UNIVERSIDADE FEDERAL DE SANTA CATARINA
PÓS-GRADUAÇÃO EM LETRAS/INGLÊS E LITERATURA
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CONTEMPORARY THEORY OF METAPHOR:
AN ANALYSIS OF LAKOFFIAN ECHOES IN BRAZIL

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Dissertação submetida ao Programa de Pós-graduação em Letras/Inglês e Literatura Correspondente da Universidade Federal de Santa Catarina para obtenção do Grau de Mestre em Letras.
Orientador: Prof.ª Dr.ª Josalba Ramalho Vieira

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Florianópolis

2010

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Esta Dissertação foi julgada adequada para obtenção do Título de Mestre em Letras, e aprovada em sua forma final pelo Programa de Pós-graduação em Letras/Inglês e Literatura Correspondente da Universidade Federal de Santa Catarina.

Florianópolis, 10 de novembro de 2010.

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RESUMO

Nos últimos trinta anos, a metáfora tem sido observada sob aspectos mais psicológicos e cognitivos, tornando-se objeto de interesse central nas ciências humanas, principalmente na psicologia cognitiva que tem desenvolvido uma grande quantidade de pesquisas dedicadas ao processo de compreensão da metáfora. O objetivo deste estudo é contribuir com um mapeamento das diferentes perspectivas dos pesquisadores brasileiros dedicados à Teoria Contemporânea da Metáfora. Os dados consistem de trezentos e cinco estudos empíricos publicados entre 1998 e março, 2010. A análise mostra que (1) São Paulo foi o estado brasileiro mais frutífero a desenvolver pesquisas no tema e *PUC-SP* foi a universidade com o maior número de publicações, seguida pela *UFJF* e a *UFSC*. Também o *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* – demonstrou ser o grupo de pesquisa com contribuições mais significantes para o campo; (2) a maioria dos estudos foi conduzida em português como língua materna - principalmente os baseados em Lingüística de Corpus; (3) a investigação brasileira tem sido conduzida de forma qualitativa e possui abundante pesquisas etnográficas e de ação; (4) há uma tendência em favor do uso da metodologia de Lingüística de Corpus com ênfase no uso das ferramentas fornecidas pelos Laboratórios de língua brasileiros; (5) existe um leque de investigadores que têm observado a metáfora conceitual sob uma perspectiva mais filosófica e semântica; (6) a maioria dos pesquisadores selecionados neste estudo analisaram a indeterminação de significados na língua (real) em uso; (7) *Metaphors we live by* (Lakoff & Johnson 1980) e sua tradução ao português - pelo *GEIM* – demonstrou ser indispensável na literatura brasileira. Resultados gerais sugerem que Brasil é um campo fértil e tem explorado a abordagem Lakoffiana da metáfora nas mais diversas áreas de estudo.

Palavras-chave: metáfora conceitual, mapeamento, pesquisadores brasileiros.

ABSTRACT

In the last thirty years, metaphor has been observed through more psychological and cognitive aspects becoming a central object of interest in human sciences which have been developing a large quantity of empirical research regarding the process of metaphor comprehension. The objective of this study is to contribute to the field by mapping the different perspectives supported by Brazilian scholars devoted to the Contemporary Theory of Metaphor. The data consist of three hundred and five empirical studies published between 1998 and March, 2010. The analysis shows that (1) São Paulo was the most fruitful Brazilian state developing research in the subject and *PUC-SP* was the university with the highest number of publications, followed by *UFJF* and *UFSC*. Also *GEIM - Grupo de Estudos da Indeterminação e da Metáfora -* is the research group with most significant contributions to the field; (2) most of the studies have been conducted in Portuguese as mother tongue - mainly the ones based on Corpus Linguistics; (3) Brazilian investigation has been conducted in a qualitative fashion and is abundant with ethnographic, action research; (4) there is a tendency favouring the use of Corpus Linguistics methodology with emphasis on the use of tools provided by Brazilian Laboratories of language; (5) there is a branch of scholars who have observed conceptual metaphor through a more philosophical and semantic perspective; (6) most of the scholars selected in the present study have analysed the indeterminacy of meanings in (real) language in use; (7) *Metaphors we live by* (Lakoff & Johnson 1980) and its translation to Portuguese - by *GEIM* - has proved to be indispensable whithin Brazilian literature. General findings suggest that Brazil is a fertile field and has explored Lakoffian approach to metaphor in the most diverse areas of study.

Keywords: conceptual metaphor, mapping, indeterminacy, Brazilian researchers.

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1 INTRODUCTION

1.1 STATEMENT OF THE PROBLEM

In the last thirty years, metaphor has been observed through more psychological and cognitive aspects, definitively contributing to modify a two-millennium length tradition (Lakoff, 1986) that, following Aristotle's rhetoric tradition initiated in IV B.C., considered metaphor as a figure of speech which had mainly an aesthetic function, typically found in literature. More recent research has been devoted to describe metaphor as a fundamental cognitive phenomenon that goes beyond the Aristotelic conception. Metaphor is not only present in poetry or literary texts but rather pervades any type of language, including the language of science. Since 1970, the study of metaphor has become a central object of interest in human sciences, mainly in cognitive psychology which has been developing a large quantity of empirical research regarding the process of metaphor comprehension (Zanotto, Nardi, Palma, Canolla, Leme, Silveira, Vereza, & Vieira, 2002, p. 13).

The turning point was Lakoff and Johnson's 1980 publication[1], *Metaphors we live by*. Since then, their research agenda has mainly been guided by the notion that the systematicity of conventional metaphor expressions constitutes what Gibbs calls "an important source of evidence for the idea that people think metaphorically" (1999, p. 42). According to him, this proposal was the one that triggered research on metaphor, turning it a central issue in research in Human and Social Sciences in the last decades. Since 1980, Lakoff and Johnson have studied metaphor as being part of our "everyday language and thought" (p. ix). They have claimed that ordinary people make use of metaphors without even noticing them, in other words, "every individual mind thinks metaphorically" (Cameron, 2003 p. 22). Lakoff and Johnson's proposal "is still a paramount theoretical framework for studies on metaphor and, according to Gibbs (1999), it contributes for the status of metaphor as one of the most relevant contemporary research topics" (Zanotto, Nardi, & Vereza, 2006b, x).

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[1] Although Lakoff has co-written books with other colleagues such as Johnson, Turner, Núñez, and so on, this study will refer to the Conceptual Theory of Metaphor as "Lakoffian" to make reading more fluent. This does not mean that the theory is attributed to him only.

On the other hand, as Lakoff and colleagues have emphasized the cognitive nature of metaphor rather than its linguistic aspect, researchers such as Raymond Gibbs, Gerard Steen, and Jakob Mey have focused on the interaction between metaphor in thought and metaphor in language. The main discussion is "whether the fact that people use metaphor in language indicates that they are thinking metaphorically" (Zanotto *et al.*, 2006b). This has motivated fruitful investigations worldwide concerning this subject. Other researchers dedicated to describe metaphor as a fundamental cognitive phenomenon that goes beyond a mere figure of speech that pervades any type of language (Holmquist, 2006), including the language of science.

As a natural consequence, a great amount of studies in the area has been produced in the last years. However, there are very few studies which organize what has been done in this field until the current moment. Evidence of this is that there are few similar studies so far: van Noppen, De Knop, and Jongen (1985); van Noppen and Hols (1990); Sardinha (2007). Focusing on this fact, the proposal of the present study is to contribute to metaphor studies in Brazil by systematizing the investigation that has been conducted so far. This research proposes to conduct a qualitative investigation in order to unveil Lakoffian echoes in Brazil and the state of the art in metaphor empirical studies in Brazil. Therefore, it becomes significant to a) analyse the magnitude of influence that Lakoff and Johnson's concept of metaphor has had in research on teaching and learning context in Brazil, by eliciting which elements of Contemporary Theory of Metaphor are present in mainstream metaphor theories in the country; b) to reflect on how Brazilian researchers approach the Contemporary Theory of Metaphor, that is, which are their concerns in relation to it. In other words, one objective of this study is to present the different approaches to metaphor. In an attempt to find out: the niches of metaphor investigation in Brazil; the areas in which metaphor has been investigated in Brazil; the current research tendencies on Lakoffian Theory of metaphor in the country; the methodological approach or instruments used in the analysed articles, theses and dissertations; and so on.

Another issue to be considered in this research is c) how the study of metaphor in general and of the Contemporary Theory of Metaphor in specific, has evolved throughout the years. This will lead to unveil how researchers' positions towards metaphor have differed since the concept was firstly established.

In sum, it appears to be of great importance to try to gather and organize the pieces of research that have been produced in Brazil in

order to facilitate the access, approach, consultation, interpretation and study of the investigation on metaphor in the country. That is, the intention is to facilitate the process at the moment of exploring how researchers have acknowledged and dealt with the Contemporary Theory of Metaphor in Brazil, in the last decades. The proposal is to map research in order to demonstrate which are the niches, tendencies and paradigms underlying Brazilian researchers' and teachers' approach to metaphor. This will help to comprehend the changes in the applied linguistic investigation of this subject, that is, the discrepancies, adjustments and diverse perspectives of this new conception.

1.2 ORGANIZATION OF THE THESIS

This thesis is organized in five chapters as it is described as follows:

Chapter I establishes the significance of this research as well as the introduction to the problem. This introduction, presents the matter to be investigated: Contemporary Theory of Metaphor and its repercussion in the development of cognitive studies and research.

Chapter II includes the review of literature concerning the paradigms and theories on metaphor discussed in detail, since they are the focus of this study.

Chapter III is the description of the method used to carry out the investigation, including the objectives of the study, the general and specific Research Questions, and the criteria for data selection. The chapter reports details of the steps followed along the research, the procedures and techniques used in order to gather and organize data and tables to better illustrate these steps.

Chapter IV accounts for the findings from data analysis made in order to answer the specific research questions. Thus, the outcome of the research and the discussion regarding the results retrieved from it are in this part.

Chapter V concluding, this section consists of the final considerations reached through the completion of the theoretical investigation undertaken in this study. As a consequence, there is the answer for the general research question established in Chapter III. This chapter states some suggestions for further research as well as some limitations found during the process of this research. Also, some pedagogical implications are included in this part.

2 REVIEW OF LITERATURE

2.1 INTRODUCTION

As essential theoretical framework of the proposed study, this section presents a concise overview of the issues of cognitive approach to metaphor and its pervasiveness as well as a state of the art regarding Brazilian research on metaphor. The major aim of this Chapter is to present the origins of the concept of metaphor, as well as its history since it was first established. Firstly, there is a brief review of the etymology and genesis of the concept of metaphor. Secondly, there is a report of how the concept of metaphor has changed throughout the years. Thirdly, there is the presentation of Lakoff and Johnson's theory and examples illustrating their concept about the pervasiveness of metaphor and how it is part of our everyday life. Next, there is a brief overview of Brazilian theories based on Lakoffian concept of metaphor, focusing on English as a Foreign Language context in Brazil. Finally, a summary of the Chapter is presented.

2.2 CONCEPT OF METAPHOR

"IDEAS DON'T COME OUT OF THIN AIR"
(Lakoff & Johnson, 1980)

Taking into consideration its etymology, metaphor is a word that derives from the Greek (*μετά*) *meta*, meaning "a change" and (*φέρω*) *phero, pherein* implying "to bear, or carry". Thus, originally, metaphor was a Greek word, (*μεταφορά*) *metaphorá,* meaning "transfer", also in modern Greek (*μεταφέρω*) *metaphero* means "to carry over", "to transfer". Similarly, the English word metaphor derives from the 16th-century Old French *métaphore* "transfer"; from the Latin *metaphora* "carrying over". In this sense, metaphor is "the transference of meaning from one thing to another" (Sardinha, 2007b, p. 21). As Lakoff (1993) wrote, "metaphor was defined as a novel or poetic linguistic expression where one or more words for a concept are used outside of their normal conventional meaning to express a 'similar' concept" (p. 203).

In history, in Aristothelic times, metaphor use was considered improper in scientific discourse, which was supposed to be literal, precise and clear. As Steen (1994, 2004), and Canolla (1997) declared, metaphor was a linguistic oddity present only outside the centre of people's occupations. More recently, there was a period during the second half of the twentieth century, when philosophers diminished the interest on metaphor because of the emergence of the neo-positivism[2]. Scholars that follow this theory are more concerned about truth, falsity and objectivity. Due to this fact, metaphor is not very important because it was considered a deviance or manipulation of the truth; therefore, it would not be possible to empirically verify what metaphors imply (Sardinha, 2007b, pp. 25-26). Nevertheless, in this period, important names made a significant contribution to metaphor concept. One of them is Searle (1993), a philosopher who stated that metaphor is an indirect discourse and its content can be paraphrased in a direct way. On the other hand, Gibbs (1990, 1994), challenged the indirectness of metaphorical interpretation and found no difference in processing time for literal and metaphorical speech. Indeed, Glucksberg, Gildea, and Bookin, (1982); and Glucksberg and Keysar (1993) from psycholinguistics, found that subjects actually took longer to access the literal meaning of sentences that also had plausible metaphorical interpretations, even when they were explicitly told to focus only on literal meaning. According to this, metaphorical meaning is a form of direct and explicit meaning, and hence belongs to 'what is said' rather than to what is implicated.

Since 1970 approximately, after the neo-positivism dominance, Cognitive Sciences have centred the attention to metaphor studies thus activating discussions in the area. In order to understand this field of research, a brief contextualization will be presented in decreasing order from macro to micro conceptualization. Firstly, Embodied Cognitive Science is an interdisciplinary field of research that aims at explaining the mechanisms underlying intelligent behaviour. It encompasses knowledge from Embodied Philosophy and the related research fields of Cognitive Science, Psychology, Neuroscience and Artificial

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[2] **Neo-positivism** (also called **logical empiricism** and **logical positivism**) is a school of philosophy that combines empiricism – the idea that observational evidence is indispensable for knowledge of the world – with a version of rationalism incorporating mathematical and logical-linguistic constructs and deductions in epistemology. This theory originated from the discussions of the "First Vienna Circle", in Austria, in the period between the 1920s and the early 1930s.

Intelligence. Then, Cognitive Science is the interdisciplinary study of how information is represented and transformed in the brain. It consists of multiple research disciplines, including Psychology, Artificial Intelligence, Philosophy, Neuroscience, Learning Sciences, Linguistics, Anthropology, Sociology, Philosophy of mind, Computer Science, Biology, and Education. For better visualization of the disciplines constituting Cognitive Science, a picture will be presented as follows:
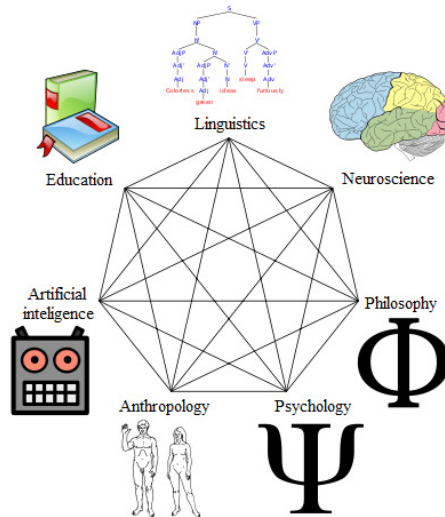
Figure 1. Cognitive Science.
Retrieved from http://en.wikipedia.org/wiki/Cognitive_science, in August, 2009.

There are two main approaches to Cognitive Science:
- First Generation which was established in the 1950s and 1960s;
- Second Generation which evolved in the mid-1970s. It supports the notion that the mind is highly embodied and sensory-motor influence is central for reasoning. Lakoff and Johnson have tried to embed the Metaphor Theory into existing theories shared by the Second Generation of Cognitive Science, because its foundations are not a priori assumptions (as suggested by the First Generation), but rather they are based on empirical evidence.

Consequently, the study of metaphor has become a central object of interest to Cognitive Science and a large quantity of empirical research regarding the process of metaphor comprehension has been

developed (Zanotto *et al*, 2002, p. 13). This means that, in the last three to four decades, researchers grew interest on metaphor in such way that several new theories originated and a vast amount of literature appeared. Some of the most influent names, as Sardinha (2007b, p. 27) cites, are: I. A. Richards -who coined the terms 'Topic', 'Tenor', 'Vehicle', 'Ground' and 'Tension'-; Max Black -who developed three important theories: Substitution Theory, Comparison Theory and Interaction Theory (Black 1962); Eva Kittay; Paul Ricoeur; Guiles Fauconnier; Mark Turner; George Lakoff; Mark Johnson; Michael Halliday; and Lynne Cameron.

At this point, it is worthwhile remembering that currently, based on Sardinha (2007b, p.17), there are three major theories related to metaphor approach that coexist, among others, so far:

Conceptual Metaphor: considered the most influent one, founded by George Lakoff and Mark Johnson. It states that metaphor is mainly a cognitive (mental) phenomenon. This is the theory which this study is subscribed to.

Systemic Metaphor: the most recent from these three theories, headed by Lynne Cameron, it is widely accepted by scholars in Brazilian context. This theory deals with the nature of metaphor in use and its dynamicity within discourse (Cameron 2003b, 2007; Cameron & Deignan, 2006). That is, it attempts "to resignify the cognitive view of metaphor and proposes that conceptual metaphors should not be understood as static and fixed mappings, but as dynamic and adaptive due to the emergence of new metaphors in discourse." (Paiva, 2009)

Grammatical Metaphor: this theory was created by Michael Halliday and supports his theory of language (systemic-functional-linguistic). In this sense, metaphors depend exclusively upon the grammatical structure of an expression. Metaphor, according to Halliday, is a verbal transference; a variation in the expression of meanings which involves a non-literal use of a word. More specifically, metaphor is an irregularity of content that consists the use of a word in a sense different from its proper one and related to it in terms of similarity.

Regarding these three theories, as aforementioned, this piece of research subscribes to Lakoffian theory. So, the other theories will not be more thoroughly addressed in this study, but rather in future ones. The reason that motivated this choice was the significance this theory had in general metaphor studies and, more specifically, the influence it had over recent metaphor studies. In order to demonstrate the importance of this theory to general metaphor studies and, more

specifically to this survey, a brief overview of the **Conceptual Metaphor** will be presented as follows.

2.3   THE CONTEMPORARY THEORY OF METAPHOR

In the 80s, a breakthrough in metaphor approaches occurred and a new theory, the Contemporary Theory of Metaphor emerged and established another perspective for theoreticians devoted to metaphor studies. Lakoff and Johnson's publication, *Metaphors we live by*, in 1980, became the official turning point as the authors argued that not only our thought is metaphorical, but also is our action. According to the theory proposed by these scholars, even if the abstractions or the subjectivity of our mind is a reality, much of what we think and update linguistically -through a cognitive mechanism-, is related to our ordinary experiences. Such cognitive mechanism we activate to update the various forms of language is called by the authors *metaphorical conceptualization process*, ie, conceptual metaphors, which derive from mappings among certain conceptual domains. They claim that ordinary people make use of metaphors without even noticing them, in other words, as Cameron (2003a) refers to, "every individual mind thinks metaphorically" (p. 22). Since then, they have studied metaphor as being part of our "everyday language and thought" (p. ix) and, as any other theory, it has been in constant development and change. The publishing of the idea that metaphors represent a cognitive based phenomenon dependent on cultural interferences (Boers & Demecheleer, 2001; Boers, 2003; Wee, 2006; Littlemore, 2003) lively discussions among scholars arose in the field and, consequently, activated the research on the subject. Steen (1999), who is one of the critics of this theory, acknowledged that Lakoff and Johnson's outcomes concerning the theory of conceptual metaphor are broadly accepted as an important component of the general metaphor theory. Steen also stated that this conceptual metaphor theory refers to the relation between metaphor and human cognition and recognizes it as such. This evidences that Lakoff and Johnson's publication *Metaphors we live by*, in 1980, reactivated the debate in the area and metaphor investigation came to light.

According to what Lakoff declared in his 1993 publication, Reddy (1979) was the first to demonstrate by rigorous linguistic analysis that the locus of metaphor is in thought, not in language. Reddy's study revealed how metaphors are basically a cognitive process, part of human

communication and are present in our everyday language. He states that naturally, unconsciously, and automatically metaphors come to our minds when we are communicating or listening to someone or even reading. Following his thoughts, Lakoff and Johnson (1980) have worked out elements of a cognitive, experientialist approach and revising central assumptions in the Western philosophical tradition. In relation to their findings, Zanotto *et al*. (2002) emphasized that they developed and improved Reddy's idea by making a thorough analysis of ordinary linguistic expressions which led them to realize that human verbal communication reveals a broad metaphorical conceptual system present and pervasive in everyday life in language, thought and action. They assert: "Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (p. 4). Complementary to this, Cameron (2003a) states that "Metaphor is not just a surface ornamentation of language but a phenomenon of human thought processes, then metaphor in real world language becomes an important investigative focus" (p. 2).

Focusing our interest on the conceptualization of metaphor which this survey is subscribed to, it is worthwhile relating some of the findings, theories and analysis which Lakoff and Johnson published in their book *Metaphors we live by*. Among many other conclusions, they mentioned:

> Primarily on the basis of linguistic evidence, we have found that most of our ordinary conceptual system is metaphorical in nature. And we have found a way to begin to identify in detail just what the metaphors are that structure how we perceive, how we think, and what we do (Lakoff & Johnson, 1980, p. 05).

In addition to that, they stated that our metaphorical concepts structure what we perceive, how we get around in the world, and how we relate to other people as metaphor is a tool for understanding our world and our selves. Also, Lakoff and Johnson gave metaphor an accurate definition as "the essence of metaphor is understanding and experiencing one kind of thing in terms of another" (p. 5). To be more specific, the locus of metaphor is in the way we conceptualize one mental domain in terms of another. In order to clarify what it means for a concept to be metaphorical and for it to structure our everyday activity and thought, we can observe one of the instances they give:

ARGUMENT IS WAR[3]

There is the concept ARGUMENT and the conceptual metaphor ARGUMENT IS WAR in which we structure, understand, perform and talk about in terms of WAR. Although there is no physical combat, whenever we experience an argument there is a verbal battle. People commonly use words that belong to the same semantic field of wars, that is, we use terminology such as defend, demolish, win, lose, attack, strategy, target, to name just a few. Quoting metaphorical sentences as example given by Lakoff and Johnson (1980, p. 4): "If you use that *strategy,* he'll *wipe you out*". *"I demolished* his argument"; "I've never *won* an argument with him". They noticed that when people are discussing, for example, they attack or defend someone with statements that they hope to be indefensible. That is very common in election season, considering that the lexicon related to war appears more frequently and is reflected by the candidates' reactions when they win or lose an argument in a political debate. Following their reasoning, in this illustration, people experience an argument as being a war. Hence, 'ARGUMENT IS WAR' is the metaphorical concept that structures what humans do and how they understand that kind of behaviour when having an argument. As previously mentioned, we only understand this metaphor because our conceptual system is metaphorically constructed in a way that we not only talk about, but mainly experience an argument in terms of our conceptual knowledge that resembles that of war.

As another example, we may consider the occasions in which people want to express some thoughts that are more easily expressed through metaphors or "metaphor-based idioms" (Kövecses & Szabó, 1996, p. 331)[4], such as when they prefer to say that someone has *kicked the bucket* meaning that someone has died. In fact, metaphors are the tools that help us explain processes and phenomena we cannot find words to describe. For Gibbs, 1993, "people make sense of idioms because they ... recognize the metaphorical mapping between two conceptual domains of information that partially explains why idioms mean what they do" (p. 272). Moreover, Littlemore (2001) states that the metaphoric intelligence can bring benefits to the language learning

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[3] Conveptual metaphors will be presented in capital letters based on the procedure adopted by Lakoff and Johnson (1980). Linguistic metaphoric expressions, that is, the manifestations and concretizations of such conceptual metaphors will appear in lower-case letters.
[4] The reader is invited to broaden the scope of investigation of *idioms* in Glucksberg (2001); Boers and Demecheleer (1998); Boers, Eyckmans, and Stengers (2007).

process, which contributes to the language production and facilitates comprehension of metaphoric expressions.

Additionally, in order to understand how is it that our conceptual system is metaphorically based, it is necessary to ponder about the concept of *domain*. There are two basic levels in the processing of metaphors: the conceptual and the linguistic one. In the case of the conceptual metaphor ARGUMENT IS WAR, there are two different domains which are mapped onto each other: the first one is the domain ARGUMENT, and the second one is the domain WAR. The former is the *target domain*, while the latter is the *source domain*. The source domain is understood as the metaphorical image while the target domain is the concept receiving metaphorical treatment. Thus, when the concept from the source domain WAR is mapped onto the target domain ARGUMENT, we are led to the conceptual metaphor ARGUMENT IS WAR. Nevertheless, for Lakoff and Johnson, conceptual metaphors such as the one above cited are systematic and therefore manifested in a regular pattern through different metaphors which follow a similar pattern. So, it is important to note that conceptual metaphors can be influenced by cross-cultural differences (Boers & Demecheleer, 2001; Boers, 2003) and that they must be approached beyond cross-linguistic differences into more general cross-cultural variations in usage (Pinker, 2010). To this, Kövecses and Szabó (1996) add that metaphors can be highly familiar for people from the same culture or same L1[5], and less familiar for people from different cultures or different L1. They will vary according to cultural and social factors among others, therefore, "a conceptual metaphor may be similar in two cultures but expressed differently in the languages" (Cameron, 2003a, p. 20).

As distinguished before, figurative language used to be considered a deviation of common language within rhetoric tradition. Therefore, it was thought as being characteristic of persuasive discourse and poetry. The latter was judged "beyond ordinary language, something essentially different, special, higher, with extraordinary tools and techniques… instruments beyond the reach of someone who just talks" (Lakoff & Turner, 1989, p. ix). However, another important innovation in relation to the Contemporary Theory of Metaphor emerged in 1989 with a new book written by Lakoff, together with Turner. In this book, they made an intense analysis of poems from Shakespeare, Yeats, E. Dickinson, William Carlos Williams, Frost, W. S. Merwin, to mention just a few of them. Throughout this in-depth

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[5] L1 stands for mother tongue or first language.

survey, they proved that poets speak to us using basically the same tools non-poets use and that literary metaphors are extensions of everyday metaphors. Consequently, we can understand them exactly because they use the models of thought, that is, the implicit knowledge we all possess but in a more talented, skillful way than we ordinarily do. They claim: "General conceptual metaphors are thus not the unique creation of individual poets but rather part of the way members of a culture have of conceptualizing their experience" (Lakoff & Turner, 1989, p. 9). Moreover, they provided enough evidence to affirm that metaphor is an irreplaceable, conventional, omnipresent phenomenon that is indispensable, not only for our imagination but also for our reason, differing from what was formerly thought. Another peculiarity of metaphor is that it is accessible to everyone as it is a matter thought. Hence, it encompasses every thought, independently of its type, that is, thought about emotions (Kövecses, 1999, 2003b)[6], society, human character, language and "about the nature of life and death" (Lakoff & Turner, p. xi). Succinctly expressed, they demonstrated that the conventional metaphorical system is the basis of our comprehension and production of metaphors in literary texts. As an example of it they quote a piece of Robert Frost's poem, "The Road Not Taken":

> Two roads diverged in a wood, and I –
> I took the one less travelled by,
> And that has made all the difference,

By reading this, it can be inferred that the poet is discussing the options people have in life and in this case, he chose a different path, consequently, a different way of living his life. For Lakoff and Turner (1989) this deduction originates from our implicit knowledge of the construction regarding the LIFE IS A JOURNEY metaphor. As long as the readers are aware of the structure of this metaphor it means that they also know a set of correspondences (which they name "mapping") between the two conceptual domains of life and journeys. To illustrate this, they provide correspondences such as these:

- The person leading a life is a traveller.
- His purposes are destinations.
- The means for achieving purposes are routes.
- Difficulties in life are impediments to travel.
- Counsellors are guides.

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[6] The reader is invited to consult Kövecses, 1990, 1991a, 1991b, 1995a, 1995b, and 1998. In these papers he thoroughly explores the emotional influence in cognitive processes linked to Lakoffian paradigm.

- Progress is the distance travelled.
- Things you gauge your progress by are landmarks.
- Choices in life are crossroads.
- Material resources and talents are provisions.

Regarding the **Conceptual Metaphor** theory, it is meaningful to summarize some of its main concepts[7]. Most of them were officially established in Lakoff's article *The Contemporary Theory of Metaphor*, in 1993:

- "Basic **conceptual metaphors** are part of the common conceptual apparatus shared by members of a culture. They are systematic in that there is a fixed correspondence between the structure of the domain to be understood (e.g., death) and the structure of the domain in terms of which we comprehend it (e.g., departure). We usually understand them in terms of common experiences. They are largely unconscious, though attention may be drawn to them. Their operation in cognition is almost automatic. And they are widely conventionalized in language, that is, there are a great number of words and idiomatic expressions in our language whose meanings depend upon those conceptual metaphors" (Lakoff & Turner, 1989). For instance, in the LOVE IS A JOURNEY metaphor, ontological correspondences that constitute this metaphor map the ontology of travel onto the ontology of love (Lakoff, 1993, p.210). In other words, the concept of love is understood in terms of the concept of a journey. Therefore, according to this concept, love would be a journey. This is a clear example of metaphorical concept.

- **Metaphorical Expression**: it is an individual linguistic expression that is sanctioned by a mapping, i.e. a manifestation of a conceptual metaphor and understood via the set of correspondences. Metaphorical expressions in our language are tied to metaphorical concepts in a systematic way. Therefore, they serve as a means to study the nature of metaphorical concepts and to gain an understanding of the metaphorical nature of human activities. For example, when we consider the metaphorical expressions 'look how far we've come'; 'This relationship is *a dead-end street*'[8] (Lakoff & Johnson, 2003, p. 25), these expressions derive from the LOVE IS A JOURNEY conceptual metaphor. That is, such expression forms a systematic way of talking about the aspects of journey encompassed in our perception of love.

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[7] The classification and display of such concepts were based on Sardinha´s (2007b) categorization.
[8] According to Lakoff, this metaphorical expression inspired him to start working with conceptual metaphors, in 1978.

• **Domain**: it is any coherent organization of knowledge or human experience. The example comprises two domains: the *source domain* (i.e. journey) and the *target domain* (i.e. love). The source domain is usually something concrete originated from experience. It is where important metaphorical reasoning takes place and which provides the source concepts used in that reasoning. And the target domain is usually abstract and is the one to be conceptualized. It is constituted by the immediate subject matter. Metaphorical language has literal meaning in the source domain. In newer versions of the theory, Lakoff states that *source domain* is a sensory-motor domain, and the *target domain* is the domain of subjective experience, referring to primary metaphors as cross-domain mappings from such domains (1999, p. 58).

• **Mapping**: it is the systematic correspondence across such domains. In the 1999 book, Lakoff stated that conceptual metaphorical mappings arise from correlations in our embodied experience. Instances of conceptual mappings from LOVE IS A JOURNEY may be: the lovers are the travellers; the love relationship is the vehicle; the common life goals are the destination; to mention just a few.

• **Entailments**: they are the inferences arisen from a conceptual metaphor based on the relationship between two sentences where the truth of one (A) requires the truth of the other (B). Taking the previous example, if a journey is long and monotonous, consequently the relationship of two people sharing life together for a long time turns out to be monotonous, as well. Another entailment from the same example is that, if the journey is long and tiring, then two people living together for a long time may become tiring, too.

2.4 METAPHOR CATEGORIES

Lakoff and Johnson (1980) mention three main categories of metaphors that enable to establish correspondencies between a comprehended concept and another to be structured:

1) Orientational Metaphors: metaphorical concept that organizes a whole system of concepts with respect to one another (Lakoff & Johnson, 1980, p.15). These spatial orientations arise from the interactions of our bodies and our physical environment. According to Lakoff and Johnson (2003, p.30) people are physical beings, surrounded by the rest of the world which we experience as outside us.

Each person is a container, with a bounding surface (i.e. our skins) and an in-out orientation. They state that "we project our own in-out orientation onto other physical objects that are bounded by surfaces. Thus we also view them as containers with an inside and an outside" (Lakoff & Johnson, 2003, p.29). It is a basic instinct of human nature to impose boundaries delimitating territory even where there is no natural physical boundary (for example, an abstract line). Most of the orientational metaphors involve spatial orientation: up-down, in-out, front-back, on-off, deep-shallow, central-peripheral; for example, HAPPY IS UP. The fact that the concept HAPPY is oriented UP leads to English expressions like "I'm feeling *up* today."

     2) Ontological Metaphors: this concept implies understanding our experiences in terms of physical objects (especially our own bodies) and substances (ways of experiencing events, activities, emotions, ideas, and so on) as entities (Lakoff & Johnson, 2003, p. 26). In other words, this concept "allows us to pick out parts of our experience and treat them as discrete entities or substances of a uniform kind. Once we can identify our experiences as entities or substances, we can refer to them, categorize them, group them, and quantify them and, by this means, reason about them" (Lakoff & Johnson, 2003, p.26). An example given by the authors is the experience of rising prices, which can be metaphorically viewed as an entity via the noun *inflation.* This allows people to refer to the experience: INFLATION IS AN ENTITY in expressions such as "*Inflation is lowering* our standard of living"; "If there's much *more inflation,* we'll never survive"; "We need to *combat inflation",* and so on.

     3) Structural Metaphors: grounded in systematic correlations within our experience - as it is the case of orientational and ontological metaphors - structural metaphors allow us to use one highly structured and clearly delineated concept to structure another. They provide a rich source to elaborate a concept in extensive detail but also to find proper means to highlight some aspects of it and hide others (Lakoff & Johnson, 2003, p. 62). Take the example of RATIONAL ARGUMENT IS WAR. This metaphor permits to "conceptualize what a rational argument is in terms of something that we understand more readily, namely, physical conflict" (Lakoff & Johnson, 2003, p. 62). Fighting is something inherent to animals and we are human animals, but we have developed more sophisticated techniques such as verbal arguments in which we attack, defend, intimidate, threat, and even try to give "rational reasons" (Lakoff & Johnson, 2003, p. 63). Instances of such tactics presented as reasons by the authors are:

… because I'm bigger than you. *(intimidation)*
… because if you don't, I'll ... *(threat)*
… because I'm the boss. *(authority)*
… because you're stupid. *(insult)*
… because you usually do it wrong. *(belittling)*
… because I have as much right as *you* do. *(challenging authority)*

2.5 MODIFICATIONS AND IMPROVEMENT OF THE THEORY

Since the beginning of the Contemporary Theory of Metaphor (Lakoff & Johnson, 1980), many important contributions have been added to the theory. As a matter of fact, the 1980 book, *Metaphors we live by* partially or concisely brings most of the concepts that were later profoundly developed in the theory. Such concepts were empirically investigated by other researchers thus becoming contributions to the evolution of the original hypothesis. Some of the changes or advances appeared in Lakoff's 1987 book, *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind.* But it is in Lakoff and Johnson's 1999 book, *Philosophy in the flesh*: *the embodied mind and its challenge to western thought* that such changes are fully integrated to the theory. And other alterations are briefly mentioned in the 2003 version of *Metaphors we live by*, in the Afterword section. Hence, it is worthwhile presenting them in this section.

FROM COGNITIVE LINGUISTICS TO POLITICS

To start with the theoretical background targeted in this study, the conceptualization of metaphor itself has evolved. Initially it covered the area of Philosophy and afterwards, it extended to Cognitive Linguistics, Neurology, Cognitive Psychology, Artificial Intelligence and Developmental Psychology, to mention just a few. Within the Cognitive Linguistics perspective, grounded on his prior experience and knowledge (Lakoff 1970, 1977), George Lakoff - together with Mark Johnson - established a turning point in metaphor studies with the development of the Conceptual Metaphor. This decisive moment was marked by the publishing of *Metaphors we live by*, (Lakoff & Johnson, 1980). In this book, the authors argued that not only our thought is metaphorical, but also is our action. The idea that metaphors represent a cognitive based phenomenon dependent on cultural interferences

provoked lively discussions, emphasizing the importance of the subject matter.

According to Zanotto et al. (2002), the theory that Lakoff and Johnson have proposed is very enlightening and elucidating. Although it is one theory among others that have emerged since 1970, it explains in a comprehensible, uncomplicated language how conceptual metaphors can be mapped. This is a reason why the publishing of *Metaphors we live by* caused such a huge impact so as to motivate further research. This also shows that, in the last thirty years, metaphor has been observed through more psychological and cognitive aspects, definitively contributing to revolutionize history and break a two-millennium length tradition (Lakoff, 1986). As a consequence, more recent research has been devoted to describe metaphor as a fundamental cognitive phenomenon that goes beyond a mere figure of speech, as well as it is not only present in poetry or literary texts but rather it pervades any type of language, including the language of science.

However, Lakoff himself has evolved significantly as a cognitive linguist and a researcher. George Lakoff began as a professor of Linguistics, in 1972, on the faculty of the Institute of Cognitive Studies, at the University of California -Berkeley- where he is still. He has been a member of the Governing Board of the Cognitive Science Society, President of the International Cognitive Linguistics Association, and a member of the Science Board of the Santa Fe Institute. His investigation departed from phrases containing metaphorical concepts such as "He *attacked* every weak point in my argument"; "His criticisms were right on *target"* (Lakoff & Johnson, 1980, p.4). Those phrases contained in English language and culture served as the basis to formulate the ARGUMENT IS WAR conceptual metaphor. The same process happened with other phrases people use in certain situations and successively Lakoff and some colleagues mapped them to generate other conceptual metaphors.

Later on, in his book *Women, fire and dangerous things: what categories reveal about mind* (Lakoff, 1987), he developed a deep study on metaphor, reflecting on the categories and cognitive models (Lakoff & Kövecses, 1987) and their philosophical implications. He pointed to the aspects of the objectivist conception of the traditional theory and compared them with the fundamental topics of the conceptual perspective proposed by him. Subsequently, in the 1999 book *Philosophy in the Flesh: the Embodied Mind and its Challenge to Western Thought,* co-written with Mark Johnson, they emphasized the Embodied Philosophy formerly proposed by them.

To begin with a general perspective from the new view, Lakoff - together with Johnson- adopted a more embodied conception to metaphor approach. They argue that the structures (i.e. conceptual and linguistic) used to organize our conceptual systems are grounded in perception, body movement, and experience of a physical and social character as a result of our interaction with the world. As Lakoff stated "We are neural beings, our brains take their input from the rest of our bodies. What our bodies are like and how they function in the world thus structures the very concepts we can use to think. We cannot think just anything - only what our embodied brains permit" (Lakoff, in interview with John Brockman, 1999). In other words, the core of our conceptual systems is shaped by the peculiarities of our perceptual structures. It is formed through bodily experience and makes sense in terms of it. As evidence, Lakoff and Johnson (2003) cite research on embodiment effects from mental rotation and mental imagery, image schemas, gesture, sign language, colour terms, and conceptual metaphor among other examples. According to the authors, an embodied philosophy would show the laws of thought to be metaphorical, not logical; the truth would be a metaphorical construction, not an attribute of objective reality. That is, it would not rely on any ontology foundation as might be sought in the physical sciences or religion, but would likely proceed from metaphors drawn from our experience of having a body. Summarizing, they suggest that all our abstract conceptualization, reasoning and understanding; our thought and language; our symbolic expression and interaction; in sum, every dimension of our experience and reasoning are structured according to our sensorimotor system and connected to the pervasive aesthetic characteristics of our entire experience.

Further on, the boundaries of Lakoff´s investigation expanded from the mapping of phrases - as aforestated - to Corpus Linguistics research, reaching an involvement in the analysis of political speeches. In more recent years, Lakoff has incurred in the field of Political Science through the application of his knowledge and experience from Cognitive Linguistics into Politics, Literature, Philosophy and Mathematics. Among his activities Lakoff has given numerous public lectures and written accounts of his message from Moral Politics. In fact, between 2003 and 2008, he was involved with a progressive think tank, the Rockridge Institute[9]. In 2008, Lakoff joined Fenton

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[9] Founded by the prominent cognitive linguist George Lakoff, the Rockridge Institute was a non-profit research and progressive think tank located in Berkeley, California from 2003 until

Communications, the nation's largest public interest communications firm, as a Senior Consultant.

Examples of his political works are *Moral politics: What Conservatives Know that Liberals Don't* (Lakoff, 1996); *Moral Politics: How Liberals and Conservatives Think* (Lakoff, 2001b); *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being* (Lakoff & Núñez, 2000); *Don't Think of an Elephant: Know Your Values and Frame the Debate* (Lakoff, 2004); *A Cognitive Scientist Looks at Daubert* (Lakoff, 2005); *Whose Freedom?: The Battle over America's Most Important Idea* (Lakoff, 2006); and *The Political Mind: Why You Can't Understand 21st-Century American Politics with an 18th-Century Brain* (Lakoff, 2008).

In other words, although he set a milestone in the way we conceive metaphors thus becoming famous for his ideas about the centrality of metaphor to human thinking in the 80s, he is now involved in a political environment and his concerns are focused on political behaviour and society. Such political implications will not be explored in this study, but rather here is a suggestion for further research.

EXPERIENTIAL REALISM OR EXPERIENTIALISM

This perspective opposes to objectivism, however, both share some aspects: "(a) a commitment to the existence of the real world, (b) a recognition that reality places constraints on concepts, (c) a conception of truth that goes beyond mere internal coherence, and (d) a commitment to the existence of stable knowledge of the world." (Lakoff, 1987, XV).

Experientialism upholds the notion that thought essentially emerges from embodiment. In other words, body experience is the ground for reason and it includes abstract, creative and concrete reasoning. According to Lakoff, "experience" is considered in a broad sense involving everything that underlies actual or potential experiences of either individual organisms or communities of organisms. More specifically, experience comprises what is internal genetically acquired by the human being and the nature of physical and social interactions with the environment. Thus, human reason is originated from the nature

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April 30, 2008. It examined the way that frames -the mental structures that influence our thinking, often unconsciously-determine people´s opinions and values in public discourse. Based on extensive research in human cognition, this institute argued that the way an issue is framed -the language used to describe it and the metaphors used to understand it- influences our political views as much, or more, than the particulars of a given policy. Retrieved from <http://en.wikipedia.org/wiki/Rockridge_Institute> on April, 2009.

of the organism, and that is what forms its individual and collective experience: "its genetic inheritance, the nature of the environment it lives in, the way it functions in that environment, the nature of its social functioning, and the like" (Lakoff, 1987, XV). That is, human concepts are structured and understood through interactional properties of things. In sum, this theory differentiates human beings from machines and other living creatures as it supports the notion that the mind is more than a mere mirror of nature or a processor of symbols, that it is not incidental to the mind that we have bodies, and that the capacity for understanding and meaningful thought is grounded in bodily experiences.

This view, according to the authors, shares some of the key elements of Wittgenstein's later philosophy: the similar bases for categorization, "the rejection of the picture theory of meaning, the rejection of a building-block theory of meaning, and the emphasis on meaning as relative to context and to one's own conceptual system" (Lakoff & Johnson, 2003, p. 183).

Idealized Cognitive Models - ICM

ICM or Frames are the mental representation known as "meanings". They are mental constructs that structure a mental space as we think and speak. More specifically, ICMs are the structures underlying human knowledge organization process, and category structures and prototype effects are by-products of such organization. According to Lakoff (1987), "each ICM is a complex structured whole, a gestalt, which uses four kinds of structuring principles:
- propositional structure, as in Fillmore's frames
- image-schematic structure, as in Langacker's cognitive grammar
- metaphoric mappings, as described by Lakoff and Johnson
- metonymic mappings, as described by Lakoff and Johnson" (p. 68)

An example of Fillmore's concept of *frame* given by Lakoff in *Women, Fire and Dangerous Things* (1987) was the English word *Tuesday.* If we try to define this word it would be possible only in relation to an idealized model involving the natural cycle defined by the movement of the earth around the sun. That is, such movement determines the end of one day and the beginning of the next. A seven-day calendric cycle forms what we understand as a week. Our model of a week is idealized because seven-day weeks do not exist objectively in nature; rather they are created by human beings. To be more specific, the week is a whole with seven parts organized in a linear sequence, each part is called a *day*, and the third is *Tuesday*. Similarly, the concept

weekend requires a notion of a *work week* of five days followed by a break of two days, encompassed in the seven-day calendar. Moreover, this example demonstrates that ICM are not the same for all cultures, because the notion of week is not shared by all the societies worldwide.

INTEGRATED THEORY OF PRIMARY METAPHOR

Based on empirical research inspired by Lakoffian proposal, some assumptions from the old view of the Contemporary Theory of Metaphor have been modified and improved. According to Lakoff and Johnson, people are able to reason about highly complex and abstract things, (i.e. concepts from other domains of our embodied, sensory-motor experience, such as importance, similarity, or morality without noticeable effort). In other words, we literally "grasp" an abstract idea. However, this statement has been refuted and important contributions have been added to the Contemporary Theory of Metaphor (Lakoff & Johnson, 1980) since it was first established.

As a significant contribution, there is the Integrated Theory of Primary Metaphor, explained in the book *Philosophy in the flesh: The Embodied Mind and Its Challenge to Western Thought*, (Lakoff & Johnson, 1999) in which the authors compile the research of other cognitive scientists. This theory, in time, comprises four other hypotheses in an attempt to explain how metaphorical thinking works. Three of those hypotheses come from dissertations defended in the University of California, Berkeley:
- Joseph Grady's Primary Metaphor and Complex Metaphor (Grady, 1997a).
- Christopher Johnson's Theory of Conflation (Johnson, 1997).
- Narayanan's Neural Theory of Metaphor (Narayanan, 1997).

The fourth is Fauconnier and Turner's Theory of Conceptual Blending (1996).

Joseph Grady's Primary Metaphor Hypothesis

Grady (1997a) asserted that the emergence and nature of conceptual metaphors are often grounded in more experiential metaphorical patterns, called primary or primitive metaphors, related to our embodied experiences. This means that they depend directly on our interaction with the environment and the shape of our body. We acquire Primary Metaphors automatically and unconsciously, simply by interacting with the world. The primary scene is a cognitive representation of a repeated experience involving a tight correlation

between two dimensions of experience, which constitute the metaphor basis.

As explained by Lakoff[10] metaphors such as MORE IS UP are learned very early in life and they originate when the brain is activated in two different parts over and over until they form a circuit. The example he gives is when a child observes his/her mother pouring water into a glass or milk into a bottle repeatedly every day. Two different parts of the baby's brain are daily activated: one for verticality and the other for quantity. The more these two parts are activated, the closer the path between those parts becomes, the more the path is reinforced until both parts of the brain form a circuit. This circuit is the MORE IS UP primary metaphor. These primary metaphors, thus, are physical and become part of human physical brain and people are not aware of the fact of having learned them.

According to Grady, the feeling of hunger is understood in some ways and one of them is related to the desire for food, experienced whenever one is hungry. Thus, the mapping between desire and hunger arises from recurrent scenes, in which the physical sense of hunger and the simultaneous desire for food are experienced. Likewise, whenever we lift things we also experience the easiness or difficulty of lifting them. This generates primary metaphors such as DESIRE IS HUNGER and DIFFICULTIES ARE HEAVINESS.

For clearer visualization of this cognitive operation a diagram will be presented in Figure 2 as follows:
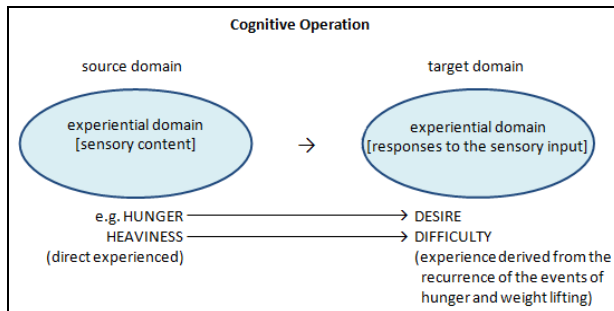
Figure 2.   Cognitive Operation of Primary Metaphors
Retrieved from *About primary metaphors,* Lima, 2006. online <http://www.scielo.br/> in June, 2009.

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[10] On 20th June, 2008, George Lakoff exposed some of his thoughts about Idea Framing, Metaphors, and Brain, in a conference in the Commonwealth Club of California, - San Francisco, CA. Available in <http://www.youtube.com/>

In Grady's hypothesis, it is the mapping of primary scenes that licenses the expressions, allowing great predictability of most of them. In the DESIRE IS HUNGER primary metaphor, for example, Gibbs, Lima and Françozo (2001) discovered that "the mapping of its primary scenes suggests that words such as *hunger, thirst, appetite, drool, mouth-watering* and their inflections or variations could be keys to the identification of the use of this metaphor in language" (Lima, 2006).

This theory affirms that the combination of Primary Metaphors results in compound, larger structures: Complex Metaphors[11]. As cited by Lakoff and Johnson (1999), Primary Metaphors are "atomic" metaphorical parts that can be combined, resulting in "molecular" constructions called Complex Metaphors (p.46). Most of these "molecular" structures are stable and therefore determine an important part of our conceptual system. Thus, whatever we think, say, or do, is influenced by Complex Metaphors - they even structure our dreams (Lima, 2006). As an example of this construction, take the LOVE IS A JOURNEY metaphor. One of the possible constructions derived from this metaphor is the Complex Metaphor "A Relationship Is A Vehicle", which consists of the Primary Metaphors "A Relationship Is An Enclosure" and "Intimacy Is Closeness".

Summarizing, Grady proposes three main modifications in the former theory of Conceptual Metaphor concerning source and target domains, the fundamental construct, and licensing of metaphorical expressions. In the new perspective, source and target domains are different in nature: the former is defined by a sensory content while the latter is a response to this sensorial input. The fundamental construct is the primary scene whereas in the previous view it was thought to be the image schema. Lima (2006) states that, "While image schemas are large structures, primary scenes are more local structures, motivated by particular moments in our experiences. […] Thus, only primary source concepts have image contents; target concepts are more subjective, more tied to internal states". In Grady's hypothesis, it is the mapping of primary scenes that licenses the expressions, allowing great predictability of most of them whereas it was formerly thought to be a result of the mapping between the domains.

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[11] It is worthwhile mentioning that this theory has feen furtherly investigated by Johansson (2005), Labhart (2002), among other scholars.

Christopher Johnson's Theory of Conflation

This theory asserts that connections between subjective emotions and sensory-motor experiences develop during early childhood. C. Johnson analysed how the "Knowing Is Seeing" metaphor develops, demonstrating that children first understand "seeing" literally and, then, seeing and knowing are conflated. For example, according to Lakoff and Johnson (2003), when children say things such as "See Daddy come in" or "See what I spilled"; seeing occurs together with knowing. It is only in advanced age that clear metaphorical uses of "seeing" as in "See what I mean" occur. These uses of the verb "to see" occur due to individual personal knowledge, rather than to literal seeing. In sum, Johnson's theory of conflation proposes that in our early development sensory-motor experience is routinely conflated with non-sensory-motor experience. This conflation produces undifferentiated sensual-conceptual experience in infancy, and differentiated conceptual metaphors embedded in the sensory-motor experience when we become adults.

Srini Narayanan's Neural Theory of Metaphor

This theory explains that the associations originated during the phase of conflation are actual neural connections formed across the neural networks in the involved brain regions. Such connections become the foundations "of source-to-target activations that constitute metaphorical entailments" (Lakoff & Johnson, 1999, p. 47). An example is given by these authors in their 1999 book, *Philosophy in the flesh*:

> An entailment at the neural level happens when a sequence of neural activations, A, results in a further neural activation, B. If B is connected to a neuronal cluster, C, in the network that characterizes another conceptual domain, then B can activate C. In the theory, this constitutes a metaphorical entailment: The activation of B is a literal entailment; C is "metaphorically" linked to B, since it is in another conceptual domain; therefore the activation of C is a metaphorical entailment. (p. 47)

Gilles Fauconnier and Mark Turner's Theory of Conceptual Blending

Conceptual Blending is a process of conceptual mapping and integration that pervades human thought, by which metaphors are

construed. As stated by Lakoff and Johnson (1999), different domains can be co-activated under certain circumstances and they may originate new cross-domain associations, thus leading to new inferences. According to Grady (1997a), conventional blends are the mechanism that permits to gather two or more primary metaphors to form larger complex metaphors. Consequently, novel "conceptual blends" of formerly detached metaphorical domains emerge creating complex metaphors. This theory ascertains that, in the blended space, an event is an origin and a destination. Two travellers (students) may begin at the same starting point (origin) and arrive at the same destination, yet they might pass through different paths, so the journey (event) can be long for one but short for the other, and can be slow for one and fast for the other.

Take the example of some of the conflated experiences a young child has when big things (e.g. the parents) dominate the field of view or somehow impose themselves. The child recognizes them as being important and consequently neural connections between the brain regions for "importance" and "size" are established. These physical associations pervade adulthood and are responsible for the Primary Metaphor "Important Is Big", which forms the expression "Tomorrow is my big day".

This theory has been fatherly explored by its authors in recent years (Fauconnier & Turner, 2008a, 2008b); Coulson and Fauconnier (1999). And it has also been thoroughly examined, as well as empirically investigated by researchers such as Lima (2006); Gibbs, *et al.* (2001); Valenzuela (2009); Valenzuela and Soriano (2007, 2009); Coulson (2003, 2008); Coulson and Matlock (2001); Coulson and Oakley (2003, 2005, 2006); Coulson and Pascual (2006); Grady, Oakley and Coulson (1999); Flor, Coulson, and Maglio (2006); to mention just a few. Additionally, it has been applied in cognitive neuroscience, cognitive science, psychology, linguistics, music theory, poetics, mathematics, semiotics, theory of art, psychotherapy, artificial intelligence, political science, discourse analysis, philosophy, anthropology, and so on.

The following figure illustrates the blending process.
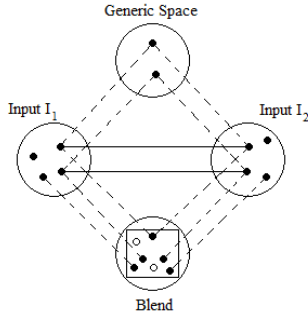
Figure 3.   Blending Theory
Retrieved from <http://markturner.org/blending.html> in September, 2009.

All in all, as shown in this section, owing to many empirical studies and research conducted in the area, the original proposal by Lakoff and Johnson has undergone through important modifications, as well as has grown the experience of the authors. This new theory appears to be more advantageous to the investigation and the investigators, because it encompasses many of the aspects presented by the previous one, but it also contemplates and modifies some others..

2.6   SUMMARY OF THE CHAPTER

In this chapter, a brief overview of the origins and history of the concept of metaphor was presented and, all in all the literature has shown that Lakoffian Contemporary Theory of Metaphor is the one this study subscribes to.

The review of literature has demonstrated the evolution of the approaches to metaphor studies along the time and the different perspectives scholars have had. In this sense, it attempts to illustrate the infinite ongoing process behind metaphor studies. That is, in which ways a pre-existing theory was explored, researched and proved wrong, in order to generate an improved new theory.

Also, it has shown the significance of Lakoff and Johnson's theory among other theories and it revealed that their 1980 publication was a breakthrough in metaphor history. In order to contextualize Lakoffian theory to the reader, some examples illustrating the theory were been presented. On the other hand, to synthesize some concepts

established in the Contemporary Theory of Metaphor, some terms summarizing the theory were pointed out.

Furthermore, this chapter demonstrated how, as a consequence, their notion of **Conceptual Metaphor** has spread throughout metaphor approaches and has successfully remained as one of the most influential ones. Moreover, it briefly presented other scholars who follow different lines of research or created other theories that are important for metaphor studies, but will not be more thoroughly explored in this study. Afterwards, a brief overview of some modifications in Lakoffian Theory was presented so as to update the information in the present survey. Such modifications were the outcome of many empirical studies and research conducted by other scholars in the field, as well as from the experience acquired by the authors of the theory.

3 METHODOLOGICAL PROCEDURES

3.1 INTRODUCTION

In this Chapter, there is a detailed description of the development of this study, specifically, the procedures for data selection. Firstly, it reports the type of research conducted. Secondly, it introduces the objectives and the General and Specific Research Questions, which guided the investigation. Thirdly, it portrays the tables with proceedings from which the empirical studies were selected, the criteria used for the selection of the studies, and the titles of the selected studies. After that, it describes the criteria used for data analysis. Finally, a summary of the Chapter is to be presented.

3.2 APPROACHING METAPHOR STUDIES IN BRAZIL

As formerly declared, studies on metaphor have revealed that its concept has been of great concern among the investigated issues in learning and teaching context in Brazil and abroad. The huge and relatively recent interest on the concept of metaphor by researchers has contributed to generate vast literature in the diverse areas on metaphor studies. Therefore, it seems useful to gather the accumulated research on this subject and synthesize and try to organize it in such manner that it is more accessible to other researchers. The intention of this study is to provide a general overview of the research studies on metaphor in empirical studies in Brazil. In order to map Brazilian literature about metaphor research context, it was necessary to carry out a kind of research synthesis which, according to Norris and Ortega, (2006a, p. 4) "is a systematic secondary review of accumulated primary research studies". Also, it has tremendous potential value for helping applied linguistics "make sense" of research to degrees of precision and insight that the traditional literature review approach can not. It also has the potential to generate original theoretical knowledge not found in any single primary study, by resolving the extent to which theoretical tenets and constructs actually hold as increasing empirical light is shed upon them (pp. XI-XII). For Cooper and Hedges (1994, cited in Norris & Ortega, 2006b, p. 6) "research synthesis pursues a systematic understanding of the state of accumulated knowledge; its foremost

purpose is to integrate available research, such that both patterns and inconsistencies (in both methods and findings) may be identified". In this sense, research synthesis can help understand the state of accumulated research on metaphor, that is, it allows to uncover the ways the concept has been addressed methodologically as well as to "identify patterns in and relationships among the findings of the studies" (Norris & Ortega, 2006a, p. XII) and uncover gaps and methodological weaknesses.

Furthermore, the proposal of this study is hermeneutic phenomenological in nature, that is, it focuses on the interpretation, understanding, and the description of a phenomenon: the perception of Lakoff's Contemporary Theory of Metaphor in Brazil from a critical perspective. The target studies are both theoretical and empirical and they were produced in Brazil in the last ten years. Due to its nature, this study did not use any framework proposed in literature. Rather, the framework emerged from the investigation itself. However, studies formerly conducted by Marimar da Silva (2009) and Saionara Greggio (2009), as well as the one proposed by Silva, Greggio, Denardi, and Gil (2007), and Carazzai (2009) - all of them from *UFSC* - served as methodological models to inspire this investigation. Then, the procedures designed for data collection and analysis composed the method. In turn, the set of data collected from the literature constituted the object of analysis of this study. In this sense, the investigation itself is to be data driven. That is, although there were some a priori criteria, the findings consecutively lead to the development of some new steps and the modification of others.

3.3 OBJECTIVES OF THE THESIS AND MAIN RESEARCH QUESTIONS

The proposal of this thesis is to conduct a qualitative theoretical analysis of the different perspectives supported by scholars who study metaphor, following the tradition established by Lakoff and his colleagues. Thus, it is worthwhile examining how their ideas are accepted, discussed or adapted by other researchers in the area of teaching and learning in Brazil. In order to achieve this purpose, the main objective of the present survey is to investigate Lakoffian concept on metaphor in Brazil through a mapping and an analysis of empirical studies. More specifically, this study aims at exploring:

Table 1.   Items under analysis

Items under analysis	
1	The areas in which metaphor has been investigated in Brazilian context;
2	The theoretical-methodological ground work which has guided Brazilian researchers who investigate Lakoffian concept on metaphor in Brazil;
3	The methodological approach or instruments used in the analysed articles, theses and dissertations;
4	The role(s) of the researcher(s);
5	The role(s) of the participant(s);
6	The findings of the studies;
7	The current research tendencies on metaphor research in Brazil;
8	The niches of metaphor investigation in Brazil.

In order to accomplish these objectives, the following General and Specific research questions guide this study.

3.4 RESEARCH QUESTIONS

3.4.1 General Research Question

1) In terms of Lakoffian approach to metaphor studies, which are the paradigms and tendencies underlying Brazilian Applied Linguistics contemporary research?

3.4.2 Specific Research Questions

1) Which Lakoffian theoretical-methodological approaches of the concept of metaphor have been used in Brazil?

2) Which is/are the role(s) of the researcher(s) in the analysed empirical studies?

3) Which is/are the role(s) of the participant(s) in the analysed empirical studies?

4) Which are the findings of the studies?

3.5   DATA SELECTION

Regarding the data that constituted the corpus to be analysed in this piece of research, articles from Brazilian journals, theses and dissertations were selected. As there is a great amount of empirical studies which have been published in the subject in Brazil, it was necessary to settle a limit on the number of materials to be selected and afterwards analysed. The next step was, then, to restrict to the theses and dissertations published between 1998 and 2010. The criteria for establishing 1998 as the starting point for this investigation was based on the date of the publication of Solange Coelho Vereza's doctorate dissertation, advised by Mara Sophia Zanotto de Paschoal. The reason for privileging these names was that both advisor and advisee represent two of the most important researchers on Lakoffian approach to metaphor in Brazil. Therefore, the present study will focus on pieces of research (i.e. theses, dissertations, articles, books, and so on) from 1998 until March 2010.

Concerning the criteria for selecting empirical studies (theses and dissertations), only those defended in the Brazilian post-graduate programs which are accredited by *CAPES*[12] and included in *BDTD*[13] were selected. The targeted studies were firstly identified in the *CAPES* website, which includes all the abstracts of theses and dissertations defended in Brazil since 1987. The latter is a project coordinated by *IBICT*[14] which integrates the information systems of theses and dissertations from the several Brazilian educational institutions. Namely, the institutions linked to this Project are: *CNPq*[15]*, MEC*[16] (Capes and Sesu), Finep; and three universities *USP, PUC-RJ* and *UFSC*. This website allowed me to access most of the abstracts and/or the entire documents from the Brazilian universities' digital libraries.

Also, it is significant to state that *CNPq* website proved to be a very useful device in what refers to Lattes curriculum researching. This website contains a complete database system named *Plataforma Lattes* consisting of curriculums and institutions in the areas of Science and Technology in Brazil. Another resource offered by *CNPq* is the *Diretório dos Grupos de Pesquisa no Brasil* which allows the possibility

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[12] CAPES stands for "Coordenação de Aperfeiçoamento de Pessoal de Nível Superior"
[13] BDTD stands for "Biblioteca digital brasileira de teses e dissertações"
[14] IBICT stands for "Instituto Brasileiro de Informação em Ciência e Tecnologia"
[15] CNPq stands for "Conselho Nacional de Desenvolvimento Científico e Tecnológico"
[16] MEC stands for " Ministério de Educação"

of accessing current Brazilian research groups. Therefore, I was able to retrieve some of the articles and most of the information about the research groups and the researchers from this website.

3.5.1 Theoretical Background Source

The process of selecting the material for this investigation was mainly divided into two moments which did not necessarily occur linearly: a) selecting the material to be the theoretical background supporting the analysis proposed in this study; b) selecting the empirical studies which constituted the data to be analysed in this investigation. For the sake of facilitating the flow of this text, these processes will be referred as "TBs" - that stands for theoretical background - and "ES" - standing for Empirical Studies - henceforth.

In the TBs process, the selection criteria for the theoretical framework were not very clear at first. Reseach on metaphor is a very broad subject, there are many different possible approaches so, I started with the collection of any relevant literature about the phenomenon to be investigated. Specifically, the search for this material was focused on Lakoff's publications and other theoreticians' comments regarding his concepts. Then, the framework itself required or suggested further readings which were more aimed to the subject of the investigation. Consequently, as the research and analysis progressed, more specific literature was necessary to aid and support new findings, emerging outcomes, and so on. In sum, the process itself led me to narrow the selection criteria of the theoretical data group.

As regards to the consulted material to be used in the TBs process, as well as to a great deal of the one analysed in the ES process, it is worthwhile mentioning its source and how it was obtained. The reason for the need for further explanation in this step is that the collecting process of the data for the research itself proved to be a guide that aided me to establish the path to be followed. To start with, the most important data (which consisted of Lakoff's published books, several articles written by him, and articles belonging to other relevant authors in the field, to mention just a few) were kindly provided by my advisor. Then, another significant source corresponds to other students from *PPGI*[17] and *PGET*[18] *-UFSC-* who had studied or researched

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[17] Programa de Pós-Graduação em Inglês
[18] Pós-Graduação em Estudos da Tradução

metaphor, also gently offered me what they had available (that is, their own productions, as well as the theoretical data used in their pieces of research). Besides that, another part of the theoretical material (mainly encompassing theses, dissertations and books about the subject) was consulted in the library at *UFSC*. Finally, the part that was not supplied by the sources aforementioned (namely more recent publications, such as books, articles, theses and dissertations) was retrieved from the internet. For a better visualization, the sources from the TBs process were schematized as follows in Diagram 1:

Diagram 1.   Theoretical Background Sources
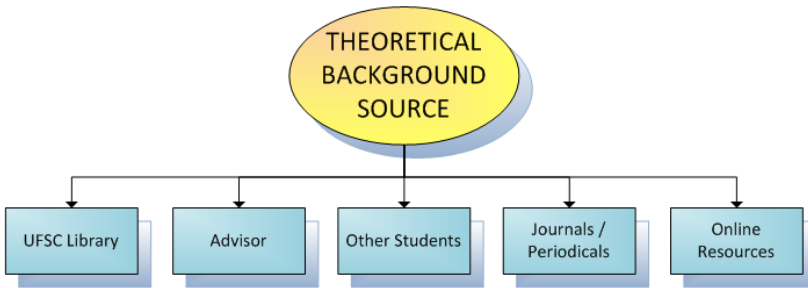
3.5.2 Empirical Studies Source

In relation to the selection criteria in ES process, a similar phenomenon to TBs process happened. As the research progressed data gradually emerged from the study itself. The original idea for gathering the material to be the corpus of this study was to collect everything published about metaphor studies in Brazil. But "everything" was too wide so it was necessary to delimit such an infinite dimension. Therefore, following my advisor's suggestion, I started exploring the *Portal Capes* in order to retrieve the theses and dissertations of my interest. The search was done by accessing the *Banco de Teses* and using a keyword: in the space for the subject of research, I entered "Lakoff" and one hundred and twenty-six theses and dissertations were shown. From that amount, only a few were discarded because they were defended before 1998. This process is illustrated in Diagram 2:

Diagram 2. *CAPES* Selection Process for Theses and Dissertations
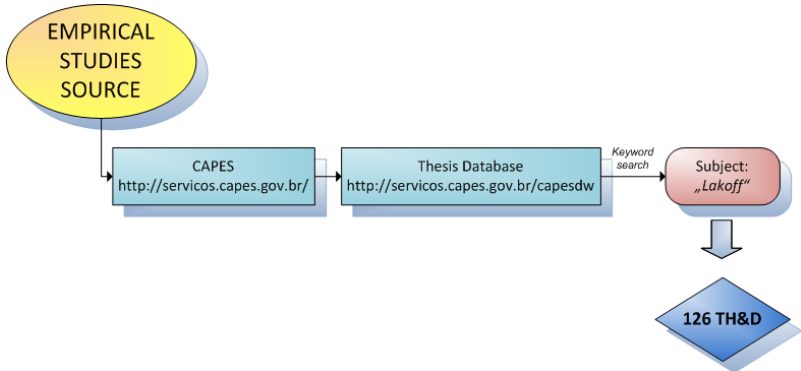
In addition, another procedure took place in order to better explore the means that are available on line. Following the wise advice of Vilma Lemos - one of the Brazilian researchers I got in contact with - I accessed and explored the *BDTD* where I could find the target pieces of research. This source proved to be extremely helpful because it provided me a huge quantity of pieces of research. On the other hand, at this point it was clear that such amount of studies was way too vast. Consequently, it was necessary to filter the search in a way that I could have the specific Theses and Dissertations I was looking for. So, the process to delimit the research from a broader frame to a narrower one began. To start with, the word "metaphor" was used as a general keyword. This resulted in three hundred and forty-two studies which was a high number and the objectives of the studies, as well as the lines of investigation within metaphor studies were too broad. So, I refined the search for material about metaphor in general according to the selection criteria, i.e. by writing the target date and country. As a result, ninety-two theses and dissertations appeared. Then, by entering in each of them, it was possible to find out which were available on line. Thus, from the ninety-two studies in the list, only sixty-five were selected. Lastly, from those theses and dissertations that could be downloaded, I focused on Lakoffian studies within metaphor investigation. In this last step, the selection was by reading each study rather than by writing down a keyword. For better visualization, this process is shown in Diagram 3.

Diagram 3.   BDTD - Biblioteca Brasileira Digital de Teses e Dissertações - Selection Research for Theses and Dissertations
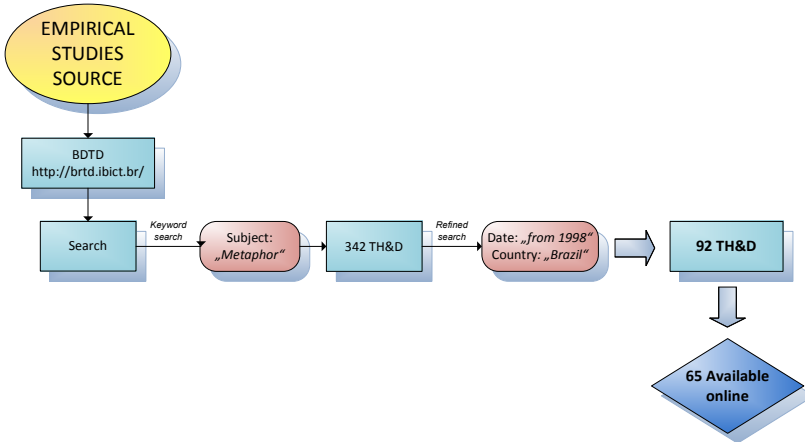
Another procedure for getting the targeted theses and dissertations but this time just restrained to studies defended in *PUC-SP[19]* was to access the *Programa de Estudos Pós-Graduados em Lingüística Aplicada e Estudos da Linguagem (**LAEL**)*. At this moment, all the aforementioned processes of research had already provided the theses and dissertations available in this site. However, this does not mean that this site was completely useless for this survey. On the contrary, it worked as a shortcut to reach the specific theses and dissertations published in this institution. The illustration of this procedure is shown in Diagram 4.

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[19] *Pontifícia Universidade Católica de SãoPaulo*

Diagram 4. *LAEL* **Research Process for Theses and Dissertations from** *PUC-SP*
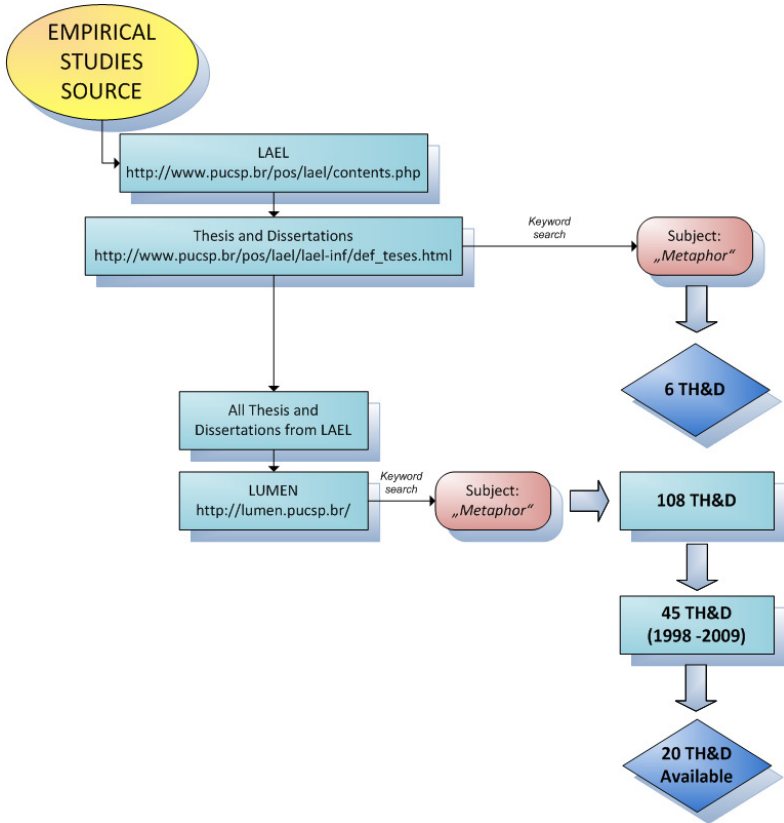
As I obtained the theses and dissertations of my interest, I downloaded and archived them. The criteria for organizing this material was to separate them by University and within the same University, I formed groups according to the advisors. This step helped me have a general overview of the kind of research occurring in the institutions and therefore, I was able to have a broad idea of how to map Lakoffian studies in Brazil.

Another step was to explore *CNPq* to find out who are the people investigating metaphor in Brazil and where are the current niches working with metaphor. By accessing *Diretório de busca dos Grupos de Pesquisa no Brasil* a complete list of the research groups (henceforth named RG) dealing with metaphor studies in Brazil was showed.

Seventeen RGs resulted from the search in *CNPq* site, as can be seen in Appendix 1.

The number was forcedly reduced from seventeen to fifteen because a few months after the first search two groups were deactivated. However, this result was again too broad so, the process required refinement. On the other hand, only the first five groups from the list were considered adequate for this study. As regards the criteria for selecting only five RGs, some factors motivated this choice.

Firstly, the search within metaphor studies was aimed at the area of applied linguistics, linguistics, language, cognition or any field that was relevant for this study. Secondly, the area of study of the group had to follow or be related to Lakoffian theory of metaphor. And lastly, it was necessary to confirm if the group was still active by the time of this survey. Therefore, in order to select the groups to analyse, it was necessary to access each group and perform a detailed analysis of the area of study within metaphor investigation; members of the group and literature produced by them. At last, the groups with greater number of publications remained.

Likewise, another search on Google took place as a different way to approach any other RG that might not be on the *CNPq* list. In this step, the same selecting procedures were carried on. This led to the discovery of just one, but very important RG: *GEMATEC*: Grupo de Estudo de Metáforas, Modelos e Analogias na Tecnologia na Educação e na Ciência, that is linked to the research group *AMTEC* - Analogias e Metáforas na Tecnologia na Educação e na Ciência -, from *CEFET* - Centro Federal de Educação Tecnológica de Minas Gerais.

The selected RGs, listed according to number of publications (from the one with more publications to the one with the least quantity) are:

Table 2.   Research Group List selected from *CNPq*

Group	University	Leader	Research Area
GEIM *Grupo de Estudos da Indeterminação e da Metáfora*	PUC-SP	Mara Sofia de Toledo Zanotto	Linguistics
COMETA *Cognição e Metáfora*	UECE	Paula Lenz Costa Lima	Linguistics
GELP-COLIN *Cognição e Lingüística*	UFC	Ana Cristina Pelosi Silva de Macedo	Linguistics
GIMD[20] *Indeterminação e Metáfora no Discurso*	UFF	Solange Coelho Vereza	Linguistics
GEMATEC *Grupo de Estudo de Metáforas, Modelos e Analogias na Tecnologia na Educação e na Ciência*	CEFET-MG	Ronaldo Luiz Nagem	Technology
GELC *Grupo de Estudos de Lingüística de Corpus*	PUC-SP	Antonio Paulo Berber Sardinha	Linguistics

After choosing the most relevant RGs, I would explore each group in order to know more about the members and researchers who currently study metaphor. So, the next step to be followed at that moment was to identify the researchers within the researching groups. Thus, I was able to read the Lattes Curriculum of the researchers and this consequently provided me further information about the researchers themselves, as well as part of what they have published so far (i.e. articles).

The path followed to discover the RGs is represented in Diagram 5.

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[20] For the sake of maintaining a standard this RG will henceforth be denominated by the acronym GIMD suggested by me.

Diagram 5.   *CNPq* Selection Process for Research Groups in Brazil
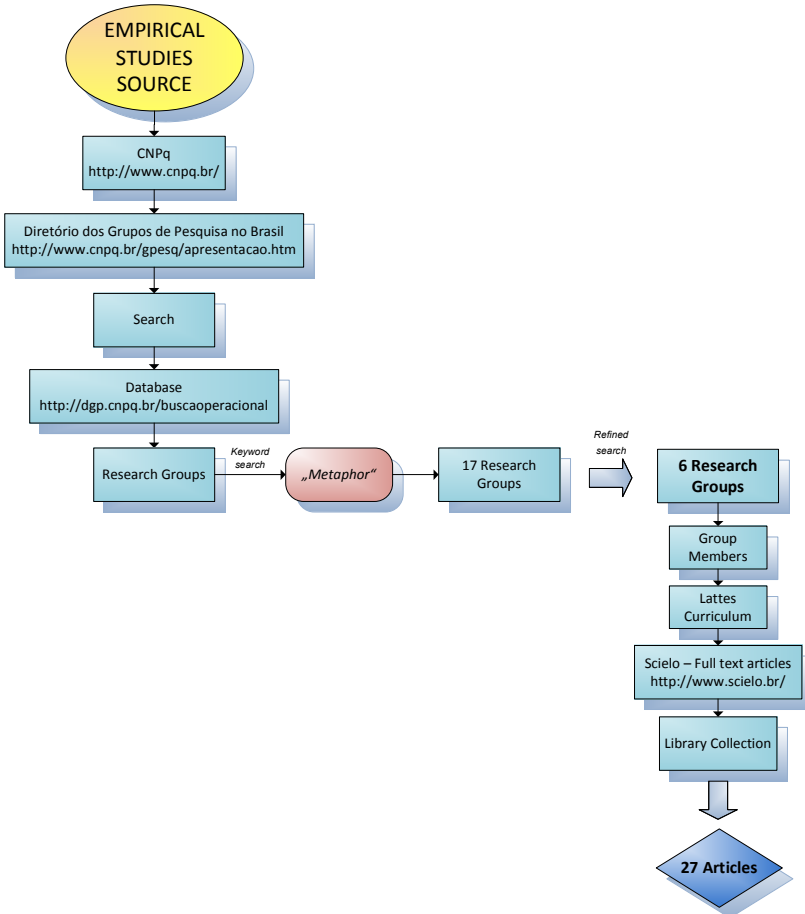
The first approach to CNPq led me to another different path. That is, the search tools of this source allowed the possibility of focusing on the researchers themselves. Once I had the names of the people involved in metaphor studies, I would conduct my investigation based on their names. This step led to the same results as the previous one, but it proved to be a shorter and, therefore, a more direct path to reach another type of publication: articles. However, I was only able to explore information about the researchers because the aforementioned step provided me with their names. Thus, one step took me to the other and

each of them is important. This searching process based on the names of the researchers is better explained in Diagram 6.

Diagram 6. *CNPq* **Selection Process for Researchers' Articles**
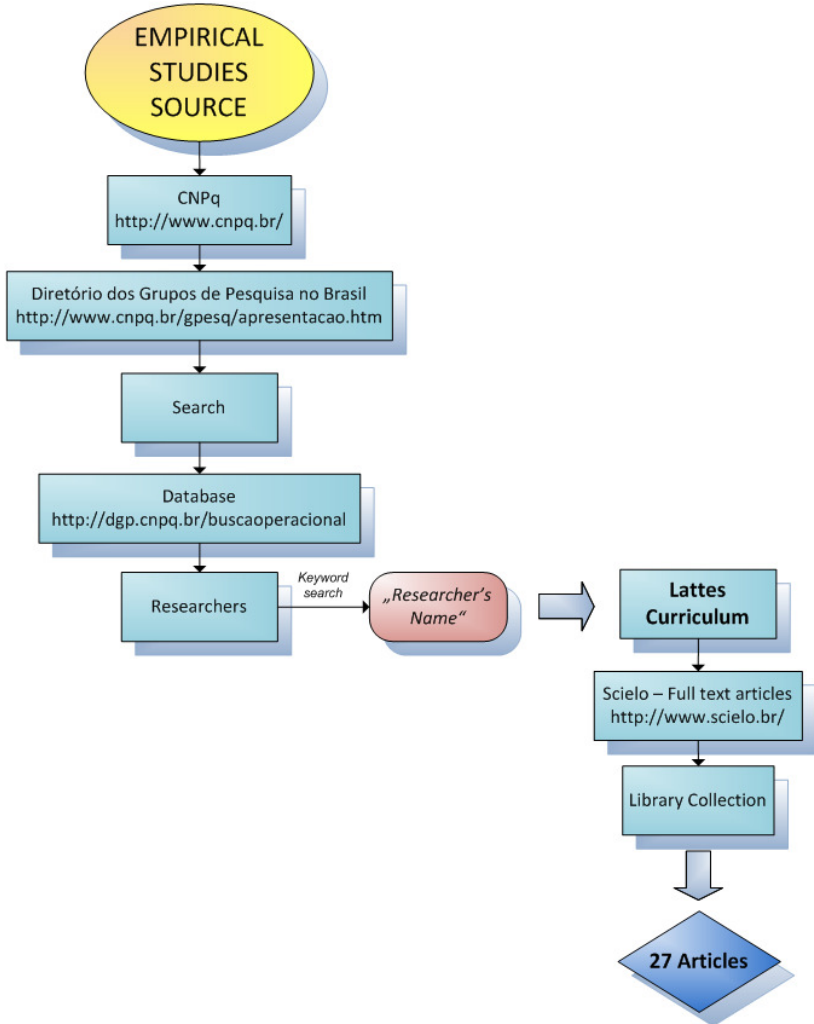
As there is a huge amount of material produced by people researching metaphor that was not on line, it seemed a good idea to travel to the places where the RGs are in order to gather such pieces of

research. This way, I could get the material and eventually have meetings or perhaps interviews with them. However, along the path of data collection several obstacles appeared: not every publishing was easy to reach in terms of space, economic issues and time availability. As Brazil is such a big country, the most difficult obstacle was the distance separating me from the places where the groups of study are and the diverse states where publishing about metaphor occurs. Thus, time and availability for travelling to the very distant states throughout Brazil led me to delimit the criteria for selecting material again.

In order to overcome the obstacle aforementioned, another alternative was necessary: the internet and its resources appeared to be the perfect tool to help me achieve my goal. Bearing this in mind, another step of the process of data collection referred to articles and lately publishing of researchers that were not available on line, it seemed a proper idea to have a more personal approach and get in contact with the RGs via e-mail. Therefore, I could write to every member of the group and ask directly to send me what I needed. This personal contact would allow me to have access to what they had published and I could not yet find on the internet. So, I revisited the RGs' sites in order to retrieve the e-mail addresses of mainly the leaders and of the other participants of each group. Then, I started sending e-mails to request the pieces of research and other publishing I had not found until that moment.

During the process of finding the researchers' e-mails, two paths were possible. One of them was shorter and more accurate in terms of results but required the name of the researcher. The other was longer but it was useful in the cases when I could not recall a particular name. It also allowed a more refined result, although it proved to be less efficient than the former step concerning the accuracy and relevance of the results. This process is better explained in Diagram 7 and Diagram 8 as follows.

Diagram 7.   *CNPq* Search for Researchers' E-Mails by Name
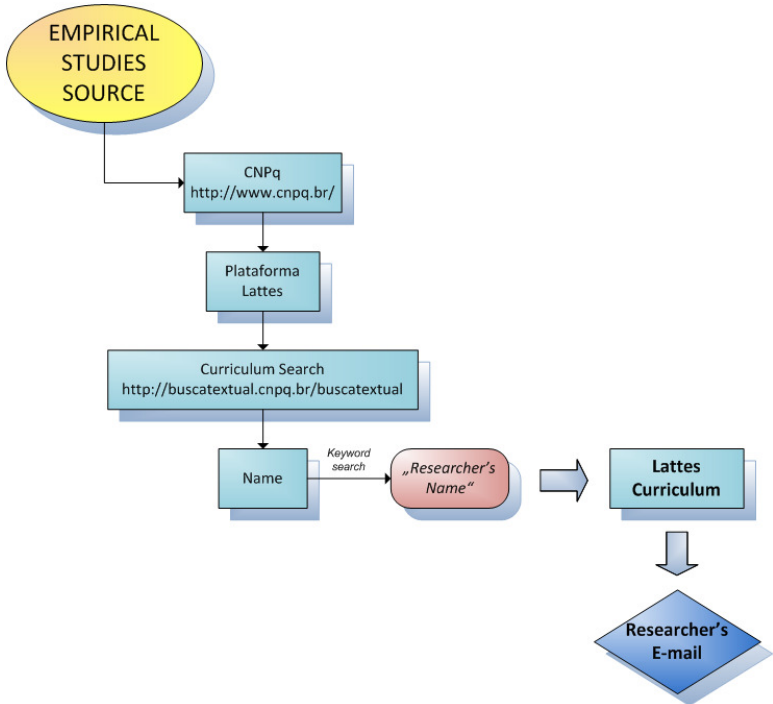
Diagram 8. *CNPq* **Search for Researchers' E-Mails by Subject**
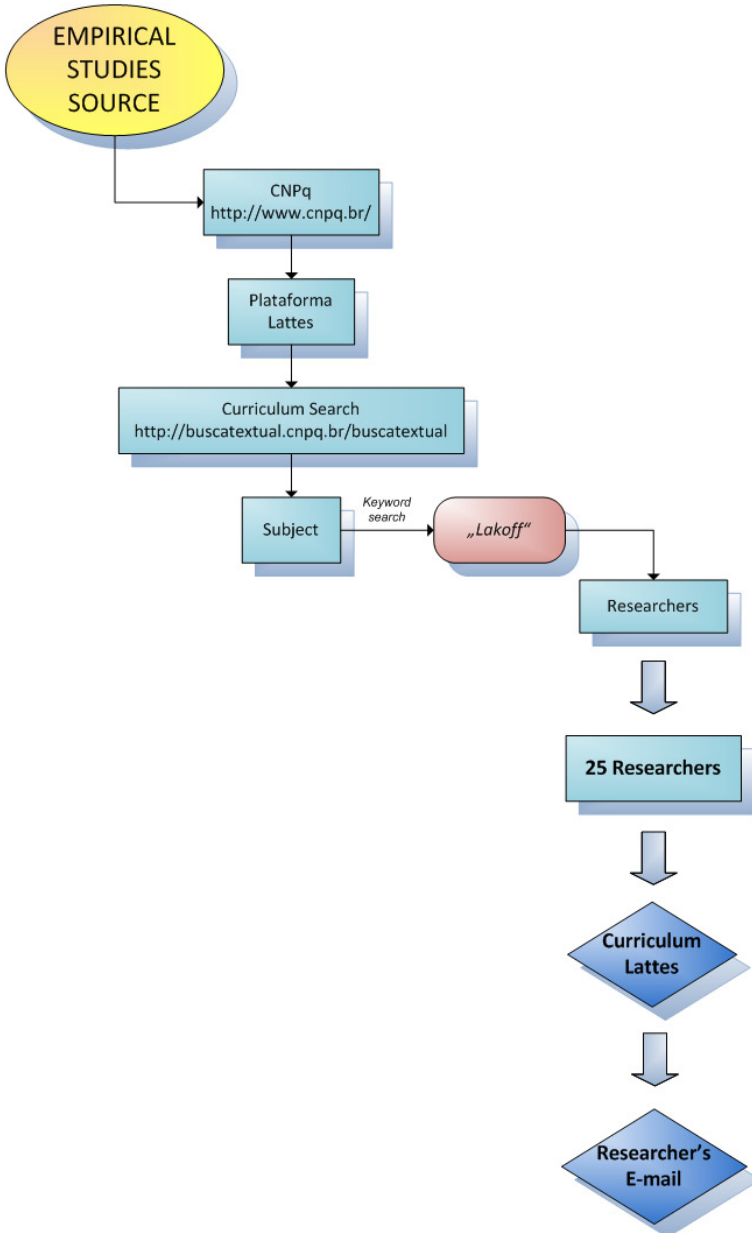
In the meantime, I continued looking for articles, journals, dissertations and theses that were published in printed versions and on line that were possible to reach. Also, my advisor provided me with many of the most important material in terms of theoretical support as well as corpus to be analysed. The different sources providing empirical studies are illustrated in Diagram 9 as follows:

Diagram 9.   Empirical Studies Source
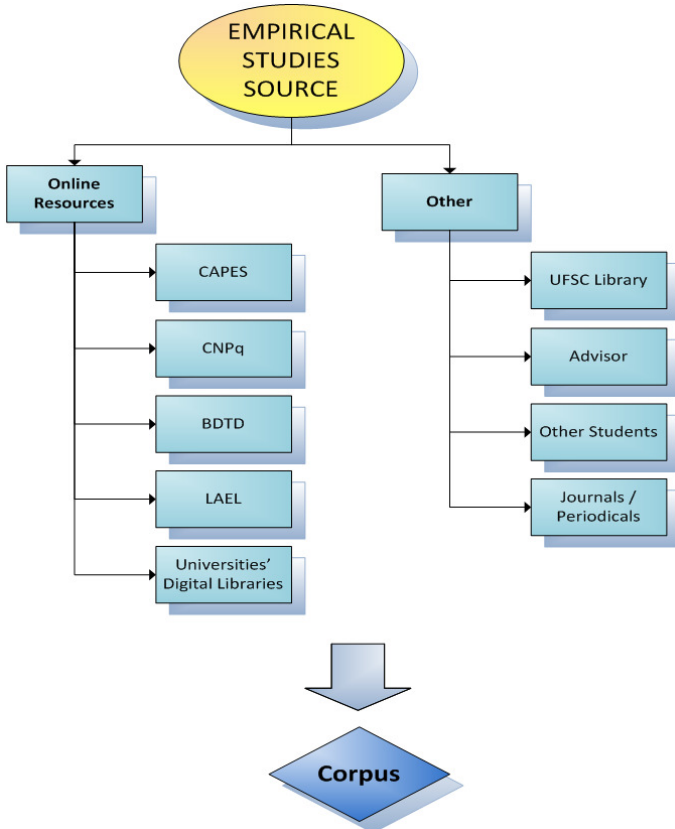
Concisely, data collection resulted in the total amount of 154 theses and dissertations and 151 articles. The analysis of the collected material was then refined according to the set of criteria from data selection. Therefore, not all the 305 pieces of research were chosen to be part of the analysis. This phase observed the procedures sequentially

organized in Table 3 for better visualization, but this does not imply that they were non-linear.

Table 3.   General Procedures for Data Selection

STEP N°	PROCEDURE
General Procedures	
1	Searching for theoretical and empirical studies devoted to metaphor (i.e. Theses, Dissertations and Articles);
2	Identifying theoretical and empirical studies that subscribe to Lakoff approach to metaphor;
3	Identifying Brazilian theoretical and empirical studies that subscribe to Lakoff approach to metaphor;
4	Searching for Brazilian RGs;
5	Searching for articles published by Brazilian RGs' members;
6	Selecting those articles which were extended to the domain of investigation;
7	Selecting the material for reading;
8	General reading of the selected material;
9	Writing down references including pages for citation;
10	Separating & extracting data: theoretical & empirical studies between 1998 and March 2010, in Brazil;
11	Copying data into the word processor regarding theoretical & empirical studies to be analysed;
12	Copying data into tables in excel spreadsheet programme;
13	Grouping theses & dissertations according to advisor;
14	Selecting professors with at least three theses/dissertations advised by them;
15	Including leaders of Brazilian RGs with less than three theses/dissertations advised by them;
16	Focused reading: analyzing different areas of research of Lakoffian Contemporary Theory of Metaphor in Brazil;
17	Copying different Brazilian research areas investigating Lakoffian approach to Metaphor into the word processor to be thoroughly analysed;
18	Focused reading: analyzing the different kinds of research within the domain of investigation;
19	Copying data into the word processor regarding different types of research to be analysed;
20	Starting planning for analysis procedures.

Concerning the material that provided the corpus of this study, a set of criteria was established to a better selection. The pieces of research collected for this study were:

a. Theses and dissertations published from 1998 to March 2010;

b. Empirical and theoretical studies that subscribe to Lakoffian theory of metaphor;

c. Theses and dissertations conducted in Brazil;

d. Theses and dissertations defended in Brazil;

e. Articles based on empirical and theoretical studies carried out in Brazil;

f. Articles of Brazilian researchers published in Journals and periodicals, as well as the unpublished ones (which were provided by the authors);

g. Printed and on line versions of articles, theses and dissertations;

h. Articles from active Brazilian RGs that subscribe to Lakoff's theory.

3.6 DATA ANALYSIS

This is a qualitative, theoretical research consisting of the collection, selection, and analysis of literature concerning metaphor studies. As already stated, mapping research on the concept of metaphor following Lakoffian theory, and analyzing published empirical studies in which Brazilian researchers were involved, required the development of a method for the collection, selection and therefore its analysis.

All the procedures designed for data analysis can be observed in Table 4 as follows, however, some of them did not occur linearly:

Table 4.   General Procedures for Data Analysis

STEP N°	PROCEDURE
General Procedures
1	Mapping RGs that study Metaphor in Brazil;
2	Identifying leaders and members of the groups;
3	Mapping Brazilian Universities and organizing data according to advisors;
4	Mapping articles published in Brazil by some of the members of the RGs, some Professors of Brazilian Universities and other relevant authors who study metaphor in the country;
5	Selecting the empirical and theoretical studies of the researchers under investigation (i.e., different approaches, constructs and concepts);
6	Identifying the theoretical and methodological references used by the researchers in their studies on metaphor in Brazil;
7	Selecting the theses, dissertations and articles that pursue Lakoff and Johnson's Contemporary Theory of Metaphor;
8	Selecting and grouping the studies decreasingly according to the advisors with greatest number of studies defended by their students;
9	Grouping and analyzing advisors with three or more theses and/or dissertations defended by their students;
10	Selecting advisors who were not included in the previous step but who are leaders of the selected Brazilian RGs;
11	Grouping and analyzing advisors with less than three theses and dissertations defended by their students, but who were leaders of the Brazilian RGs;
12	Analyzing Lakoffian theory and concepts within Brazilian scholars' investigation;
13	Comparing original concepts and the approach Brazilian researchers explored/interpreted/empirically tested;
14	Checking whether (or not) the concepts were adapted or extended;
15	Analyzing 1) Author(s)/Advisors; 2) Type of research; 3) Which aspects of Lakoffian approach to metaphor have been investigated in Brazil; 4) Objective(s) of the study; 4) Type of context/Instruments; 5) Methodology; 6) Role of the participants; 7) Researcher(s)'role; 8) Findings/The researchers' voice regarding the findings; 9) Mode of Metaphor;
16	Copying and displaying the results of data analysis;
17	Revisiting all the findings.

The analysis of the data was divided into four phases. The first one was committed to contextualizing Brazilian studies on metaphor through detection of the main RGs in the country. The investigated issues were: 1) Author(s) (i.e. leaders and other members of the RG); 2) Type of research; 3) Which aspects of Lakoffian approach to metaphor have been investigated in Brazil; 4) Objective(s) of the study; 4) Type of context/Instruments; 5) Methodology; 6) Role of the participants; 7) Researcher(s)'role; 8) Findings/The researchers' voice regarding the findings. It is worthwhile mentioning that not all the studies deal with real discourse, but rather with Corpus Linguistics. Therefore, those pieces of research will not be addressed at the time of examining the role of the participants. The same criterion is valid for the other phases of data analysis.

The second phase consisted of examining the information retrieved from the Brazilian theses and dissertations enclosed in the aforementioned criteria. First of all, data were organized according to the Universities where the studies were defended. As a mere means of organization, the order was established as follows: starting with the university with the largest number of studies, continuing decreasingly to the one with smallest quantity. Theses and dissertations were, then, grouped and afterwards analysed according to the advisor, following the same order criterion. So, the goal of this procedure was to classify the advisors decreasingly in accordance with the amount of advisees, and consequently the number of studies defended by their students. Item 1 from the previous phase was differently approached in this phase, because the advisors were considered for data analysis and not the authors. Also, for reasons of space and time, only advisors with three or more studies were analysed and discussed.

As there were leaders of Brazilian RG with less than three publications (i.e. theses/dissertations defended by their advisees) it was necessary to adopt another criterion for data analysis: publications of the leaders of the RG were all included in this phase, due to the relevance of their work and the articles published by them. Lastly, the information contained in items 2, 3, 4, 5, 6, 7, and 8 were analysed.

The third phase was to group and therefore analyse the previously selected articles about metaphor in Brazil. Regarding this phase, although all the authors were taken into consideration, a criterion for displaying the findings was necessary. While analyzing the publications, I noticed that some of the publications had been written by more than one researcher. An instance of this is the translation into Portuguese of the preface of Lakoff and Johnson's book entitled

Metaphors we live by developed by Mara Sofia Zanotto; Maria Isabel Asperti Nardi; Solange Coelho Vereza; Josalba Ramalho Vieira; and Marilda do Couto Cavalcanti. Another example is the one of Christine Greiner and Helena Katz who have conducted research together and consequently, co-written some articles. This may be due to the fact that such authors have developed research and/or have (co-) written articles in the field together, or because they share the same viewpoints. As a consequence, articles written by more than researcher will just be displayed and mentioned within the production of the researcher with the highest quantity of studies. On the other hand, I observed that the same article had been published by the same author, but in two different RGs. For example, Vereza's publication Booknotes: Lakoff, G. and Johnson, M. (1999) *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought* appears among the articles released in *GEIM*, as well as in *GIMD*. Again the criterion was to prioritize the Reseach Group with more publishing. Far from implying any rank of importance, this criterion was adopted as a mere means of organization. Finally, data contained in items 1, 2, 3, 4, 5, 6, 7, 8, and 9, were examined.

Summarizing the three phases, data analysis upheld the criterion of following the decreasing proportion of published studies, prioritizing the ones with greatest number. It is meaningful to highlight that the aforementioned criteria for selecting the data under analysis implied excluding important pieces of research. So, due to the number of studies and the nature of this proposal, it was not possible to include all the works. Moreover, these survey boundaries reach mostly online available studies; consequently, it does not encompass the entire production of the selected researchers. The purpose of these three phases of data analysis was to answer the Specific Research Questions which guided this investigation.

At last, in the fourth phase of the analysis, the overall findings of the analysis were revisited in order to answer the General Research Question which motivated this survey.

3.7   SUMMARY OF THE CHAPTER

In this chapter, there is the detailed research method used to investigate metaphor studies in Brazil. The chapter was divided into five sections. Firstly, the guiding principles of this qualitative-interpretive

investigation to explain its nature were presented. Secondly, the objectives of this study were stated. As aforesaid, the main objective of the present study is to investigate Lakoffian concept of metaphor and its approaches in Brazil through an analysis of empirical studies in which Brazilian researchers are engaged. The General and Specific Research Questions which guided this study were indicated consecutively. Thirdly, there is the description of the procedures for Data Selection, that is, the proceedings and criteria from which the studies to be analysed were collected, selected and grouped. Then, there is also the description and the criteria used in the Data Analysis. Finally, there is the summary of the chapter.

4 FINDINGS

4.1 INTRODUCTION

In this chapter, the findings of the analysis are reported, in order to answer the specific research questions which guided this investigation. As regards the organization of this chapter, it is divided into six sections.

The first section introduces the chapter.

The second presents a brief overview of the main Brazilian RGs in order to contextualize metaphor studies in Brazil. For the sake of maintaining an organization, the findings of the analysis resulting from the publishing produced by the members of the RGs will be presented together with the findings of the other empirical studies.

Data were displayed in a table containing the name of the RG, name(s) of the leader(s); name(s) of the member(s); the universities they are currently working at. Some researchers are not officially linked to any university, therefore only their name will appear in the members' section. Also, information presented in the table contains the RGs in which such leaders/members develop research and the university which the RG is linked to. As it can be observed, there are scholars that contribute to more than one RG simultaneously, so, in such cases, the article will be accounted in both RGs. besides, there are researchers who are linked to other RGs that do not investigate metaphor. Nevertheless, it was decided to keep that information because it is part of the researcher's background.

The third section presents the results obtained from the analysis directed to Brazilian Universities. It is more a contextualization than an analysis itself, and it contains a graph to better illustrate the quantity of publications from each University, but only the four highest numbers will be considered in the analysis. Although the results of this step were presented quantitatively, it served as a starting point to data approach. It also provided a macro overview of metaphor studies in Brazil, allowing to identify the Brazilian niches investigating metaphor in the country.

The fourth section encompasses the analysis of the data obtained from theses and dissertations, following a decreasing order as previously explained. The results will be exhibited like this:

a) Firstly, a table illustrating the selection of theses and dissertations in which the professor was the advisor. The table was organized according to the advisor, and the University next to his name is the one in which that advisor is currently a professor. Then there is the section of the universities where those theses and dissertations were defended. Following, there is the year of publication; graduation degree obtained by the student; name of author of the study; and its title. There is also a part of the table including the article(s) written by the professor. This data is displayed according to the RG where the author (professor) is leader or member of; the year of publication; the sort of publication it is (i.e. review, book chapter, article, organization of a book, and so on.). In the cases where there is more than one author they will appear in the "co-author" gap; and finally, the title of the publishing is included. It is worthwhile mentioning that some scholars are not linked to any RG, thus, the RG field is empty.

b) Then, follows a synthesis of all the studies introduced in the table and the analysis of the aforementioned items. It is important to highlight that the research conducted by the researchers' advisees will sometimes be refered with the advisor's name, to simplify the reading. To illustrate, an instance is Zanotto, who has had ten advisees. So, when referring to the tendencies, paradigms, and so on - at the moment of reading the findings, for example - it will be mentioned something like "research conducted by Zanotto", or "Zanotto investigation has focused on". The steps a) and b) were displayed for each professor at a time.

In the fifth section, I observed the data regarding the year of publication so as to have an idea of the development of metaphor studies throughout the years in Brazil. It is worthwhile mentioning that this was not done under any analytical purpose, but rather as an attempt to schematize a different kind of approach to data which might help design the most peripheral layer of the map.

Finally, in a sixth section, there is the summary of the Chapter.

4.2   APROACHING BRAZILIAN RESEARCH GROUPS

To start with, a mapping with a brief profile of the RGs on metaphor in Brazil will help to have an overview of recent metaphor studies in this country. As formerly stated, only the groups that are active and have a higher quantity of publications were selected in order

to focus the research. The selection had as a starting point the first studies since the foundation of the groups until March 2010.

Table 5.   RG: *GEIM*

GEIM – Grupo de Estudos da Indeterminação e da Metáfora	
Leaders	**Active Research Groups**
Mara Sophia Zanotto (PUC-SP)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (leader)
Heronides M. de Melo Moura (UFSC)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (leader) • *Estudos Lingüístico-Computacionais da Linguagem* - UNESP (researcher) • *NES - Núcleo de Estudos Semânticos* - UFSC (leader)
Members	**Active Research Groups**
Clemira de Fátima Canolla (UNISIEO)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (researcher)
Lucienne Claudete Espíndola (UFPB)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (researcher) • *GEADEL - Grupo de Estudos em Análise de Discurso e Ensino de Línguas* - UFAC (researcher) • *Texto: produção e recepção sob vários olhares* - UFPB (leader)
Dieli Vesaro Palma (PUC-SP)	• GEIM - Grupo de Estudos da Indeterminação e da Metáfora - PUC-SP (researcher) • *Historiografia da Língua Portuguesa* - PUC-SP (leader)
Helena Gordon Silva Leme (PUC-SP)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (researcher)
Maria Isabel Asperti Nardi (UNESP)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (researcher)
Solange Coelho Vereza (UFF)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (researcher) • *Indeterminação e metáfora no discurso* - UFF (leader)
Josalba Ramalho Vieira (UFSC)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (researcher)
Vilma Lemos (USCS)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora* - PUC-SP (researcher) • *Memória e Imaginário em novos contextos da Comunicação* - USCS (researcher)

Among the seven groups with more publications, *GEIM* is on the top of the list with a total of fifty-five[21] articles published. This group has been registered at *CNPq* since 1995. It is headquartered in *PUC-SP*, and is coordinated by Mara Sophia Zanotto and Heronides Maurílio de Melo Moura. The aim of the group is to research metaphor and indeterminacy in language in use. The investigations are empirical and are intended to contribute to theoretical discussions, as well as to elucidate applied issues such as, the teaching of reading and the analysis of interactions in which metaphor and indeterminacy are relevant. Also, the group has organized the most important international events held in Brazil, such as the Conference on Semantic Polysemy and Indeterminacy (*UFSC*, Florianópolis, 2001), the I Conference on Metaphor in Language and Thought (*PUC-SP*, São Paulo, 2002) and the II Conference on Metaphor in Language and Thought (*UFF*, Niteroi, 2005), with the participation of renowned international researchers. These events have had great impact and have led to relevant national and international publications, among which is the special volume (number 22) of *DELTA*: *Essays on Metaphor in Language and Thought* and the collection edited by Mara Sophia Zanotto, Lynne Cameron (Leeds, UK) and Marilda Cavalcanti (*UNICAMP*), entitled *Confronting Metaphor in Use: An Applied Linguistic Approach*, published by John Benjamins in 2007. And two relevant national publishings such as: *Ilha do Desterro, n.53 – Metaphor in language and thought: Contemporary perspectives*, (2007), and *Linguagem em (Dis)curso 7(3;* 2007) derived from the II Conference, as well. As a matter of fact, the members of this group are many of the most important researchers dealing with metaphor studies in Brazil by far[22].

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[21] This number does not indicate the total amount of articles published by the members of the group, but rather the quantity of articles found in my investigation through the RGs.
[22] Although here are mentioned some of the universities the researchers contribute to, they advise students and collaborate with other universities to be mentioned ahead in this study. The same is valid for all the other RGs.

Table 6.   RG: COMETA

COMETA - Cognição e Metáfora	
Leader	**Active Research Groups**
Paula Lenz Costa Lima (UECE)	• *Cognição e Metáfora - COMETA* - UECE (leader) • *GELP - COLIN (Cognição e Linguística)* - UFC (researcher)
Members	**Active Research Groups**
Ana Cristina Pelosi Silva de Macedo (UFC)	• *Cognição e Metáfora - COMETA* - UECE (researcher) • *GELP - COLIN (Cognição e Linguística)* - UFC (leader) • *Grupo de Estudos em Funcionalismo* - UFC (researcher)
José Edelberto Costa Filho (UVA-CE)	• *Cognição e Metáfora - COMETA* - UECE (researcher)
Elaine Carvalho Chaves Hodgson	• *Cognição e Metáfora - COMETA* - UECE (researcher)
Márcia Socorro Ferreira de Andrade (IFCE)	• *Cognição e Metáfora - COMETA* - UECE (researcher)
Emilia Maria Peixoto Farias (UFC)	• *Cognição e Metáfora - COMETA* - UECE (researcher) • *GELP - COLIN (Cognição e Linguística)* - UFC (leader) • *TRADICE - Tradições Discursivas do Ceará* - UFC (researcher)

The second RG, also with twenty-four publications is *COMETA*. Active since 2006 and founded by Paula Lenz Costa Lima this RG is inserted in the context of human cognition research and, more specifically, matters concerning applied linguistics, considering that language is permeated with metaphors. This group investigates the relationship between language and thought within studies in translation, lexicology and language processing areas. The members of the group often work with large amounts of systematic metaphorical expressions in language, in its most various performances and text genres (Caballero, 2003). Applied linguistics areas provide the corpus consisting of raw materials commonly used and occurring in real languages, which is very important for the translation and teaching and learning of languages, to mention just a few. The group plays an important role in the region, setting the state of Ceará as a major center of research on metaphor, being recognized both nationally and internationally. This is an inter-institutional group linked with another

CNPq RG from the *UFC*, named *COLIN*[23]. It also has the collaboration of Prof. Edson Françozo (*UNICAMP*), one of the main Psycholinguistics researchers in Brazil, and Prof. Raymond Gibbs, (from the University of California Santa Cruz), one of the greatest exponents on metaphor studies in the contemporary world. The group's constant development is well known, and has produced five master theses so far, and has other five still in progress and 3 doctoral dissertations.

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[23] Further information about this group will be mentioned afterwards

Table 7.   RG: GELP-COLIN

GELP-COLIN - Cognição e Lingüística	
Leaders	**Active Research Groups**
Ana C. Pelosi Silva de Macedo (UFCE)	• *Cognição e Metáfora - COMETA - UECE* (researcher) • *GELP - COLIN (Cognição e Linguística) - UFC* (leader) • *Grupo de Estudos em Funcionalismo - UFC* (researcher)
Emilia Maria Peixoto Farias (UFC)	• *Cognição e Metáfora - COMETA - UECE* (researcher) • *GELP - COLIN (Cognição e Linguística) - UFC* (leader) • *TRADICE - Tradições Discursivas do Ceará - UFC* (researcher)
Members	**Active Research Groups**
Paula Lenz Costa Lima (UECE)	• *Cognição e Metáfora - COMETA - UECE* (leader) • *GELP - COLIN (Cognição e Linguística) - UFC* (researcher)
Mário Junglas Muniz (UVA-CE)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher)
Claudiana Nogueira de Alencar (UECE)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *GEMTES - Grupo de Estudos de Mídia e Tensões Sociais no Contemporâneo - UECE* (researcher) • *Linguagem e identidade: Abordagens Pragmáticas - UNICAMP* (researcher)
Márluce Coan (UFC)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Grupo de Estudos em Funcionalismo - UFC* (researcher) • *SOCIOLIN-CE (Grupo de Pesquisas Sociolinguísticas) - UFC* (leader)
Guilherme de Alencar Barreto (UFC)	• *Computação Natural - UFPE* (researcher) • *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Laboratório de Automação e Sistemas Inteligentes - IFCE* (researcher)
Ricardo Lopes Leite (UFC)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *PROTEXTO - UFC* (researcher)
Heloísa P. de Moraes Feltes (UCS)	• *Cultura e Semântica Cognitiva - UCS* (leader) • *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Língua, Sociedade e Cognição - UCS* (researcher)
Rubens Lacerda Loiola (UESPI)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Grupo Interdisciplinar em Desenvolvimento Regional, Contingência e Técnica - UESPI* (researcher)
Júlio César Rosa de Araújo (UFC)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Grupo de Estudos em Funcionalismo - UFC* (leader)
Sâmela Rocha Barros	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher)
Kelcilene V. Silva de Mesquita (FEBAC)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher)
Samuel de C. Lima	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher)
Luciane Corrêa Ferreira (UFMG)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Grupo de Estudo e Pesquisa em Linguistica Aplicada - UFC* (researcher)
Sandra Maia Farias Vasconcelos (UFC)	• *Argumentação e Discurso - UFC* (leader) • *GELDA - Grupo de Estudos em Lingüística e Discurso Autobiográfico - UFC* (leader) • *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Grupo Interdisciplinar de Pesquisa, Formação, Autobiografia, Representações Sociais - UFRN* (researcher)
Márcia Teixeira Nogueira (UFC)	• *GELP - COLIN (Cognição e Linguística) - UFC* (researcher) • *Grupo de Estudos em Funcionalismo - UFC* (leader)

The third group, with twenty-four publications is *GELP-COLIN*. It was founded in 2000 and is a partnership between the researchers Ana Cristina Pelosi de Macedo, leader of the group, and Paula Lenz Costa Lima, who is also leader of *COMETA*. Another leader of the group is Emilia Maria Peixoto Farias. Following the theoretical framework of

cognitive linguistics and psycholinguistics, the group develops research focused on cognition and language, as socio-culturally situated interdependent phenomena. It is, therefore, of interest to the group to investigate issues related to cognitive science such as the relationship between language and cognition. More specifically, their investigation aims at understanding the nature of semantic categorization in children (Bloom, 2001) and adults, as well as in people with cognitive dysfunction. Currently, it has expanded its research interests to issues relevant to cognition, culture and language (Jiang, 2000), as proposed by cognitive scientists such as George Lakoff, Joseph Grady, Lynne Cameron, Mark Johnson, Raymond Gibbs, Zoltán Kövecses, and others, whose emphasis is the vision embodied in cognition, according to which it is not possible to separate the cognitive performance from phenomenology, in interaction between brain / mind / body / physical world. There is a larger project linked to the group that is entitled Interdisciplinary Project about socio-cognitive representations on the conceptualization of violence in Brazilian cities[24] and several other sub-projects among which there are: Metaphor, empathy and the constant threat of urban violence in Brazil (project developed in partnership with the Open University, England); Metaphor, cognition and culture: an exploratory study of cultural influences in the formation of not correlated metaphors; Radial Categories: a model for digital multi-dimensional representation; Tackling down and building up: conceptual metaphors and models for teaching verbs of two or more words; The Figurativity and the Teaching of Languages, among others.

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[24] Projeto interdisciplinar sobre representações sócio-cognitivas na conceitualização de violência em centros urbanos brasileiros.

Table 8. RG: *GIMD*

GIMD - Indeterminação e metáfora no discurso	
Leader	**Active Research Groups**
Solange Coelho Vereza (UFF)	• *GEIM - Grupo de Estudos da Indeterminação e da Metáfora - PUC-SP* (researcher) • *Indeterminação e metáfora no discurso* - UFF (leader)
Members	**Active Research Groups**
Helena Franco Martins (PUC-RIO)	• *Indeterminação e metáfora no discurso* - UFF (researcher) • *MultiTrad - Abordagens Multidisciplinares da Tradução - UFPR* (researcher)
Maria Elisa Knust Silveira (UFF)	• *Indeterminação e metáfora no discurso* - UFF (researcher)
Solange Pereira Diniz Faraco (UVA-RJ)	• *Indeterminação e metáfora no discurso* - UFF (researcher)
Sérgio Nascimento de Carvalho (UERJ)	• *Indeterminação e metáfora no discurso* - UFF (researcher)

The fourth RG of the list, with nineteen published articles is *GIMD*. This group was founded in 2004 and it investigates issues of indeterminacy of meanings in the speech and metalanguage (Kövecses, 2007a, 2007b), conceptual metaphor categorization and figurativity. More specifically, it has explored metaphor through different perspectives - lingüistics, philosophic and literary. It has also focused on the analysis of the methodology variety reflected on empirical studies in Applied Linguistics within metaphor research in the country. A graduation course on Indeterminacy and Metaphor is offered at the Graduation in Language and Literature at *UFF* by Solange Coelho Vereza, the leader of this group. She has specialization courses in Language Teaching, and Language and Literature in Education by the London University (with a distinction degree).

This group, along with the group *GEIM*, organized the Second Congress on metaphor in language and thought, the *UFF* in 2005.

Table 9. RG: GEMATEC

GEMATEC - Grupo de Estudo de Metáforas, Modelos e Analogias na Tecnologia na Educação e na Ciência	
Leader	**Active Research Groups**
Ronaldo Luiz Nagem (CEFET-MG)	• *AMTEC* – CEFET-MG (leader)
Members	**Active Research Groups**
Cátia Rodrigues Barbosa (CEFET-MG)	• *MUSAETEC* - CEFET-MG (leader)
Ana Maria Senac Figueroa (CEFET-MG)	• *AMTEC* - CEFET-MG (researcher)
Andréa Silva Gino (UEMG)	• *AMTEC* - CEFET-MG (researcher)
Cacilda Lages Oliveira	• *AMTEC* - CEFET-MG (researcher) • *LACTEA - Interações sociotécnicas* - CEFET-MG (researcher)
Cinthia Maria Gomes e Silva	• *AMTEC* - CEFET-MG (researcher)
Eliene Freire de Oliveira (FAFIC)	• *AMTEC* - CEFET-MG (researcher)
Isabel Campos Araújo (CEFET-MG)	• *AMTEC* - CEFET-MG (researcher)
Maria de Fátima Marcelos (CEFET-MG)	• *AMTEC* - CEFET-MG (leader)
Maurício Silva Gino (UFMG)	• *AMTEC* - CEFET-MG (researcher) • *Grupo de estudos clínicos e cirúrgicos* - UFMG (researcher) • *Infortec - Núcleo de Pesquisa em Linguagem e Tecnologia* - CEFET-MG (researcher)
Silvia Eugênia do Amaral	• *AMTEC* - CEFET-MG (researcher) • *Sexualidade, gênero, etnia e educação* - UEMG (researcher)

The fifth RG with a total of fifteen articles is *GEMATEC*. It was founded in 2000 and it is a multidisciplinary group, with a transdisciplinary tendency, consisting of doctors and masters of the RG named *AMTEC - Analogias e Metáforas na Tecnologia na Educação e na Ciência*. It is linked to the *CNPq*, and has the support from *CAPES* and other researchers interested on the subject. It is located in the campus VI of the *CEFET*, Minas Gerais, it is also linked to the Master of Technological Education of the mentioned Institution. The group aims at contributing to the development of teaching, research and extension related to analogies and metaphors in technology, education

and science. In sum, they develop activities in close collaboration with other units from *CEFET-MG* and other educational institutions in Brazil and abroad. It is coordinated by its founder Prof. Dr. Ronaldo Luiz Nagem. Currently, the RG *AMTEC*, which is bound to *GEMATEC*, consists of 23 members including two doctors, nine teachers and nine Master's students. There is also the participation of a technician and two *PIBICs* that assist in research activities of the group.

It is significant to mention that the path followed to find this group was through a web search at Google, as this group is not listed among the ones in *CNPq*'s *Diretório dos Grupos de Pesquisa no Brasil*. As it was not possible to find the exact date of foundation in the group's website, it will be considered 2000 as the date of foundation due to the date of its first publications. It is worthwhile including this group in this study because, from all of the RGs, *GEMATEC* was the most active when I contacted the members by e-mail. Most of the researchers were very collaborative and provided important information about their ongoing research. Furthermore, its founder, Prof. Dr. Ronaldo Luiz Nagem is one of the renowned names within metaphor investigation in Brazil.

Table 10. RG: *GELC*

GELC - Grupo de Estudos de Lingüística de Corpus	
Leader	**Active Research Groups**
Antonio Paulo Berber Sardinha (PUC-SP)	• *DIRECT- Em Direção à Linguagem do Trabalho* - PUC-SP (leader) • *EDULANG* - PUC-SP (researcher) • *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (leader) • *RaAM - Researching and Applying Metaphor International Association* (member and Web editor)
Members	**Active Research Groups**
José Lopes Moreira Filho	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher)
Carlos Henrique Kauffmann	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher)
Márcia Regina Boscariol Bertolino	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher)
Deise Prina Dutra (UFMG)	• *Aprendizagem de Línguas Estrangeiras* - UFMG (leader) • *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher) • *Grupo Intermapas - Estudos de Mapeamentos entre Semântica e Sintaxe em Interlínguas* - UFMG (researcher)
Marco Antonio Esteves da Rocha (UFSC)	• *A investigação de relações anafóricas a partir de corpus: uma abordagem integrada* - UFSC (leader) • *Estudos Lingüístico-Computacionais da Linguagem* - UNESP (researcher) • *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher) • *Núcleo de Estudos Poético-Musicais (NEPOM)* - UFSC (researcher)
Diva Cardoso de Camargo (UNESP)	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher) • *Linguística de Corpus como auxílio ao Ensino de Língua Inglesa e de Tradução* - UNESP (researcher) • *Tradução, terminologia e corpora* - UNESP (leader)
Marilisa Shimazumi	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher)
Eliane Gurjão Silveira Alambert	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher)
Tania Maria Granja Shepherd (UERJ)	• *Discurso e Estudos de Tradução* - UERJ (researcher) • *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher) • *Linguística Sistêmico-Funcional: textos, contextos e cotextos* - UERJ (leader) • *Práticas de Linguagem e Subjetividade* - PraLinS - UERJ (researcher)
Flavia Priscila de Oliveira Morales	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher)
Willians Ramos Ferreira (UNICSUL)	• *Grupo de Estudos de Lingüística de Corpus* - PUC-SP (researcher)

The sixth RG with fourteen publications is *GELC*. Founded in 2008 by Antonio Paulo Berber Sardinha (*PUC-SP*), the proposal of this group is related to the collection and study of corpora, or sets of textual linguistic data that are carefully collected and stored in computer, in order to serve for the research of a language or language variety. In Brazil, Corpus Linguistics is relatively recent, formally existing since 1999, when the first major national meeting of the area (in *PUC-SP* and *USP*) occurred. The *GELC* gathers teachers-researchers and apprentices from various parts of the country, who work on several frameworks of research and application. The group originated as a response to the "growing qualitative and quantitative research carried out and the increasing development in human resources, since we can perceive the scientific initiation, master and doctoral programmes that have as their central theme the Corpus Linguistics, which legitimates this discipline in Brazil" (Berber Sardinha & Barcellos Almeida, in press). In sum, the group's goals are to consolidate and disseminate the Corpus Linguistics in the country and to disseminate Brazilian research in Corpus Linguistics abroad; to promote interchange among national and international RGs; to integrate Corpus Linguistics with other areas of knowledge. Also, it aims at developing and providing free tools for corpora analysis in order to make the Corpus Linguistics more accessible.

Their initiative concerning metaphor studies is to facilitate the creation, manipulation, conservation and access to corpora containing metaphors and/or metaphorical expressions, but principally, to identify the target words among huge quantities of data. Thus, time and efforts will be saved by the creation of simple interfaces of technology resources in the area. Consequently, this group represents pioneer work in metaphor studies in Portuguese for researchers linked to the area.

4.3   APPROACHING BRAZILIAN UNIVERSITIES

Different approaches to data analysis occurred in order to better map the all the information obtained through research. Regarding the theses and dissertations published in Brazilian Universities, it seemed necessary to have a broad overview of the niches where Brazilian researchers have been studying metaphor. Therefore, it appeared to be pertinent to observe which universities had the highest amount of pieces of research. As aforementioned, a total of 154 theses and dissertations

concerning metaphor studies published between 1998 and March 2010 resulted from the data collection[25]. In order to show the results in a clearer way, they will be displayed in Graph 1 as follows:

Graph 1. Amount of publications per university
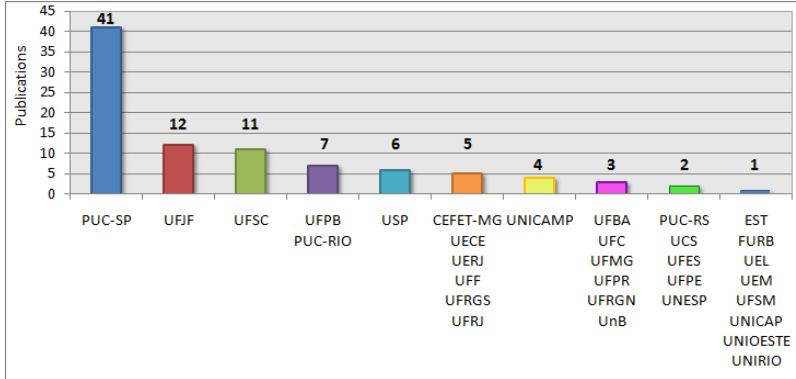
As it can be observed, *PUC-SP* was the Brazilian University with the greatest amount of theses and dissertations according to the survey. A total of 41 out of 154 studies were defended in that institution and were available on line at the moment of my research. This result represents the evidence that great part of the researchers investigating metaphor in Brazil belong to or are linked to this university, as it is the case of the members of *GEIM* and *GELC*. That is the case of scholars such as Zanotto and Sardinha, to mention just a few, who represent a significant contribution to the field. It is also significant to consider that *PUC-SP* is one of the most populated universities in Brazil; therefore, results are not a mere coincidence, but rather the consequence of many factors. The next university in terms of number of studies is *UFJF* with 12 theses and dissertations, and 10 out of those 12 were advised by Neusa Salim Miranda. Although Miranda is not linked to any of the aforementioned RGs, her contribution to metaphor studies in Brazil is very valuable. In third place there is the *UFSC* with the amount of 11 studies. It is highly represented by Vieira, who has 7 studies defended by her advisees. In fourth place, with 7 studies each, there are *UFPB* and *PUC-RIO*. The former, represented by professors such as Alves and Espíndola with 3 studies each; and the latter, headed by Martins with a

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[25] For better visualization and further detailed information, see **Erro! Fonte de referência não encontrada.** in the Appendix.

total of 4 theses defended by her advisees. Then goes *USP,* which is not linked to any Brazilian RG but the research conducted in such university is very significant, as well, presents a total of 6 studies. Finally, among the group of universities with 5 studies each, it is worthwhile highlighting *UECE.* Theses defended by Lima's advisees sum 4 out of 5 studies defended in that university. Also, it is important to mention that the RGs *COMETA* and *GELP-COLIN* are totally or partially linked to that university.

It is necessary to highlight that the numbers contained in the graph in the present survey are the representation of the search conducted on line. Consequently, it is possible that many universities may have developed significant number of pieces of research which are not on line and therefore they are not included in the present study.

Besides providing important information about Brazilian niches investigating metaphor, this step allowed to identify the 87 professors who were the advisors of those studies. Once I had the list of professors I was able to classify and organize the analysis so as to compare them with the authors of other pieces of research I had collected. Additionally, another comparison took place, confronting these findings to those of the leaders and members of the RGs that investigate Metaphor in Brazil. This brought some enlightening results that enabled me to identify the most important Brazilian researchers, as well as it guided me to find a way of systematizing all the data for selection, analysis, and presentation of the results in a clear, organized fashion.

4.4   APPROACHING ADVISORS

From the 154 theses and dissertations and the 151 articles resulting from data collection, only 75 theses and dissertations were selected for this analysis according to the selection criteria. The 151 articles produced by the professors chosen from data selection were all considered in this phase.

A preliminary result attained from this approach is that many of the selected advisors turned out to be leaders or members of Brazilian groups that research metaphor in Brazil, as well. However, data from the RGs will not be detailed in this section because they have been mentioned in a specific segment.

The display of the results will follow the aforementioned criteria.

Table 11. Researcher Mara Sophia Zanotto

Mara Sophia Zanotto - PUC-SP				
	Year	Grad. Degree	Author	Title
Advisor PUC-SP	1998	Doctorate	Solange Coelho Vereza	Literalmente falando: O sentido literal como metáfora cognitivo-pragmática.
	1999	Doctorate	Maria Isabel Asperti Nardi	A metáfora e a prática de leitura como evento social: Instrumentos do pensar a Biblioteconomia do futuro.
	2002	Master	Nanci Maria S. de Queiroz	A metáfora nos textos literários: A leitura, em sala de aula do ensino fundamental, de um conto em língua estrangeira.
	2003	Doctorate	Helena Gordon Silva Leme	Indeterminação e metáforas no discurso religioso (a construção do sentido no discurso do evangelho da prosperidade).
	2004	Doctorate	Cirlene Dias Magalhães	Mudança é movimento - Polissemia e incoatividade nas construções gramaticais do predicador 'Entrar' numa visão semântico-cognitiva.
	2005	Master	Claudia C. Ferreira Ferling	A leitura de poemas em LE: Metáforas como desafios cognitivos.
	2005	Doctorate	Rogéria Kátia Arruda Mattos	Entre a tradição e a re-significação de práticas de ensino de português como língua materna.
	2007	Master	Luciane de A. Santa Bárbara	O papel do professor como mediador e gerenciador da co-construção das múltiplas leituras.
	2008	Master	Maria das Graças B. da Silva	A mediação e o "pensar alto em grupo": Caminhos para o desenvolvimento da leitura crítica.
	2009	Master	Guilene D. de Souza Candia	Analise crítica da metáfora no discurso inaugural de Nelson Mandela.

	Year	Publication Type	Co-author	Title
Author GEIM	1990	Book chp.		Em busca da elucidação do processo de compreensão da metáfora.
	1992	Book chp.		O processo de compreensão da metáfora na formação dos professores de língua materna.
	1995	Journal art.		Metáfora, cognição e ensino de leitura.
	1995	Conference		A cognição metafórica e a lingüística aplicada.
	1998	Book chp.		A construção e a indeterminação do significado metafórico no evento social de leitura.
	2002	Book chp.	Heronides M. de Melo Moura	Indeterminacy and negotiation of meaning.
	2002	Book trans.	Josalba Ramalho Vieira, Solange Coelho Vereza, Dieli Vesaro Palma, Maria Isabel Asperti Nardi	Metáforas da Vida Cotidiana.
	2002	Preface	Maria Isabel Asperti Nardi, Heronides M. de Melo Moura, Solange Coelho Vereza	Prefácio de *Metáforas da Vida Cotidiana*.
	2004	Conference	Dieli Vesaro Palma	A co-construção em grupo dos sentidos metafóricos.
	2005	Conference		The pragmatic function of ontological metaphor in use.
	2006	Book chp.	Dieli Vesaro Palma, Fernanda Liberali, Nanci Maria S. de Queiroz	A metáfora no discurso da educação.
	2006	Book org.	Maria Isabel Asperti Nardi, Solange Coelho Vereza	Essays on metaphor in language and thought.
	2006	Preface	Maria Isabel Asperti Nardi, Solange Coelho Vereza	Essays on metaphor in language and thought.
	2006	Journal art.	Dieli Vesaro Palma	An empirical investigation of metaphor indeterminacy.
	2006	Workshop		Cultural models in the construction of metaphor indeterminacy.
	2007	Conference	Dieli Vesaro Palma	Mapeando a indeterminação metafórica: Modelos culturais e múltiplas leituras.
	2007	Journal art.		Modelos culturais e indeterminação metafórica.
	2008	Book chp.	Dieli Vesaro Palma	Opening Pandora's box: Multiple readings of 'a metaphor'.
	2008	Conference	Heronides M. de Melo Moura	Multiple readings of a metaphor: Crystallized Meanings and Subjective Senses.
	2008	Introduction	Lynne Cameron, Marilda do Couto Cavalcanti	Introduction to *Confronting metaphor in use: An applied linguistic approach*.
	2009	Conference	Dieli Vesaro Palma	A investigação das múltiplas leituras da metáfora e suas implicações para o ensino e avaliação da leitura.
	2009	Conference	Heronides M. de Melo Moura	Confronting metaphor indeterminacy in a literary text: A qualitative case study.
	2009	Journal art.	Heronides M. de Melo Moura	Investigando teórica e empiricamente a indeterminação da metáfora.
	2010	Conference		Interaction between metaphoric and metonymic processing in the co-construction of inferential chains.

Mara Sophia Zanotto[26] is a professor at *Pontifícia Universidade Católica de São Paulo*, in the *Programa de Pós-Graduação em Lingüística Aplicada e Estudos da Linguagem (LAEL)*. Her experience is centered in Applied Linguistics, mainly in literacy, metaphor comprehension (Zanotto, 1990; 1992), indeterminacy of meanings and pragmatics. She is an active researcher at CNPq and a CAPES, CNPq and FAPESP consultant. Besides, Zanotto was invited by Lynne Cameron, in Leeds, 2006, to be a joining member of MetNet (the Metaphor Network) for the Metaphor Analysis Project[27]: Theoretical and Methodological Challenges in Using Discourse Data. MetNet is an active group of researchers, coordinated by Lynn, currently based in the north of England, investigating the use of metaphor and metonymy in discourse (Zanotto, 2010), and developing theoretical approaches to metaphor that go beyond cognitive metaphor theory. Moreover, Zanotto has organized the books: *Lingüística Aplicada: Da Aplicação da Lingüística à Lingüística Transdisciplinar,* together with M. Antonieta Celani (1992); *Confronting Metaphor in Use: An Applied Linguistic Approach*, with Lynne Cameron (Open University, UK) and Marilda Cavalcanti (UNICAMP) (2008). She has also organized the journals: *Lingüística Textual - Texto e Leitura,* with Leonor Fávero (1985*); Intercâmbio* (1999); *DELTA Especial* (2006a) - *Essays on Metaphor in Language and Thought,* with Solange Vereza and M. Isabel A. Nardi which became a homonymous book (Zanotto, Nardi, & Vereza, 2006b). Other journals which have received Zanotto's contribution are: *DELTA* (1995); *Organon* (2007); *Gragoatá* (Moura & Zanotto, 2009), to mention just a few. Additionally, Zanotto organized the first international event dedicated to metaphor: I Conference on Metaphor in Language and Thought, (in *PUC*, 2002). In that event, the translation of *Metaphors we live by* (Lakoff & Johnson, 1980), which is a recurrent

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[26] Zanotto has published using other surnames (i.e. de Paschoal and de Toledo) but, as a means to facilitate reading, I will adopt Zanotto the one appearing in her lattes curriculum.

[27] Core members of MetNet are Prof Lynne Cameron, Faculty of Education and Language Studies, The Open University(PI); Dr Joep Cornelissen, Leeds University Business School; Dr Alice Deignan, School of Education, University of Leeds; Dr Mario Kafouros, Leeds University Business School; Dr Graham Low, Dept of Educational Studies, University of York; Dr Katja Markert, School of Computing, University of Leeds; Dr Robert Maslen, Research Fellow, University of Leeds; Dr Elena Semino, University of Lancaster; Dr Rachele Tardi, Research Fellow, University of Leeds; Dr Zazie Todd, Psychology, University of Leeds; Dr Juup Stelma, University of Manchester. And joining members are Prof Paul Chilton, University of East Anglia; Dr Alan Cienki, Emory University, Atlanta, USA; Dr Vyv Evans, University of Sussex; Dr Rosamund Moon, University of Birmingham; Dr Andreas Musolff, University of Durham; Dr David Ritchie, Portland State University, USA.

reference among all Brazilian pieces of research, was launched. Such translation was in charge of Zanotto[28] and the Brazilian RG named *GEIM,* group that is co-coordinated by her and Moura.

Overall, Zanotto is one of the most important researchers on metaphor studies in Brazil and her work is widely varied, encompassing several objects of study, approaches and methodologies (namely the Cognitive Linguistics approach). More specifically, she has devoted to investigate teaching/learning processes (Zanotto, Palma, Liberali, & Queiroz, 2006; Bailey, 2003; Kern, 2000), as well as the indeterminacy of meanings and pragmatics of language in use (Zanotto 2005; Zanotto & Palma, 2006; Kövecses, 2007a, 2007b) with focus on metaphors. That is, she has developed research to observe the multiple interpretations of metaphor that evidence its complexity. Accordingly, this scholar has enriched metaphor studies with plenty of publishings that register decades of empirical and theoretical research in the area, from organizing books to organizing and participating in the most important national and international events dedicated to metaphor studies; from writing a vast amount of articles to revising essays produced in the area.

In a broad scrutiny, Zanotto and her advisees have investigated the cognitive processes underlying (co-)construction (Jacoby & Ochs, 1995; Zanotto & Palma, 2004) and negotiation of meaning (Zanotto & Moura, 2002), more specifically, the multiple readings (Zanotto & Moura, 2008; Zanotto & Moura, 2009), that is, the indeterminacy of metaphors (Zanotto, 2006; Zanotto & Palma 2007) in language in use (i.e. discourse and conversation emerging from interaction). According to Moura, indeterminacy "occurs when more than one representation is possible to be attributed to a linguistic phenomenon, that is, when the mapping between significant and sign is not univocal" (1998, p.107). Thus, indeterminacy comprises the cases in which the sense is not clearly determined, such as, polysemy (Johnson, 1997), ambiguity, vaguity, generalization and metaphor (Zanotto & Moura, 2002; Moura 2000, 2002) and from those cases, metaphor is considered the most complex one. The focus of their research has been the mapping of cognitive processes while approaching metaphors and metaphorical expressions in discourse. Predominantly, they have aimed at empirically mapping the types of metaphor indeterminacy that emerge from

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[28] ZANOTTO, Mara Sophia; PALMA, Dieli Vesaro; CANOLLA, Clemira de Fátima; LEME, Helena Gordon da Silva; MALUF, Vera; NARDI, Maria Isabel A.; SILVEIRA, Maria Elisa Knust da; VEREZA, Solange Coelho; VIEIRA, Josalba Ramalho.

interaction and language in use, and in reading as a social event (Zanotto, 1997; Nardi, 1999; Zanotto & Palma 2009). In this sense, they have analysed speech so as to observe the cognitive processes people undergo when they (co-)construct and/or negotiate semantic and grammatical meanings in the interaction between metaphoric and metonymic processing (Zanotto 2010; Kövecses & Radden, 1998, 2005).

Thus, based on the Conceptual Metaphor Theory and the Experientialist Cognitivism[29] from Lakoff's functionalist branch, they have tried to explain the cognitive process of multiple meanings of abstract concepts through mapping (Wallington, Barnden, Glasbey, & Lee, 2006) concrete sources that are grounded in ordinary language and in the social patterns of human experience. Examples of this are the investigations on politicians (Ridge, 2006) and preachers' speech by mapping the type of metaphors used to expose their ideologies, to convince, to persuade, and so on. Besides that, they have dealt with the Theory of Indeterminacy of meaning and polysemy and metonymy (Paiva 2010; Kövecses & Radden, 1998, 2005) but this will not be explored in this study for reasons of time and space.

Additionally, Zanotto and her advisees have investigated language teaching and learning processes of critical reading and the role of mediation. They have focused on the reading process and the (co-) construction and negotiation of meaning in texts (e.g. poems) in EFL[30], as well as on the processing and comprehension of vocabulary (Mac Arthur & Píriz, 2007) and new metaphors therein. Mainly they have analysed to what extent metaphor understanding may foster language teaching and learning processes (Delphino, 2009) within the perspective of reading as a social practice. In a qualitative way, a large amount of their survey identifies grammar, discourse genre theory and reading and teaching practices questioned in the reflexive-collaborative process. Another relevant issue to be mentioned about their investigation is the fact that teachers' reflection and teaching process play a significant role within the matters under study. That is, the role that metaphors play as teaching/learning facilitators and the importance for teachers' reflection.

In sum, according to investigators metaphors have demonstrated to be valuable tools that enhance teachers' practice by triggering their

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[29] The Cognitive Experientialist Theory of metaphor recognizes the figurative language as a pervasive principle of human understanding that underlies our network of interrelated literal meanings. For further details, see Chapter II – Review of Literature.
[30] EFL stands for English as a Foreign Language

consciousness as mediators thus considering learners as agents in meaning construction. As an example of this, there is a survey on the reflections of a Portuguese teacher returning to classroom after ten years out; there are other surveys emphasizing the importance for classroom to become a collaborative space in search of meanings and an environment for turning students into active creators of their own knowledge. Another instance is a specific case in which different curricula policies[31] concerning teaching Portuguese as first language were confronted with the participants and their social context. The aim of such experiment was to provoke participants' reflections on how to improve teaching and learning development. As a matter of fact, Zanotto and colleagues have emphasized the importance of teachers becoming researchers and reflecting on their practice, consequently constituting their identity as educators.

In order to analyse the aforementioned aspects, Zanotto and her advisees have exploited qualitative methodologies (Frederick, 1986) and conduct ethnographic action research. The data produced are studied through conversation analysis[32], verbal protocols[33] or Group Think-Aloud (Zanotto, 1995a 1995b, 1997, 1998; Zanotto & Palma, 2008). These methods have allowed researchers to register and subsequently observe and analyse the information processing that arises when participants consciously verbalize what they think at the moment of performing a given task. The data produced during meetings or class observations were tape recorded and registered in teachers'/researchers' reflexive diaries. In addition, researchers have performed interpretive studies (Erikson, 1986; Denzin & Lincoln, 1998) using questionnaires that were answered by participants, in order to examine the negotiation and/or (co-) construction of meanings while participants perform given tasks.

Besides conducting ethnographic research, Zanotto and her group have dealt with Corpus Linguistics on metaphor studies. That is to say, this methodology was employed in surveys dealing with data (metaphorical expressions) extracted from Brazilian newspaper articles, more specifically, *Folha de São Paulo*, as well as from poems, and so on. Such methodology was even used to explore the different polysemic

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[31] The National Curricular Parameters *(PCNs)*
[32] Conversation Analysis (commonly abbreviated as CA) is the study of talk in interaction.

[33] Verbal protocols are an introspective technique to collect data, through wich the participant verbalizes what comes to their mind while performing a given task (reading, writing, and so on)

meanings of grammatical and semantic constructions in Brazilian Portuguese. The collected data were submitted to *WordSmith Tools* software, developed by Mike Scott (1997)[34] and afterwards analysed and/or confronted.

As regards to some of the findings in the aforementioned studies, some conclusions can be withdrawn. For instance, most of them emphasize the importance of group work revealing that the mediation of the teacher or a classmate(s), through the use of metaphors, facilitated the critical reading tasks. Also, they highlight the role of the teacher as a mediator demonstrating the benefits of the collaborative practice. Additionally, they support the idea that educators should prepare learners to approach reading with a more critical viewpoint by introducing them to metaphor awareness. Besides that, they demonstrate that it is necessary that teachers make use of pedagogical procedures that encourage interaction between teachers and students to promote active cooperation among the interlocutors in social reading events. Another important finding is that the construction of meaning is limited by conditioning factors of context and probable contextualization. Indeterminacy of meaning is usually widely explored by these researchers thus broadening even more its interpretation range. That is to say, different folk beliefs generate multiple readings, thus favouring the cross-cultural models. For instance, there is an analysis of a preacher's sermons during which he gave his own interpretation of the Gospel. This study revealed that some metaphors may be reinterpreted and, thus, new meanings can be constructed originating novel metaphors. Therefore, this demonstrates that indeterminacy broadens the construction of meanings and the understanding of metaphors even more.

It was also shown that metaphors had the role of a mediator in the meaning construction in a text, as a teaching device, contributing to the learners' change of attitude towards reading. Also, the exploration of metaphors allows learners to find their own way to develop different processes when approaching a text (i.e. students make use of diverse cognitive and meta-cognitive strategies to construct meanings from texts).

In what refers to the investigation conducted about metaphor in discourse, other relevant assumptions can be done. Firstly, conceptual and linguistic metaphors are an excellent tool for accomplishing diverse

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[34] For further information about this program, see: Scott, M. (1997). *WordSmith Tools*, version 2. Oxford: Oxford University Press.

purpose intended in discourse (i.e. to influence, to convince, to persuade, to encourage, to induce, and so on). An instance of this is the study conducted on the political speech of Nelson Rolihlahla Mandela. This politician used conceptual and linguistic metaphors to express his pacifist ideology and criticize his predecessors without offending or aggressing anyone.

Lastly, a very important activity executed by Zanotto and her colleagues[35] has been to revise versions of essays from papers presented in conferences related to metaphor. Those pieces of research have been revised, organized and published as books or journals in the field of Applied Linguistics. Such is the case of *Confronting Metaphor in Use: An Applied Linguistic Approach*; and *Essays on Metaphor in Language and Thought.* Two books containing essays that are revised versions of papers presented in the Conference on Metaphor in Language and Thought, organized by the *Post-Graduate Programme in Applied Linguistics and Language Studies*[36] and by *GEIM,* at PUC-SP, in October 2002. Both focused on the nature of metaphor as a linguistic phenomenon emerging from language in use.

The former gathers together scholars from Europe and Brazil providing an overview of metaphor studies, through examples of different methodologies used in recent research in the metaphor field. It presents the way metaphor has been observed in a wide range of contexts, the diverse data collection techniques used in its investigation, and the different analytical approaches to it, from an Applied Linguistics perspective. This collection of research reports of metaphor in language in use represents a noteworthy contribution to the understanding of metaphor in use, demonstrating that linguistic social practices and thought are inseparable parts of the same phenomenon.

The latter includes essays by Raymond Gibbs, Gerard Steen and Jakob Mey, Margarida Basilio, Kelly Holmquist, Heronides Moura, Paula Lenz Costa Lima, Helena Martins, Wallington, Barnden, Glasbey, and Lee. These last three scholars introduced a new concept, the *commas*, "conceptual metaphor mappings adjuncts, to explain the nature of the *map transcending elements* involved in the production and understanding of a great number of metaphorical utterances" (Zanotto *et al*., 2006b). Articles in this book supply some insights and empirical evidence of the interaction occurring in metaphor in language and

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[35] Nardi, Maria Isabel Asperti; Vereza, Solange Coelho; Vieira, Josalba Ramalho; Cavalcanti, Marilda do Couto.
[36] Programa de Pós-Graduação em Lingüística Aplicada e Estudos da Linguagem

metaphor in thought. Excellent reviews of these two books are the articles *Essays on metaphor in language and thought* (Zanotto *et al.*, 2006a), a preface of the book published in *DELTA*, *v.22,* written by the authors of the book; and the review of *Confronting Metaphor in Use: An Applied Linguistic Approach,* eloquently outlined by Vera Lúcia Menezes de Oliveira e Paiva (2009).

Additionally, it is worthwhile mentioning her participation on *Metáforas da vida cotidiana*, the translated version of Lakoff and Johnson's 1980 book into Portuguese. The translation of the book (Lakoff & Johnson 1980/2002); and the elaboration of the preface are an important contribution of Zanotto's (Zanotto *et al.* 2002). These researchers[37] were involved in writing the preface, in which they introduce the book by Lakoff and Johnson, and they review the history of metaphors since Aristotle to Lakoff. Such translation is very significant because it presents the main concepts of Lakoffian theory, as well as it contextualizes the development of metaphor studies throughout time, reflecting decades of investigation. Thus, this book is a valuable text written in Portuguese that facilitates its comprehension and makes it more accessible to Brazilian researchers who do not understand English.

Summarizing, Zanotto and colleagues have enlightened research on metaphor in Brazil through their rich contributions to the field. First of all, they have nurtured investigation in indeterminacy of meanings in language use by demonstrating the multiple meanings a metaphor may have according to individuals interpretation, their experience, context, and so on. Also, they have highlighted the importance of understanding the cognitive processes (co-)construction and negotiation of metaphorical meanings. Secondly, they have encouraged teachers and learners to reflect on their roles within the education process; the mediator role of metaphors in meaning construction, as a teaching tool that contributes to the learners' change of attitude towards reading; and the importance of creating a proper environment for such reflections through the use of metaphors. Additionally, they have enlarged investigation on Corpus Linguistics and contributed to the analysis of speeches produced in different contexts. Finally, books published by Zanotto; the writing of articles, the review, organization and publishing of essays, as well as the translation of *Metaphors we live by,* represent a remarkable legacy to Brazilian researchers in the area, to mention just a few of her contributions.

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[37] Nardi, Maria Isabel Asperti; Moura, Heronides Maurílio and Vereza, Solange Coelho.

Table 12. Researcher Neusa Salim Miranda

Neusa Salim Miranda – UFJF				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor UFJF	2003	Master	Izabel Teodolina de Jesus	As construções condicionais universais proverbiais: Uma abordagem sociocognitiva.
	2004	Master	Laura Silveira Botelho	Construções agentivas em X-EIRO: Uma abordagem sociocognitivista.
	2005	Master	Crysna B. da Silva Carmo	A configuração da rede polissêmica de construções agentivas denominais X-ISTA: Uma abordagem sociocognitiva.
	2006	Master	Glauce Soares Fernandes	Uma abordagem construcional dos gêneros textuais: O caso do gênero piada.
	2007	Master	Patricia Martins N. Crochet	O papel do estereótipo na constituição do gênero 'piada': Uma abordagem sociocognitiva.
	2007	Master	Thais Fernandes Sampaio	O uso metafórico do léxico da morte: Uma abordagem cognitiva.
	2007	Master	Eliane Botelho Ferraz	O sistema metafórico da Moralidade: Uma abordagem cognitivista.
	2008	Master	Genezpabla Albergaria	Projeção figurativa e expansão categorial no PB: O caso de um frame 'animal'.
	2008	Master	Lara Carvalho Miranda	As construções concessivas de polaridade negativa no português do Brasil.
	2008	Master	Livia Cristina P. de Souza	Conceptualização e ação – Um retrato discente da sala de aula. Uma abordagem sociocognitivista.
	Year	**Publication Type**	**Co-author**	**Title**
Author	2002	Journal org.	Maria Cristina Name	Organization and introduction to *Veredas 6(1)*.
	2005	Book org.	Maria Cristina Name	Lingüística e Cognição.
	2005	Journal art.	Izabel Teodolina de Jesus	Construções condicionais proverbiais: Uma abordagem sociocognitiva da questão da composicionalidade.
	2009	Journal art.		Construções gramaticais e metáfora.
	2009	Conference		Metáfora e construções lingüísticas.

Neuza Salim Miranda[38] has conducted research in the area of Cognitive Linguistics focusing the attention to lexical, grammatical and discursive constructions from Brazilian Portuguese. She has also investigated in the interface area encompassing Linguistics and Teaching Portuguese (Miranda, & Salomão, 2009), and (Miranda, Santos, & Del-Gaudio, 2006). She was the coordinator of the *GT - Grupo temático -* Linguistics and Cognition of the *ANPOLL*[39] in 2006-2008. She organized journals and books such as Veredas n°6(1), and *Lingüística e Cognição* respectively. Miranda has linked metaphors to

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[38] Neusa Salim Miranda is an active member of an important Brazilian RG named *Gramática & Cognição* which was not included in this study because such group does not specialize on the study of metaphors, but rather in other aspects of Cognitive Linguistics.
[39] ANPOLL stands for Associação Nacional de Pós-Graduação e Pesquisaem Letras e Lingüística.

grammar and linguistic constructions (Miranda, 2009a, 2009b; Lindstromberg, 1996). Concerning her area of study and the master theses defended by her advisees, it was possible to observe that they have dealt with multidisciplinary standpoints. For example, they have adopted a Sociocognitivist Hypothesis of Language, as proposed by Salomão (1997, 1999, 2004a, 2004b); Miranda (1980, 1999a, 1999b, 2000); the Evolucionist Anthropology, by Tomasello (1999, 2003a, 2003b); the Literary Mind (Turner, 1996); the Mental Spaces Theory (Fauconnier, 1994; 1997); (Fauconnier & Turner, 2002; Lakoff, 1987); (Johnson, 1987); the Constructions Grammar in Goldberg's (1995) terms; Mandelblit (1997); the Parallel Architeture Hypothesis (Jackendoff, 2002). The categorization and conceptualization processes were based on Fillmore (1979, 2003); Fillmore, Kay, and O'Connor (1988) and the Frame Semantics were based on Clark (2000). As a source for the discussion about the interaction between metaphor and metonymy, Barcelona (2003); Lakoff and Johnson (1980/2002); and Kövecses (2002; Kövecses & Radden, 1998), Soria and Romero (2005; Charteris-Black, 2003) have been consulted as a reference to Metaphors. The methodology was Corpus Linguistics inspired on Sardinha, (2004b); and Almeida (2005), to analyse the corpora in Brazilian Portuguese.

Although the theoretical background explored by Miranda and colleagues is very broad and interesting, I will concentrate on the analysis of aspects that are relevant to this proposal. That is, research based on the perspective of Cognitive Linguistics, namely, the Conceptual Metaphor Theory (Lakoff and Johnson, 1980, 1980/2002); (Lakoff, 1993); (Lakoff, 1987). Research by Miranda and her advisees has aimed at retaking the theoretical constructs of the socio-cognitive program such as the processes of conceptualization, categorization, and conceptual integration processes built by this theoretical model. Their approach has concentrated on the projective power of the human mind and of the language, referenced from the Conceptual Theory of the Metaphor and, especially, of Metonymy, and the Conceptual Integration Networks or Blending[40] (Fauconnier & Turner, 2002).

In what refers to the object of study, due to the linguistic usage in their investigative purpose, they have worked with Corpus Linguistics as an attempt to unveil the usage behaviour of the lexical items. They have also observed the semantic-pragmatic continuum within the linguistic and formal knowledge of the focused lexical net (Miranda &

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[40] Formerly explained in Chapter II - Review of Literature.

Jesus, 2005); (Jesus, 2005); the conceptual motivation, that is, the cognitive links and the diverse paths followed to compose image schemas; and metaphoric / metonymic processes (Deignan, 2005a) of that net. To be more precise, they have centred the attention on cognitive analyses of the meaning for the lexicographical work in L1 (i.e. Portuguese from Brazil), comprising material gathered through internet search. The empiric base consisted of a specific corpus collected through internet research on *Editora Abril's* website, *CETEN Folha/Folha de São Paulo*, *Veja* magazine on line, *Globo News's* website, blogs and on *Orkut* relationship communities.

Although they have focused on Corpus Linguistics, in one of their pieces of research they dealt with a group of students in a classroom. The study centred the attention in students' speech in class. The object of this study was a linguistic practice conventionalized as an oral institutional gender - the lesson. More specifically, the goal was to explore and interpret the speech considering people's behaviour as speakers and users of interactional linguistic practices, but also as subjects with human needs, ethical and moral values. This survey dealt with students' speech, collected by means of a written task (questionnaire) so as to unveil the role of metaphors within classroom discourse. The investigation was theoretically sustained by the socio-cognitive paradigm, supporting the thought that metaphors contained in language are a powerful instrument in the process of how people conceive, categorize and live social, cultural and international experiences (Quinn & Holland, 1987). The conclusions showed that there is a contradiction between students' speech and their real conceptualization of class environment. Therefore, a systematic education of the orality in class is necessary to construct an ethic citizen.

Master theses defended by Miranda's advisees reach to the conclusion that they have presented evidence that favours the socio-cognitive theories of language involving grammar and lexicon. More specifically, this refers to the constitution of thought and language within all kinds of human experience (physical, social, cultural, international).

Some of the conclusions withdrawn from my analysis of the investigation developed by Miranda are that they confirm the existence of a complex metaphorical net of some terms and grammar in Brazilian culture and language. They also point to the broad unconscious character of the conceptual metaphor, to its intricate relationship with the metonymy, and they reaffirm the relevance of the cognitive analyses of the meaning for the lexicographical work in Portuguese from Brazil.

Table 13. Researcher Josalba Ramalho Vieira

Josalba Ramalho Vieira – UFSC				
	Year	**Grad. Degree**	**Author**	**Title**
	2003	Master	Marion Gottschalk	The role of literature in Brazilian high school contexts.
	2003	Master	Valéria de Souza Barreira	FL reading strategies for metaphor and word game interpretation in a non-specialized magazine: A case study.
Advisor *UFSC*	2005	Master	Gisele Luz Cardoso	Reading song lyrics: Co-Construction of metaphorical expressions by EFL learners.
	2006	Master	Adriana R. B. Stanzioni	A teacher becoming a researcher - Metaphorical concepts of reading and teaching paradigms.
	2006	Master	Eloiza Romanini	Fostering metaphoric competence in an english as a foreign language reading class.
	2007	Master	Camila Araújo de Lucena	Understanding metaphors in magazine texts about economy.
	2007	Master	Carla Aparecida M. Borba	MST in the British and Brazilian press: Metaphorical reading in a FL Classroom.
	Year	**Publication Type**	**Co-author**	**Title**
	1999	Doctorate thesis		Metáforas e conflitos: A leitura de poesia e a discussão em grupo na sala de aula de inglês como literatura estrangeira.
	1999	Journal art.		Co-construção e conflito: Leitura de poesia na sala de aula de inglês como literatura estrangeira.
	1999	Journal art.		I didn't like this meaning': Indeterminacy in classroom group reading.
	1999	Journal art.		Language and Literature: Some dialogic trodden ways.
	2000	Journal art.		Metáforas e conflitos: A leitura de poesia e a discussão em grupo em sala de aula de inglês como literatura estrangeira.
Author *GEIM*	2002	Book trans.	Mara Sophia Zanotto Solange Coelho Vereza Dieli Vesaro Palma Maria Isabel Asperti Nardi	Metáforas da Vida Cotidiana.
	2003	Book chp.		Analisando a interação aluno-pesquisador em momentos de conflito durante pesquisa interventiva.
	2004	Conference	Gisele Luz Cardoso	Interpretation of Metaphorical Expressions in Song Lyrics by EFL Learners.
	2004	Conference		Reading and foreign language literature: From introspection to social event.
	2005	Conference		Understanding imagetic metaphor in poetry in face-to-face interaction.
	2006	Journal art.		A leitura de poesia em sala de aula: Questão de gênero ou de método?
	2007	Introduction	Solange Coelho Vereza	Introduction to *Ilha do Desterro 53*.

Josalba Ramalho Vieira has been dedicated to research in the area of Applied Linguistics, mainly in cognitive processes underlying metaphor awareness, reading and comprehension. She has conducted research on teaching education and face-to-face interaction (Vieira, 2005) and on the co-construction processes of metaphorical expressions by EFL learners (Cardoso & Vieira, 2004). As well, she has devoted her efforts to shorten the path between language and literature in introspective and social events (Vieira 2004). More specifically, Vieira has explored the cognitive processes underlying metaphorical interpretation in poetry (Vieira, 2006), as an attempt to contribute to

demystifying learners' fears when approaching literature. Additionally, she has developed research together with Zanotto and other scholars thus sharing many aspects of theoretical and empirical support, such as the translation of *Metaphors we live by* (Lakoff & Johnson 1980/2002) as aforementioned[41].

In what follows, research conducted by Vieira and her advisees demonstrated that they have been extremely concerned with metaphor awareness in EFL teaching and learning context. Generally speaking, they have focused on how Brazilian learners and teachers make sense of metaphor meanings and on their strategies for understanding metaphor. They have also devoted to investigate students' metaphorical reasoning as an interesting strategy to help language learning (van Lier, 1995), emphasizing the need to foster learners' metaphoric competence (Littlemore, 2002; Littlemore & Low, 2006), in order to better prepare them for metaphoric reading. It is important to highlight that Vieira and her group have dealt mostly with metaphors and metaphorical expressions emerging from interaction. They have also investigated the strategies used by readers in EFL when they interpret or try to understand metaphorical expressions in texts. Departing from research in the area of reading (Souza, 2004) that affirm that the reader's previous knowledge is crucial to information processing (Afflerbach, 1990; Daneman, 1991; Fincher-Kiefer, Post, Greene & Voss, 1988; Just & Carpenter, 1987; Pritchard, 1990; Spiro & Myers, 1984; Tomitch, 1991), Vieira and her advisees have demonstrated how readers in fact process metaphors (Steen, 1994; Vieira, 2000; Lakoff & Johnson, 1980, 1980/2002) and the importance of the role of scaffolding (Wood, Bruner, & Ross, 1976) in the process. Their investigation has consisted of cognitive semantic analyses aimed at finding an explanation about how people (co-)construct meanings from metaphors in speech and texts (Vieira, 1999a, 1999b). Thus, language in use (Gibbs, 1994) and interaction among participants have granted an important corpus that constituted the object of study.

In order to obtain the corpora, these scholars have performed action research, more specifically, qualitative micro-ethnographic research (Watson-Gegeo, 1988). That is, they have observed students' and/or teachers' behaviour, reflections and beliefs in real classes (in a lab school placed within a University). In some studies, they interacted with the participants or had meetings with the teachers, and so on. As a consequence of this interaction, the corpus to be analysed was composed

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[41] For futher information, see Zanotto´s section.

of students', teachers' and teachers'-to-be discourse and reflections (Vieira, 2003). As well, notes derived from the researchers' observations constituted the corpus in some studies. In addition, they have exploited resources such as titles and articles from genuine magazines in English (regular and business), song lyrics in English, newspaper articles in Portuguese and English, and so on. These resources provided the means for acquiring the data to be analysed.

The interventions occurred while researchers and participants interacted were registered by means of video camera, tape recordings and researcher diaries. The data resulting from interaction were recorded and examined using Conversation Analysis (CA)[42] and thinking-aloud protocols (Ericsson & Simon, 1987). These methods have proven to be of specific usage as they allow researchers to capture relevant insights about reflections that occur while participants process information at the moment of performing a given task.

Another significant issue that concerns Vieira and many of her colleagues is the gap between language and literature. Based on their experience in the area, these scholars have perceived that many learners evidence having aversion and/or difficulty when they approach to literary texts, mainly poems. According to Vieira (1999c), metaphor is a phenomenon of discourse that works as a bridge between thought and language, and metaphor should be investigated as culturally contextualized. Due to this fact, Vieira and some Brazilian researchers have devoted their efforts to investigate this subject in order to unveil the possible reasons and solutions for such phenomenon. Therefore, they have conducted research dealing with the connection between the origins of introspection in applied linguistics and that of stream-of-consciousness techniques on metaphors in literature.

As a means to achieve their goals, they have developed different strategies based on Lakoffian socio-cognitivism and through a Vygostkyan approach, among many other important theoreticians. These elements proved to be very useful as a pedagogical tool and therefore, they have become important methodological devices to literature reading, understanding and teaching. Also, they have aided to demonstrate to what extent the gap between language and literature can

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[42] **Conversation Analysis** (commonly abbreviated as **CA**) is the study of talk in interaction (both verbal and non-verbal in situations of everyday life). CA generally attempts to describe the orderliness, structure and sequential patterns of interaction, whether institutional (in school, a doctor's surgery, court or elsewhere) or in casual conversation. Retrieved from <http://en.wikipedia.org/wiki/Conversation _analysis>

be crossed through an interdisciplinary agenda that involves different areas dealing with the same text. In addition, Vieira and colleagues have highlighted that possibilities vary according to teacher's "sense of plausibility" (Prabhu, 1987, 1990, 1992) and that a dialogic learning environment can enhance the development of this sense and, consequently, the learner's involvement.

Referring to the results, these scholars have concluded that it is necessary to include metaphor awareness when teaching in EFL classes. This procedure will provide the students with the tools they need to interpret and produce information according to their own beliefs. It will also allow readers in general to reach their own conclusions about what they read, thus enhancing autonomous literacy (Pinto, 2003). Furthermore, they have demonstrated and emphasized the benefits working in groups and the significant role of scaffolding (Nardi, 1999) in the process of co-constructing the meaning of metaphorical expressions. Another relevant result is that it was possible to notice progress on students' performance dealing with metaphor while conducting the diverse experiments, contributing to the development of autonomy and foreign language competence (Brandão, 1997). Also, researchers detected that cultural differences cause significant impact within the comprehension and decision making of metaphorical expressions, corroborating Boers' proposal. This finding favours the assumption established by Kövecses (2005).

It is worthwhile noticing that Vieira has developed meaningful pieces of research in the area, such as the organization of the journal and writing of the introduction of *Metaphor in language and thought: Contemporary perspectives*, with Vereza, in 2007; and *Linguagem em (Dis)curso,* 7(3), with Moura and Nardi, also in 2007. Actually, Vieira's doctorate dissertation (Vieira, 1999d) advised by Cavalcanti, entitled *Metáforas e conflitos: a leitura de poesia e a discussão em grupo na sala de aula de inglês como literatura estrangeira* was based on Lakoffian perspectives. This dissertation investigated how the co-construction of meaning within metaphorical assertions takes place during the interaction between reader and text, reader (student) and reader (student), and reader (students) and reader (specialist). The research focused on the process of poetry reading of students and teachers in undergraduate teacher training programs (*Curso de Letras*), in English as foreign literature classroom. Data analysis described the discursive, cognitive and social procedures used by readers during the co-construction of metaphorical meanings. One of the results concerning cognition emphasized that procedures change according to metaphor

type. Also, results pointed to the high level of meaning indeterminacy of metaphorical terms. This, along with the non-consolidation of the academic task structure and the environment change, demonstrated how roles have been jeopardized in social events of this kind. Another conclusion was that paradigmatic changes in relation to reading approaches were translated by meaning negotiation and by socialization of readings. Furthermore, although in this dissertation Vieira discussed some fallacies of the theory proposed by Lakoff and Johnson in 1980, she was one of the first researchers to utilize this new approach to metaphor studies in Brazil. To sum up, this dissertation represents one of the first studies in the area of Applied Linguistics to explore the philosophy comprised in the Contemporary Theory of Metaphor as an attempt to disclose the cognitive processes underlying metaphor awareness in literature.

Concluding, research developed by Vieira and colleagues is indispensable regarding metaphor awareness in EFL teaching and learning context. Their devotion to unveiling cognitive processes through the use of metaphors in English represents noteworthy and relevant, as sustained by Deignan, Gabrys, and Solska (1997); Johnson (1989); Guerrero and Villamil (2002), to mention just a few. Besides, their work has contributed to disclose metaphor comprehension processes in an attempt to turn literature approach into a more positive experience for both students and teachers. Moreover, these scholars have demonstrated the importance of teachers' reflection on their practice and instruction, and how researchers' intervention can aid the process. It is significant to highlight that this type of research provides evidence to encourage ethnographic research in which the intervention of researchers produce successful results.

Table 14. **Researcher Christine Greiner**

Christine Greiner - PUC-SP				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor PUC-SP	2005	Doctorate	Ana Amélia Corazza Genioli	Identidade como territorialidade com trabalhos ou de arte contemporânea.
	2005	Master	Luis Eduardo C. Maldonado	A comunicação do corpo na mímica e no teatro físico.
	2005	Master	Monica Toledo Silva	O corpo no cinema: o pensamento em movimento.
	2006	Doctorate	Sandra Meyer Nunes	As metáforas do corpomídia em cena: Repensando as ações físicas no trabalho do ator.
	2007	Doctorate	Magda Amabile B. C. Bellini	A comunicação do corpo a partir da não visualidade: um estudo teórico-prático.

	Year	**Publication Type**	**Co-author**	**Title**
Author	2001	Journal art.	Helena Tania Katz	Corpo e processo de comunicação.
	2002	Book chp.	Helena Tania Katz	A natureza cultural do corpo.
	2003	Book org.	Claudia Amorim	Leituras do corpo.
	2004	Book chp.	Helena Tania Katz	O meio é a mensagem: Porque o corpo é objeto da comunicação.
	2005	Book		O corpo, pistas para estudos indisciplinares.
	2005	Journal art.		A desfronteirização das metáforas ontológicas no corpo artista.
	2005	Journal art.	Helena Tania Katz	Por uma teoria do corpomídia.
	2006	Book org.	Claudia Amorim	Leituras do sexo.

Chistine Greiner's experience encompasses many issues in the area of the Theory of Communication, such as arts, culture and semiotics. Unexpectedly to me, Greiner and her advisees have exploited Lakoffian approach to metaphor to address cognitive and physical processes underlying corporeal communication in what they call Physical Theatre and cinema; human identity in relation to territoriality; and even physical congenital disabilities. Another pursued goal has been to specify the fundamental epistemology differences among Mime, Pantomime, Commedia dellArte, Clown and Physical Theatre, among other corporeal and artistic manifestations (Thornbury, 1999). Additionally, Greiner has written many notable texts (i.e. articles and books) linking metaphor, body and environment, such as the book *O corpo: pistas para estudos indisciplinares* (Greiner, 2005b) in which she mapped and analysed the most recent tendencies of cross-cultural studies (Kövecses, 2003a) through a philosophical and historical approach, and she discussed topics concerning aesthetic, bodily and artistic experiences within anthropology and sociology (Siqueira, Parente, & Gil, 2009). She explained such phenomena based heavily on the theory of metaphor, as proposed by Johnson (1987) and Lakoff and

Johnson (1999) stating that it is "fundamental to better understand the relationship between body and environment" (2005b, p. 44).

As an attempt to clarify the distinctiveness of the cognitive and physical processes underlying corporeal communication aforementioned, they have developed multidisciplinary research, namely in the area of representation of gestures, actions and the construction of thoughts in corporeal images and metaphor. Additionally, they have mapped the various phases of the development of corporeal communication in relation with the environment. Hence, they have gathered literature from several areas aimed at disclosing physical processes. Based on the reading of contemporary art works, Greiner's advisees have analysed metaphors that guide the concept of physical action through the perspective of the cognitive sciences and the theory of body-environment. They have examined conceptual aspects of boundaries, such as boundaries between individuals and territory; between individuals and communities; and boundaries inside the art system itself. Such conceptual features have been approached through the investigation of container[43] metaphors. To be more specific, human instinct of imposing boundaries in concrete/abstract places may lead to ambiguity in the concept of boundary according to cultures and such ambiguity has been object of study in Greiner's research.

Moreover, Greiner and advisees have supported that understanding the notion of action is essential to carry out studies concerning actors' performance, and that the body in action is a means for constructing film narratives. Departing from the standpoint that the body has not been adequately explored by the cinema theory yet, they have analysed orientational[44] metaphors that illustrate the physical communication enclosed within acting. Namely, their proposal was to relate the system of physical communication with the studies of the body in the contemporary world through orientational metaphors, as proposed by Lakoff and Johnson (1980/2002, 1999). Accordingly, they have investigated the role that action plays as a procedural and dynamic system, from the perspective of a body-mind theory.

The methodology has not focused on one specific area of knowledge, but rather it has covered several areas connected to the theory of communication. Although Greiner and her colleagues have conducted multidisciplinary research encompassing theories of diverse authors, only those relevant to the present study will be mentioned. For

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[43] Furtherly explained in Chapter II - Review of Literature.
[44] For further details, see Chapter II - Review of Literature.

instance, Lakoff and Johnson (1999) provided the basis for analyzing metaphorical embodied thought and container metaphors. Damásio[45] granted the basis for understanding the role of the body within cognitive processes and its relation with culture. And research developed by Greiner (2005a, 2005b); Greiner and Katz (2001, 2002, 2004, 2005); and Greiner and Amorim (2003, 2006); have supplied the source concerning body studies, specifically as an object of communication.

In general, they have emphasized the topics referred to the studies of time, movement, the creation of internal images and of the body transit with the environment. In sum, the abovementioned researchers are the foundation for the hypotheses investigated about the metaphors that spark the action of the body and strengthen the theoretical-practical articulation needed to approach the problem of scenic action.

It is meaningful to highlight a specific piece of research, in which they deal with individuals with congenital visual disability. They investigated how steady and varied proprioceptive stimulation and the vestibular system (concerning equilibrium) can compensate the lack of sight, reinforcing body senses by means of dance classes (Bittencourt & Setenta, 2005). The investigation assembled references from the communication theory and philosophy of mind from Cognitive Science and demystified the sight as a singular and unique process. Results pointed to the increase of body communication strategies as consequence of reconstructing meaningfulness processes out coming from internal body image by means of movement. Also, some cognition models by Cognitive Science bias have corroborated that the brain is a highly adaptable and efficient system, able to re-establish communicative links in several situations.

A conclusion obtained from theses and dissertations defended by Greiners' advisees, was that Cognitive Sciences (namely Lakoffian conceptual metaphor theory) proved to be a value source for analyzing the approach to physical actions, revising the body-mind dualism in the work of the actor. Also, their theoretical-practical proposal of selecting

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[45] António Damásio is a Portuguese behavioral neurologist and neuroscientist living and working in the United States. He is a Professor of Neuroscience at the University of Southern California, where he heads USC's Brain and Creativity Institute. Besides being a well-known researcher in several areas of neurology, he is a best-selling author of books such as *Descartes' Error: Emotion, Reason and the Human Brain*, (1994); *The Somatic marker hypothesis and the possible functions of the prefrontal cortex*, (1996); *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*, (1999); and *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain*, (2003). Damásio explores the relationship between emotions and feelings, and what their bases are in the brain, as well as philosophy and its relations to neurobiology, suggesting that it might provide guidelines for human ethics.

scientific texts and bringing them to an artistic and communicational context turned the cinema studies available to researchers from other areas.

On the other hand, Greiner has conducted important pieces of research together with Helena Katz. They have worked on the connection between body as a communication source and cognition, and dance as a specialization that deals with metaphorical movement. They have developed a theory, which they named *Teoria Corpomídia*. This theory regards the body as a living system in a continuous process of interaction with the environment. That is, body and environment are co-dependents and inseparable. According to Katz (2005), body is considered as a *mídia* that expresses itself and therefore it is not a container, but rather the result of a co-evolutive process of constant interaction with the environment. This flux is never static, so the body is in an "always-present" (Greiner, 2005b, p. 131) status, and this does not afford for the container notion. So, this theory has been a great support to the aforementioned theses and dissertation, as well as it has enlightened metaphor studies in the area.

Summarizing, Greiner and colleagues have conducted very interesting studies that link body and dance encompassing communication, cognition and metaphorical movement. In their own words, "the metaphorical thought is organized from repeated and constant representations of reality and dislocates daily actions to domains of symbolism" (Greiner & Katz, 2005, p. 1)[46]. Additionally, research conducted by these scholars has denoted sharply concern on unveiling epistemology and semiotic aspects involved in arts. The former referred to epistemology differences in terminology related to Physical Theatre and cinema and how orientational and container metaphors aid in the process. The latter conveyed the significance in construction of thoughts in corporeal images and physical communication and awareness. They have also contributed to research on orientational, container, spatial metaphors, and so on, in relation to body, dance and acting. Hence, such investigations provide significant, constructive contributions to the area of Cognitive Linguistics, mainly Lakoffian Theory, as well as to the target field that inspired the pieces of research.

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[46] My translation: O pensamento metafórico se organiza a partir de sucessivas e incessantes representações do real e desloca a ação cotidiana para os domínios do simbólico.

Table 15. Researcher Solange Coelho Vereza

Solange Coelho Vereza - UFF				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor *UFF*	2002	Master	Cristiane P. Cerdeira	O discurso da ciência e a construção do real: Um estudo das metáforas ontológicas em textos de química.
	2006	Master	Claudia V. V. Nunes Farias	A metáfora na leitura em língua estrangeira: Efeitos de uma intervenção pedagógica.
	2006	Doctorate	Sergio N. de Carvalho	A "guerra" nas palavras: Uma análise crítica da metáfora conceptual na retórica do presidente G.W. Bush Jr. e de seus colaboradores.
	2008	Doctorate	Solange Pereira Diniz Faraco	Tempo amigo ou inimigo? Conceptualizações metafóricas de tempo no discurso de mulheres brasileiras.
	2009	Doctorate	Ricardo Luiz T. de Almeida	Metáfora conceptual e conhecimento nos discursos e práticas de professores do ensino fundamental.

	Year	**Publication Type**	**Co-author**	**Title**
Author GIMD , GEIM	1999	Journal art.		A indeterminação do significado e a metalinguagem.
	2001	Review		Review of *Philosophy in the flesh: The embodied mind and its challenge to western thought.*
	2002	Book trans.	Mara Sophia Zanotto Josalba Ramalho Vieira Dieli Vesaro Palma Maria Isabel Asperti Nardi	Metáforas da Vida Cotidiana.
	2002	Preface	Mara Sophia Zanotto Maria Isabel Asperti Nardi Heronides M. de Melo Moura	Prefácio de *Metáforas da Vida Cotidiana.*
	2004	Conference		Isto é uma metáfora? Conceituando e mapeando a metáfora e suas categorizações.
	2005	Conference		Pesquisando a metáfora no discurso: Questões conceituais e metodológicas.
	2006	Book chp.		Novos caminhos para o estudo da metáfora.
	2006	Book org.	Mara Sophia Zanotto Maria Isabel Asperti Nardi	Essays on metaphor in language and thought.
	2006	Journal art.	Mara Sophia Zanotto Maria Isabel Asperti Nardi	Essays on metaphor in language and thought.
	2007	Journal art.		Metáfora e argumentação: Uma abordagem cognitivo-discursiva.
	2007	Book		Literalmente falando: Sentido literal e metáfora na metalinguagem.
	2007	Introduction	Josalba Ramalho Vieira	Introduction to *Ilha do Desterro 53.*
	2008	Book chp.		Exploring metaphors in corpora: A study of "war" in corpus generated data.
	2009	Conference		A metáfora no discurso: Articulando as dimensões discursiva e cognitiva da linguagem figurada.
	2009	Introduction	Lívia de Freitas Reis	Introduction to *Gragoatá 26.*

Solange Coelho Vereza has a specialization course in Language Teaching, by the London University (with a distinction degree), Masters in Language and Literature in Education, in the same University, (1982). She is a professor at the Universidade Federal Fluminense and the coordinator of the GT - *grupo temático* - Lingüistics and Cognition of the *ANPOLL*. Among other things, Vereza organized a special edition of *Revista Gragoatá*, n° 26 (Vereza & Reis, 2009), which presented studies

conducted by Brazilian researchers investigating metaphor through different perspectives - linguistics, philosophic and literary - as a reflex of the great number of publications and pieces of research in the area, focusing on the *IV Seminar on Metaphor in Language and Thought;* and *Ra AM - Researching and Applying Metaphor International Association.* She was the coordinator of the 17° *InPLA*[47], event concentrated on current metaphor research, in which she also presented the article *A metáfora no discurso: articulando as dimensões discursiva e cognitiva da linguagem figurada* (Vereza, 2009). The focus of this event and Vereza's work has been on the variety of methodology reflected on empirical studies in Applied Linguistics to investigate metaphor. This researcher has investigated issues such as metaphor in language in use (Vereza, 2002, 2005, 2006), indeterminacy of meanings and metalanguage (Vereza, 1999), conceptual metaphor categorization (Vereza, 2004) and figurativity, as well as she has analysed metaphor in corpora (Vereza, 2008). Besides, Vereza is a very significant name when referring to metaphor studies in Brazil, as reflected on her several publications, as well as on the research conducted by her.

This researcher, together with the group of her advisees, have analysed the cognitive and linguistic usage of metaphor in discourse, among other matters. In a specific case, they dealt with ontological metaphors and how these metaphors illustrate the subjectivity in scientific discourse, in the area of Chemistry. That is, these scholars investigated the metaphorical structure of Chemistry scientific texts and how that net of meanings affects the process of understanding and experiencing reality. In Carvalho's 2006 study there is the analysis of how metaphors are utilized cognitive and linguistically in discourse (Carvalho, 2003), so as to justify an action or (re)action upholding political implications. More specifically, they examined Bush and associates' direct and indirect speech about the terrorist attack in September, 2001 that was published in the American - The New York Times - and international media. In this study, the researchers' aim was to unveil how metaphor can aid politicians to express their ideas.

Vereza and her advisees also developed research in classroom, in a secondary school with FL pupils. The study focused on the comprehension of metaphors in foreign language texts with the intention to verify if metaphors are an obstacle to the comprehension of a foreign language text and how this obstacle could be overcome or minimized through pedagogic intervention. Also, Faraco (2007, 2008) investigated

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[47] InPLA stands for Intercâmbio de Pesquisas em Lingüística Aplicada.

women's discourse and discourse aimed at women coming from three different sources: media texts published in magazines; the transcription of tape recorded talk of women during organized social reading events in the state of Rio de Janeiro; and the transcription of life histories produced by women living in rural and urban areas in the state of Minas Gerais, obtained during semi-structured interviews. Based on Lakoff's cognitive linguistic approach to metaphor, which suggests that our concepts are influenced by social and cultural dimensions,[48] they investigated the conceptualization of time and its potential implications for Brazilian mature women. The aim was to corroborate if women from different subcultures have the same perception of time, following Kövecses (2005). In this study, they also made use of Gibbs's approach to metonymy[49] recognizing its important role in people's cognitive processes, as a complement to metaphor studies. Moreover, Almeida (2007, 2009) has observed metaphors about communication and language reflected on teaching. Based on the hypothesis that metaphors help us express and understand diverse concepts in an educational environment, he analysed metaphors used by teachers as a manifestation of their beliefs and social and institutional practices.

In order to develop the abovementioned pieces of research, Vereza and colleagues made use of qualitative and action research, as well as they worked with Corpus Linguistics for analyzing journalistic corpus from newspapers (as in the case of politicians' speeches). In research with participants, group verbal protocols and pedagogic intervention constituted the instruments for producing the desired data.

They have reached the findings that metaphor can play a relevant role in the formation and dissemination of political ideologies, as it conceptually and linguistically legitimates certain viewpoints and specific interests of politicians. Another result they attained was that, in fact, pedagogic intervention enhanced the process of metaphor comprehension in the students' reading development. This corroborates the claim that teaching metaphors brings benefits to language learning in general and to reading more specifically. Additionally, in what refers to the research focused on women speech, findings indicate that metaphors related to time are equally understood by women from different social status. However, results also indicate that different mappings are

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[48] See also Boers & Demecheleer (2001) and Kövecses (1999, 2003b)

[49] Gibbs (1994, p.320) states that metonymy is the process through which "people take one well-understood or easily perceived aspect of something to represent or stand for the thing as a whole".

constructed according to the socio-cultural background (Boers, 2003; Boers, 2001). Almeida's research detected the existence of at least two metaphors to communication among educators' conceptualizations: (1) conduit metaphor, considered "natural" in language; and (2) the toolmakers paradigm of seeing communication as a negotiation of meaning, proposed by Michael J. Reddy (1979, 1993), as an alternative to the conduit metaphor.

It is worthwhile mentioning that Vereza co-organized journals concerning metaphor studies in language and thought. Naturally, those journals' prefaces benefit with her participation, as can be perceived in the publications she has composed together with Zanotto and Nardi (2006a, 2006b); with Zanotto, Nardi, and Moura (2002); and with Vieira (2007) to mention just a few. As a matter of fact, Vereza was advised by Zanotto in her 1998 doctorate dissertation - which became a book later (Vereza 2007a) - entitled *Literalmente falando: o sentido literal como metáfora cognitivo-pragmática* which was the standpoint date for collecting data for the present survey. The dissertation focused on literal meanings of conceptual metaphor paradigm proposed by Lakoff and Johnson's (1980) approach to metaphor, becoming, thus, one of the pioneers to deal with this perspective in Brazil.

Vereza has written many important articles reviewing the publications in the area of Cognitive Linguistics. In the 2001 article, this researcher mentioned the most important changes occurred within the Contemporary Theory of Metaphor since it was first established in 1980. She discussed the main issues presented by Lakoff and Johnson, in their 1999 book *Philosophy in the Flesh: the embodied mind and its challenge to western thought*[50]. Some of the discoveries presented in the new theory are that:

Human mind is "embodied"

Almost every thought is unconscious

Abstract concepts are mostly metaphoric.

Another valuable contribution is Vereza's 2007b article[51] entitled *Metaphor and argumentation: a cognitive-discursive approach*. In this work she explored the argumentative dimension of metaphors, especially novel metaphors. It also examined discursively inter-related metaphoric phrases which constitute "metaphoric niches" in persuasive texts. The analysis concluded, among other things, that metaphors

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[50] The changes brought in this book have been explained in detail in Chapter II - Review of Literature.
[51] Published in Linguagem em (Dis)curso, v.7, n.3, p.487-506.

evidence the link between cognition and pragmatic. Novel metaphors represent cognitive structures of the system dimension (Davis, 2003), as well as they evidence the cross-domain characteristics when emerging from language in use. Thus, this study supports the hypothesis that metaphors inter-relate the foundations of meaning: action, language and thought thus corroborating Ortony's hypothesis, (Ortony, 1993a, 1993b, 1993c).

Additionally, in Vereza's article entitled *A Metáfora No Discurso: Articulando As Dimensões Discursiva E Cognitiva Da Linguagem Figurada* (Vereza, 2009), she presented and discussed an analytical approach to metaphorical language in argumentative texts. In this article, she demonstrated the significance of the Conceptual Metaphor Theory (CMT), in which the category of metaphor evolved from a language figure to a figure of thought. But she also showed the several critics such theory has undergone from the 90s, precisely because it assigns language a secondary role within the new cognitive paradigm. Accordingly, she illustrated that one of the biggest challenges of recent studies of metaphor has been to adapt in a systematic fashion the linguistic-discursive dimension to the cognitive dimension of figurativity. Finally, she verified how figurativity can emerge and can be explored discursively within subjacent conceptual metaphors and the mappings established by such metaphors.

On the other hand, Vereza has demonstrated her eclecticism with *Contextualizing Lexis: On Synonymy and Reference* (Vereza, 2000). In this article, she elucidated Halliday's theory (1985) about contextualization of recent tendencies in lexical and semantic research. She discussed the concepts of synonymy and reference as they are used in formal semantics and textual linguistics. The aim was to verify the extent to which such phenomenon may provide a link between the notions of denotative and textual meaning. Although this article is highly interesting, it will not be further explored in this paper, as Halliday follows a different perspective from the proposed in this survey.

In sum, all the above mentioned pieces of research represent an important contribution to Applied Linguistics and Discourse Analysis fields, as well as to investigation on scientific knowledge. More specifically, research conducted by these scholars contributes heavily to cognitive studies that focus on metaphor investigation, comprehension and interpretation. Also, they have contributed to understand the metaphorical structure in scientific texts (in the area of Chemistry) and how that net affects reading processes. Furthermore, her work has

inspired the continuation of studies such as Carvalho (2009a, and 2009b). Besides, articles written by Vereza are great legacy that facilitate the comprehension of the theories analysed in them thus turning them more accessible to researchers interested in the subject. All in all, Vereza's work is of considerable importance to other researchers who deal with metaphor investigation through a cognitive perspective. It has presented the main methodologies adopted in the current tendencies of research underlying metaphor studies within the cognitive paradigm, reflecting several years of discussion on the conceptualization of metaphor.

Table 16. Researcher Antonio Paulo Berber Sardinha

Antonio Paulo Berber Sardinha - PUC-SP				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor PUC-SP	2005	Master	Alessandra Bautista da Costa	Metáforas relacionadas ao tema da amizade sob a perspectiva da teoria da metáfora conceptual e da lingüística de corpus na série de TV "Friends".
	2007	Master	Agnes dos Santos S. Rodrigues	Metáforas do líder empresarial e histórico: Uma abordagem baseada em corpus.
	2008	Master	Edivania Pinheiro F. Cancian	O discurso de uma revista especializada em educação: Um olhar sobre a construção metafórica do professor.
	2008	Master	Lilian de Mello Martins	Identificação e tradução de metáforas lingüísticas e conceptuais em abstracts da esfera acadêmica: Uma análise baseada em Lingüística de Corpus.

	Year	**Publication Type**	**Title**
Author GELC	2004	Conference	As metáforas com que trabalhamos: Metáforas em teleconferências bancárias.
	2006	Conference	A tagger for metaphors.
	2006	Journal art.	Collocation lists as instruments for metaphor detection in corpora.
	2007	Journal art.	Análise de Metáfora em Corpora
	2007	Book	Metáfora.
	2007	Journal art.	Metáforas de Lula e Alckmin nos debates de 2006 em uma perspectiva da Lingüística de Corpus.
	2007	Journal art.	Metaphor in corpora: A corpus-driven analysis of Applied Linguistics dissertations.
	2008	Journal art.	Metáforas de teleconferências de negócios.
	2008	Book chp.	Metaphor probabilities in corpora.
	2009	Conference	Metáforas da vida.
	2009	Journal art.	Questões metodológicas de análise de metáfora na perspectiva da linguística de corpus.
	2010	Conference	Dimensions of variation in metaphor use.
	2010	Conference	Improving and evaluating the Metaphor Candidate Identifier.
	(unpublished)	Article	Metáforas e Lingüística de Corpus: Análise de um gênero de negócios.

Antonio Paulo Berber Sardinha is part of the editorial board of the International Journal of Corpus Linguistics (John Benjamins),

Corpora (Edinburgh University Press), Revista de Estudos da Linguagem (UFMG), Revista Veredas (UFJF), Linguagem e Ensino (UCPel), Baktiniana (PUCSP), Linguamática (Vigo/Minho), Revista Virtual de Estudos da Linguagem (Unisinos), Domínios de Lingu@agem (USP). He is a member of the executive committee of DELTA and The ESPecialist. Sardinha is also a member of the executive committee, more specifically the web editor, of the International Association for Researching and Applying Metaphor (RaAM)[52] and of the Latin American Systemic Functional Linguistics Association - Associação de Lingüística Sistêmico-Funcional da América Latina (ALSFAL)[53]. Moreover, Sardinha has participated in several of the most important national and international conferences and seminars exposing his work on metaphor identification on a corpus-based methodology.

Berber Sardinha has devoted to investigation on Corpus Linguistics for discourse analysis (O'Halloran, 2007) taking advantage of the benefits provided by such source, (Sardinha 1997b, 2000a, 2000b, 2000c, 2001, 2002a, 2002b, 2006a, 2006b). As a matter of fact, his PhD thesis referred to new technology to identify words/segments in texts (Sardinha 1997a). Since then, he has dealt with the most up-to-date computer tools (Sardinha 2010a). He does not just analyse, but he also creates, manipulates software to identify metaphors from corpora (Sardinha 2007a, 2007b, 2007c, 2007d; 2008a, 2008b, 2008c; 2009a, 2009b, 2009c, 2010b), and it has been perceived the significance of this kind of research. In recent years, Corpus Linguistics has started to expand to areas of Linguistics: metaphor (Deignan, 2003, 2005a,

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[52] Tony Berber Sardinha, as he is known, is the Web editor of Ra AM - Researching and Applying Metaphor International Association. Members of Ra AM study metaphor, metonymy and other aspects of figurative language in different modalities. They elucidate the vital ties between metaphor and metonymy in meaning-making, with a commitment to the application of metaphor research to 'real world' issues. Additionally, they encourage the development of rigorous research methods for the study of metaphor, metonymy and other aspects of figurative language in real world contexts. And they foster interdisciplinary collaboration in this area of study.

[53] ALSFAL emerged in a meeting held on 10th April 2004 in Mendoza, Argentina, as part of the First Latin American Regional Conference on SFL, where the need and desire were expressed to set up a Latin American Association to bring together linguists and educators from the different countries of the region who work within the SFL theoretical framework. Among other things, they organize courses and projects that will promote and strengthen SFL in Latin America. They also organize meetings, maintain a web site, circulate newsletters, and socialize through discussion lists and via any other suitable media. Additionally, they encourage the development of SFL, particularly theoretical developments, application and literacy programmes and studies in Spanish, Portuguese and other languages.

2005b), and translation (Baker, 1993; 1995; 1996; 1998; 1999; Oliveira, 2008; Koglin, 2008). Alice Deignan, from the University of Leeds has highlighted that "the analysis of corpus data can reveal features of language use not available to unaided intuition. At the detailed level of collocation and lexical grammar, corpus data show features that are apparently specific to metaphor and metonymy" (2007, p. 95). Examples of this are the two papers on new devices to identify metaphors from text such as *Improving and evaluating the Metaphor Candidate Identifier* (Sardinha, 2010b)*, and *Dimensions of variation in metaphor use[54]* (Sardinha, 2010a).

In the former, he introduced the latest version of the Metaphor Candidate Identifier, a computer tool designed to retrieve metaphorically used words from corpora, which he has been working with in Sardinha (2009a). The program works with both English and Portuguese texts and looks for "metaphor candidates" (Sardinha, unpublished), or words having a certain probability of metaphoricity (i.e. of having been used metaphorically in a particular corpus/text) attached to them. The target data from Portuguese are (1) a corpus of conference calls held in Portuguese by an investment bank in Brazil, with 85,438 tokens and 5,194 types, and (2) the *Banco de Português* (Bank of Portuguese), a register-diversified corpus, currently containing more than 750 million words of written and spoken Brazilian Portuguese. Data from English were retrieved from the British National Corpus, constituting a sample of 500 types. The latest version of the program is partly written in SQL and was tested for its ability to pick up metaphorically used words by comparing its analyses to human ones. The paper presented the advantages of this tool in comparison to other methods of metaphor retrieval, and discussed the extent to which a tool such as this can be helpful in bottom-up, corpus-driven metaphor research.

In the latter paper, Sardinha reported on an analysis of variation in metaphor use across several registers of Brazilian Portuguese in the framework of Multidimensional Analysis (Biber, 1985 et seq.). MDA is a device to characterize variation across registers, genres, sub-genres or domains of discourse, through corpus annotation, statistical factor analysis and interpretation of factors in terms of underlying communicative dimensions. The dimensions of variation, mostly grammatical -morphological and syntactic) and semantic variables

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[54] Abstracts submitted to the 8th International Conference on Researching and Applying Metaphor (RaAM8).

(classification of words in major word classes in terms of their meaning) have been described.

A corpus of texts representing Brazilian Portuguese was collected, using the one-billion word Brazilian Corpus (*Cepril, Fapesp*) as a source. The corpus contained a wide range of written and spoken genres. Then such corpus was tagged for both part of speech and syntax with the *Palavras parser*, a state of the art tagger for Portuguese. Following, the corpus was manually annotated so that each word was judged for metaphorical meaning and coded as either metaphorically used or not. Each metaphorically used word was tagged a variable based on its features, including source domain, target domain, vehicle morphology, metaphor type, vehicle word class, vehicle probability level, morphosyntax and metaphor density, among others. Lastly, the data was normalized and standardized, and a statistical factor analysis was run that extracted the significant factors. The factors were then interpreted functionally, which yielded dimensions of metaphor variation. And the conclusion was that these dimensions represent the way texts in Brazilian Portuguese vary in terms of metaphor use.

In accordance with the research conducted by his advisees, the focus has been on metaphors as cognitive phenomena and identifying the linguistic and conceptual metaphors in a corpus of academic sphere. Subsequently, they have centred the attention on metaphor translations under a cognitive approach.

The main theoretical support of the investigation has been Corpus Linguistics (Sardinha & Schimazumi, 1996, 1998); (Sardinha, 1995; 1999a, 1999b, 1999c, 1999d; 2003; 2004a, 2004b; 2005; 2006c); and the Conceptual Metaphor (Lakoff, 1980/2002, 1991, 2001a. That is, they have dealt with the collection and exploration of corpora or linguistics data sets, mostly the mapping of linguistic metaphors in corpora. Data have been approached through the perspective that the conceptual metaphor emerges as a product of the interaction in a "bio-socio-historic-cultural macro context, common to a group of individuals. In other words, it is not possible to act in the world without transforming it or without being altered by it" (Cancian, 2008). According to this theory, metaphor is considered a cognitive resource of the higher psychological processes (communication, language, thought, and so on) with the environment and/or context. It is from this interaction that the individual and social knowledge is construed, creating conceptualizations common to the whole social group. Therefore, the main objective of study in the research developed by Sardinha and his advisees has been to investigate metaphorical expressions related to

different environments and analyse them through Corpus Linguistic methodology according to a probabilistic view of language.

Regarding the object of study, the corpus is retrieved from language of leadership in areas such as politics, war, religion and business, across a large span of time. Some samples of discourse from which data are extracted are the speeches of Hitler, Getúlio Vargas, Napoleon Bonaparte, Saint Paul, executives, consultants, presidents of companies; 10 years of publications of the *Revista Nova Escola*; linguistic metaphors in the American sitcom *Friends*, in the theme of friendship; excerpts from newspaper stories and TV transcripts extracted from internet, and so on.

Concerning the means for analyzing the collected data, several computer tools have frequently been exploited: Concord, Collocates and Clusters in the software *WordSmith Tools 3.0*[55] (Sardinha, 2009b). Additionally, LC tools (Metaphor Identification Program, Concord and Parallel Concordancer) have been used in order to present a safer and wider data analysis. As Corpus Linguistics has recently begun to make inroads into two major fields of linguistic inquiry (metaphor and translation), translators have increasingly explored the tools made available by Corpus Linguistics. In relation to translation surveys, the aforementioned instruments assist the process of unveiling the actual threads researchers follow in order to make translations from one language to another. Thus, it has facilitated the process of analyzing data thus allowing to confront, correlate, compare, and deal with the most diverse corpora extracted from different sources. Due to this fact, Sardinha and his advisees have developed important pieces of research in Corpus Linguistics made feasible by software.

Among all the theses and dissertations defended by Sardinha's advisees, there are important studies that are worthwhile mentioning here. One of them is a study that explored a machine-readable corpus of Brazilian Portuguese to be taught as a foreign language. It was focused on the description of selected language features needed for the production of teaching materials for private Portuguese classes in Britain. The corpus was collected from news distributed on the Internet. The news items themselves consisted of excerpts from newspaper stories and TV transcripts. In this research, numerous lexical and grammatical items were described using corpus linguistics tools what turned it into one of the pioneer works on corpus analysis of Portuguese.

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[55] For further information about the program, see: Scott, M. (1998). *WordSmith Tools*, version 3. Oxford: Oxford University Press.

Another one is a research on translation studies in which scholars confronted and compared the original to the translated corpora. They attempted to identify and/or translate linguistic and conceptual metaphors extracted from abstracts belonging to Academic environment. More specifically, their aim was to expose the corpus to software programmes and locate metaphorical expressions or conceptual metaphors in one language (i.e. Portuguese) so as to correlate them with the metaphors in the other language (i.e. English). As expected by the researchers, results indicated a high number of conceptual correlations between metaphors in the original and translated abstracts.

Another important legacy from Sardinha is the work devoted to reviews of literature of other authors. In special, he has worked with Biber, Conrad, and Reppen (1998), and they have proposed a multi-dimensional analysis of Corpus-based approaches to issues in Applied Linguistics assisted by computer research. Although Bibber's book is not directly related to metaphor studies and Sardinha indicates some mistakes in it, it represents a great assistance for researchers who deal with Corpus Linguistics analysed through computer programmes. Additionally, Sardinha's review enlightens the notion that the more advanced technology is and the more knowledge in the field people have, the easiest it becomes to conduct research in Applied Linguistics and more specifically in metaphor studies.

Furthermore, Sardinha has published a book in Portuguese entitled *Metáfora* (2007b) in which he summarized the trends of metaphor studies and presents ways of identifying metaphors in corpora. He proposed some procedures to locate and identify metaphors in corpora with the focus on an online program. Also, he analyzed the speech of the Brazilian president *Lula*, in a corpus containing more than 2 million words, as well as he analyzed metaphors from diverse areas (e.g. business, school, and so on). Apart from being an important work on Corpus Linguistics, this book is an updated review (Pontes, 2009) of the tendencies and a reference of metaphor studies in Brazil, linked to an overview of the history of metaphor approaches throughout time.

Some of the results that can be concluded from all these pieces of research are that guidance provided by existing reference materials such as textbooks, grammars and dictionaries are inadequate since these sources are not based on samples of authentic language. Other results indicate that there are similarities between the discourses of leaders in different spheres of human activity. So, these similarities can be considered a characteristic of the discourse of leadership. Also, some findings point to the fact that *Revista Nova Escola* constitutes,

metaphorically and literally, university professors through expressions that grant them high social status, which does not happen with school teachers, whose constitution, metaphorical and literal, occurs in a generic and minor prestigious manner. Concerning translation studies, the conclusions showed a high number of conceptual correlations between metaphors in the original and translated languages.

In sum, based on the observation of the research conducted by Sardinha, as well as on the articles and books published by him, I dare consider him one of the most important researchers devoted to metaphor investigation dealing with Corpus Linguistics in Brazil. Sardinha and the scholars working with him have developed a very important work for Applied Linguistics dealing with Corpus Linguistics within Lakoffian paradigm research. Such studies represent valuable contributions to enlarge the academic knowledge of Brazilian Portuguese in order for that language to be taught overseas (i.e. England) thus expanding its horizons. But principally, they have enriched metaphor investigation by reporting empirical and theoretical support for metaphor identification, understanding, translation and analysis in Brazil and abroad.

Table 17. Researcher Helena Franco Martins

Helena Franco Martins - PUC-RIO					
	Univ	**Year**	**Author**	**Grad. Degree**	**Title**
Advisor	UFJF	2003	Regina Celi Wenzel Torres	Master	A personificação do texto acadêmico-formal: uma abordagem cognitivista.
	PUC-RIO	2003	Jussara Regina Gonçalves	Master	Considerações sobre a flutuação no emprego do subjuntivo em contextos orais do Português do Brasil.
		2003	Elisângela Nogueira Teixeira	Master	Metáforas para linguagem no Curso de Saussure.
		2007	Alberto Rodrigues Pereira	Master	Metáforas para interpretação e compreensão em livros didáticos de português
		2008	Viviane Lucy V. de Andrade	Master	Sobre a identidade da metáfora literária: uma análise do romance d'a pedra do reino e o príncipe do sangue do vai-e-volta.

	Year	**Publication Type**	**Co-author**	**Title**
Author GIMD	2003	Book chp.		Três caminhos na filosofia da linguagem.
	2005	Book chp.		Palavras de sensação.
	2006	Journal art.		Novel metaphor and conceptual stability
	2006	Journal art.		Tradução e ceticismo.
	2007	Journal art.		Metaphor, skepticism, understanding.
	2008	Journal art.	Elisângela Nogueira Teixeira	Curso de Lingüística Geral: Reação e adesão à perspectiva representacionista.

Helena Franco Martins has dedicated herself to investigation situated in the intersection zone between language studies and Wittgensteinian philosophy, focusing on essentialism and scepticism, in signification studies such as representation, metaphor, translation, literature, and the limits of language. Examples of this are Martins, (2003, 2005, 2006b, 2007, 2009); Teixeira and Martins (2008).

On the other hand, as regards the interest of the present study, the focus will be in research conducted by Martins and her advisees dealing with Cognitive Linguistics, idealized cognitive models, mapping cognitive domains from corpora retrieved from texts in Brazilian Portuguese, metaphor and polysemy (Martins, 1999). More specifically, they have identified and analysed metaphors in reading comprehension and interpretation of language and grammar through a cognitive linguistics perspective. In some cases they have observed elements for a semantic-pragmatic and morpho-syntactic characterization of prototypical uses of certain grammatical items in Portuguese. In other cases they have analysed the presence of metaphors (namely novel, ontological, structural and orientational metaphors) in literature, specifically in romance, poems, and so on. Also, they have investigated the incidents and effects of the cognitive process of personification in academic texts.

They have developed research on the cognitive hypothesis proposed by Lakoff and Johnson, (1980), and Lakoff and Turner, (1989). That is, acknowledging the presence of the metaphorical phenomena in our lives, Martins and her advisees have been interested in what could distinguish the presence of the metaphor specifically in literature (Miall, 1997). Also, within the framework of Lakoff and Johnson's Conceptual Metaphor Theory, they have conducted a study aimed at identifying and analyzing metaphors for reading comprehension and interpretation in Brazilian Portuguese textbooks prefaces and reading activities. Besides, Teixeira (2003) analysed metaphors for language in Saussure's *Course in General Linguistics*, based on Roy Harris's classical reading of it and on the Cognitive Theory of Metaphor, with an opposing view based on Wittgenstein's Philosophical Investigations.

Although it dissociates from the focus of the present study, it is worthwhile mentioning that Martins has thoroughly researched on Wittgenstein's (1953, 1958, and 1969)[56] proposal of considering

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[56] Wittgenstein, L. states that language cannot be said to *represent* systems of concepts – for such systems have no autonomous existence themselves; they exist nowhere but in our own

metaphor as a basic cognitive tool. As a matter of fact, she has published an article reviewing Wittgensteinian philosophy, which reflects on the representationalist view of metaphor as an autonomous conceptual entity with inherent properties. Instead, it conceives metaphor "as part of a *form of life* – as the culturally determined *practice* of intercrossing language games, a practice with many different possible repercussions and degrees of visibility" (Martins, 2006a). Language usage, Wittgenstein states, occurs in social activities and not in *internal representations.* That is, when a native speaker uses an expression to describe a determined sensation it does not mean that such sensation is the core of the signification. This study is very interesting and clarifying, and it places Martins as a Brazilian reference in terms of Wittgenstein's philosophy, (Steen 2006; Silva, 2009). Nevertheless, it will not be explored in more details in this research for time and space constrains. But here is a suggestion for further research, as it has different standpoints to Lakoffian paradigm.

In a nutshell, Martins and her advisees have tested many theories and obtained significant results confirming what Lakoff and Turner had stated in 1989. For instance, some pieces of research have concluded that poetic metaphorical expressions are not in language but in thought. Such metaphors are creative extensions of mappings across conceptual domains. Literary metaphors are extensions, combinations or elaborations of ontological, structural and orientational metaphors that guide our language, thought and actions. Other results of the investigation conducted by Martins and her group of researchers indicate a mismatch between the conceptualization of language suggested or made explicit in the prefaces and that occurring in the textbooks' proposed activities. Conclusions suggest that this is the reason why teachers and/or students misinterpret or misunderstand how to develop given tasks. However, linguistic metaphors employed in these textbooks, about the notions of reading comprehension and interpretation, provide valuable clues as to the underlying language conception followed by the authors. Additionally, these scholars have

language-infused human practices. Language is thus regarded as a central factor in the organization of experience – it at the same time institutes and reflects our shared forms of life, an attunement in our criteria which is culturally and historically contingent (cf. *PI* §§ 19, 23, 241; Baker & Hacker 1980: 47f; Glock 1996: 45-50). This perspective indicates that language can no longer be taken as an abstract system that is grounded on – but separable from – reality or mind or culture.

demonstrated presence of a tension between two divergent views on language and meaning, where a traditional representationalist perspective (i.e. Saussure's) is shown to coexist with an opposing view, similar to the one found in L. Wittgenstein's Philosophical Investigations.

To sum up, Martins and her advisees have contributed with important pieces of research to metaphor studies in Brazil. They have presented valuable conclusions that enrich investigations devoted to identify and analyse metaphors in reading comprehension and interpretation of language and grammar through a cognitive linguistics perspective. Mainly, research has shed some light on grammatical aspects and word formation of Portuguese as a mother tongue. They have contributed to disclose diverse types of metaphors (novel, ontological, structural and orientational) in literature (romance, poems, academic texts, and so on). Lastly, articles written by Martins are a clarifying legacy that supplies theoretical support to researchers in the area.

Table 18. Researcher Paula Lenz Costa Lima

Paula Lenz Costa Lima - UECE				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor UECE	2004	Master	Elaine C. Chaves Hodgson	What's up? Metáforas conceituais e o ensino de verbos com up.
	2006	Master	Cândida Salete Rodrigues Melo	O ensino/aprendizagem do "get" na perspectiva da teoria da metáfora conceitual.
	2007	Master	Márcia Socorro F. de Andrade	Por um glossário didático de fraseologismos do espanhol baseado na teoria da metáfora conceitual.
	2008	Master	José Edelberto Costa Filho	Elementos para um glossário bilíngüe (português e inglês) de termos-chave da teoria da metáfora conceitual.

	Year	**Publication Type**	**Co-author**	**Title**
Author COMETA , GELP-COLIN	2001	Journal art.	Raymond W. Gibbs Edson Françozo	Emergência e natureza das metáforas conceituais.
	2001	Article	Daniel do Nascimento e Silva	Sentindo fome de amar: A metáfora na experiência afetiva.
	2003	Journal art.		A nova tipologia da metáfora.
	2003	Book chp.		Metáfora e Linguagem.
	2004	Journal art.	Raymond W. Gibbs Edson Françozo	Metaphor is grounded in embodied experience.
	2005	Book chp.		Metáfora e ensino / Aprendizagem de língua estrangeira.
	2006	Journal art.		About primary metaphors.
	2006	Book chp.	Daniel do Nascimento e Silva	As metáforas sobre a língua no discurso de professores: Do sentido para a ação.
	2008	Book chp.	Ana Cristina Pelosi S. de Macedo Heloísa P. de Moraes Feltes	Cognição e metáfora: A teoria da Metáfora Conceitual.
	2009	Journal art.	Ana Cristina Pelosi S. de Macedo Emilia Maria Peixoto Farias	Metáfora, cognição e cultura.

Paula Lenz Costa Lima has conducted research on Psicolinguistics; Cognitive Linguistics; Corpus Linguistics; and Experimental Psicolinguistics with the focus on metaphors (namely conceptual and primary metaphors). She has investigated the relationship between language and thought within studies in translation, lexicology and language processing areas. In addition, she has worked with large amounts of systematic metaphorical expressions in real languages, in its most various performances and text genres. Besides, she has analysed *Philosophy in the flesh,* the latest book by Lakoff and Johnson, published in 1999. More specifically, she has concentrated on Grady's (1997a) contribution to the Conceptual Theory of Metaphor (Lakoff & Johnson, 1980). Working with Prof. Raymond Gibbs, from

the University of California, Santa Cruz, her publications are among the most updated ones (Valenzuela & Soriano, 2009).

One of the principal characteristics of Lima and the group of students advised by her is that they have devoted their investigation mainly to certain aspects of English as a foreign language, through an experientialist perspective according to which our bodily experience and interaction with the world are decisive in cognition and language (Ferrão, 2009). Examples of this are the studies that analyse phrasal verbs in English (as they don't exist in Portuguese); the polysemy of the verb "to get"; and so on. They have also explored DEMO versions of textbooks in two electronic corpora in English. Another characteristic is the considerably significant legacy involving the development of a model of macro and microstructure for a mono and bilingual glossaries.

Supported by the theoretical methodological background conceded by Corpus Linguistics and the Conceptual Metaphor Theory (Lima, 2003a, 2003b, 2005); (Gibbs, 1998); (Gibbs, Lima, & Françozo, 2001, 2004); (Silva & Lima, 2001, 2006); (Macedo, Farias, & Lima, 2009); (Leite, 2009), they have focused their research on terms or phraseology existing in English and not in Portuguese. As proposed by Lakoff, the Conceptual Metaphor Theory established that metaphors are inherent part of our thought, consequently, of how we express ourselves. Based on that, the main objective of Lima and her advisees is to draw the attention to the possibility of using metaphors as an effective assistance in learning/teaching process. More specifically, their goal has been to reflect on the difficulty Brazilian students may present when learning certain contents, namely structures, in English.

In relation to that, all the studies conclude that metaphors aid effectively in the teaching-learning process. Additionally, they confirm some of the assumptions proposed by Lakoff and Johnson: Lima and her group of researchers have identified that some meanings of certain metaphorical expressions are not arbitrary. Rather, such metaphorical expressions are interrelated through schemas resulting from human experience in relation to their body and the world around them, as well as to conceptual metaphors. Another conclusion withdrawn from this analysis is that their models may be the starting point for the creation of bilingual dictionaries or glossaries of the conceptual metaphor theory.

There is also a very important paper written by Lima (2006) entitled *About Primary Metaphors*, in which she contrasted Grady's (1997b) Primary Metaphor Hypothesis[57] to the former view of the

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[57] Explained in detail in Chapter II - Review of Literature.

Contemporary Theory of Metaphor proposed by Lakoff, in 1993, and discussed some of the main changes proposed by Grady. The changes Lima conferred were namely the characteristics of source and target domain, the fundamental construct, and the licensing of metaphorical expressions. She pointed to the fact that, while in Lakoff's view both source and target domains were very similar in terms of structure (both have image schema) and the difference between them was in terms of familiarity, complexity, consciousness and abstractness, in Grady's view they are different in nature: one is defined by a sensory content while the other is a response to sensorial input. According to Lima, (2006), the new perspective proposes that the metaphor foundation is the primary scene (Grady, 1997a). And such scene is a cognitive representation of a repeated experience that involves a tight correlation between two dimensions of experience (source and target domains). This assumption has been accepted and embraced by Lakoff and Johnson in their 1999 book.

In sum, the analysis of Grady's theory developed by Lima has been of great importance. Firstly, because the access of the theory is limited due to the fact that it has been explained in Grady's doctorate dissertation. Secondly, although this idea of primary metaphors was included in Lakoff and Johnson's latest book, in 1999, they did not go deeply into it. Thirdly, because she detailed the theory and compared it to the old one, thus clarifying the main divergent and novel aspects. Consequently, through her article Lima has facilitated the comprehension of the theory and at the same time she has turned it more accessible to researchers interested in the subject.

Additionally, in the article C*ognição e metáfora: a teoria da metáfora conceitual* co-authored with Macedo and Feltes, in 2008, they reviewed all the relevant aspects of the Conceptual Metaphor Theory and its reformulations. In order to do so, they examined the theoretical foundations proposed by Lakoff (1970, 1977, 1982, 1985, 1987, 1988), Johnson (1989), Lakoff and Johnson (1980, 1999), Lakoff and Turner (1989), Kövecses (1986, 1988, 2003c). Then, Lima *et al.* analyzed the contributions to the theory as stated by Grady (1997a, 1997b, 1998, 1999), and Grady, Oakley, & Coulson (1999), Fauconnier (1985), Fauconnier and Turner (1996, 2002), Johnson, C. (1997), Narayanan (1997), and Feldman and Narayanan (2003). Among other things, Lima and colleagues observed that the CMT has been criticised because it has dealt with the mapping of two domains (target and source). According to these researchers discourse interpretation may involve more complex

mappings as proposed by the Blending Theory (Fauconnier & Turner, 1996, 2002).

Summarizing, research conducted by Lima and colleagues, as well as their publications have accounted for nourishing, updated reports of the ongoing investigation devoted to metaphor in Brazil and abroad. Moreover, such publications also represent a valuable source for Brazilian researchers who do not speak English.

Table 19. Researcher Janete Bolite Frant

Janete Bolite Frant - UNIBAN-SP				
	Year	Grad. Degree	Author	Title
Advisor PUC-SP	2004	Master	Maria C. Arena Lopes Barto	Um olhar sobre as idéias matemáticas em um curso de cálculo: A produção de significados para a continuidade.
	2006	Doctorate	Cláudio Dall'Anese	Argumentos e metáforas conceituais para a taxa de variação.
	2007	Doctorate	Antonio Luis Mometti	Reflexão sobre a prática: Argumentos e metáforas no discurso de um grupo de professores de cálculo.
	2007	Master	Renan Faria	Elaborando e lendo gráficos cartesianos que expressam movimento: Uma aula utilizando sensor e calculadora gráfica.
	Year	Publication Type	Co-author	Title
Author	2000	Conference	Monica Rabello de Castro	Estratégia argumentativa: Um modelo.
	2004	Article	Antonio Mometti Maria Cecília Barto Cláudio Dallanese	Reclaiming visualization: When seeing does not imply looking.
	2005	Conference	Antonio Mometti Tânia Lima Daniel Gatti	Mathematics education knowledge for teachers: Language, embodiment and technology in classrooms.
	2006	Conference	Jorge Acevedo Vicenç Font	Metaphors in Mathematics Classrooms: Analyzing the Dynamic Process of Teaching and Learning of Graph Functions
	2007	Conference		O uso de metáforas nos processos de ensino e aprendizagem da representação gráfica de funções: O discurso do professor.

Janete Bolite Frant has got vast experience in Mathematical Education, Embodied Cognition Theory, Educational Computer Science, technology, Distance Education, language and argumentation, to mention just a few. Based on Frant's (2007) conviction that "Mathematics is the result of cognitive and embodied mechanisms"[58], she and the students advised by her have developed qualitative research in learning and teaching Mathematics in Portuguese through a cognitive perspective. The analyses were mainly based on Embodied Cognition

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[58] My translation: "A matemática surge dos mecanismos cognitivos e corporais das pessoas"

Theory[59] (Lakoff & Johnson, 1980), inspired by the assumption that "[…] a large number of the most basic, as well as the most sophisticated, mathematical ideas are metaphorical in nature" (Lakoff & Núñez, 2000, p. 364; Johnson, 1987; Núñez, 2000); on the Argumentative Strategy Model (Frant & Castro, 2000); (Frant, Mometti, Barto, & Dallanese, 2004) on the idea of what Frant, Mometti, Lima, and Gatti (2005) call "mathematical education experience" proposed by Lins (2004) in the model of semantic fields; and qualitative research adopting the inquiry of the proper practice (Ponte, Brocardo, & Oliveira, 2003; Lins & Gimemez, 1997), among others.

In what refers to the focus of the present study, I will concentrate on aspects related to Cognitive Science which is one of the fields that contribute to Embodied Cognition Theory. Cognitive science is the interdisciplinary study of how information is represented and transformed in the brain. It consists of multiple research disciplines, including psychology, artificial intelligence, philosophy, neuroscience, learning sciences, linguistics, anthropology, sociology, and education. Among those disciplines, Linguistics is the most relevant to the present study, because it is the field in which Lakoffian cognitive approach to metaphor is inserted.

According to Frant (2007), "the importance of metaphorical thought in meaning production and in the constitution of mathematical objects has been recognized by researchers in Mathematical Education" [60]. Therefore, this researcher and her advisees have aimed at investigating the dynamic of production of meanings of students produced by student-teacher relationship (i.e. student-student, teacher-student and student-technology). In order to accomplish this goal, they have organized interactive working sessions to experience and discuss the impact of the role of language, embodiment cognition and technology in mathematical learning, thinking, teaching and communication of mathematics teachers. Dialogue was privileged among teachers, students and technology through tasks offered in their learning scenery. They have also investigated how the discussion and the reflection on the proper professional practice, in the scope of a group of calculus professors, can contribute for the professional development of the participants of the group. Moreover, based on Bolite Frant's

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[59] Formerly explained in detail in Chapter II - Review of Literature.
[60] My translation: "A importância o pensamento metafórico na produção de significados e constituição de objetos matemáticos vem sendo reconhecida por investigadores da Educação Matemática"

assertion that teachers use conceptual metaphors "consciously or otherwise, to try to explain a mathematical subject to students more clearly, i.e., in order to facilitate students' understanding" (Frant, Acevedo, & Font, 2006, p. 2), they have investigated the implications of this practice for students' understanding of mathematics. On the other hand, they have identified and analysed arguments and metaphors used by a group of students (of a masters degree course in Mathematical Education), to understand how they learn certain topics.

Some of the means for registering the interaction and conversation emerging from the target tasks were: video camera; tape recorder; researcher diary; interviews and so on. The speeches and the actions were recorded, transcribed and lastly analysed based on embodied cognition theory (conceptual metaphors) and on the model of the argumentative strategy focusing on the importance of argumentation (Goatly, 2007).

Results indicate that it is important to provide a proper environment where the participants feel free to discuss, expose their ideas, change experiences and for the professors to rethink about their pedagogical practice. As important as that, is the choice of the theoretical-methodological background which, in studies developed by Frant's advisees, revealed to be appropriate to explore the thoughts of the participants'. More specifically, it encouraged the participants to express their ideologies through the arguments, allowing to explore the implicit content of the speeches, thus, deepening the process of reflection in the group. Also referred to adequacy, the use of the proper technology enabled an immediate feedback to the students, as well as it interfered in teacher-students relationship, modifying the understanding about the use of technology in the classroom, too.

An enlightening conclusion favouring Embodied Cognition Theory is that meaning production in a lesson of Mathematics may not depend on the subject under study itself, but rather on the authority of the teacher or a peer. The use of dynamic metaphors has proven to be fundamental in the process. Therefore, teachers must make a controlled use of metaphors and must be aware of their importance in students' lives. Another significant finding is that students used everyday language to communicate rather than a formal, mathematical one, during classroom interactions. And metaphors have played an important role in negotiating meaning in such situations. Thus, research conducted with the theoretical-methodological support permitted a better understanding of how students use their daily experience, embodied and mostly unconscious, to produce meaning from abstract concepts in

Mathematics. Finally, there seems to be a difference among the cognitive mechanisms to understand graphs and analytic formulas. Results have demonstrated that it is not just a passage from one formula to another or from a graph to a formula, nor is it just the formal definition responsible for that difficulty, but rather the way the teacher explains and the metaphorical expressions that s/he uses to describe the target tasks.

To conclude, Bolite Frant and her advisees have provided valuable contributions to Lakoffian metaphor approach. One of them is the model they proposed to analyse the dynamic of the interplay of discourses through which conceptual metaphors used by both students and teachers can be registered. Another one is their research conducted in (Maths) classrooms which has revealed that conceptual metaphors are relevant tools for analyzing and improving understanding of mathematics classroom discourse from teachers and students. Additionally, they have accentuated the importance of an appropriate environment to privilege dialogue among teachers, students and technology through tasks offered in their learning scenery for a (math) class to be successful.

Table 20. Researcher Ronaldo Luiz Nagem

Ronaldo Luiz Nagem - CEFET-MG				
	Year	Grad. Degree	Author	Title
Advisor CEFET-MG	2004	Master	Cinthia M. Gomes e Silva	Uma proposta de metodologia investigativa para o pensamento e a linguagem metafóricos e sua atividade no sistema cerebral.
	2006	Master	Silvia Eugênia do Amaral	Analogias e metáforas no ensino de ciências: Aplicações na educação sexual.
	2006	Master	Maria de Fátima Marcelos	Analogias e metáforas da árvore da vida, de Charles Darwin, na prática escolar.
	2008	Master	Alexandre da Silva Ferry	Analogias, metáforas e contra-analogias: Uma estratégia didática auxiliar para o ensino de modelos atômicos.
	Year	Publication Type	Co-author	Title
Author GEMATEC	1997	Conference		Expressão e recepção do pensamento humano e sua relação com o processo de ensino e de aprendizagem no campo da ciência e da tecnologia: Imagens, metáforas e analogias.
	1998	Conference		Dois parâmetros para seleção de livros didáticos: analogias e metáforas.
	2000	Conference	Andréa Silva Gino	Conhecimento: Relação entre subjetividade, analogias, metáforas e autoria.
	2000	Conference	Vanilda Maria Gonçalves	O desenvolvimento do pensamento analógico e metafórico no processo de criação e inovação.
	2000	Conference	Isabel C. Araújo Pádua	Grupo de estudos de metáforas e analogias na educação, na ciência e na tecnologia.
	2001	Journal art.	Dulcinéia de O. Carvalhaes Jully A. Yamauchi T. Dias	Uma proposta de metodologia de ensino com analogias.
	2002	Conference	Dulcinéia de Oliveira Carvalhaes	Approaches using analogies in interactionist environments in education.
	2002	Conference	Isabel C. Araújo Pádua	Analogias e Metáforas e a Mediação Didática: uma Relação possível?
	2003	Conference	Ana Maria Senac Figueroa Cinthia Maria Gomes Silva Ewaldo Melo de Carvalho	Analogias e metáforas no cotidiano do professor.
	2003	Conference	Dulcinéia de O. Carvalhaes	Abordagem de analogias em ambientes interacionistas na educação.
	2005	Conference	Maria de Fátima Marcelos	Analogias e Metáforas no Ensino de Biologia: a Árvore da Vida nos Livros Didáticos.
	2006	Conference	Alexandre da Silva Ferry	Analogias e contra-analogias no processo de ensino-aprendizagem de modelos atômicos.
	2006	Conference	Andréa Silva Gino	Analogias no Processo de Ensino e de Aprendizagem: Um Estudo a partir de Textos produzidos por Alunos do Curso de Pedagogia.
	2006	Journal art.	Maurício Silva Gino José Tavares de Barros	As metáforas e o cinema de animação: Uma análise do filme Meow!
	2007	Conference	Lilian Valim Resende	Gravidez: Algumas concepções metafóricas de adolescentes grávidas.

Ronaldo Luiz Nagem is a Biologist, doctor in Parasitology, leader of a group devoted to research on Analogies, Metaphors and Models in Technology in teaching and learning processes, in the Education and Science areas - AMTEC/CNPq/CEFET MG (Nagem, 1997); (Nagem & Gino, 2000, 2006); (Ferry & Nagem, 2006); (Nagem & Marcelos, 2005); (Nagem & Gonçalves, 2000); (Nagem & Carvalhaes, 2002,

2003); (Nagem, Figueroa, Silva, & Carvalho, 2003); (Nagem, Carvalhaes, & Teixeira Dias, 2001). He has also investigated the knowledge constructing process in the History of Science.

Apart from that, Nagem and his apprentices have researched metaphorical thought and language, logical mathematical thought and language, cognitive development, and SPECT - Single photon emission computed tomography - brain Scintillography, among other issues. Based on Neuroscience and Cognitive Linguistics, specifically the Contemporary Theory of Metaphor (Lakoff & Johnson, 1980, 1980/2002), they have developed multidisciplinary investigation encompassing nuclear doctors, biologists, psychologists, psychiatrists and educators. In relation to this, they have aimed at comprehending how metaphorical thought is processed by mapping brain topography through Scintillography images. The premise was that both metaphorical thought and language together with logical mathematical thought and language share the same cognitive status, and that they are both subordinated to cognitive development (Silva, 2004). So, Nagem's advisees have analysed and compared these phenomena as an attempt to enhance teaching and learning processes. Also, they have sought to demonstrate the metaphorical cognitive status through the observation of the development of human cognitive behaviour as a means to highlight how significant this sort of thought and language are for education and technology (Pádua & Nagem, 2000). Results of such investigation reaffirmed that it was not possible to detach metaphorical thought from logical mathematical thought and that there are significant relations in the usage of metaphorical and logical mathematical thought and language.

Additionally, these scholars have identified and investigated metaphors and analogies in Science. To start with, Marcelos (2006) observed that metaphors and analogies (Duit, 1991), comprised in scientific theories (i.e. Darwin's Theory of Evolution), are usually presented in pedagogical materials by educators[61]. Therefore, researchers analysed such metaphors and analogies contained in books (McGrath, 2006) and other classroom materials so as to contribute to an improvement of Biology teaching based on Nagem (1998). They found out that there are plenty of metaphors and analogies in scientific theories that favour their interpretation. At the same time, they observed that those metaphors and analogies may allow for misinterpretation if they

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[61] A similar reserch was conducted by Souza in her doctorate dissertation entitled *Leitura, Metáfora e Memória de Trabalho: Três Eixos Imbricados,* defended at UFSC, in 2004.

are not properly used by teachers or students. Therefore, researchers emphasize how the role of teachers as mediators and their usage of metaphors can facilitate or complicate teachers' explanations as well as students' comprehension.

Then, Amaral (2006) investigated the usage of metaphors and analogies in Science teaching context related to sexual education. More specifically, the focus was on the Construction of Gender Identity in Brazil through metaphors and analogies originated from popular expressions or names related to male and female genitals and sexual intercourse. In addition to this, metaphors emerging from methodological approaches to Affective-Sexual Education were also analysed. She stated "Once the metaphor is present in the structuring of various forms of knowledge and experience it can also be examined on matters relating to sex education"[62] (Amaral, 2006). The study was aimed to identify possible metaphors contained in the social roles of men and women by grasping the concepts regarding pregnancy and childbirth expressed by adolescents. The theoretical construction privileged Lakoff and Johnson (1980/2002), in the sense that metaphors would help the researcher understand the feelings and perceptions of pregnant adolescents and mothers. Results obtained from this study indicated that the usage of some metaphors and analogies in (sexual) education are valuable and useful tools for teaching. As well, metaphors and analogies have allowed reviewing some concepts, behaviours and beliefs, thus contributing to the deconstruction of myths, discriminating ideologies and taboos. Assuming that pregnancy and motherhood are implied in, and mediated by the concepts and experiences of sexuality, metaphor construed by teenagers in their daily life express, even indirectly, their concerns, joys, and sorrows. In sum, grounded on the perspective of the Conceptual Theory of Metaphor proposed by Lakoff and Johnson (1980/2002), researchers have favoured the hypothesis that metaphor is an excellent pedagogical tool to assist comprehension.

The same theoretical foundation was explored by Valim and Nagem (2007); Valim and Fonseca (2008); and Valim (2007) in their study. Based on the assumption that individuals' behaviour reflects the metaphorical comprehension of their experiences, they observed the type of metaphors teenagers use when referring to sexuality, pregnancy

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[62] My translation: "Uma vez que a metáfora está presente na estruturação das mais diversas formas do conhecimento e de experiência, pode também ser analisada nas questões relacionadas à educação sexual."

and maternity. In order to identify and register such metaphors, researchers conducted individual interviews and group postpartum discussions. As a result of the investigation, scholars noticed that the metaphors contained in teenagers' language and thought permitted researchers to comprehend similarities and differences in those teenagers' feelings towards pregnancy. Through the analysis of those metaphors investigators could understand that, despite their youth, teenagers clearly realize the losses and gains of an (unexpected) early pregnancy. And finally, metaphors allowed researchers to appraise the lonely journey concerning the participants' expectations in relation to their families and society. Summarizing, this survey suggested that metaphors are a proper, useful device that contributes to sexual and reproductive education of teenagers.

Moreover, Nagem and his colleagues have explored metaphors to assess emission and reception of metaphorical messages. Considering metaphor as an "important linguistic resource framed in animation throughout its history" [63] (Gino, 2006), they observed how Marcos Magalhães expressed his viewpoints through metaphorical expressions in the movie *Meow!*. So, the author was interviewed so as to know his intention in metaphorical messages in each scene or character. The film was exhibited to (10 and 11 years old) children and they had to interpret and understand metaphorical messages comprised in it. The conclusion is that the author of the film selected some aspects of our cultural experiences, makes the film a vehicle for a metaphoric reality. In addition, the study showed that, even though the movie contained ideologies and messages destined to adults, children were able to grasp the humour and other messages. It also demonstrated that metaphorical messages allow for different interpretations from the spectators according to their own experiences and knowledge. This implies, according to Gino (2006), that metaphors in films can be a useful extra material to be exploited in class. Furthermore, metaphor proved to be a device of extreme significance for the artistic expression of the author to account for his conception of the world and his political ideologies.

In order to analyse some of the aforementioned phenomena, qualitative research was developed. It comprised ethnographic and exploratory methodologies which were used to investigate teachers' behaviour and speech, pedagogical books, as well as psychiatric and brain exams (i.e. SPECT) to disclose people's thoughts, among others.

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[63] My translation: "como um importante recurso de linguagem apropriado pela animação ao longo de sua história"

Generally speaking, all the studies have emphasized the importance of qualitative methodologies to better approach the investigation of the object under study, namely the ones carried out in classroom (Pádua & Nagem, 2002); (Pádua 2003); (Oliveira & Pádua, 1999, 2000).

Summarizing, research conducted by Nagem and his advisees has represented a remarkable contribution to Neuroscience and Cognitive Linguistics, as well as it has contributed to Lakoffian approach to metaphor, in very diverse fields of investigation. Although some of their work has concentrated on analogies more than on metaphors, there are some significant pieces of research devoted to metaphor. For instance, they have contributed to a better understanding of the use of metaphors in teaching and learning Biology, Science, Sexual Education, and so on. By reviewing metaphorical expressions on concepts and theories, these scholars were able to deconstruct myths, and metaphors proved to be a valuable tool to assist the interpretation of such theories. In relation to this, studies have highlighted the role of metaphors as mediators, essential to teaching and learning processes. Additionally, they have emphasized the importance for teachers to monitor their usage of metaphors in class and make a proper use of them in order to clarify and not to confuse technical explanations. Then, the observation of brain activity through SPECT to analyse and compare metaphorical thought to logical mathematical thought confirmed the assumption that both thoughts are inseparable, as formerly affirmed by Lakoff and Núñez (2000). Another important contribution is the research on metaphors encompassed in artistic language in animated films that emphasized the indeterminacy of metaphorical meanings; the use of films to explore metaphorical messages in class; and the role of metaphors as useful devices to express (author's) ideologies. Concluding, research conducted by Nagem and his advisees represent an important legacy that contributes to and also confirms many of the hypothesis proposed by Lakoff and his colleagues.

Table 21. Researcher Lucienne Claudete Espíndola

Lucienne Claudete Espíndola - UFPB				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor **UFPB**	2007	Master	Graziellen G. Pinheiro Lima	Expressões lingüísticas metafóricas como recurso argumentativo em panfletos.
	2007	Master	Natalia de Sousa Aldrigue	A metáfora conceptual como recurso argumentativo em fôlderes turísticos.
	2008	Master	Josilane M. Justiniano de Lima	Expressões lingüísticas metafóricas e metonímicas na notícia policial: Um recurso discursivo.
	Year	**Publication Type**	**Co-author**	**Title**
Author **GEIM**	2003	Conference		Gêneros discursivos: Leitura x argumentação.
	2005	Journal art.		A metáfora conceptual ontológica na publicidade.
	2006	Journal art.		Metáforas conceptuais em editoriais com tema sobre economia.

Lucienne Espíndola has worked in the area of Linguistics, more specifically in Semantics, and she has dealt with argumentation, teaching, pragmatics, reading, and indeterminacy in language in use. Research conducted by Espíndola and her advisees is characterized by the presence of conceptual metaphors and the investigation of performance of metaphorical expressions contained in argumentative discourse from diverse areas, under study in the LASPRAT[64]. The theoretical foundations have been provided by Cognitive Linguistics, more specifically the theory of Conceptual Metaphor (Lakoff & Johnson, 1980, 1980/2002), as well as on studies on metaphor by Espíndola (2005a, 2005b, 2006), Zanotto (1995b), Barcelona (2003), Kövecses, (2002); Metonymy (Deignan, 2005a; Lima, 2008; Basilio, 2006); the Argumentative Theory (Ducrot, 1987, 1988), Espíndola (1998, 2003, 2004a, 2004b, 2004c); and the Modalization Theory (Guimarães, 1987, 1995); Koch (1987, 2003); among many others.

Espíndola and her advisees have devoted to identify and analyse how conceptual metaphors and the argumentative and semantic-discursive resources operate in textual genre. Some of the sources to extract the corpus were brochures, touristic information sheets and

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[64] LASPRAT stands for Laboratório Semântico-Pragmático de Textos. Created in 11/27/2000, this project comprises research on the argumentative and semantic-discursive functioning of textual/discursive genres. The theoretical foundation for the investigations concerning the argument is the assumption made by Jean-Claude Anscombre, Oswald Ducrot (1983/1994) and other linguists who have lined their studies in this perspective of argumentation. Other theories (i.e. the Theory of Conceptual Metaphor, among others) are also used in research that seeks to identify semantic-discursive resources in the diverse genres.

police reports and articles related to economy from Brazilian newspapers (i.e. *Folha de São Paulo; Estado de São Paulo*), to mention just a few. The reason for exploring different textual genres is that these researchers share Lakoff's (1980) standpoint that conceptual metaphors are a cognitive activity in which concepts are mentally constructed in terms of other concepts. Also, these scholars have studied the role of metaphors as an argumentative device in the target corpus. A subsequent hypothesis under scrutiny has been that metaphors may differ according to each culture and therefore, their interpretation varies according to the context they are inserted.

Hence, Espíndola and her apprentices have employed qualitative research to identify and analyse to what extent conceptual metaphors are the proper means for argumentative strategies in diverse textual genres. Also, they have examined the modalization role of metaphors and metonymies in police reports, based on the assumption that TV presenters exploit these resources to diminish their personal responsibility when reading the reports. In sum, through corpus linguistic examination, they have attempted to unveil the cognitive effect caused by metaphors in diverse contexts.

The scholars' hypotheses were confirmed by the conclusions they reached. For instance, they have ascertained that conceptual metaphors are utilized as an effective resource for argumentative strategies in publicity, touristic information sheets, and so on. Another conclusion is that metaphors and metonymies operate as quasi-asseverative modals in political speech and they can be classified as a special type of impure modalization. This statement implies that metaphors and metonymies are a recurrent resource used by TV presenters. Also, these linguistic instruments determine the degree of engagement the TV presenters adopt when divulging police reports. As another result, Espíndola and her group found out that orientational metaphors are the most frequent kind of metaphor characteristic from articles related to economy in Brazil.

In sum, Espíndola and her advisees have supplied metaphor investigation through Corpus Linguistics in Portuguese from Brazil with very significant pieces of research. Through their work, they have expanded metaphor studies to the field of argumentation in reflective situations and in corpus from different genres. Additionally, they have promoted the use of tools provided by Brazilian Laboratories of language by demonstrating how useful such labs can be to metaphor studies in the country.

Table 22. Researcher Eliane Ferraz Alves

Eliane Ferraz Alves - UFPB				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor UFPB	2005	Doctorate	João W. Gonçalves Maciel	Construções lexicais complexas constituídas com o verbo "dar": Processos metafóricos de construção de sentidos.
	2008	Master	Juliana Barbosa D'Albuquerque	Metáforas conceptuais da velhice em textos de vestibulandos da UFPB.
	2008	Doctorate	Maria do S. Burity Dialectaquiz	Metáforas conceptuais em primeiras estórias: "Fronteando o nascente" das construções lexicais complexas.
	Year	**Publication Type**	**Co-author**	**Title**
Author	2000	Journal art.	Alessandra Nascimento da Silva	A representação discursiva de construções lexicais complexas em textos narrativos orais.
	2001	Journal art.	Leilane Ramos da Silva	O funcionalismo sintático-semântico-pragmático de construções lexicais complexas em textos narrativos escritos.
	2006	Journal art.	Vítor Feitosa Nicolau Janilda Anilde Guedes de Lima	Metáforas conceptuais em textos produzidos no processo seletivo seriado-2006 da Universidade Federal da Paraíba.

Eliane Ferraz Alves is an experienced linguist who has developed research on Theory and Linguistics Analysis and Applied Linguistics, namely in linguistic variation (metaphorical processes in complex lexical constructions); textual written competencies; Portuguese teaching and learning process (literacy of children and young adults, written and oral texts, reading and linguistic discourse, and so on).

In general, theses and dissertations produced by Alves's advisees have shown very detailed explanations of Lakoffian theory and they have encompassed most of his work. In particular, scholars advised by Alves have investigated cognitive processes occurring in complex lexical constructions (Ferraz Alves, 1998; Ferraz Alves & Silva, 2000, 2001; Ferraz Alves, Nicolau, & Lima, 2006); and conceptual metaphors in Portuguese. To be more specific, they have analysed structures of linguistic discourse in texts, based on the Idealized Cognitive Models (Lakoff, 1987) and on Conceptual Metaphor Theory (Lakoff and Johnson, 1980) and on a Socio-cognitive Linguistic approach. Alves and her advisees have focused on the categorization process resulting from sociocognitive conceptualization mechanisms that operate through ICM nets and conceptual integration nets (Fauconnier & Turner, 2002). Moreover, acknowledging the nature of metaphors as part of human thought directly related to cognition, these scholars have observed to what extent metaphorical constructions encompass cognitive value that

is determined by socio-cultural factors. Alves and advisees have also adopted a socio-cognitive perspective when recognizing the interface between metaphors and culture. D'Albuquerque (2008) performed a very detailed analysis of Lakoffian proposal to metaphors and their categorization. Additionally, in the same study she investigated how the old age is conceptualized and conceived through metaphors. She supported thus the statement that human beings know and constitute themselves through linguistic interface with others. Therefore, she has highlighted the socio-cultural role of metaphors in the process of identity construction.

The corpus constituting the object of study was extracted from oral texts (i.e. interviews) that are part of VALPB[65] collection; from written stories by a well known Brazilian author (i.e. Guimarães Rosa); from grammatical items from Brazilian Portuguese; and so on. Thus, in theses and dissertations advised by Alves, her advisees have attempted to review the dichotomy of every-day language such as idioms (Glucksberg, 2001; Boers & Demecheleer, 1998; Boers, Eyckmans, & Stengers, 2007), idiomatic and non-idiomatic expressions, popular and regional expressions versus literary language. They have also analysed the cognitive and linguistic processes of some lexical semantic aspects, as well as complex lexical constructions.

Results confirm scholars' hypotheses related to cognitive processes and metaphor approach. Theses and dissertations evidence, for example, that linguistic innovations in literary texts are actually originated in everyday language of common people. Uninstructed people are able to understand metaphorical expressions and idioms from literature because they are already part of their ordinary language and thought. Moreover, there is also the confirmation that the analysed cognitive and linguistic processes of some lexical semantic aspects, as well as complex lexical constructions are partially or totally determined by conceptual metaphor processing. According to Maciel (2005) metaphorical processes occurring within complex lexical constructions are "sociocognitively determined, that is to say, to use such constructions implies to produce metaphorical meanings that are

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[65] VALPB stands for *Projeto Variação Lingüística no Estado da Paraíba*. Created in 1993, it encloses linguistic corpus and sociolinguistic studies from masters graduated researchers from Paraíba. Its library contains 220 volumes from Sociolinguistics, 216 from Phonology and 200 from diverse areas, as well as Journals specialized in Applied Linguistics. Most of the books from the library are totally or partially supported by CNPq.

extrinsically connected to our cultural conceptual systems"[66](p.124). At last, they have corroborated the socio-cultural importance of linguistic metaphors in the process of constructing individual and social identity.

Concluding, research conducted by Alves and her advisees represents a worthy contribution to Brazilian studies concerning metaphorical cognitive processes in Portuguese. Regarding the thesis and dissertations themselves, it was possible to notice that these scholars have dived into Lakoffian approach to metaphor and consequently such pieces of research present valuable details of the theory. Furthermore, their findings are of great importance to research on metaphorical expressions in ordinary and literature linguistic idioms and idiomatic expressions from north-eastern Brazil, namely Paraíba. As well, their results enhance and reinforce some notions from the Conceptual Theory of Metaphor proposed by Lakoff, according to aforementioned statements.

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[66] My translation: "socio-cognitivamente determinado, ou seja, fazer uso de tais construções significa produzir sentidos metafóricos que são extrinsecamente ligados a nossos sistemas conceptuais culturais"

Table 23. Researcher Dieli Vesaro Palma

Dieli Vesaro Palma - PUC-SP				
	Year	**Grad. Degree**	**Author**	**Title**
Advisor PUC-SP	2006	Master	Margareth V. Falleiros Gonzales	As expressões idiomáticas: Um processo de recriação.
	2007	Master	Liliam de Oliveira Mendes	A leitura de metáforas como evento social: A construção de sentidos em crônica de Arnaldo Jabor.
	2007	Master	Valquiria D. Esteves dos Santos	Metáforas cognitivas em anúncios publicitários: Seu papel argumentativo.
	Year	**Publication Type**	**Co-author**	**Title**
Author GEIM	2002	Book chp.		Comunicação, escrita e enigma.
	2002	Book trans.	Mara Sophia Zanotto Josalba Ramalho Vieira Solange Coelho Vereza Maria Isabel Asperti Nardi	Metáforas da Vida Cotidiana.
	2004	Book chp.		Gramaticalização, pensar metafórico, indeterminação do sentido e ensino de Língua Portuguesa.
	2004	Conference	Mara Sophia Zanotto	A co-construção em grupo dos sentidos metafóricos.
	2006	Book chp.	Mara Sophia Zanotto Fernanda Liberali Nanci M. Stephano de Queiroz	A metáfora no discurso da educação.
	2006	Journal art.	Mara Sophia Zanotto	An empirical investigation of metaphor indeterminacy.
	2007	Book chp.		A presença do mito em narrativas modernas: Marcas do pensar por oposição.
	2007	Conference	Mara Sophia Zanotto	Mapeando a indeterminação metafórica: Modelos culturais e múltiplas leituras.
	2008	Book chp.	Mara Sophia Zanotto	Opening Pandora's box: Multiple readings of 'a metaphor'.
	2009	Conference	Mara Sophia Zanotto	A investigação das múltiplas leituras da metáfora e suas implicações para o ensino e avaliação da leitura.

Dieli Vesaro Palma has developed research on teachers' instruction in Portugal and in Brazil. In fact, she attended to her post-doctorate course in Porto, Portugal. Besides, she has investigated issues such as Linguistic Historiography of Portuguese; argumentation; metaphors; grammar and language teaching; indeterminacy in language in use; and so on. Concerning her research on Portuguese language she has (co-) written many articles. For instance, Palma (2006); Palma and Bastos (2006); Palma and Mendes (2006); Palma, Bastos, and Turazza (2006); Palma, Nogueira Junior, and Turazza, (2008); provided theoretical support for theses and dissertations of her students.

Regarding metaphor, she has linked grammaticalization processes of Portuguese with metaphorical thought. To be more specific, through a Cognitive Linguistics perspective, she has devoted to describe and explain linguistic structures, considering linguistic variations and transformation occurring in language in use, underlying metaphorical

and metonymic thought (Kövecses & Radden, 1998). That is, she has taken advantage of Lakoff (1987) and Lakoff and Johnson's (1980/2002) approach to metaphor as a mental process, to propose new ways to explain linguistic issues under study. Accordingly, she has published many articles in books which present such investigation, such as Palma (2002, 2004); Zanotto and Palma (2006, 2008); Zanotto, Palma, Liberali, and Queiroz (2006); to mention just a few.

Similarly to Alves, research conducted by Palma (2002, 2006, and 2007) and advisees has also embraced idiomatic expressions, phraseology, and other lexical constructions from Brazilian Portuguese in text genres. Aiming at demonstrating that metaphors are present in our actions and thoughts, they have examined the role such metaphors play in diverse communicative events.

One of the social events was the reading of a book[67] in Brazilian Portuguese and researchers analysed the recreation of idiomatic expressions and phraseologies. The main goal was to observe the mental cognitive operations that are responsible for the emergence of such recreation. Concerning reading events, they have also developed research through an interactionist perspective in order to observe the indeterminacy of meanings and reading as a process of social co-construction. For this, they have analysed teachers reading a journalistic chronicle (written by Aldo Jabor) with the purpose of observing what relations were established between metaphor and readers' response in the comprehension process. Furthermore, in order to analyse the cognitive role of metaphors in publicity (i.e. advertisements) they have examined the strategies used, the metaphor type and its function in the text, as well as the impact of cultural aspects in advertisements. Hence, they have concentrated on the cognitive processes occurring while approaching metaphor, for instance, the role it plays in persuasion and enhancement of the senses, and the use of metaphorical expressions as a device to catch readers' attention to publicity texts.

As means for investigating the proposed issues, Palma and advisees have conducted ethnographic research and the main instrument to register social interaction and the processes of making sense of texts were the verbal protocols. As well, they have developed comparative analyses.

Results confirmed the scholars' assumptions in what regards to cognitive processes involved in metaphor comprehension. Firstly, they ascertained that recreated expressions convey the original meaning but

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[67] The book is entitled *Grande Sertão Veredas* written by the Brazilian author Guimarães Rosa.

in a more intense and amplified fashion. Also, they demonstrated that cognitive operations are responsible for the appearance of idiomatic expressions in a language, as well as for the recreation process. They concluded that the non-(re)cognition of idiomatic expressions in linguistic studies imply not knowing other mental cognitive processes essential for the understanding of a determined language origins, its functioning and its lexical manifestations. Secondly, results show that the reading of metaphors was constructed through interaction based on relations established between readers' previous knowledge and their experience with other language structures. The reading event proved to be an adequate moment for the negotiation and co-construction of meanings in which participants activate their communicative competences in text comprehension. Thirdly, scholars reached the conclusion that metaphors are a valuable resource in publicity not only as an effective persuading tool that beautifies the text, but also because they are part of our conceptual system and are used in our daily lives.

Summarizing, research conducted by Palma and her advisees has demonstrated how useful and advantageous metaphors can be when exploited in different communicative events, contexts and text genres. All the master theses have corroborated that cognitive processes occurring while metaphor understanding may aid and foster linguistic development and text comprehension. On the other hand, Palma's articles have demonstrated how cognitive processes present in Lakoffian approach to metaphor have accounted for deep grammatical, structural and linguistic aspects studies on Brazilian Portuguese language in use.

Table 24. Researcher Helena Tania Katz

			Helena Tania Katz - PUC-SP	
	Year	**Grad. Degree**	**Author**	**Title**
Advisor PUC-SP	2005	Doctorate	Sigrid A. Busellato Nora	Comunicação em rede: a dança em Caxias do Sul 1997 a 2004.
	2007	Doctorate	Lenira Peral Rengel	Corponectividade: comunicação por procedimento metafórico nas mídias e na educação.
	2008	Master	Gustavo Garcia Da Palma	Estados alterados de consciência em artemídia: o papel do corpo no trabalho do ator.
	Year	**Publication Type**	**Co-author**	**Title**
Author	2001	Journal art.	Christine Greiner	Corpo e processo de comunicação.
	2002	Book chp.	Christine Greiner	A natureza cultural do corpo.
	2003	Book chp.		A dança é o pensamento do corpo.
	2003	Book chp.		Corpo e movimento.
	2004	Book chp.	Christine Greiner	O meio é a mensagem: Porque o corpo é objeto da comunicação.
	2005	Book		Um, dois, três. A dança é o pensamento do corpo.
	2005	Journal art.	Christine Greiner	Por uma teoria do corpomídia.

As aforementioned, Helena Tania Katz and Cristine Greiner have nurtured metaphor studies with their research on cognitive and physical processes underlying corporeal communication triggered by metaphors. Both researchers have developed the *Corpomídia* Theory (Katz 2003a, 2003b, 2005; Greiner & Katz, 2001, 2002, 2004, 2005), in which they commenced a new phase with the research project *Os Novos Estatutos do Corpo nas Sociedades Pós-Ideológicas*. Additionally, they have explored the *syntheticbody* metaphor (Lakoff & Johnson 1999) that inspired the *corpomídia* concept (Katz & Greiner 2005) as a means to study the altered states of consciousness in acting. In this case, Katz (1994) has guided research focused on dance and acting, and also in education. Acknowledging a cognitive perspective, theses and dissertations advised by her have dealt with the Embodied Theory, (Lakoff, 1987), Lakoff and Johnson's (1980/2002, 1999) approach to metaphor and cognition. They have explored Lakoffian theory in relation to his proposal of cognitive mappings by analyzing primary, ontological, spatial and orientational metaphors as means for unveiling cognitive processes.

Katz's advisees have analysed the impact of cultural coevolution (Kubovy and Epstein, 2001) in the political history of a Brazilian city, Caxias do Sul, regarding the creation, development and national recognition of Municipal Dance Company of such city. Likewise, they have identified the existence of ideological features in metaphorical

concepts, especially in those of mind, body, communication, determinisms, essence, dualisms and competition spread in the media and educational environments. Such concepts, publicized in magazines, books, newspapers, and even educators' speeches, were triangulated to communication and cognition theories to analyse bodyconnectivity and metaphoric procedures[68]. Bearing this in mind, the attention was concentrated on container metaphors. Moreover, they have investigated consciousness alteration in acting in theatres deprived of technology (Mey, 2006), based on the trance technique and in Lakoffian approach to consciousness. According to da Palma (2008), "the active presence of the body in the environment and the environment in the body implies that the world is not an isolated object, nor the body produces representations disconnected with the world" (p. 30) [69]. Thus, the main objective of the studies was to unveil the concepts underlying mind-body dichotomy in relation to the environment. This notion, they affirm, is linked to metaphor (Lakoff & Johnson, 1980) as a thought and action production system. In addition, they have proposed a critical and active action to the emancipation of the student and the person in terms of body awareness.

The different corpora consisted of negotiation communications between politicians and citizens; material published in magazines, newspapers, flyers, billboards, photographs, interviews excerpts transcriptions; and so on. These data were gathered, analysed and compared to theories with the aim of verifying scholars' hypotheses.

Some of the conclusions were that cultural coevolution in political history resulted in the creation, development and national recognition of Municipal Dance Company of Caxias do Sul. To be more specific, relations established between political power and society originated one of the most original communication processes in public policies in Brazil. Additionally, researchers have corroborated the "misuse" of metaphors in media and educational environments to induce negative values on people, namely young people. According to Rengel's 2007 findings, far from showing the evolutive co-emergence

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[68] Their hypothesis is that there is a more general and permanent action in the human body so called metaphoric procedure. This phenomenon encompasses the sensory-motor and the abstract concepts together, also named bodyconnectivity.

[69] My translation: "Essa presença ativa do corpo no meio e do meio do corpo implica qe o mundo não é um objeto isolado, nem mesmo o corp é um produtor de representações desinteressadas do mundo"

nature/culture, the "bad"[70] metaphors have been producing an alarming cultural phenomenon in relation to body. Another conclusion was that, when it refers to body, theory and practice are not independent. Lastly, they highlighted that the conception of consciousness proposed by Lakoff and Johnson (1980/2002), served as a parameter to identify and create, communication processes linked to body awareness. Thus, this conception resulted into assistance to the actors' training system, as well as to review and enlarge such processes in high levels of technology.

In sum, research developed by Katz and her advisees constitute an interesting contribution to metaphor studies, namely to cognitive and physical processes underlying corporeal communication. Motivated by the investigation of metaphors, their research on dance, acting, and education has provided enlightening input regarding primary, ontological, spatial and orientational metaphors proposed by Lakoff. As well, Katz's legacy concerning research on embodiment concepts in relation to acting and dancing has been of relevance for investigation in the involved areas.

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[70] In her dissertation, Rengel uses this term. However, I suggest that metaphors do not have a good or bad nature, but rather they depend on the sender's intention or even on the ethical or moral connotation assigned by the source.

Table 25. Researcher Ana Cristina Pelosi Silva de Macedo

Ana Cristina Pelosi Silva de Macedo - UFC				
Advisor UFC	**Year**	**Grad. Degree**	**Author**	**Title**
	2005	Master	Rubens Lacerda Loiola	Metáfora conceitual na construção dos sentidos de textos poéticos.
	2007	Doctorate	Ricardo Lopes Leite	Metaforização textual: a construção discursiva do sentido metafórico no texto.

	Year	**Publication Type**	**Co-author**	**Title**
Author GELP-COLIN , COMETA	1998	Journal art.		Similarities and differences in categorization behavior by Brazilian Portuguese and American English native speakers
	2006	Book org.	A. M. Freitas Bussons	Faces da metáfora.
	2007	Journal art.		A psycholinguistic analysis of the metaphor "Difficulties are Weights".
	2008	Book chp.		Cognição e lingüística.
	2008	Book org.	Emilia Maria Peixoto Farias Heloísa P. de Moraes Feltes	Cognição e lingüística: Explorando territórios, mapeamentos e percursos.
	2008	Book chp.	Paula Lenz Costa Lima Heloísa P. de Moraes Feltes	Cognição e metáfora: A teoria da Metáfora Conceitual.
	2009	Conference	Luciane C. Ferreira	Metáfora e aprendizagem de língua estrangeira.
	2009	Journal art.	Paula Lenz Costa Lima Emilia Maria Peixoto Farias	Metáfora, cognição e cultura.
	(unpublished)	Article	Luciane Corrêa Ferreira	Metaphorical reasoning in foreign language.

Ana Cristina Pelosi Silva de Macedo has a Masters Degree in Linguistics and English Language Teaching by the University of Leeds (1986), Doctorate in Linguistics and Psychology by the same University (1995), and Post-Doctorate by the University of California, U. S. A. (2004), in Linguistics and Cognitive Psychology, collaborating Raymond Gibbs. She has developed research on Psycholinguistics, Cognitive Linguistics and Applied Linguistics, more specifically on semantic categorization, concept formation and conceptual metaphor. Concerning metaphor studies, the most recent publications by Lakoff (1987), Lakoff and Johnson (1980, 1999) have provided the source for Macedo's investigation, accounting for one of the most updated research in the area.

Macedo and her colleagues[71] have developed interdisciplinary research attempting to unveil certain aspects proposed in Lakoffian Conceptual Theory of Metaphor. They have devoted their efforts to

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[71] Macedo has developed research and co-written several articles with Emilia Maria Peixoto Farias.

investigate ontological and epistemic correspondences; experientialist elements underlying the identification of meaning construction; and Idealized Cognitive Models[72]. Concerning the latter, Idealized Cognitive Models - ICM - or frames, are the mental representation known as "meaning". It is a mental construct which is recruited in a mental space as we think and speak. Moreover, they base their survey on Cognitive Semantics (Feltes, 1992, 2007; Feltes & Granzotto, 2007); a (psycho)linguistics oriented research field that is a branch of the Cognitive Linguistics movement. In this approach, the central element under investigation is linguistic "meaning". In other words, their goal has been to reveal the process of constructing meaning from text through cognitive metaphorical mappings between domains. Also, they have focused on the experientialist approach to metaphors, that is, language and meaning emerging from embodied experiences. They have supported the assumption that meanings are construed through the interaction of the individuals' experiences in relation to other individuals, and to the physical and cultural environment surrounding them. In this sense, according to my observation, some of their concerns are similar to Vieira's and her group: they have investigated cognitive mappings from conceptual metaphors as an advantageous device for constructing meanings from poetry, among other issues. The distinction between Macedo's and Vieira's research is that the former has dealt mostly with poems and other corpora in Portuguese, whereas the latter has focused more on texts in EFL.

Moreover, Macedo and her advisees have analysed textual metaphorization: a textual/discursive phenomenon where metaphor is recognized as a practice of construction of meanings. They have observed the way cognitive, textual-linguistic, and socio-cultural features are engaged simultaneously in the foundation of metaphoric sense, from the dilution of literal/metaphoric dichotomy, and the drawing of a cognitive concept applied to metaphorization. In this specific study, they utilize the theoretical combination of the following subject areas: Textual Semiotics, Text Linguistics and Cognitive Sciences, which allowed the consideration of metaphor as a dynamic, flexible phenomenon, able to emerge and organize itself within socio-communicative interaction. Furthermore, they examined the constraints of the concept of metaphorical (re)categorization presented by Lima (2003), in order to propose textual metaphorization and its description trough interpretative mechanisms capable of revealing metaphorical

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[72] Explained in detail in Chapter II – Review of Literature.

indeterminacy in a textual/discursive level, beyond word and sentence boundaries.

The object of study was composed by fifteen poems written by Manuel Bandeira and Carlos Drummond de Andrade. Such poems were the source to investigate the processes underlying meaning construction from text through cognitive metaphorical mappings. Regarding metaphorization through interpretation mechanisms or devices, the analysis was carried out by applying those interpretative devices to a set of samples encompassing mostly news reports and some comedy texts (jokes) retrieved from varied sources.

Results suggest that poetry contains conventional metaphors that are part of everyday language, what had been formerly stated by Lakoff and Turner (1989). However, Macedo and her group found out that poets resort to non-conventional metaphors as a means to differentiate poetic language (Stockwell, 2002) from ordinary speech. On the other hand, concerning research on metaphorization, results showed the constraints of metaphor-word and metaphor-sentence theories as it circumscribed the metaphoric phenomenon to a lexicalist Semantics, as well as the need for transferring metaphor to another interpretation stage, the textual/discursive level. Also, analyses showed that by overcoming the word and sentence limits, and by emerging in a textual/discursive level, metaphor becomes a process, the metaphorization. It means that the phenomenon is set in the textual dynamics, within a discursive context where metaphorical meanings can be multiplied whenever an interpretative movement occurs during reading.

Additionally, Macedo has organized books (Macedo, Farias, & Feltes, 2008); (Macedo & Bussons, 2006) and has written many articles exploring various aspects from Lakoffian theory of metaphor (Macedo, 2008); (Macedo *et al.,* 2008); (Macedo *et al.,* 2009). For instance, there is one (Macedo, 1998) in which she exposed her research on the way native speakers of Brazilian Portuguese and American English organize their semantic categories. There is another article, (Macedo, unpublished) based on the Conceptual Metaphor Theory, about the understanding of metaphors by foreign language learners, to be more specific, the type of knowledge employed by learners when they attempt to understand a linguistic metaphor in a foreign language.

In the former, entitled *Similarities and differences in categorization behaviour by Brazilian Portuguese and American English native speakers* (Macedo, 1998), she statistically analysed the way Brazilians and Americans behave, in ranking eleven semantic

categories by assessing levels of agreement within and between groups. The results point to the fact that, although there is certain correspondence in the two groups' behaviour when ranking and describing functions associated with category members, cultural specific constraints co-exist and influence ranking decisions. Furthermore, the performance of the subjects demonstrates that categorization behaviours may be motivated by two broad category structure approaches: a prototypical one based on feature overlap and a schema-directed approach based on instantiations prompted by the individual's world knowledge.

In the latter, entitled *Metaphorical reasoning in foreign language,* which she co-wrote with Luciane Corrêa Ferreira, they have attempted to confirm the hypothesis that the universal character of conceptual metaphors and universal embodied experiences (Gibbs, 2006), facilitate metaphor comprehension, independently of the proficiency level of the foreign language learners. In order to do so, they have investigated the role of conceptual metaphors in the process of foreign language learning and the different correlational experiences among such metaphors. More specifically, they have focused on the ways foreign language learners, with two different language proficiency levels, comprehended two metaphorical expressions from the English and American press. Results provided experimental data to support the hypothesis that speakers access conceptual knowledge when processing a linguistic metaphor in a foreign language in a similar way as they would in their mother tongue (Gibbs, 1994). Also, they demonstrated that learners access both images related to Source and Target Domain of the metaphorical expressions in the study, as well as images related to conceptual metaphor reflected learners' metaphorical conceptualization of the studied expressions.

There is another very important and updated article, *A psycholinguistic analysis of the metaphor "Difficulties are Weights"* (Macedo, 2007), in which she exposed an on-going research concerned with obtaining a deeper understanding of the mental scenes construed for the DIFFICULTIES ARE BURDENS metaphor. The theoretical basis for the research pertained to Primary Metaphor Hypothesis (PMH) proposed by Joseph Grady, (1997a) and Christopher Johnson (1997) within Conceptual Metaphor Theory (CMT) in Lakoff and Johnson's (1980). Two experiments were run in order to obtain a better knowledge of people's intuitions as regards their perceptions of weight. The samples were retrieved from forty participants, twenty students of the University of California, at Santa Cruz, U. S. A. and twenty students from Universidade Federal do Ceará, Brazil, involving a word-choice

task and a description task, respectively. Some results show that, contrary to primary metaphor hypothesis, socio-cultural factors in fact play a role in the composition of scenes people have internalized for the metaphor's source domain.

Summarizing, Macedo and colleagues have enriched metaphor research in Brazil concerning experimental support to unveil cognitive experientialist operations underlying metaphorical comprehension and meaning construction from poetry. In addition, their legacy has been of great importance as it has empirically examined the cognitive processes activated when learners attempt to comprehend a linguistic metaphor in a foreign language. Likewise, many of the articles written by Macedo are of great significance for Brazilian researchers[73] because they provide empirical and theoretical support; as well as they clearly explain in detail - in Portuguese - the most important aspects of Lakoff's theory of metaphor. Overall, investigation conducted by these scholars has reinforced the conception that metaphor is not just a linguistic ornament but rather it is an intrinsic instrument of organization and cognitive production that is part of human constitution (Macedo & Bussons, 2006, p. 23). Additionally, articles written by Macedo and colleagues represent a very significant, updated source for Brazilians researchers, containing the most recent hypotheses influencing Lakoffian Conceptual Metaphor Theory.

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[73] It was possible to observe that many graduates and postgraduates have quoted Macedo and Farias paraphrasing Lakoff's statements or theory, probably because she explains his theory in Portuguese, turning it more comprehensible to people who do not speak English. A similar phenomenon was observed with Zanotto's translation of *Metaphors we live by*.

Table 26. **Researcher Emilia Maria Peixoto Farias**

Emilia Maria Peixoto Farias - UFC				
Advisor UFC	**Year**	**Grad. Degree**	**Author**	**Title**
	2004	Master	César Nilton Maia Chaves	Metáfora e humor: Humorísticas peripércias de um macaco sabido.

	Year	**Publication Type**	**Co-author**	**Title**
Author GELP-COLIN , COMETA	2006	Journal art.		Quantidade é elevação vertical: Metáfora ou metonímia?
	2006	Conference		A linguagem metafórica das cores.
	2006	Book org.	L. A. Marcuschi	A metáfora das cores na linguagem e no pensamento.
	2006	Book org.	L. A. Marcuschi	A linguagem e o pensamento metafóricos.
	2007	Journal art.		Metáfora e metonímia na geração do sentido.
	2008	Book org.	Ana Cristina P. S. de Macedo Heloísa P. de Moraes Feltes	Cognição e lingüística: Explorando territórios, mapeamentos e percursos.
	2008	Book chp.		Cognição, metáfora e ensino.
	2009	Journal art.	Paula Lenz Costa Lima Ana Cristina P. S. de Macedo	Metáfora, cognição e cultura.
	2009	Journal art.		Metáfora, dicionário e ensino.

As aforementioned, Emilia Maria Peixoto Farias is one of the two leaders of the Brazilian Group *GELP-COLIN* and a member of *COMETA*. She has been concerned about cognition and language, as socio-culturally - adopting Kövecses's (2005) concept of *culture* - situated interdependent phenomena. Consequently, she has investigated issues related to cognitive science such as the relationship between language and cognition in relation to educational environment. Part of her work has been developed together with other researchers, such as Macedo and Lima (2009); Farias and Marcuschi (2006a, 2006b).

Then, the master thesis advised by her reflects such aspects of investigation, grounded on Conceptual Theory of Metaphor proposed by Lakoff and Johnson (1999, 1980/2002), and more specifically Lakoff (1993). Chaves (2004) has analysed the role of the ICM in the process of meaning construction. The proposal of the thesis was to analyse the construction of humorous meaning through linguistic metaphorical expressions resulting from cognitive and socio-cultural components. The corpus of the study consisted of metaphorical expressions retrieved from 44 chronicles published in the Brazilian newspaper *A Folha de São Paulo*. And the results confirm that metaphorical expressions comprise cognitive and socio-cultural elements which allow for humorous

constructions. To be more specific, such expressions also permit the usage of phonetic and phonologic sources, as well as cognitive-semantic basis as a means to achieve humoristic reactions on readers.

Farias has also enriched metaphor studies adopting Lakoffian proposal to teaching environment in Brazil. Thus, she has co-organized books (Macedo *et al.,* 2008) as well as she has written significant articles (Farias 2006a, 2006b, 2007). An instance is *Cognição, metáfora e ensino* (Farias, 2008) article in which she analysed the Conceptual Metaphor Theory proposed by Lakoff (1987). In this article she identified and highlighted some aspects of such theory that can be explored to improve the process of teaching languages. In her own words, "CMT is a valuable approach for language teaching because it establishes principles that relate thought, language and experience"[74] (Farias, 2008, p.226). Another example is *Metáfora, cognição e cultura* (Farias, 2009) in which she presented the evolution of the concept of metaphor from Aristotle to the current perspective. More specifically, she pinpointed the contributions provided by Grady's (1997a) and Chris Johnson to the theory proposed by Lakoff and Johnson (1999). Farias also investigated the nature of cognitive and cultural models as a link between body, mind and the world. Additionally, she has written articles about the difference between metaphor and metonymy as part of human figurative language (Gibbs, 2001; Nardi, 2007; Lazar, 1996, 2003). In sum, research conducted by Farias and colleagues is an important contribution to metaphor studies, as well as it represents part of the most updated investigations in the area.

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[74] My translation: "[…] a TMC é uma abordagem que tem aplicação valiosa no ensino de línguas, uma vez que estabelece princípios que relacionam pensamento, linguagem e experiência".

Table 27. **Researcher Heronides Maurílio de Melo Moura**

Heronides Maurílio de Melo Moura - UFSC				
Advisor UFSC	**Year**	**Grad. Degree**	**Author**	**Title**
	2008	Master	Dieysa Kanyela Fossile	Metáforas com verbos de mudança de estado.
	Year	**Publication Type**	**Co-author**	**Title**
Author GEIM	2000	Review		Review of *Problèmes de sémantique – La polysémie en questions.*
	2002	Preface	Mara Sophia Zanotto Maria Isabel Asperti Nardi Solange Coelho Vereza	Prefácio de *Metáforas da Vida Cotidiana.*
	2005	Journal art.		Metáforas: Das palavras aos conceitos.
	2006	Journal art.		The conceptual and the linguistic factors in the use of metaphors.
	2007	Journal art.		Relações paradigmáticas e sintagmáticas na interpretação de metáforas.
	2009	Journal art.	Mara Sophia Zanotto	Investigando teórica e empiricamente a indeterminação da metáfora.
	2009	Conference		O conceito de sinonímia metafórica.

Heronides M. de Melo Moura has a postdoctorate course in Sorbonne Nouvelle, France (2000), what in part is reflected by his reviews of books and publications in French. Fundamentally, Moura has devoted his research to semantic aspects of language - in fact, he is the coordinator of the *Núcleo de Estudos em Semântica Lexical* - such as formal lexical representations, conceptual structure and metaphor. His investigation has also focused on the indeterminacy of language (Moura, 1998), in Portuguese as mother tongue.

The master thesis defended by one of his advisees aimed at analyzing and describing interpretative regularities in paradigmatic and syntagmatic relations occurring in metaphors with stative verbs, through an interactionist approach. The corpus was analysed and the results indicated that metaphorical expressions follow linguistic patterns that guide interpretation. Researchers have found out that such patterns correspond to paradigmatic and syntagmatic relations. Additionally, in the process of metaphorical expressions interpretation, semantic categories appeared to be activated. This way, they retrieved the conclusion that metaphors involve the creation of new cognitive arrangements constrained in conceptual structures into which our language is framed.

Concerning articles written by Moura, there are a number of them which do not concentrate on Lakoffian theory of metaphor, but rather in more semantic aspects of language (Moura 2002). Or there are others in

which he analyses Lakoff's perspective and contrasts it with other perspectives showing its fallacies (Moura, 2005). In his review of G. Kleiber *Problèmes de sémantique - La polysémie en questions,* (Moura, 2000) he just mentions the relation of the polysemy with the prototype theory, in its expanded version (Lakoff, 1987). As a matter of fact, he is the most distant from Lakoffian approach to metaphor among all the scholars selected in this study. According to Moura, "without denying the advances brought by the conceptual metaphor paradigm, metaphor is construed not only from spirit (the junction of concepts), but also from flesh (the language that is formulated, the context in which it is used)"[75] (Moura, Vieira, & Nardi, 2007, p. 01).

On the other hand, there are some important ones that deal with Lakoff's theory such as Moura (2000, 2005, 2006, and 2007), and Moura and Zanotto, (2009); Moura *et al.,* (2007); Zanotto *et al.,* (2002). An instance is his participation in the preface of the translated version *Metáforas da vida cotidiana* in which Moura and other scholars[76] introduce the book by Lakoff and Johnson from 1980; present the main concepts of Lakoffian theory; and contextualize the development of metaphor studies throughout time, reflecting decades of investigation. In *The conceptual and the linguistic factors in the use of metaphors* (Moura, 2006), he argues about purely cognitive representation of metaphor and considers the hypothesis of interdependence between the conceptual and the linguistic factors in the use of metaphors. According to him, metaphor, at least in some cases, involves a compositional process, that is, the ability of perceiving or apprehending new concepts or new aspects of old concepts, and in this sense they are indisputably a conceptual process. To this, he concluded that different semantic combinations allow different interpretations of the same conceptual metaphor.

In sum, Moura's work is quite important to metaphor studies from a more semantic perspective. His thorough analyses of metaphor from different perspectives are very significant pieces of work. Moreover, his assumption that metaphor is construed through conventional usage, which is dependent on previous lexical knowledge, has become a fertile field for future research in the description of metaphors.

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[75] My translation: "sem negar os avanços do paradigma da metáfora conceptual, a metáfora é feita não só de espírito (a junção de conceitos), mas também de carne (a língua em que é formulada, o contexto em que é usada)".

[76] Zanotto, Mara Sofia; Nardi, Maria Isabel Asperti; and Vereza, Solange Coelho.

4.5   APPROACHING YEAR OF PUBLICATION

As a starting point, from the 154 collected studies, only four out of twelve years under study were considered for this analysis. The reason for this choice is that those were the most significant years in terms of amount of theses and dissertations defended in the universities in Brazil.

In what follows, Graph 2 broadly illustrates the distribution of the Theses and Dissertations defended in each year.

Graph 2. Amount of publications per year
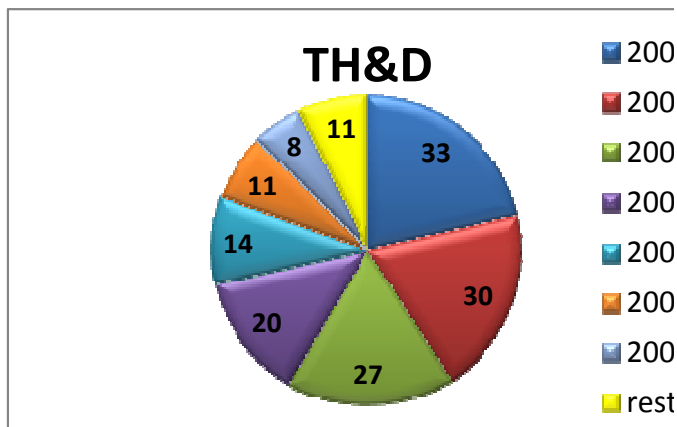
Quantitatively, this led to the results that 2007 was the year with the greatest number of publications. A total of 33 out of 154 studies were published that year, most of them were Master's Theses. 10 studies out of these 33 were defended in *PUC-SP*. However, it was Neusa Salim Miranda (*UFJF*) the professor, whose advisee's studies represented the highest number of publishing from that university, summing 3 studies in total.

Then, 2008 was the year with the highest quantity of published studies after 2007, with a total of 30 studies published that year. Most of them were also Master's Theses and again *PUC-SP* was the university heading the number of studies defended that year with a total amount of

8 publications. Also, Neusa Salim Miranda was the most consulted advisor with three studies published in 2008.

On the third position, in 2005, there are a total of 27 studies, 11 of which were published by *PUC-SP*. That year, most of the pieces of research were also Master's Theses to be defended. The advisor with more studies defended by her advisees was Cristine Greiner (*PUC-SP*) summing three studies published in 2005.

Finally, 20 studies were published in 2006, three of which were published by *PUC-SP*. As regards to the advisors, there were several of them having two published studies each, such as Ronaldo Luiz Nagem (*CEFET-MG*), Solange Coelho Vereza (*UFF*), and Antonio Suárez Abreu (*UNESP*).

In a nutshell, this analysis points to the fact that 2007, 2008, 2005 and 2006 respectively, were the years in which metaphor was thoroughly investigated in Brazil. This may demonstrate that research on metaphor has increased in the last years and hopefully it will continue growing in the following years.

4.6   SUMMARY OF THE CHAPTER

This chapter presented the analysis of the data and demonstrated the way metaphor has been researched in many diverse areas, in EFL and in Portuguese, in Brazil. In order to exhibit the most complete picture as possible regarding the development of metaphor research in Brazil, the analysis was displayed in a detailed way in five sections.

The first section consisted of a brief introduction to the section.

The second section presented a contextualization of Brazilian RGs that conduct research on metaphor in the country. The analysis illustrated that a total of six RGs are currently active and that they have develop important research thus heavily contributing to metaphor studies in the country.

The third section presented the 33 Brazilian universities with greatest quantity of theses and dissertations in the country. The findings have shown that the three universities that have contributed the most to research on metaphor are *PUC-SP,* followed by *UFSC* and *UFJF*. It is important to notice that, although with fewer publications, the other 30 institutions demonstrated to be valuable sources of research material on the target subject, as well.

The fourth section contained the information retrieved from the analysis focused on the research developed by the advisor and advisees. The findings have revealed that Brazil is a lively, fertile field concerning metaphor investigation. The seventeen professors/researchers who were selected for this study have approached metaphor from various perspectives: from a philosophical to a linguistical one; from an artistical to an abstract one, and so on. But there are many others who were not included in this study and devote to research on metaphor and have contributed greatly to the field. Additionally, results show that the development of metaphor investigation in Brazil extends to the most diverse areas, such as Technology, Dance, Mathematics and Science, Psycholinguistics, Modern Foreign Languages, Museology, Philosophy, Telecommunications, Theology, Sociolinguistics, Applied Linguistics, to mention just a few.

The fifth section presented the approach according to the year of publication. The findings have shown that, from the 154 collected pieces of research, most of them were produced in 2007, 2008, 2005 and 2006. This demonstrates that the last four years have been the most productive within Brazilian history of metaphor research so far.

Finally, the sixth section contained a brief conclusion of the chapter.

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5   FINAL REMARKS

5.1   INTRODUCTION

The general objective of the present study was to analyse empirical studies, in which professors and advisees were engaged in Lakoffian approach to metaphor research in Brazil, so as to contribute to the investigation in the area. In order to achieve this goal, a General Research Question was posed and will be answered in this section.

Regarding the organization of this chapter, it is divided into six sections. In the first one, I answer the General Research Question which guided this investigation. In the second section, I discuss the findings of the present study. Then, I suggest a comparison between researchers and worker ants to illustrate what happens underneath each piece of research. Afterwards, I present the limitations of the present study. Next, in the fifth section I propose some pedagogical implications. Finally, I offer some suggestions for further research.

5.2   ANSWERING THE GENERAL RESEARCH QUESTIONS

As previously stated, the General Research Question asked in the present investigation was as follows.

In terms of metaphor studies which are the paradigms and tendencies underlying Brazilian Applied Linguistics contemporary research?

First, surprisingly, data provided the overall information that the boundaries of metaphor studies in Brazil are wider than I first thought. When I started studying metaphor, I naively considered it merely as a linguistic instrument. But, as the research deepened and it became necessary to consult more material, new perspectives from metaphor application and investigation appeared to show it was not just used for linguistic purposes. As data were being collected, areas such as Mathematics, Theology, Philology, Telecommunications, Philosophy, Dance studies, Communication, Technology studies, Psychology, Social Sciences, Politics, and Museology demonstrated to be fruitful fields for metaphor studies apart from Linguistics, Translation, Language, Education and Cognition. Also, most of the pieces of research consulted

in this study were qualitative in nature and several have conducted ethnographic, action research. Moreover, this evidence shows that investigation on Lakoffian approach to metaphor in Brazil is a lively, prolific territory with abundant pieces of research in the most diverse areas.

Then, after observing all the collected data, it was possible to conclude that the majority of the studies subscribing to a Lakoffian approach to metaphor in Brazil have been conducted in Portuguese as mother tongue - mainly the ones based on Corpus Linguistics. As a matter of fact, most researchers (advisors and advisees) adopted the translated version to Portuguese of *Metaphors we live by* (2002)*,* instead of the original one in English (from 1980). A similar phenomenon occurred with Grady's theory on Primary Metaphors, thoroughly reviewed by Lima in her 2006 article; and with some others. This translated version may be the reason why, from all the target pieces of research, only a small number were carried out in English as a foreign language. One of the noteworthy investigators developing research in EFL in Brazilian context is Vieira and the group of investigators working with her. Other scholars who have embraced EFL research are Zanotto, Sardinha, Lima and Farias. This demonstrates that, among all the 17 professors selected for the analysis in the present study, only four have dedicated to metaphor investigation in EFL context in the country. This evidence shows that there is yet a fertile field - metaphor studies in EFL context in Brazil - to be further explored.

Thirdly, concerning Brazilian tendencies and paradigms within Lakoffian Conceptual Metaphor investigation, many aspects can be concluded. Investigation in such field has been conducted in a qualitative fashion and is abundant with ethnographic, action research. In other words, through their work, scholars have promoted dynamic interaction and dialogic environments in which participants (i.e. teachers, learners and sometimes the researchers themselves) co-construct and negotiate meanings, reflect, interact, and construct their individual and social identity while trying to make sense of metaphors. In such events, the production of meanings emerges from participants' relationships and group work (Vieira, 1999d, 2000), therefore shedding light onto the socio-cultural importance of indeterminacy of meanings and of reading as a social event.

Scholars developing this type of work are Zanotto, Vieira, Vereza, Frant, Alves, Palma, Macedo, Lima, and Farias. Frant, for example, highlights that the role of the researcher is very important because they propose models and interactive sessions for reflection,

among other issues. Moreover, Vieira, similarly to Zanotto and Macedo have devoted to unveil participants' cognitive experientialist operations and strategies emerging from metaphorical comprehension and meaning construction from poetry. The performance of such cognitive semantic analyses aims at finding an explanation about how people co-construct meanings from metaphors in speech and on texts, and at filling the gap between language and literature in reflexive-collaborative process in Brazilian context.

On the other hand, findings demonstrated that there is a tendency, in Brazil, favouring the use of Corpus Linguistics methodology to investigate metaphor in the country. This sort of methodology permits to identify features that are present within a certain probability of metaphoricity in a register-diversified corpus containing millions of words. Additionally, it makes possible to detect and analyse how conceptual metaphors and the argumentative and semantic-discursive resources operate in textual genre. That is to say, it facilitates the examination of linguistic discourse structures, partially or totally determined by conceptual metaphor processing, in texts. To be more specific, it has been explored to analyze cognitive and linguistic processes of some lexical semantic aspects, as well as complex lexical grammatical and discursive constructions occurring in complex lexical construction. It has also aided to establish the relationship between language and thought within studies in translation, lexicology and language processing areas. Brazilian scholars such as Sardinha, Zanotto, Miranda, Vereza, Martins, Lima, Nagem, Alves, and Espíndola, have conducted research on a more corpus-based approach, in the last decades.

In addition, Palma, similarly to Alves, has taken advantage of Corpus Linguistics to embrace idiomatic expressions, phraseology, and other lexical constructions from Brazilian Portuguese, as well as the cognitive and linguistic usage of metaphor in discourse. Whereas Vereza, Zanotto and Sardinha have attempted to unveil how metaphors can aid politicians to express their ideas, among other issues. Sardinha has focused on the description of specific language features needed for the production of teaching materials for private Portuguese classes in Britain. While Nagem has focused on contributing to the development of teaching and research related to analogies and metaphors in technology, education and Science. And Martins has studied the elements of a semantic-pragmatic and morpho-syntactic characterization of prototypical uses of determined grammatical items in Portuguese.

Besides, some of these researchers have promoted the use of tools provided by Brazilian Laboratories of language by demonstrating how useful such labs can be to metaphor studies in the country. Sardinha, for example, has dealt with the most up-to-date computer tools and has produced vast literature sharing his experience thus divulging the knowledge acquired in the area. Furthermore, he analyses and creates/ manipulates software to identify metaphors from corpora. Espíndola, in turn, has worked with the identification of conceptual metaphors and the investigation of performance of metaphorical expressions in argumentative discourse from diverse areas, under study in the *LASPRAT - Laboratório Semântico-Pragmático de Textos*. Likewise, Alves has extracted complex lexical constructions and conceptual metaphors in Portuguese, from oral texts (i.e. interviews) that are part of the collection enclosed in *VALPB - Projeto Variação Lingüística no Estado da Paraíba.*

Fourthly, findings showed that there is a branch of scholars who have observed conceptual metaphor through a more philosophical and semantic perspective. This has provoked a certain divergence from the original proposal by Lakoff, and even dissociation. Such is the case of Martins and Moura. Martins, for instance, has dedicated to philosophical and language studies focusing on Wittgensteinian philosophy, but she is still involved with Lakoffian conceptual metaphor investigation. Conversely, Moura has developed research on polysemy and semantic indeterminacy and is the researcher who has less devoted to Lakoffian perspective, from the ones analysed in the present study.

And there is the case of Greiner and Katz who have provided amazing research connecting metaphor and dance studies. They have analysed metaphors that guide the concept of physical action through the perspective of the cognitive sciences and the theory of body-environment, in order to address cognitive and physical processes underlying corporeal communication. More specifically, they have developed research relating the system of physical communication with the studies of the body in the contemporary world through container and orientational metaphors. This investigation on the construction of thoughts in bodily images through metaphor awareness has contributed immensely to the construction of human identity in relation to territoriality. In fact, Lakoff and Johnson's 1999 book, *Philosophy in the flesh*: *the embodied mind and its challenge to western thought* served as the base for these two researchers to create and develop the *Teoria Corpomídia.*

Another noteworthy conclusion from the present study is that, independent of the methodology, most of the scholars selected in the present study have developed research observing the indeterminacy of meanings in (real) language in use. This reflects Brazilian researchers' concern situated meanings unveiled with the help of the different interpretations of metaphors. Additionally, concerning Lakoff's influence in the development of new hypotheses in metaphor studies in Brazilian context and important contributions in the area, it is worthwhile highlighting the work of some Brazilian researchers. Zanotto and her advisees, for instance, have attempted to describe their specificity as representing a contribution for the design of theories that might explain the complexity of metaphor awareness in both Portuguese and in English. Extensive bibliography has been published by these scholars in books or in journals in the field of Applied Linguistics, encompassing their contribution and findings within Lakoffian conceptual metaphor. Besides, the translation of the book (Lakoff & Johnson 1980/2002); and the elaboration of the preface are an important legacy of Zanotto and colleagues (Zanotto *et al.* 2002). This book is a precious text written in Portuguese that facilitates the comprehension of Lakoffian paradigm thus making it more accessible to Brazilian researchers who do not understand English. Actually, as aforementioned, the majority of the studies - analysed in this study - that have been developed in Brazil, within Conceptual Metaphor Theory, cited this translated version.

Lima, in turn, has been involved in the development of a model of macro and microstructure for a mono and bilingual dictionaries or glossaries of the conceptual metaphor theory, among other issues. Her investigation on Conceptual and primary metaphors places her name among the most updated publishing in the area. Then, Vereza has written articles about Language and Literature in Education and explored the argumentative dimension of metaphors, especially novel metaphors, as a resource of cognitive-pragmatic nature. Mostly based on Lakoff and Johnson, (1999), Vereza wrote an article, in 2001, reviewing the most important changes occurred within the Contemporary Theory of Metaphor. This has represented a significant contribution to Brazilian researchers as it reflects several years of discussion of metaphor within the cognitive paradigm, and it presents the main methodologies adopted in the current tendencies of research underlying metaphor studies. Likewise, Lima, working with Gibbs, has also analysed *Philosophy in the flesh,* (Lakoff & Johnson, 1999). More specifically, she concentrated on Grady's (1997) contribution to the Conceptual Theory of Metaphor

(Lakoff & Johnson, 1980). Just as the aforesaid researchers, it was observed that many scholars have quoted her, as is the case of Macedo. Articles written by Macedo are of great significance for Brazilian researchers, as well, because they provide empirical and theoretical support and they explain in detail - in Portuguese - the most important aspects of Lakoff's theory of metaphor. She does not only translate, but she also explains it clearly.

Then, Sardinha has published a book in Portuguese entitled *Metáfora* (2007b) - among all his production - in which he summarized the trajectory of metaphor studies and presented ways of identifying metaphors in corpora. He also proposed some procedures to locate and identify metaphors in corpora, in order to present a safer and wider data analysis. Thus, he has dealt with the most up-to-date computer tools such as: Concord; *WordSmith Tools 3.0* (Sardinha, 2009b); LC tools (Metaphor Identification Program, Concord and Parallel Concordancer) used. As well, as it has been indicated, he is part of the editorial board of the *International Journal of Corpus Linguistics (John Benjamins), Corpora (Edinburgh University Press),* and several renown Brazilian Journals; an active member of the executive committee of *DELTA* and *The ESPecialist;* and the web editor of RaAM and ALSFAL. In sum, research conducted by Sardinha has enlarged metaphor investigation by reporting empirical and theoretical support for metaphor identification, understanding, translation and analysis in Brazil and abroad based on Corpus Linguistics methodology. All this, added to his participation in the most important congresses on the subject, place Sardinha as the most prominent Brazilian researcher who has brought light into Lakoffian conceptual metaphor studies in the country by his contribution of Corpus Linguistics studies.

Fifthly, as regards the phases of Lakoff's approach to metaphor it is possible to make a brief association with research conducted in Brazilian territory. To start with, the most updated researchers, significant names can be pointed out, such as Zanotto, Sardinha, and Vereza. Based on Lakoff and Johnson (1980/2002), Lakoff (1987, 1991, 2001a, 2001b, 2004, 2005), these scholars have investigated how metaphors are utilized cognitive and linguistically in discourse so as to justify an action or (re)action upholding political implications. In other words, researchers have aimed at unveiling how metaphor can aid politicians in the formation and dissemination of political ideologies, as it conceptually and linguistically legitimates and determines their viewpoints and specific interests. Next, Frant and Sardinha have

conducted research within Mathematical Education, supported by the Embodied Cognition Theory (Lakoff & Núñez, 2000).

Furthermore, Brazilian researchers have incorporated the new insights encompassed in the 1999 book by Lakoff and Johnson. Vereza (2007), for instance, wrote an article reviewing such book in detail. Also, she has explored the cognitive and linguistic usage of metaphor in discourse, the argumentative dimension of metaphors, especially novel and ontological metaphors, as pondered by the referred scholars. Then, Lima, Macedo and Farias have contrasted Grady's (1997) Primary Metaphor Hypothesis to the former view of the Contemporary Theory of Metaphor (Lakoff and Johnson, 1993), discussing some of the main modifications proposed by Grady. But Farias went further and pinpointed the contributions provided by Chris Johnson in Lakoff and Johnson (1999). Likewise, this book motivated Miranda to develop research exploring the Blending Theory (Fauconnier & Turner, 1996, 2002). Consequently, these Brazilian researchers have made the most of the conceptual and primary metaphors hypotheses to enrich their investigation. Greiner and Katz, in turn, have explored spatial, container, orientational metaphors to unveil the consciousness of cognitive processes and the Embodied Theory established in Lakoff and Johnson (1980/2002, 1999), and Lakoff (1987). Such proposals served as a parameter to identify and create communication processes linked to body awareness and territoriality.

Subsequently, Lakoff and Turner (1989) and Lakoff and Johnson (1980/2002), have been constructively and extensively explored by Vieira and Martins. The former has investigated the co-construction processes of metaphorical expressions in literature in English and Portuguese. The latter has devoted to explore the cognitive processes underlying metaphorical interpretation in poetry in Portuguese as mother tongue. Both have promoted interactionist environments for reading comprehension and interpretation of novel, ontological, structural and orientational metaphors in literature, specifically in romance, poems, song lyrics, and so on.

Then, the ICM - Idealized Cognitive Models - proposed by Lakoff, in his 1987 book have incentivated vast research among Brazilian researchers such as Farias, Macedo, Moura, Alves, and Palma. Prioritizing the research on the indeterminacy of meanings, these scholars have embraced Lakoffian 1987 publishing to identify and analyse idiomatic expressions, phraseology, and other lexical, grammatical (and semantic) constructions from Brazilian Portuguese. Also, the have observed the role that metaphors play in diverse

communicative events and in texts. At last, Espíndola and Nagem have predominantly employed Lakoff (1980) and they have also dealt with translated version of the book (Lakoff 1980/2002).

Finally, it was noticeable that, although it contains the most updated findings of the theory, its latest version - with the Afterword version (Lakoff & Johnson, 2003) has rarely been mentioned in the consulted Brazilian studies. Very few researchers have made reference to this book, probably because the modifications encompassed in it have already been stated in former books. Another possible reason for this phenomenon is the fact that there is a translated version of the 1980 book. Therefore, it is my hypothesis that Brazilian researchers tend to prefer the Portuguese book, as it is more practical, uncomplicated and friendly to deal with one's native language.

As regards the niches, i.e. the sectors where Lakoffian theory of metaphor is actively investigated in Brazil, findings demonstrated that there are specific spots producing more material. To begin with, evidence showed that São Paulo was the most fruitful Brazilian state developing research in the subject. Consequently, *PUC-SP* resulted to be the Brazilian University with the highest number of theses and dissertations defended by its students with a total of 41 studies, most of them published in 2005 (11 studies), 2007 (10 studies) and in 2008 (8 studies). Moreover, two very important Brazilian RGs are linked to that university: *GEIM - Grupo de Estudos da Indeterminação e da Metáfora*, and *GELC - Grupo de Estudos de Lingüística de Corpus.* From the former, researchers such as Mara Sofia de Toledo Zanotto and Heronides Maurílio de Melo Moura - the two leaders of the group; Josalba Ramalho Vieira; Lucienne Claudete Espíndola; Dieli Vesaro Palma; Solange Coelho Vereza; and Vilma Lemos were selected for this study and therefore analysed. This may be an evidence of the significance of this RG for metaphor investigation. The latter, represented by Antonio Paulo Berber Sardinha, its leader, has developed unique work in Corpus Linguistics devoted to metaphor in the country. Moreover, researchers such as Greiner (*PUC-SP*), Katz (*PUC-SP*), and Frant, (*UNIBAN-SP*) are not linked to any RG, but they develop research in the state of São Paulo.

Other important universities that have developed research on conceptual metaphor, as proposed by Lakoff, are *UFSC* and *UFJF*. The former possesses an important niche devoted to develop research in EFL teaching/learning context on Lakoffian conceptual metaphor. It is

worthwhile highlighting that *UFSC*[77] is one of the few universities conducting research on Lakoff's paradigm in English.

Besides, niches of metaphor investigation were detected in Minas Gerais, represented by *GEMATEC* (*CEFET-MG*) and Neuza Salim Miranda (*UFJF*). Next, Ceará encompasses two important research groups: *COMETA (UECE)*, and *GELP-COLIN (UFC)*. This Brazilian state maintains lively exchange and updated information within metaphor studies because the researchers Macedo, Farias, Lima are linked to both RG and have been working together, thus enrichening the field. In Rio de Janeiro, there is the RG named *GIMD* (*UFF*) with the participation of Vereza and Martins. Lastly, Alves, from *UFPB* is responsible for including Paraíba among the Brazilian states devoted to conceptual metaphor research within Lakoffian approach.

To sum up, Lakoff's approach to metaphor has fed vast discussions since 1980 and has incentivated many researchers to investigate such phenomenon more thoroughly. In Brazilian context - that is the focus of the present study, Lakoffian Conceptual metaphor has been examined from a Corpus Linguistics to a more philosophical perspective; or as a bridge to shorten the path between language and literature; or even as a tool to unveil the cognitive processes underlying metaphor awareness, reading and comprehension, and so on. As a consequence, some research groups were created in order to better organize the investigation and findings of metaphor investigation in the most diverse areas in the country. The different achievements and the evolution of his theory on metaphor have been lively researched in Brazil. Nevertheless, his political ideological studies have not gained notoriety as in the USA. His political implications have been restrained to the research on metaphorical expressions in political speeches at sentence levels.

I hope to have contributed to research on Lakoffian approach to metaphor showing what has been studied in Brazil in the last decades. Therefore the aim was to encompass the pieces of research available on line, since 1998 until March 2010, following a set of criteria for data

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[77] *UFSC* holds two noteworthy programmes: *PPGI* - Programa de Pós-Graduação em Inglês; and *PGET* Pós-Graduação em Estudos da Tradução. The former is represented by Josalba Ramalho Vieira and Heronides M. M. Moura. The latter has increasingly contributed to metaphor investigation conducted by Ana Cláudia de Souza and her advisees. They have developed important research analysing cognitive processes (i.e. working memory capacity) within Lakoffian Conceptual Metaphor (Souza, 2004); and in translation studies (Koglin, 2008; Oliveira, 2008). Souza´s work is almost unique in Brazil to use Reading Span Tests and an Operation-word Span Tests to measure the reader´s working memory capacity as agents of the processing and comprehension of written texts.

collection. Then, empirical studies were gathered, synthesized and analysed in order to organize the information and display it in a single place thus facilitating its access to researchers.

5.3 RESEARCHERS ARE WORKER ANTS

As aforestated, the main objective of the present study was to gather, map and analyse Brazilian investigation on Lakoff's paradigm, and to highlight the significance of such type of research. In other words, the aim was to collect, organise and disseminate the information produced through decades of research in the country. Then, as an attempt to illustrate the researchers' work, I propose a conceptual metaphor RESEARCHERS ARE WORKER ANTS.

Table 28. Researchers are worker ants

WORKER ANTS	RESEARCHERS
-The Trail- • When an ant finds a food source, it leaves a trail of scent so that other ants in the colony may find it. • As the scent trail evaporates quickly, it has to be renewed continuously to keep the communication uninterrupted.	**-Research-** • If a researcher has made significant discoveries, s/he publishes them, leaving a path for other researchers to reach that source and continue the investigation. • Theories rely on recurrent empirical contributions and must be constantly reinforced, so as not to remain disregarded or vanish.
-The Community- • Ants are social creatures that live in a community and work in an organised manner for foraging. They tend to look after the community.	**-Researchers, Educators, Learners-** • Researchers rely on the community to develop research in an organised, systematized manner, to the well-being of the community.
-The Niches- • The niches are the food depository and the place where newly born ants grow up and mature.	**-Universities, Research Groups-** • Educational institutions represent the places where knowledge is "stored" and where learners interact with information and other peers. Thus their potential is triggered, providing the necessary tools to enable them to follow and contribute to others' path, as well as to trace their own.

This example helps us understand the way Lakoffian metaphor has been approached by researchers in Brazil. That is, in order to reach nourishment (i.e. a theory), researchers have worked methodically, supportively, and as a community. This is accomplished through the creation of dialogic environments (i.e. research groups), where new findings may come to light and where newcomers may develop their knowledge and skills.

Moreover, when a new theory emerges, it must be straightforwardly presented to the community, so that the idea grows and the path is enlarged with the community's contribution. There will be attempts to refute it, thus, a theory will stand as long as withstand the refutation process.

Finally, the fraternal bond between the diverse niches existing in Brazil have allowed for a greater enlargement of such paths, leading to a richer and more rewarding *food source*.

Figure 4.   Observing from above
Retrieved from <httpwww.zephyrus.co.ukantbehaviour1.html> on January 2010

Summarizing, this dissertation intends to bring to light knowledge produced in the *underground niches* as a means to reinforce the *trail* that has been traced by the *worker ants* in Brazilian land. And it is noteworthy that the development of studies such as the present one allows for this demonstration, providing a broad overview. That is, the compilation and mapping of the literature produced in the field, as is this case, makes possible an easy access to several pieces of research simultaneously.

5.4 PEDAGOGICAL IMPLICATIONS

The findings of the present study have demonstrated that in Brazilian context researchers and educators have been increasingly concerned about metaphor awareness in teaching/learning environment in the country.

On the one hand, researchers and educators have embraced metaphor investigation and used it in their own work and/or have engaged others (i.e. advisees, students, volunteers) as an attempt to foster the consciousness about the importance of the benefits metaphor understanding can bring to people's lives. It has been proven by the results of this research that the more we learn about metaphor, the more we perceive about ourselves and the world surrounding us. The expansion of the development on metaphor research has also enhanced and broadened the scope of knowledge in many different areas as a positive consequence.

On the other hand, according to the conclusions of the survey, metaphor proved to be a useful tool to enrich and improve teaching/learning processes for both educators and students. In the consulted pieces of research in which teachers conducted experiments, in diverse areas, disciplines and subjects, involving investigation on metaphor, results revealed that teaching processes were successfully assisted by the use of metaphors. As for the experiments in which students were participants, findings show that learners were able to profit the advantages provided by metaphors involved in their learning process within different topics and subjects. In other words, as shown in the analysis, it is important that both educators and students make the most of the pedagogical assistance - to mention just one of the advantages - comprised in the use of, and in the research on metaphor.

5.5 LIMITATIONS OF THE STUDY

A limitation of the present research relates to the method, more specifically, to the data analysed. Despite the valuable contribution of some pieces of research in the field, criteria for data selection implied excluding important ones and consequently they were not analysed. Due to number of studies and the nature of this proposal, it was not possible

to include all the works. Moreover, this survey boundary reached mostly online available search, therefore, it did not encompass the entire production of the selected researchers, nor some of the printed publishing from other scholars. Another important limitation of this study refers to the fact that many journals in Applied Linguistics were not available, so they were not consulted nor considered in the present study.

Also related to the method, problems with systematization emerged. After identifying a researcher on metaphor, I searched for his/hers publications, but only their thesis/dissertation was available on line or just the article based on that study. This represented a difficulty to stay organized at the time of analyzing the data, because either I had the publications incomplete, or I had the name without publications available. Additionally, while conducting this research I continued searching for empirical studies and reading new materials. This also implied reorganization in the cases in which such materials were interesting and/or valuable and I decided to include them in the survey.

Finally, regarding the method, the proposal was to work with on line sites and links from which most of the information here was retrieved. The problem was that such internet tools are constantly changing, being modified or expiring. As data collection started in 2007 and ended in 2010, many sites changed over time, while others expired and others were modified - not to mention that new publications have constantly appeared. So, I had to constantly restructure the lists and readings and even discard some pieces of information.

Another limitation was associated with time. That refrained me from deepening the analysis or broadening the scope of studies analysed. The combination of these factors led me to restrain the boundaries and exclude those theories that did not fit the target subject of study in my reach.

Concerning the abstracts, some of them were not clearly detailed; others did not describe the entire research - not reflecting its importance -, nor specified much about method, theoretical background, and so on. Also, I observed that some of them were submitted to automatic translation from Portuguese to English. So, it was quite difficult to work with some abstracts because they do not reflect the richness of the studies - probably due to lack of space and word limit - thus excluding crucial pieces of information.

5.6 SUGGESTIONS FOR FURTHER RESEARCH

The findings of the present study indicate that research on Lakoffian approach to metaphor in Brazil has focused on mother tongue (i.e. Portuguese) and only a few studies have been developed in English as a Foreign Language. That being the case, my suggestion is that it would be interesting to better explore this field by conducting investigation on Lakoffian metaphor in English in this country. Advisors/ educators/ researchers encouraging their advisees/ students/ apprentices could be an effective way of achieving this. Another means to foster the development of research on metaphor in English could be by the creation of exchange programmes among learners and educators or even universities. This way, they can exchange information, share knowledge and establish partnerships or create study groups to devote to investigation specifically in English so that they can analyse the specificities derived from metaphor processing in a foreign language.

Additionally, as regards the findings of the present study, one of the achieved conclusions is that many people have conducted research on Lakoffian approach to metaphor in Brazil but only a few have dedicated to compile and/or systematize them. Due to the fact that metaphor studies represent a very fertile field of research in Brazil, it seems worthwhile organizing the pieces of research and the type of knowledge produced so far in the area so as for investigators to learn with the other's work.

Finally, I highlight the importance of studies such as the present one as a means to motivate other researchers to follow this proposal. It attempts to be a source of inspiration for investigators to unify the strengths, fortify the knowledge and enrich the research field on Lakoffian approach to metaphors in Brazil.

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APPENDIX A - LIST OF TH & D - DATA COLLECTION.

University	Year	Degree	Area	Advisor	Author	Title
UFES	2008	Master	Linguistics	Adrete Terezinha Matias Grenfell	Karen Muniz Feriguetti	Por uma Abordagem Cognitiva da Pressuposição: Modelos Cognitivos Idealizados e Propagandas.
USP	2006	Master	Modern Foreign Languages	Adrián Pablo Fanjul	Marcos Maurício Alves da Silva	O aprendiz (em) cena: o contato cma língua espanhola e a criação de um espaço ficcional.
UFSC	2008	Master	Linguistics	Ana Cláudia de Souza	Sila Marisa de Oliveira	Legendação de metáforas: um estudo empírico-experimental com base no filme La lengua de las mariposas.
UFSC	2008	Master	Linguistics	Ana Cláudia de Souza	Arlene Koglin	A tradução de metáforas geradoras de humor na série televisiva Friends: Um estudo de legendas.
UFC	2005	Master	Linguistics	Ana Cristina Pelosi Silva de Macedo	Rubens Lacerda Loiola	Metáfora conceitual na construção dos sentidos de textos poéticos.
UFC	2007	Doctorate	Linguistics	Ana Cristina Pelosi Silva de Macedo	Ricardo Lopes Leite	Metaforização textual: a construção discursiva do sentido metafórico no texto
UFRGN	2000	Master	Education	Ana Lúcia Assunção Aragão Gomes	Almira Navarro da Costa Farias	Conhecimentos e Ação: Modos de Pensar em Diálogo
PUC-SP	2005	Master	Portuguese Language	Ana Rosa Ferreira Dias	Eliza Mendes Martins de Moura	As representações metafóricas no discurso político do presidente Lula: um estudo da metáfora cognitiva
PUC-SP	2008	Master	Languages	Ana Rosa Ferreira Dias	Luciana Soares da Silva	A metafora conceptual na construcao do discurso jornalistico.
PUC-SP	2000	Master	Portuguese Language	Anna Maria Marques Cintra	Nilvia Terezinha S. Pantaleoni	As Cartas de Ruy Barbosa a Maria Augusta e de Monteiro Lobato a Purezinha: A Interação Por Escrito e as Metáforas do Amor.
UECE	2003	Master	Linguistics Languages and Arts	Antônio Luciano Pontes	Hulda Chaves Lenz Cesar	Babel Revisitada: um estudo das unidades léxicas no discurso de divulgação científica da revista National Geographic nas versões americana e brasileira
PUC-SP	2007	Master	Linguistics Applied Linguistics	Antonio Paulo Berber Sardinha	Agnes dos S. Scaramuzzi Rodrigues	Metáforas do líder empresarial e histórico: Uma abordagem baseada em corpus.
PUC-SP	2008	Master	Linguistics	Antonio Paulo Berber Sardinha	Edivania Pinheiro Ferreira Cancian	O discurso de uma revista especializada em educação: Um olhar sobre a construção metafórica do professor.
PUC-SP	2005	Master	Linguistics	Antonio Paulo Berber Sardinha	Alessandra Bautista da Costa	Metáforas relacionadas ao tema da amizade sob a perspectiva da teoria da metáfora conceitual e da lingüística corpus na série de TV "Friends".
PUC-SP	2008	Master	Linguistics	Antonio Paulo Berber Sardinha	Lilian de Mello Martins	Identificação e tradução de metáforas lingüísticas e conceptuais em abstracts da esfera acadêmica: Uma análise baseada em Lingüística de Corpus.
UNESP	2006	Doctorate	Linguistics	Antonio Suárez Abreu	Ormezinda Maria Ribeiro	Construções de sentido de um grupo de falantes da região de Patrocínio-MG: um estudo sobre o cômico e o ambíguo.
UNESP	2006	Master	Linguistics	Antonio Suárez Abreu	Marcela de Almeida Moschem	Verossimilhanças das metáforas roseanas em Sagarana.
UFPR	2007	Master	Education	Carlos Roberto Vianna	Cesar Luiz M. da Fonseca Marques	Esboço de transcriação para a metáfora básica do infinito.
UERJ	2005	Doctorate	Psychology	Celso Pereira de Sá	Claudia Rabelo de Castro	A retórica em torno do Estatuto da Criança e do Adolescente: um estudo sobre as representações sociais de profissionais da assistência em Campos dos Goytacazes.
PUC-SP	2005	Doctorate	Communication	Christine Greiner	Ana Amélia Corazza Genioli	Identidade como territorialidade com trabalhos ou de arte contemporânea
PUC-SP	2005	Master	Communication	Christine Greiner	Luis Eduardo Cesar Maldonado	A comunicação do corpo na mímica e no teatro físico.
PUC-SP	2005	Master	Communication	Christine Greiner	Monica Toledo Silva	O corpo no cinema: o pensamento em movimento
PUC-SP	2006	Doctorate	Communication	Christine Greiner	Sandra Meyer Nunes	As metáforas do corpomídia em cena: Repensando as ações físicas no trabalho do ator.

University	Year	Degree	Area	Advisor	Author	Title
PUC-SP	2007	Doctorate	Communication	Christine Greiner	Magda Amabile B. Carpeggiani Bellini	A comunicação do corpo a partir da não visualidade: um estudo teórico-prático.
UFRGS	2005	Master	Psychology	Cleonice Alves Bosa	Lauren Tonietto	Metáfora e analogia no processo de formação de conceitos: um estudo sobre aproximações semânticas verbais em crianças pré-escolares.
PUC-SP	2006	Master	Languages	Dieli Vesaro Palma	Margareth V. Falleiros Gonzales	As expressões idiomáticas: Um processo de recriação.
PUC-SP	2007	Master	Languages	Dieli Vesaro Palma	Liliam de Oliveira Mendes	A leitura de metáforas como evento social: A construção de sentidos em crônica de Arnaldo Jabor.
PUC-SP	2007	Master	Portuguese Language	Dieli Vesaro Palma	Valquiria D. Esteves dos Santos	Metáforas cognitivas em anúncios publicitários: Seu papel argumentativo.
PUC-SP	2007	Master	Languages	Dino Fioravante Preti	Eliana Maria de Jesus	Estratégias conversacionais na interação de dois perdidos numa noite suja, de Plínio Marcos
UFBA	2005	Master	Dance	Dulce Tamara Lamego Silva e Aquino	Fátima Wachowicz	Embodied: um espetáculo de metáforas dançadas.
UFBA	2008	Master	Dance	Dulce Tamara Lamego Silva e Aquino	Clotildes Maria de J. Oliveira Cazé	Corpos que Dançam Aprendem:Análise do Espaço da Dança na Rede Pública Estadual Salvador-Bahia..
UFPB	2007	Doctorate	Education	Edna Gusmão de Goes Brennand	Gesuína de Fátima Elias Leclerc	O conceito normativo do regime de colaboração enquanto construção do espaço público de direitos: mediações na interlocução institucional do percurso do Prof. Dr. Neroaldo POntes Azevedo
UNICAMP	2000	Master	Linguistics	Eduardo Roberto Junqueira Guimarães	Maria José Leotti	Funcionamento metafórico na propaganda: um estudo eunciativo da argumentação
UNICAMP	2005	Doctorate	Linguistics	Eduardo Roberto Junqueira Guimarães	Mariângela Peccioli Galli Joanilho	As metáforas da língua nacional
UFPR	2007	Master	Languages	Elena Godoi	Priscila Frehse Pereira	Psicanálise e surdez: metáforas conceituais da subjetividade em libras.
UFPB	2005	Doctorate	Linguistics	Eliane Ferraz Alves	João Wandemberg Gonçalves Maciel	Construções lexicais complexas constituídas com o verbo "dar": Processos metafóricos de construção de sentidos.
UFPB	2008	Doctorate	Languages	Eliane Ferraz Alves	Maria do Socorro Burity Dialectaquiz	Metáforas conceptuais em primeiras estórias: "Fronteando o nascente" das construções lexicais complexas.
UFPB	2008	Master	Languages	Eliane Ferraz Alves	Juliana Barbosa D`Albuquerque	Metáforas conceptuais da velhice em textos de vestibulandos da UFPB.
USP	2008	Master	Portuguese Language	Elis de Almeida Cardoso Caretta	Denise Padilha Lotito	Expressividade e sentido : um estudo estilístico das metáforas de lavoura arcaica.
UCS	2006	Master	Linguistics	Elisa Batisti	Morgana Rossetti	Metáforas e metonímias de felicidade: um estudo de língua e cultura
PUC-SP	2003	Master	Communication	Elizabeth Saporiti	Ana Lucia Macdowell Gonçalves	Mente, representação e comunicação: um estudo dos modelos das ciências cognitivas e da psicanálise.
UFC	2004	Master	Linguistics	Emilia Maria Peixoto Farias	César Nilton Maia Chaves	Metáfora e humor: Humorísticas peripécias de um macaco sabido.
EST	2004	Doctorate	Theology	Enio Ronald Mueller	Mara Sandra Parlow	De corpos de conhecimento ao (Re)conhecimento do corpo: elementos para a composição de uma epistemologia corporal no âmbito da fé..
UNIRIO	2006	Master	Museology	Evelyn Goyannes Dill Orrico	Priscilla Arigoni Coelho	Metáforas dos "objetos deflagrados", anos 70: as fronteiras da Memória e da Identidade na Arte Conceitual brasileira.
UFPE	2005	Doctorate	Linguistics	Francisco Cardoso Gomes de Matos	Araken Guedes Barbosa	A paráfrase como proposta linguístico-pedagógico para uso no ensino de línguas.
UnB	2005	Master	Psychology	Francisco Martins	Melissa Chaves Kern	As metáforas da hemorragia interna e ferida aberta na melancolia: ensaio teórico-clínico a partir de Freud
UERJ	2005	Master	Linguistics	Gisele de Carvalho	Renata Gaspar Nascimento	Educação é commodities: uma análise crítica do discurso dos PCNs.
UERJ	2007	Master	Languages	Gisele de Carvalho	Claudio José Bernardo	A MPB como recipiente de protestos contra a ditadura militar: as metáforas carregadas de vozes contra o regime autoritário
PUC-RIO	2008	Master	Languages	Helena Franco Martins	Viviane Lucy Vilar de Andrade	Sobre a identidade da metáfora literária: Uma análise do romance d`a pedra do reino e o príncipe do sangue do vai-e-volta.

University	Year	Degree	Area	Advisor	Author	Title
PUC-RIO	2003	Master	Languages	Helena Franco Martins	Elisângela Nogueira Teixeira	Metáforas para linguagem no *Curso* de Saussure.
UFJF	2003	Master	Linguistics	Helena Franco Martins	Regina Celi Wenzel Torres	A personificação do texto acadêmico-formal: Uma abordagem cognitivista.
PUC-RIO	2003	Master	Linguistics	Helena Franco Martins	Jussara Regina Gonçalves	Considerações sobre a flutuação no emprego do subjuntivo em contextos orais do Português do Brasil.
PUC-RIO	2007	Master	Linguistics	Helena Franco Martins	Alberto Rodrigues Pereira	Metáforas para interpretação e compreensão em livros didáticos de português
PUC-SP	2005	Doctorate	Communication	Helena Tania Katz	Sigrid Augusta Busellato Nora	Comunicação em rede: A dança em Caxias do Sul 1997 a 2004.
PUC-SP	2007	Doctorate	Communication and Semiotics	Helena Tania Katz	Lenira Peral Rengel	Corponectividade: Comunicação por procedimento metafórico nas mídias e na educação.
PUC-SP	2008	Master	Communication	Helena Tania Katz	Gustavo Garcia Da Palma	Estados alterados de consciência em artemídia: o papel do corpo no trabalho do ator.
UCS	2007	Master	Linguistics	Heloísa Pedroso de Moraes Feltes	Carina Maria Niederauer Granzotto	Semântica cognitiva aplicada: a radialidade da categoria Religião nos discursos dos imigrantes italianos (de 1875 à década de 1950).
UFSC	2008	Master	Linguistics	Heronides Maurílio de Melo Moura	Dieysa Kanyela Fossile	Metáforas com verbos de mudança de estado.
UFMG	2002	Doctorate	Linguistics	Ida Lúcia Machado	Amadeu Roseli Cruz	A análise do discurso da prevenção do abuso de drogas.
USP	2007	Master	Portuguese Language	Ieda Maria Alves	Elenice Alves da Costa	Um estudo cognitivo das metáforas geradas em um corpus jornalístico da economia
PUC-SP	2007	Master	Communication and Semiotics	Ivo Assad Ibri	Luciana David de Oliveira	Signos e metáforas na comunicação da música
UNIOESTE	2007	Master	Applied Linguistics Languages and Arts	Ivo José Dittrich	Patrícia Maria Pilatti	Um estudo retórico do discurso publicitário: a metáfora e sua funcionalidade persuasiva.
PUC-SP	2006	Doctorate	Mathematics	Janete Bolite Frant	Cláudio Dall'Anese	Argumentos e metáforas conceituais para a taxa de variação
PUC-SP	2007	Doctorate	Mathematics	Janete Bolite Frant	Antonio Luis Mometti	Reflexão sobre a Prática: Argumentos e Metáforas no Discurso de um Grupo de Professores de Cálculo.
PUC-SP	2007	Master	Mathematics	Janete Bolite Frant	Renan Faria	Elaborando e lendo gráficos cartesianos que expressam movimento: uma aula utilizando sensor e calculadora gráfica.
PUC-SP	2004	Master	Mathematics	Janete Bolite Frant	Maria Cecília Arena Lopes Barto	Um olhar sobre as idéias Matemáticas em um curso de Cálculo: a produção de significados para a continuidade.
PUC-RS	1999	Master	Applied Linguistics	Jorge Campos da Costa	Maity Simone Guerreiro Siqueira	Metáfora: Intersecção entre abordagens lógicas e cognitivas
PUC-RS	2000	Master	Applied Linguistics	Jorge Campos da Costa	Lucia Helena F. de Azambuja Lima	A polidez em inglês através da Teoria das Implicaturas
UFSC	2003	Master	Languages	Josalba Ramalho Vieira	Marion Gottschalk	The role of literature in Brazilian high school contexts.
UFSC	2003	Master	Languages	Josalba Ramalho Vieira	Valéria de Souza Barreira	FL reading strategies for metaphor and word game interpretation in a non-specialized magazine: A case study.
UFSC	2005	Master	Linguistics Applied Linguistics Languages and Arts	Josalba Ramalho Vieira	Gisele Luz Cardoso	Reading song lyrics: Co-Construction of metaphorical expressions by EFL learners.
UFSC	2006	Master	Languages	Josalba Ramalho Vieira	Eloiza Romanini	Fostering metaphoric competence in an english as a foreign language reading class.
UFSC	2006	Master	Linguistics Applied Linguistics Languages and Arts	Josalba Ramalho Vieira	Adriana Regina Baiocco Stanzioni	A teacher becoming a researcher - Metaphorical concepts of reading and teaching paradigms.
UFSC	2007	Master	Languages	Josalba Ramalho Vieira	Camila Araújo de Lucena	Understanding metaphors in magazine texts about economy.

University	Year	Degree	Area	Advisor	Author	Title
UFSC	2007	Master	Languages	Josalba Ramalho Vieira	Carla Aparecida Marinho Borba	MST in the British and Brazilian press: Metaphorical reading in a FL Classroom.
UFPR	2000	Master	Applied Linguistics	José Erasmo Gruginski	Gisele Werneck Divardin	Unlocking the secrets of the heart: um estudo da representação da palavra "coração" no sistema conceitual das línguas inglesa e portuguesa através de expressões metafóricas convencionais..
UnB	2006	Master	Linguistics Languages and Arts	Josênia Antunes Vieira	Elda Alves Oliveira Ivo	Letramento de adultos: um estudo crítico da construção identitária e ideológica na produção textual.
UnB	2005	Master	Linguistics	Josênia Antunes Vieira	Francisca Cordélia Oliveira da Silva	A representação da raça negra no Brasil: ideologia e identidades.
UFBA	2008	Master	Dance	Jussara Sobreira Setenta	Márcia Virginia dos Reis Mignac	A Subversão da Sujeição:Ação Política da Dança do Ventre em Adolescentes Sujeitadas e em Instituições
PUC-RIO	2000	Master	Brazilian Literature	Karl Erik Schollhammer	Elza de Sá Nogueira	Metáfora como conceito e experiência poética nas Primeiras Estórias de Guimarães Rosa
PUC-SP	2005	Master	Portuguese Language	Leonor Lopes Fávero	Silas Gutierrez	Revistas Femininas para adolescentes: uma relação amigável de poder e dominação.
UFRGS	2000	Master	Applied Linguistics Psicholinguistics	Loar Chein Alonso	Lúcia Magali M. dos Santos Pinto	Important TO ME, Good FOR YOU: da complexidade na aquisição das preposições TO e FOR com seu correspondente PARA por falantes da língua portuguesa.
UFSC	2004	Doctorate	Linguistics	Loni Grimm-Cabral	Ana Cláudia de Souza	Leitura, metáfora e memória de trabalho: Três eixos imbricados.
UFRGS	2005	Master	Applied Linguistics	Luciene Juliano Simões	Márcia Schmaltz	Os classificadores nominais chineses: uma abordagem semântico-cognitiva experiencialista.
UFRGS	2007	Doctorate	Applied Linguistics	Luciene Juliano Simões	Luciane Corrêa Ferreira	A compreensão da metáfora em língua estrangeira.
UFPB	2007	Master	Linguistics Languages and Arts	Lucienne Claudete Espíndola	Graziellen Gelli Pinheiro Lima	Expressões linguísticas metafóricas como recurso argumentativo em panfletos.
UFPB	2007	Master	Linguistics	Lucienne Claudete Espíndola	Natalia de Sousa Aldrigue	A metáfora conceptual como recurso argumentativo em fôlderes turísticos.
UFPB	2008	Master	Linguistics	Lucienne Claudete Espíndola	Josilane Márcia Justiniano de Lima	Expressões linguísticas metafóricas e metonímicas na notícia policial: Um recurso discursivo.
UFRGN	2007	Master	Languages	Luis Álvaro Sgadari Passeggi	Ayres Charles de Oliveira Nobrega	Traduzindo o economês: metáforas da inflação em textos de jornalismo econômico
UNICAMP	2008	Doctorate	Telecommunications	Luís Geraldo Pedroso Meloni	Rodolfo Miranda de Barros	Um Estudo sobre o Poder das Metáforas e dos Recursos Multimídia no Processo de Ensino e Aprendizagem de Cálculo Diferencial e Integral.
UFPE	2004	Doctorate	Sociolinguistics	Luiz Antônio Marcuschi	Edmilson de A. Borborema Filho	A metáfora na construção da percepção da realidade no discurso jornalístico
UEM	2006	Master	Science	Luzia Marta Bellini	Ana Lídia Ossak	Professor, aluno e livro didático em aulas de ciências: análise retórica dos argumentos didáticos.
USP	2008	Master	Modern Foreign Languages	Lynn Mario T. Menezes de Souza	Irene Sinnecker Levin	Teias de Significação: Performance de Língua-Franca e Narrativas Vivenciadas de Identidade.
PUC-SP	1998	Doctorate	Applied Linguistics	Mara Sophia Zanotto	Solange Coelho Vereza	Literalmente falando: O sentido literal como metáfora cognitivo-pragmática.
PUC-SP	1999	Doctorate	Linguistics	Mara Sophia Zanotto	Maria Isabel Asperti Nardi	A metáfora e a prática de leitura como evento social: Instrumentos do pensar a Biblioteconomia do futuro.
PUC-SP	2002	Master	Applied Linguistics	Mara Sophia Zanotto	Nanci Maria Stephano de Queiroz	A metáfora nos textos literários: A leitura, em sala de aula do ensino fundamental, de um conto em língua estrangeira.
PUC-SP	2003	Doctorate	Applied Linguistics	Mara Sophia Zanotto	Helena Gordon Silva Leme	Indeterminação e metáforas no discurso religioso (a construção do sentido no discurso do evangelho da prosperidade).
PUC-SP	2004	Doctorate	Linguistics Applied Linguistics	Mara Sophia Zanotto	Cirlene Dias Magalhães	Mudança é movimento - Polissemia e incoatividade nas construções gramaticais do predicador 'Entrar' numa visão semântico-cognitiva.

University	Year	Degree	Area	Advisor	Author	Title
PUC-SP	2005	Doctorate	Applied Linguistics	Mara Sophia Zanotto	Rogéria Kátia Arruda Mattos	Entre a tradição e a re-significação de práticas de ensino de português como língua materna.
PUC-SP	2005	Master	Applied Linguistics	Mara Sophia Zanotto	Claudia Cristina Ferreira Ferling	A leitura de poemas em LE: Metáforas como desafios cognitivos.
PUC-SP	2007	Master	Linguistics Applied Linguistics	Mara Sophia Zanotto	Luciane de Alvarenga Santa Bárbara	O papel do professor como mediador e gerenciador da co-construção das múltiplas leituras.
PUC-SP	2008	Master	Linguistics	Mara Sophia Zanotto	Maria das Graças Bouças da Silva	A mediação e o "pensar alto em grupo": Caminhos para o desenvolvimento da leitura crítica.
PUC-SP	2009	Master	Linguistics	Mara Sophia Zanotto	Guilene D. de Souza Candia	Analise crítica da metáfora no discurso inaugural de Nelson Mandela.
UFMG	2006	Master	Linguistics Portuguese Language	Márcia Maria Cançado Lima	Maria Aparecida D. Netto de Matos	Verbos Polissêmicos: propriedades semânticas e processos metafóricos.
UFRGN	2008	Doctorate	Linguistics	Maria Angélica Furtado da Cunha	José Romerito Silva	Motivações semântico-cognitivas e discursivo-pragmáticas nos processos de intensificação
PUC-SP	2005	Master	Brazilian Literature	Maria Aparecida Junqueira	Adriane Roberta Ribeiro de Macedo	O romance vitral de Adelia Prado.
PUC-SP	2008	Master	Linguistics Languages and Arts	Maria Aparecida Junqueira	Maria A. de Paula Vieira Freitas	Imagem e expressividade poética em Florbela Espanca
UFRJ	2008	Doctorate	Linguistics	Maria Cecilia de Magalhães Mollica	Maria Cristina G. de Goes Monteiro	Variação em definição: as construções [SN ser SN] e [SN ser quando O].
UFES	2008	Master	Linguistics	Maria da Penha Pereira Lins	Emanuely Carneiro Antunes	O Discurso Feminista no Pós-Guerra: Uma Análise da Construção de Face em Simone de Beauvoir e Valerie Solanas.
PUC-RIO	2005	Doctorate	Languages	Maria das Graças Dias Pereira	Terezinha Maria Barroso Santos	Construindo um modelo teórico e analítico do discurso argumentativo nas primeiras séries de ensino fundamental: uma abordagem sociocognitiva e sociodiscursiva do texto de opinião.
UFRJ	2003	Master	Portuguese Language	Maria Emilia Barcellos da Silva	Katia Carlos Alves	Particípio ou adjetivo? Eis a questão!
PUC-SP	2008	Master	Linguistics Languages and Arts	Maria José Gordo Palo	Marta Maria Coêlho Barbosa	A borboleta azul na parede de vidro : o imaginario medieval em Nove, Novena, de Osman Lins.
UFRJ	2008	Doctorate	Portuguese Language	Maria Lucia Leitão de Almeida	Patricia Teles Alvaro	Escalarização e Mesclagem na polissemia do até: um estudo das relações linguístico-cognitivas do uso dos operadores escalares.
UFRJ	2005	Doctorate	Linguistics	Maria Luiza Braga	Marco Antonio Costa	Aspectos semântico-pragmáticos das construções de tópico: por uma abordagem cognitivo-funcional.
UFJF	2007	Master	Linguistics	Maria Margarida Martins Salomão	Bethania Campos Guimarães Alves	A metáfora do evento como movimento: construções do aspecto no português do Brasil contemporâneo.
USP	2001	Doctorate	Linguistics	Maria V. de Paula do Amaral Dick	Waldenor Barros Moraes Filho	Matéforas conceituais em construções polissêmicas com foot, hand, mão é pé.
UNICAMP	1999	Doctorate	Linguistics	Marilda do Couto Cavalcanti	Josalba Ramalho Vieira	Metáforas e conflitos: A leitura de poesia e a discussão em grupo na sala de aula de inglês como literatura estrangeira.
USP	2007	Master	Communication	Marilda Lopes Ginez de Lara	Luciane Maria Artêncio	Princípios de categorização nas linguagens documentárias.
UERJ	2004	Master	Linguistics	Marísia Carneiro	Vanderci Monteiro Sene Palla	A representação da opinião de alunos do ensino médio sobre aprender inglês em uma escola pública brasileira.
FURB	2004	Master	Education	Miguel Ángel Riggio	Renato Mór	Metáforas no ensino de instrumentos musicais
UFJF	2004	Master	Linguistics Languages and Arts	Neusa Salim Miranda	Laura Silveira Botelho	Construções agentivas em X-EIRO: Uma abordagem sociocognitivista.
UFJF	2005	Master	Linguistics Languages and Arts	Neusa Salim Miranda	Crysna Bonjardim da Silva Carmo	A configuração da rede polissêmica de construções agentivas denominais X-ISTA: Uma abordagem sociocognitiva.
UFJF	2007	Master	Linguistics	Neusa Salim Miranda	Patricia Martins Neves Crochet	O papel do estereótipo na constituição do gênero 'piada': Uma abordagem sociocognitiva.

University	Year	Degree	Area	Advisor	Author	Title
UFJF	2007	Master	Linguistics	Neusa Salim Miranda	Thais Fernandes Sampaio	O uso metafórico do léxico da morte: Uma abordagem cognitiva.
UFJF	2008	Master	Linguistics	Neusa Salim Miranda	Genezpabla Albergaria	Projeção figurativa e expansão categorial no PB: O caso de um frame 'animal'.
UFJF	2008	Master	Linguistics	Neusa Salim Miranda	Lara Carvalho Miranda	As construções concessivas de polaridade negativa no português do Brasil.
UFJF	2008	Master	Linguistics	Neusa Salim Miranda	Livia Cristina Pereira de Souza	Conceptualização e ação – Um retrato discente da sala de aula. Uma abordagem sociocognitivista.
UFJF	2003	Master	Linguistics	Neusa Salim Miranda	Izabel Teodolina de Jesus	As construções condicionais universais proverbiais: Uma abordagem sociocognitiva.
UFJF	2006	Master	Linguistics Languages and Arts	Neusa Salim Miranda	Glauce Soares Fernandes	Uma abordagem construcional dos gêneros textuais: O caso do gênero piada.
UFJF	2007	Master	Linguistics	Neusa Salim Miranda	Eliane Botelho Ferraz	O sistema metafórico da Moralidade: Uma abordagem cognitivista.
UFRGS	2000	Master	Language and Literature	Patrícia Lessa Flores da Cunha	Alba Olmi	Dom Casmurro em tradução: uma abordagem comparatista.
UECE	2004	Master	Applied Linguistics	Paula Lenz Costa Lima	Elaine Carvalho Chaves Hodgson	What's up? Metáforas conceituais e o ensino de verbos com up.
UECE	2006	Master	Applied Linguistics	Paula Lenz Costa Lima	Cândida Salete Rodrigues Melo	O ensino/aprendizagem do "get" na perspectiva da teoria da metáfora conceitual.
UECE	2007	Master	Applied Linguistics	Paula Lenz Costa Lima	Márcia Socorro Ferreira de Andrade	Por um glossário didático de fraseologismos do espanhol baseado na teoria da metáfora conceitual.
UECE	2008	Master	Applied Linguistics	Paula Lenz Costa Lima	José Edelberto Costa Filho	Elementos para um glossário bilíngüe (português e inglês) de termos-chave da teoria da metáfora conceitual.
CEFET-MG	2007	Master	Technology	Paulo Cezar Santos Ventura	Lilian Valim Resende	Concepções metafóricas sobre a gravidez na adolescência.
CEFET-MG	2004	Master	Technology	Ronaldo Luiz Nagem	Cinthia Maria Gomes e Silva	Uma proposta de metodologia investigativa para o pensamento e a linguagem metafóricos e sua atividade no sistema cerebral.
CEFET-MG	2006	Master	Education	Ronaldo Luiz Nagem	Silvia Eugênia do Amaral	Analogias e metáforas no ensino de ciências: Aplicações na educação sexual.
CEFET-MG	2008	Master	Technology	Ronaldo Luiz Nagem	Alexandre da Silva Ferry	Analogias, metáforas e contra-analogias: Uma estratégia didática auxiliar para o ensino de modelos atômicos.
CEFET-MG	2006	Master	Education	Ronaldo Luiz Nagem	Maria de Fátima Marcelos	Analogias e metáforas da árvore da vida, de Charles Darwin, na prática escolar.
UFF	2002	Master	Modern Foreign Languages	Solange Coelho Vereza	Cristiane P. Cerdeira	O discurso da ciência e a construção do real: Um estudo das metáforas ontológicas em textos de química.
UFF	2006	Doctorate	Linguistics	Solange Coelho Vereza	Sergio Nascimento de Carvalho	A "guerra" nas palavras: Uma análise crítica da metáfora conceptual na retórica do presidente G.W. Bush Jr. e de seus colaboradores.
UFF	2006	Master	Modern Foreign Languages Applied Linguistics	Solange Coelho Vereza	Claudia Valeria Vieira Nunes Farias	A metáfora na leitura em língua estrangeira: Efeitos de uma intervenção pedagógica.
UFF	2008	Doctorate	Languages	Solange Coelho Vereza	Solange Pereira Diniz Faraco	Tempo amigo ou inimigo? Conceptualizações metafóricas de tempo no discurso de mulheres brasileiras.
UFF	2009	Doctorate	Languages	Solange Coelho Vereza	Ricardo Luiz Teixeira de Almeida	Metáfora conceptual e conhecimento nos discursos e práticas de professores do ensino fundamental.
PUC-SP	2008	Master	Linguistics	Sumico Nishitani Ikeda	Wander Marques Vieira	A metáfora e sua função persuasiva em artigos de opinião sob a perspectiva do SFL
PUC-RIO	2006	Master	Applied Linguistics	Tânia Mara Gastão Saliés	Marcia Oliveira Maciel Lopes	Leitura: uma categoria híbrida – pistas do discurso de professores da Rede Particular e Pública.
UERJ	2005	Master	Linguistics	Tânia Mara Gastão Saliés	Marileda Barbosa Estolano Morais	Reflexões sobre o processo de leitura de uma turma de 6a série do Ensino Fundamental: uma abordagem ecológica.
UEL	2003	Master	Sociolinguistics	Vanderci de Andrade Aguilera	Maria de Lourdes Rossi Remenche	As criações metafóricas na gíria do sistema penitenciário do Paraná

University	Year	Degree	Area	Advisor	Author	Title
PUC-SP	2005	Master	Brazilian Literature	Vera Bastazin	Cristiane Fernandes Tavares	Adélia Prado: uma poética de religião
UFMG	2001	Doctorate	Education	Vera Lucia M. de Oliveira e Paiva	Antônio Luiz Assunção	O poder do discurso e o discurso do poder: a construção do consenso nas flas do presidente Fernando Henrique Cardoso.
UFSM	2004	Master	Linguistics	Vera Lúcia Pires	Ediliane Brito de Araújo	As metáforas zoomórficas na Revista Capricho
UNICAP	2004	Master	Languages	Virgínia Colares S. Figueirêdo Alves	Katia Maria Gomes de Albuquerque	A metáfora na construção de sentidos pela criança com perda auditiva de grau moderado
UFRJ	2007	Master	Philosophy	Wilson John Pessoa Mendonça	Marcelo Carvalho Lyrio	Identidade humana e natureza do self.

APPENDIX B - COMPLETE RG LIST FROM *CNPQ*

#	Group	University	Leader	Research Area
1	GELP-COLIN, Cognição e Lingüística	UFC	Ana Cristina Pelosi Silva de Macedo	Lingüística
2	COMETA - Cognição e Metáfora	UECE	Paula Lenz Costa Lima	Lingüística
3	GEIM - Grupo de Estudos da Indeterminação e da Metáfora	PUC-SP	Mara Sofia de Toledo Zanotto	Lingüística
4	GELC - Grupo de Estudos de Lingüística de Corpus	PUC-SP	Antonio Paulo Berber Sardinha	Lingüística
5	Indeterminação e metáfora no discurso	UFF	Solange Coelho Vereza	Lingüística
6	GRECC (Grupo de Estudos em Crítica Contemporânea)	UNESP	Marcos Antonio Siscar	Letras
7	Fronteiras da Literatura	UFPI	Saulo Cunha de Serpa Brandão	Letras
8	GRUPO DE ESTUDOS EM FRASEOLOGIA	UFMS	Elizabete Aparecida Marques	Lingüística
9	Grupo de Estudos sobre Hipertexto, Arquivos Eletrônicos e Tecnologias Educacional – GEHAETE	UEPB	João Wandemberg Gonçalves Maciel	Lingüística
10	Hermenêutica, Fenomenologia, Teoria Crítica, Cultura, Educação e Memória	PUC Minas	Antônio Aurélio Oliveira Costa	Filosofia
11	Centro de Gestão Informacional: Arquivo, Comunicação, Linguagem e Cognição, Políticas Sociais no Contexto Nacional e Internacional	UEPB	Jacqueline Echeverría Barrancos	Ciência da Informação
12	Núcleo de Estudos de Práticas Psicológicas em Contextos Clínicos Ampliados	MACKENZIE	Paulo Afranio Sant'Anna	Psicologia
13	Núcleo de Estudos sobre Aquisição e Aprendizagem da Linguagem - CEAAL	PUC-RS	Regina Ritter Lamprecht	Lingüística
14	Núcleo Interdisciplinar de Pesquisa em Lingüística Aplicada (NIPLA)	UFPE	Jose Alberto Miranda Poza	Lingüística
15	Poéticas Digitais	USP	Gilberto dos Santos Prado	Artes
16	Psicanálise e Lingüística	UFRGS	Valdir do Nascimento Flores	Psicologia
17	Temáticas, narrativas e representações árabes, africanas, sul-americanas e de comunidades diaspóricas	USP	Paulo Daniel Elias Farah	Letras