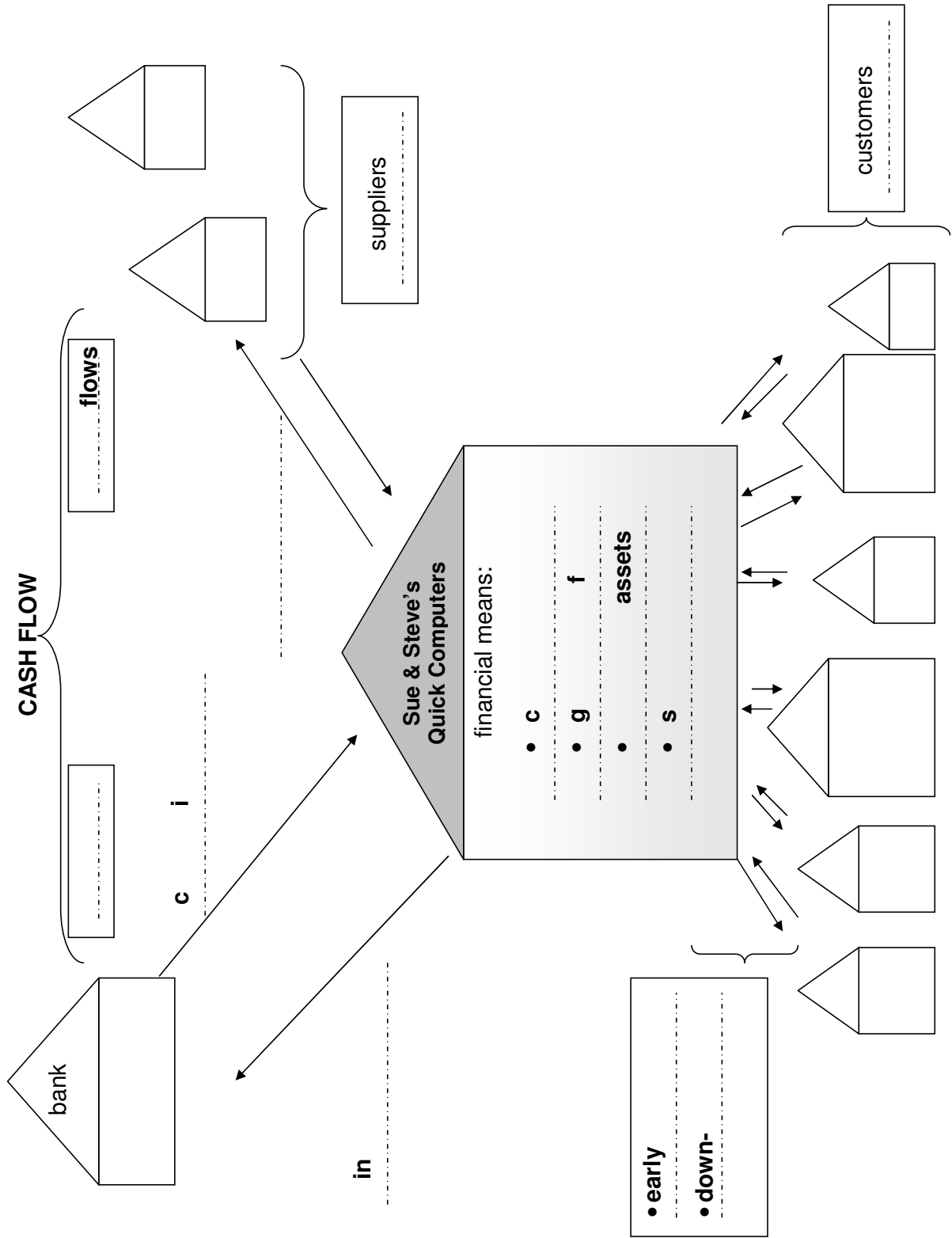
Financial transactions are complicated procedures. Visualizing the different connections mostly helps to understand the consequences.

Read Steve's e-mail again and underline all the words and phrases saying something about Sue and Steve's problems and about possible solutions and fill in the table below.

Sue & Steve's problems & consequences:

possible solutions:

Then try to match your findings with the arrows in the following diagram. Some gaps are already filled in and sometimes individual letters or parts of words hint at the missing words and phrases. Feel free to add arrows where needed.



Name: _____ Date: _____

Gap Filling Exercise:

Before you start working on the exercise, briefly go through the words and phrases in the box below and try to imagine what they could mean.

bridge	leakages
dip	outflows
finance	wage freeze
flow	window
level	cash flow
pay	drain
pour	inflows
put	injections
throw	laundry
bottle up	drop
dried up	hit the ball
splash out	kick the bucket
drowning	test the waters
jumping	
liquidating	
sailing	

Now fill in the gaps with the words and phrases from the box above. Be careful! There are more words and phrases to choose from than gaps available. Please underline the words and phrases you cannot make sense of.

- I haven't got enough in my bank account to pay for the car to be repaired. Ok, we'll just have to _____ into our savings, then.
- I think it would be a good idea to _____ first before we invest any more money into the company.
- Illegal actions such as tax evasion and false accounting are widely known as money _____.
- Increased production and strong demand have had a positive effect on your _____.
- Let's _____ on new clothes.
- Unfortunately, our funds had _____ before the project had been successfully finished.
- The down payment of \$1,000 on Day 1 is only a _____ in the ocean. Only six days later Quick Computers' already faces a negative balance of \$2,920.
- Wages, cost for materials and cost for property rentals are typical _____ for a company.
- The government decided to _____ the money budgeted for the internet initiative until all positions in project accounting are filled in.
- Cash _____ provided by investors are very welcome to _____ financial gaps and thus repair _____ in the circular flow.
- Don't _____ your money down the _____ by investing into this company.
- The recent _____ hasn't been very popular with the staff.
- The situation was desperate, the family was _____ in debts and could not run their small business much longer.
- They have only just started _____ assets.

Name: _____ Date: _____

Gap Filling Exercise:

Before you start working on the exercise, read the words and phrases in the box below.

bridge	leakages
dip	outflows
finance	wage freeze
flow	window
level	cash flow
pay	drain
pour	inflows
put	injections
throw	laundrying
bottle up	drop
dried up	hit the ball
splash out	kick the bucket
drowning	test the waters
jumping	
liquidating	
sailing	

Now fill in the gaps with the words and phrases from the box above.
Be careful: There are more words and phrases to choose from than gaps available.
Please underline the words and phrases you cannot make sense of.

- I haven't got enough in my bank account to pay for the car to be repaired. Ok, we'll just have to _____ into our savings, then.
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- Let's _____ on new clothes.
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- The down payment of \$1,000 on Day 1 is only a _____ in the ocean. Only six days later Quick Computers' already faces a negative balance of \$2,920.
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- Cash _____ provided by investors are very welcome to _____ financial gaps and thus repair _____ in the circular flow
- Don't _____ your money down the _____ by investing into this company.
- The recent _____ hasn't been very popular with the staff.
- The situation was desperate, the family was _____ in debts and could not run their small business much longer.
- They have only just started _____ assets.

Appendix

Name: _____

Date: _____

Homework

Write a 70-100 word reply to Steve:

- agreeing to help
- commenting on Sue's and Steve's ideas
- suggesting further options by taking a closer look at the bar chart with their inflows and outflows
- suggesting a time and place to meet

Try to use as many newly learned words and phrases as possible.

2 Study II: Material and Research Tools

Study II: Lesson Plan Metaphors for Up- & Downward Movement			
Worksheet	Focus on Vocabulary Task: <i>Indicate whether the words describe upward or downward movement.</i>		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Experimental Group Task: <i>Match words with the according word fields.</i></td> <td style="width: 50%;">Control Group Task: <i>Match words with the according direction and speed.</i></td> </tr> </table>	Experimental Group Task: <i>Match words with the according word fields.</i>	Control Group Task: <i>Match words with the according direction and speed.</i>
Experimental Group Task: <i>Match words with the according word fields.</i>	Control Group Task: <i>Match words with the according direction and speed.</i>		
NEW	Writing Assignment II: Report		

Table 2: Study II: Lesson Plan

1. Worksheet for experimental group (new material cf. 7.4.2)
2. Worksheet for control group (new material cf. 7.4.2)
3. Writing Assignment (new performance measurement cf. 7.5)

Name: _____ Date: _____

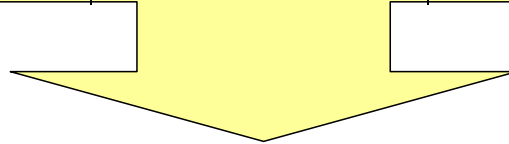
Giving financial information by describing graphs & trends

Instead of always repeating simple and rather general vocabulary, such as “go up” or “go down”, you can make your description of financial facts much more precise and interesting by varying your choice of vocabulary.

The following alphabetical list offers you helpful additional vocabulary to present graphs and trends. Some of the words in the box are borrowed from other word fields. To “mount”, for example, is taken from the word field “landscape/ mountaineering”.

1. Have a look at the box and try to figure out what the given verbs and nouns mean.
2. Indicate whether the words describe upward or downward movement. (↗, ↘, →)
3. Match as many words as possible with the according word fields given below.

bottom out	dive	recover
climb	drop	shoot up
collapse	go downhill	skyrocket
crash	grow	slide
creep up	level off	soar
cut	mount ↗	stabilize
depression	peak	take off
dip	plunge	trough



LANDSCAPE/ MOUNTAINEERING	WATER/ DIVING	HEALTH CARE
mount		
WEAPON	ROCKET/ AIRPLANE	GARDENING

Name: _____

Date: _____

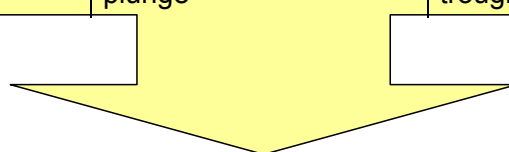
Giving financial information by describing graphs & trends

Instead of always repeating simple and rather general vocabulary, such as “go up” or “go down”, you can make your description of financial facts much more precise and interesting by varying your choice of vocabulary.

The following alphabetical list offers you helpful additional vocabulary to present graphs and trends. Some of the words in the box describe upward, whereas other words describe downward movement.

1. Have a look at the box and try to figure out what the given verbs and nouns mean.
2. Indicate whether the words describe upward or downward movement. (↗, ↘, →)
3. Match as many words as possible with the according direction and speed.

bottom out	dive	recover
climb	drop	shoot up
collapse	go downhill	skyrocket
crash	grow	slide
creep up	level off	soar
cut	mount ↗	stabilize
depression	peak	take off
dip	plunge	trough



GRADUAL UPWARD MOVEMENT	FAST UPWARD MOVEMENT	HIGH or LOW POINT
mount		
GRADUAL DOWNWARD MOVEMENT	FAST DOWNWARD MOVEMENT	OTHERS

Appendix

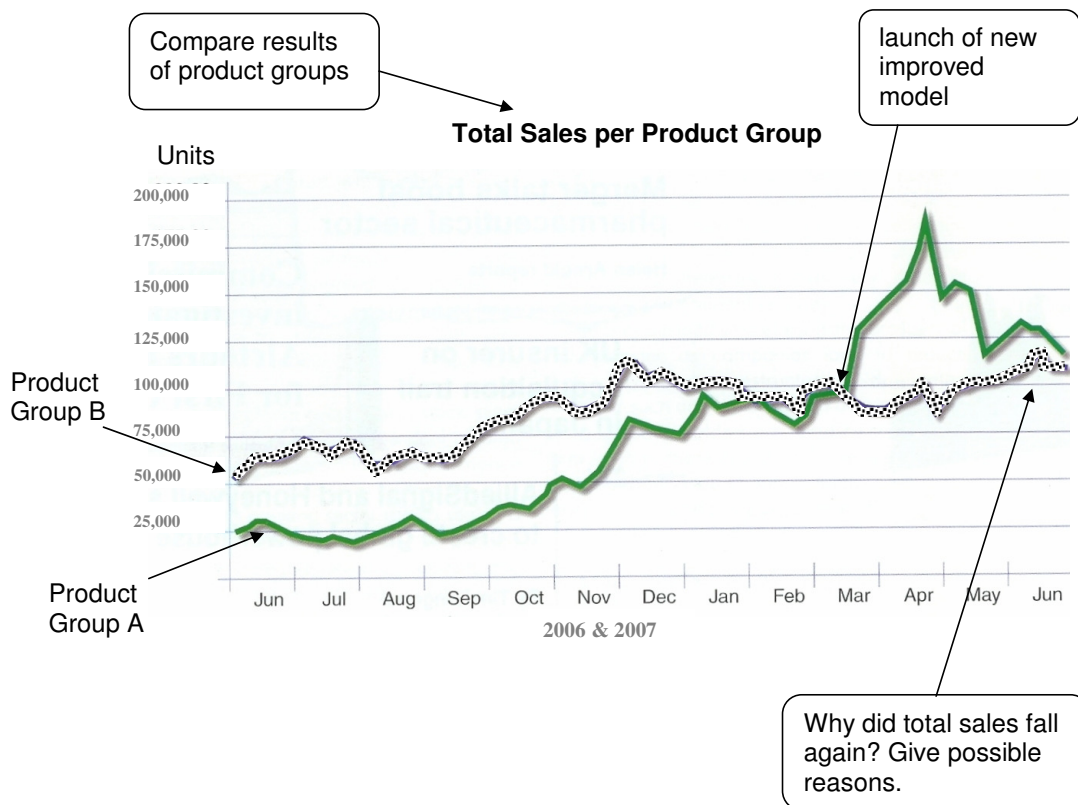
Name: _____

Date: _____

Writing

You work for EAC Ltd. and have been asked to report on the development of total sales per product group over the last year. During a meeting you already made some handwritten notes that you need to include in your report.

Write a 120-140 word report comparing the performance of the two product groups over the last two years.



Staff turnover in percent

Quarterly Statement	Product Group A	Product Group B
Jun	5 %	7 %
Oct	0%	3 %
Dec	2 %	9 %
Mar	5 %	0%
Jun	2 %	6 %

You have 25 min to complete this task.

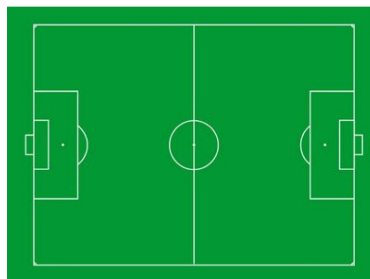
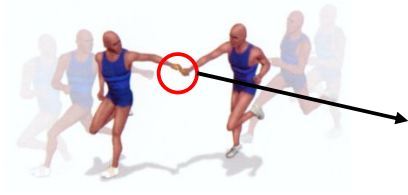
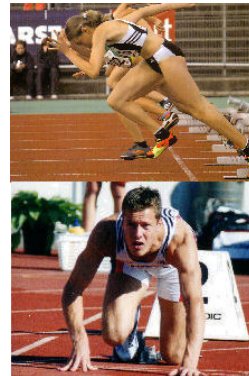
3 Study III: Competition

Study III: Lesson Plan		
BUSINESS COMPETITION IS SPORTS COMPETITION		
	Experimental Group	Control Group
	Brainstorming on Competition; transparency with visualizations	Brainstorming on Competition; no additional material used
p.118 NEW	Reading Comprehension: "Nokia and the insistent ringing of competition" Task: <i>Underline all vocabulary to do with competition.</i>	
	Experimental Group Task: <i>Sort the underlined vocabulary by word fields.</i>	Control Group Task: <i>Sort the underlined vocabulary by positive and negative aspects of competition.</i>
NEW NEW	Delayed Vocabulary Test Writing Assignment III: Report on competing products	

Table 3: Study III: Lesson Plan

1. Transparency for experimental group (new material cf. 7.4.2)
2. Text: "Nokia and the insistent ringing of competition" (adapted material cf. 7.4.1 and 7.4.2)
3. Filled in Worksheet for experimental group (new material cf. 7.4.2)
4. Mock exam (new performance measurement cf. 7.5)
5. Delayed Vocabulary Test (new performance measurement cf. 7.5)

Appendix



Nokia and the insistent ringing of competition

By John Gapper

5 In 1983, Nike enjoyed dominance of its industry, with a market share of more than 35 percent, having crushed Adidas, its original rival. But a tiny competitor was about to knock it sideways: Reebok.

10 A similar situation exists today with Nokia and Samsung. Although the Finnish company's share of the global market for mobile handsets is similar to Nike's in athletic shoes 21 years ago, its South Korean competitor has momentum. Samsung's camera phones, with twisting flip-up screens that allow users to take, send and display photos quickly and easily, are hot; Nokia's are not.

15 "We are being bombarded with requests for the new Samsung models," says James Morris, General Manager of one of the UK's largest mobile phone retailers. "Nokia has definitely dropped the ball as far as younger, trendier customers are concerned." He goes on to add: "Nokia was the major player eighteen months ago but this industry is a minefield. They just didn't notice Samsung who kept their heads down and slowly but surely gained ground with their more exciting products. Samsung has worked at a steady pace and has captured a lot of the under 30s market. They have set their sights on becoming the market leader and the chances are good that they will achieve this within the UK in the near future."

35 Samsung's global market capitalisation exceeded that of Nokia last week and this fact became evident in the companies' first quarter results. Even more annoying for Nokia is the transfer of something intangible, yet highly valuable: market leadership. The high end of the market - phones that retail for \$300 or more in the US - is no longer Nokia's. Samsung makes the expensive camera phone that a young consumer wants to have.

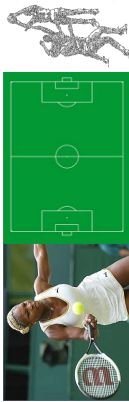
45 Nokia seems to realise how potentially serious its situation is, but two obstacles stand in the way of Nokia regaining authority. One (product design) should be solvable, given the company's heritage. The other (that Samsung is South Korean) will be harder to tackle, as other western companies are likely to find as well.

50 There is no obvious reason why Nokia should not regain its lead in design. But Samsung has another advantage, which is more difficult for any European rival to counter: the willingness of young South Koreans to pay high prices for new electronic devices. In terms of access to broad band and telecommunications infrastructure, Samsung happens to be sitting in one of the world's most wired - and wireless - markets.

60 Nokia had a similar advantage in Finland in the 1990s and exploited it to establish a strong presence round the world, including in Asia. But Europe has trailed Asia in high-speed mobile services. South Korea has more than 5m subscribers to third-generation services.

70 Samsung has shown that companies in Asian economies can use their own domestic markets to develop global products. Of course, Japanese companies, including Sony and Toyota, have done that for several decades, blending design and technology in ways unmatched by western companies. But countries such as South Korea have a demographic advantage over Japan and Europe - a plentiful supply of young people. As southeast Asian economies develop, those consumers will become increasingly valuable.

From the *Financial Times*
FINANCIAL TIMES World business newspaper.



BALL GAMES

- to drop the ball
- to have momentum
- major player
- to be harder to tackle
- unmatched
- advantage over
- competitor
-



RACING

- to work at a steady pace
- obstacles standing in the way
- competitor
-



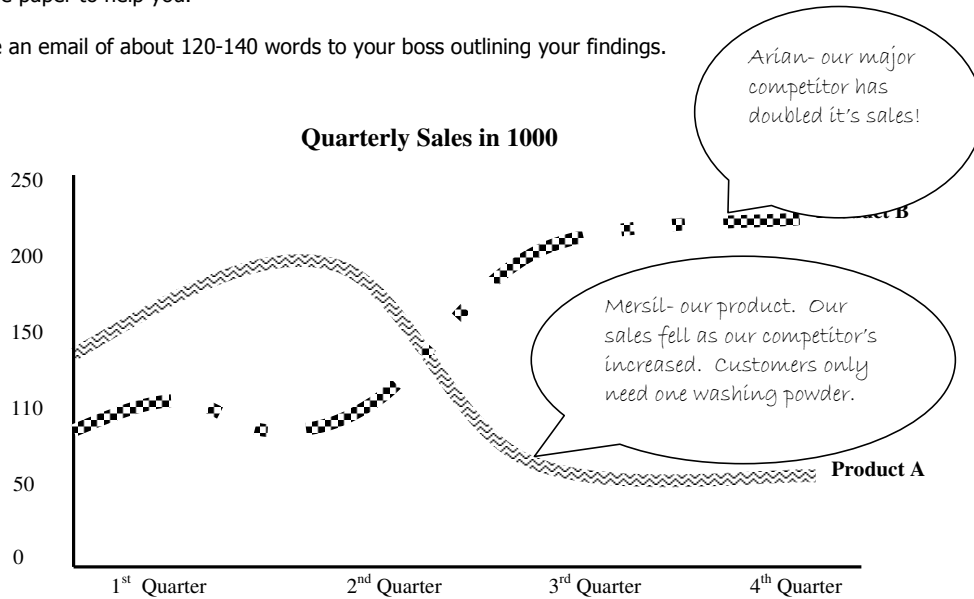
WAR

- to enjoy dominance
- to crush
- original rival
- to knock it sideways
(also boxing)
- to bombard
- minefield
- to keep one's head down
- to gain ground
- to capture
- to set one's sight on
- exceed
- leadership
- regaining authority
- to counter
- to establish strong presence
-

BWL English Semester 1 Exam Practice 2

You are working in the Marketing department of a well-known multinational. One of your most famous products has been selling badly over the past year and your boss has asked you to write an email explaining why. You have managed to get the following statistics and have made some handwritten notes on the paper to help you.

Write an email of about 120-140 words to your boss outlining your findings.

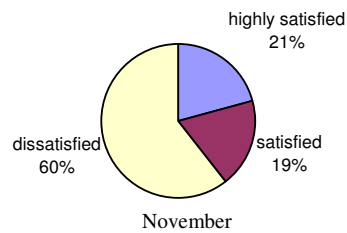
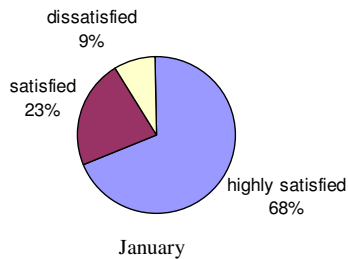


Spending on Marketing in £1000

	Product A	Product B
1 st Quarter	30	30
2 nd Quarter	30	60
3 rd Quarter	30	50
4 th Quarter	30	50

Explain the table. Explains a lot! Recommend more spending on marketing and research and development

Customer Survey - 1000 people asked



Appendix

Name: _____

Date: _____

Please read the following 10 statements and try to explain what the underlined expressions mean in this context.

1. If the sales team runs with the ball, Samsung will make a lot of money.
2. Headquarters instructed us to put a brake on our investment into new machinery.
3. We have set our sights on a 10% increase in turnover this year.
4. If the new workers are not able to maintain standards, they will soon get their marching orders.
5. We just need to work at a steady pace and everything will fall into place.
6. For us as a small company, it is not a level playing field any more.
7. We will have to rethink our international operation as the government has moved the goalposts.
8. In today's market you need to keep your eye on the ball at all times.
9. With our market dominance in the US, we are really in the driving seat.
10. Years ago Nokia used to be neck and neck with Samsung in terms of monthly turnover.

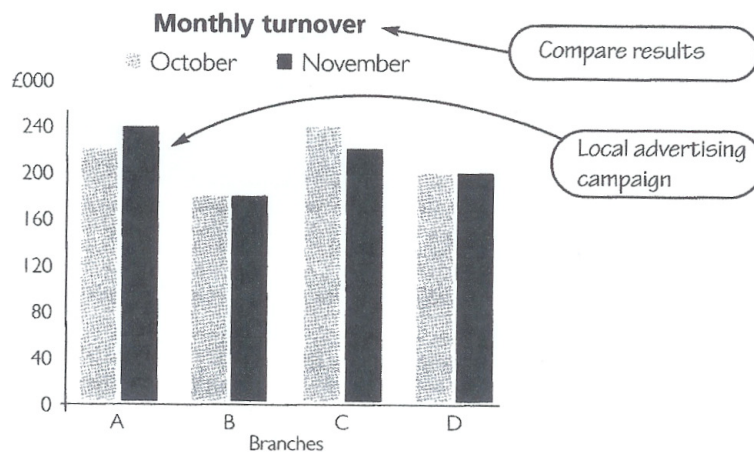
4 Final Exam

Section 3

You work for a small chain of clothing stores. The Managing Director has asked you to write an email reporting on last month's performance.

Look at the charts and table below, on which you have already made some handwritten notes. Then, using all your handwritten notes, write the email to your Managing Director. Write **120- 140** words.

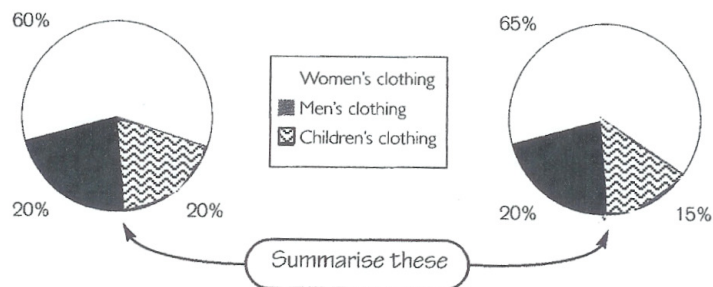
30 marks



Percentage of staff who left

	October	November
Branch A	5%	6%
Branch B	5%	5%
Branch C	2%	8%
Branch D	10%	7%

Sales by product group



4 Questionnaire

In order to be able to speak of a balanced match as far as the prerequisites of the two research groups, and accordingly the independent variables are concerned, the questionnaire collected further information on the students' interest in languages, their working habits, their past experiences with English as a school subject and present experiences with it as a subject at university, as well as their self-concept. First, Mann-Whitney *U* tests were run over all Likert-scale items in order to filter all possible discrepancies between the two groups. As a result of the 42 Likert-items only four were identified that showed significant differences between the answers of the two groups: Three of these constituted the general attitude towards language learning and working habits, that is "making a note of all new vocabulary" (item 20), "preparing or performing follow-up course work at home" (item 21), and "learning vocabulary on a regular basis" (item 22) and the last one explicitly addressed the "regularly active contribution" in the particular business English course (item 32). The Mann-Whitney *U* tests revealed significant differences between the experimental group ($N = 29$) and the control group ($N = 30$) with $p(\text{item 20}) = .030$, $p(\text{item 21}) = .012$, and $p(\text{item 22}) = .52$, reaching small to medium effect sizes of $r(\text{item 20}) = 0.28$, $r(\text{item 21}) = 0.33$, and $r(\text{item 22}) = 0.25$. In other words, on average for these four items the experimental group selected higher values on the Likert-scales than the control group. Consequently, the tests of the total scale scores for the "interest in foreign languages" as well as the "effort put in BE course" scale, that these four items belonged to, show also significant differences. Yet, all these findings apply to the whole sample and do not necessarily account for the specific measurements chosen for the parts of the study. Statistic computation was carried out with matched samples only.

Similarly, the students' self-concept, that is their self-perceived competence was measured by five different items (49-53) and finally summarized¹ to a scale. Here the Mann-Whitney *U* Test showed no significant difference between the two groups. Likewise the school experience with English as a subject, measured by item 39 to 42, and the effort put into the business English course, measured by item 30-33, identified no particular difference between the groups. With 2.00 for experience at school, 23.00 for effort put in Business English course, and 2.00 for self-concept, the medians for the three scales draw a neutral to rather positive picture.

¹In order to be able to use them for statistic computation item 50 and 53 were reverted as they were negatively formulated in the questionnaire.

Appendix

Name: _____

Date: _____
 stimme
gar nicht **stimme**
 zu voll
 zu

Ihr Business Englischunterricht im Studium

• Ich verstehe alles, was unsere Dozentin sagt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich kann unserem Englischunterricht problemlos folgen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich mag unseren Business Englischunterricht.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich mache regelmäßig meine Hausaufgaben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich beteilige mich regelmäßig am Unterrichtsgespräch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich interessiere mich für meine eigenen Fehler.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich fühle mich ausreichend gefördert.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich fühle mich manchmal überfordert.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich bin der Meinung, dass wir gut auf die sprachlichen Anforderungen im späteren Berufsleben vorbereitet werden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Sprechen ist mir wichtiger als Schreiben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Die Visualisierungen im Unterricht der letzten drei Wochen (Cash Flow, Describing Graphs, Competition) fand ich hilfreich.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Englischunterricht in der Schule

• Englisch gehört in der Schule zu meinen Lieblingsfächern.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Meine Englischlehrer in der Schule konnten sehr gut erklären.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• In der Schule hatte ich Englisch als Leistungskurs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Meine Englischlehrer in der Schule waren sehr gut.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Vokabellernen

• Ich baue mir für viele Wörter Eselsbrücken.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich kann mir neue Wörter am besten einprägen, wenn ich sie schreibe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich kann mir neue Wörter am besten einprägen, wenn ich sie laut spreche.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich kann mir neue Wörter am besten einprägen, wenn ich sie mit einem Bild verbinde.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich kann mir neue Wörter am besten einprägen, wenn ich weiß, wo sie herkommen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich kann mir neue Wörter am besten einprägen, wenn ich die deutsche Übersetzung kenne.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Studium allgemein

• Wenn ich mir anschau, was wir im Studium können müssen, halte ich mich für begabt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Wenn ich mir anschau, was wir im Studium können müssen, meine ich, dass mir das Lernen von neuen Sachen schwer fällt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Wenn ich mir anschau, was wir im Studium können müssen, finde ich, dass ich mit den Aufgaben gut zurechtkomme.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich gehöre der Leistung nach zum oberen Drittel der Studierenden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Ich denke, dass ich weniger begabt bin als meine Kommilitonen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix

Name: _____

Date: _____

Standardisierte Fragebögen bieten leider nur wenig Platz für längere Anmerkungen. An ergänzenden Hinweisen oder Stellungnahmen bin ich jedoch sehr interessiert und freue mich über Ihre Ideen zum Thema Business Englisch als Pflichtfach im BWL-Studium, zur Unterrichtsgestaltung oder zum Vokabellernen.

Vielen herzlichen Dank für Ihre Mitarbeit!

Bei Interesse, stelle ich Ihnen die Ergebnisse meiner Studie gerne zur Verfügung.

Bitte geben Sie dazu hier Ihre E-Mailadresse an: _____

CURRICULUM VITAE

Persönliche Daten

Name Constanze Juchem-Grundmann M.A.
Geburtsdatum, -ort 15.12.1976, Koblenz
Staatsangehörigkeit deutsch
Familienstand verheiratet

Schulbildung

1983-1987 St. Martin Grundschule, Bassenheim
1987-1996 Staatliches Hilda-Gymnasium, Koblenz
06/1996 Abitur am Staatlichen Hilda-Gymnasium, Koblenz

Studium

10/1996-02/2001 **Studium für das Lehramt an Realschulen:**
Hauptfächer Anglistik und Germanistik an der Universität Koblenz-Landau, Campus Koblenz

04/2000-07/2000 **Examensarbeit** in Anglistik: *Change of Culture – Native Canadians in British Columbia.*

02/2001 **Erstes Staatsexamen für das Lehramt an Realschulen**

10/2000-12/2003 **Magisterstudium:** Hauptfach Anglistik, Nebenfächer Germanistik und Wirtschaftswissenschaften, Universität Koblenz-Landau, Campus Koblenz

03/2003-09/2003 **Magisterarbeit** in Anglistik und Wirtschaftswissenschaften:
Interkulturelle Kompetenz als Bestandteil der Weiterbildung. Integration berufsrelevanter Qualifikation in den Studiengang B.A. Anglistik.

12/2003 **Magister Artium**

07/2005-09/2009 **Dissertationsprojekt** am Fachbereich II, Institut für Anglistik, Bereich Kognitive Linguistik & Fremdsprachendidaktik

08/2007-08/2009 **Promotionsstipendium des rheinland-pfälzischen Hochschulsonderprogramms "Wissenschaft Zukunft";**
UPGRADE: Unterrichtsprozesse Graduiertenschule der Exzellenz

Beruflicher Werdegang

04/1997-03/2001 **studentische Hilfskraft** am Institut für Anglistik, Universität Koblenz-Landau, Campus Koblenz

04/2001-12/2003 **wissenschaftliche Hilfskraft** am Institut für Anglistik

01/2004-04/2004 **wissenschaftliche Hilfskraft** am ZFUW der Universität Koblenz-Landau, Bereich „Fremdsprachen in Grund- und Hauptschule“

05/2004-08/2009 **wissenschaftliche Mitarbeiterin** am ZFUW der Universität in Koblenz; **Studienkoordinatorin des Bereichs Sprachen**
(08/2007-08/2009 beurlaubt zur Fertigstellung der Dissertation)

seit 08/2009 **wissenschaftliche Mitarbeiterin** am Institut für Anglistik