METAPHORS AND GESTURES FOR ABSTRACT CONCEPTS IN
ACADEMIC ENGLISH WRITING

by

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ABSTRACT

Gestures and metaphors are important mediational tools to materialize abstract conventions in the conceptual development process (Lantolf and Thorne, 2006): metaphors are used in the educational setting to simplify abstract knowledge for learners (Ungerer and Schmidt, 1996; Wee, 2005); gestures, through visual representation, can "provide additional insights into how humans conceptualize abstract concepts via metaphors" (Mittelberg, in press, p. 23).

This study observed and videotaped four composition instructors and 54 ESL students at an American university to probe how their metaphorical expressions and gestures in a variety of naturally occurring settings, such as classroom teaching, student-teacher conferencing, peer reviewing and student presentations, represent the abstract rhetorical conventions of academic writing in English. By associating students' gestures with the instructors' metaphors and gestures, this study found evidence for the assistive roles of metaphors and gestures in the learning process. The final interviews elicited students' metaphors of academic writing in English and in their first languages. The interviewees were also asked to reflect upon the effectiveness of the metaphors and gestures they were exposed to.

This study confirmed the roles of gestures in reflecting the abstract mental representation of academic writing. Twelve patterns were extracted from the instructors' data, including the linearity, container, building, journey metaphors and others. Of these

twelve patterns, six were materialized in the students' gestural usage. The similarity of gestures found in the instructors' and students' data provided proof of the occurrence of learning. In the elicited data, students created pyramid, book, and banquet metaphors, to highlight features of academic writing in English and in their first languages. These new metaphors demonstrate students' ability to synthesize simple metaphors they encountered for a more complex one, which is more significant in the learning process. The interviews suggest that metaphors are better-perceived and more effective in relating abstract knowledge to the students. Gestures were not judged by the students to be helpful. This could result from the fact that gestures, other than emblems, are often understood unconsciously and are naturally used to provide additional information to the verbal utterance rather than replacing speech, which is more prominent perceptually and conceptually.

CHAPTER I: INTRODUCTION

How do people conceptualize writing in a language other than their native language? Is it similar or strikingly different? How do they learn to write and present an argument in another language, especially at a more abstract rhetorical level? How do they acquire and develop abstract ideas of writing in a different language? What might serve as useful pedagogical and mediational tools to help language learners/writers in this conceptual development process?

The current study aims to answer the above questions. Specifically, there are three research questions in this study. The first question probes how four composition instructors' metaphorical expressions and co-speech gestures represent the way they conceptualize EAP (English for Academic Purpose) writing. The second question examines how some ESL student writers' utterances and gestures represent the way they conceptualize EAP writing and whether the students' verbal or manual productions are inspired by the instructors' metaphorical expressions and/or gestures. The third question is on the pedagogical implications of whether metaphors and gestures are effective teaching tools in helping students comprehend and develop the abstract concepts of EAP writing.

To answer these questions, I observed and recorded four ESL (English as a Second Language) composition classes in an American university. The focus is on the instructors' metaphorical expressions of the writing process and structure, and their co-speech gestures regarding the overall structure of EAP writing in expository discourse for

the first question. To answer the second question, I recorded some ESL student writers' verbal and manual productions when they talked about different aspects regarding their own writing and their peers' writing in naturally-occurring settings, such as class discussion, group work, peer review, and conferencing with the instructors. In the data analysis part, I juxtaposed patterns found among the students that can be related to the instructors' patterns to demonstrate the occurrence of learning that resulted from what the students were exposed to. To answer the third question, at the end of the study, I interviewed eight participating ESL students to ask them to generate metaphors for writing at an academic level in English and in their native languages. Then these interviewees were asked to reflect upon their learning experience of EAP writing to examine whether the instructors' metaphorical expressions of writing and their gestures serve as useful pedagogical tools in the educational setting to help language learners acquire new/different concepts in a different linguistic/writing system.

The current study is designed with an interdisciplinary perspective, where conceptual metaphor theory, gestural studies, and contrastive rhetoric studies form a crossroads. Metaphor theory is relevant to this study in that metaphors are employed in classroom teaching as a mediational tool to help the students acquire the unfamiliar, abstract concepts of EAP writing by making use of knowledge that is already familiar to the students. Similarly, gesture, apart from being a vivid mental representation, is another mediational tool to help the genesis and developmental process of conceptualization. The mediational role of metaphors and gestures in the conceptual development process of language learners is an important area of Sociocultural theory (SCT) in the SLA (second

language acquisition) field. By associating the students' gestural usage to those of the instructors, be it verbal metaphors or manual metaphors, the current study aims to see how ESL students acquire abstract concepts of academic writing in English, when they are exposed to metaphorical expressions and/or gestures in the educational setting.

Cognitive linguists (Grady, 2005; Lakoff and Johnson, 1980; Quinn, 1987; Santa Ana, 1999; Ungerer and Schmidt, 1996) point out that metaphors are important tools to help humans make sense of the unfamiliar, intangible world through mapping it to the more familiar, physical world. The JOURNEY, BUILDING, WAR, CONTAINER, LENS, VOICE and CONVERATION metaphors are often seen in composition literature to represent how the writing structure and the process of writing are conceptualized. Metaphors are also used frequently in textbooks and teachings to help students comprehend scientific knowledge (Eubanks, 2001; McCarthey, 1994; Ungerer and Schmidt, 1996; Wee, 2005). Metaphor is an essential part of our daily life and it has significant impact; thus, one needs to be cautious in accepting metaphors since they might overshadow and marginalize perspectives and possibilities other than those highlighted in the well-established metaphors (Bowden, 1993; Matsuda and Jablonski, 2000). Metaphor theory has also received criticism for its lack of empirical data (Cienki, 2005). The current study is grounded in real data of how four composition instructors used metaphors while explaining the concept and the structure of writing in English for academic purpose to their students, and how these metaphors might inspire their ESL students in their conceptualization of writing, as reflected from the students' expressions

and gestural usages. This study also tries to show whether the incorporation of metaphors in teaching might be a useful strategy to help students develop a new knowledge system.

Contrastive rhetoric (CR) studies how languages might be organized differently across languages for persuasive power (Conner, 2002). Writing in the same genre, for example, academic writing might be conceptualized in a variety of ways according to the conventions across linguistic and cultural systems (Golebiowski and Liddicoat, 2002). In English, academic writing foregrounds the linear presentation of claims and evidence (Cmejrkova, 1996), which is described as the JOURNEY metaphor; while Teutonic/ German writing foregrounds the digressive development of the author's concepts and ideas (Cmejrkova, 1996), which is metaphorically described as a zigzag path. In Chinese, the "peeling the onion" metaphor (Shen, 1989) is used to indicate how the core is revealed after layers of meanings are presented beforehand. Finnish writers tend to conceive reflexive texts in academic writings as superfluous and "the sign of a poor writer" (Mauranen, 1993, p. 169). Anglo-American writers seem to be more concerned with guiding and orienting the readers as they use more metatext than Spanish-speaking writers (Valero-Garces, 1996). CR has impacted the teaching of writing in ESL and EFL classes since its inception with the understanding that learning to write in another language is learning to write to different standards and is more than switching linguistic codes. More researchers now agree that L2 writers should be taught different rhetorical strategies to negotiate with the conflicting rhetorical conventions encountered in different languages (Connor, 2004). The current study incorporates CR perspective to examine how metaphors and gestural usages of both the instructors and the students reflect the

way they conceptualize the rhetorical conventions of EAP writing. In addition, the metaphors for academic writing in English and in their first language generated by the students indicate students' awareness of the different rhetorical patterns of writing across languages.

Vygotsky (1962) held the view that as a mediational tool, gesture is significant in the learning and developmental process of children. It might be equally important in the developmental process of adult learners in acquiring abstract, scientific, disciplinary knowledge and/or in the language learning setting. Mittelberg (in press), through examining how linguists gesture while explaining intangible grammatical knowledge to their students, proved that speakers spontaneously draw on multimodal resources to convey abstract knowledge (p. 2). Mittelberg and Waugh (in press) emphasize that "due to its spontaneous and ephemeral nature, co-speech gesture allows insights into the dynamics of figurative thought" (p. 6-7) and "figurative thought is at the heart of meaning-making processes in both speech and manual modalities" (Mittelberg, in press, p. 2). As the direct representation of human mental activity, gestures could provide insight into how abstract concepts and structures are understood through the manual and visual modes (Enfield, 2005; Goldin-Meadow, 2003; Gullberg, 1998; Kendon, 2000, McCafferty, 2002, 2004; McNeill, 1992, 2000, 2005; Nugueruela, Lantolf, Jordan & Gelabert, 2004; Nunez and Sweetser, 2006). The current study focuses on gestures that metaphorically represent the overall structure of writing since "gestures can provide additional insights into how humans conceptualize abstract concepts via metaphor" (Mittelberg, in press. P.23). As a possible pedagogical tool, gestures are also employed

by instructors to make sense of the abstract, unfamiliar knowledge (Church, Ayman-Nolley and Mahootian, 2004; Corts and Pollio, 1999; Goldin-Meadow, 1999; Goldin-Meadow and Wagner, 2005; Lazaraton, 2004; Singer and Goldin-Meadow, 2005). Gesture cohesion is found among students participating in group discussion activities to reach mutual agreement and serve as assistance before scientific discourse emerges (Koschmann and LeBaron, 2002; Roth, 2000). Gestures seem to "instill some sort of sensorial reassurance in the students who need to orient themselves in new abstract knowledge domains; it can also be understood as making reference to visually represented words and sentences with which the students are familiar" (Mittelberg, in press, p. 23). Gestures might be pedagogical attempts at "making fairly abstract … concepts more understandable for the listener/viewer, by turning them into the visual and the embodied " (Mittelberg & Waugh, in press, p. 4).

Thus, the three theoretical frameworks intersect in that both instructors' and students' metaphors and gestures could represent the rhetorical patterns of EAP writing. Furthermore, metaphors and gestures are conceived of as mediational tools to assist concept development in Sociocultural Theory (SCT). SCT is a theory of mind "that recognizes the central role that social relationships and culturally constructed artifacts play in organizing uniquely human forms of thinking" (Lantolf & Thorne, 2006, p. 1). As a theory of mediated mental development, SCT believes that cognitive development is shaped by the culturally organized concepts appropriated through the activity of living. As one such activity, the school setting is significant in forming one's mental activity and abstract conceptual knowledge. Learning a new language is about "acquiring new

conceptual knowledge and/or modifying already existing knowledge as a way of re-mediating one's interaction with the world and with one's own psychological functioning"(Lantolf & Thorne, 2006, p. 5). Symbolic mediation includes not only speaking activity, but also writing and gesture. One of the research questions addressed in the current study is whether metaphors and gestures are useful mediation tools in "other-regulation" (mediation during social interaction among learners and between learners and instructors in the classroom setting). "Self-regulation" (how learners deploy L2 to regulate their own mental activity) does not fall under the scope of the current study.

When the study was originally designed, I expected to find illustrations of how gestures are employed by the ESL student writers to help each other acquire and develop the conceptual knowledge of EAP writing in ZPD activities. ZPD, Zone of Proximal Development, another important concept of Vygotskian view on learning and developing, refers to the difference between what one can achieve alone and what one can achieve with the help from others, be it an expert or someone less capable. In a series of studies, McCafferty (2002, 2004) focused on one ESL student's interaction with a native speaker of English. The gestures produced by both interlocutors were found helpful in creating a ZPD for language learning and teaching. In the current data, there are many instances of how the ZPDs occurred from the way the students' gestures reflect the instruction they were exposed to, which is taken as evidence for learning. However, since there are many interaction opportunities between the students, more instances of ZPD among peers were expected when the students interacted with each other. The data indicated only two groups' gestural usages were conducted to help the others articulate the concepts through

gestural cohesion. Other than that, I failed to detect significant examples or moments where gestures or metaphors were employed by the overwhelming majority of these ESL student participants in the ZPD to help each other in their interactive activities with their peers. This seems to indicate that the ZPD among peers needs a specific environment to occur. Detailed analysis of the reasons for the lack of peer ZPDs in the current data will be provided in chapter seven.

Lantolf & Thorne (2006) claimed that "the appropriation of cultural models, including conceptual metaphors…entails the use of meaning as a way of (re)mediating our psychological and, by implication, our communicative activity" (p. 118). It is possible that "conceptual knowledge can be effectively taught in the classroom setting if we are able to integrate appropriate materials and pedagogical practices" (Lantolf & Thorne, 2006, p. 118). Through associating students' verbal utterances and gestural usage to the figurative thought of instructors, the current examines whether metaphorical expressions, both verbally and manually, might be effective in teaching abstract knowledge to students. The final interview with some participating ESL students pointed out that in comparison with gestures, metaphors were generally perceived as useful, however, its effectiveness depended on a variety of factors.

In the following sections, I will first go over the relevant literature review of works on conceptual metaphor in chapter two with the focus on metaphors of EAP writing and how the explanatory potential of metaphors could be employed for pedagogical purpose. In chapter two, I will also briefly go over the different rhetorical patterns of academic writing in several languages. In chapter three, the literature review

on gesture focuses on how gestures can concretize our abstract concept/understanding in a visual mode and how gestures are used in a pedagogical setting as a mediational tool for scientific discourse. Due to the interdisciplinary nature of this study, many other issues in metaphor theory, contrastive rhetoric studies, and gestural studies are not addressed in the current study. What has been selected in the literature review provides direct support to the current study.

Chapter four provides an overview of the study, the procedures, participants and research questions. Chapter five moves on to analyze the metaphorical expressions and gestures used by instructors in their expository discourse while explaining EAP writing rhetorical pattern to the students. Chapter six looks at participating ESL student writers' verbal and manual productions regarding EAP writing. It is found that student writers' figurative thinking corresponds to a large degree to what they are exposed to through the instructors' talk. In chapter six, I will also analyze some elicited data of eight participating ESL student writers to study how they metaphorically distinguish between the rhetorical patterns of academic writing in English and in their first languages. The final chapter addresses conclusions and implications of the current study.

CHAPTER II: METAPHOR THEORY AND CONTRASTIVE RHETORIC-OVERVIEW AND RELEVANCE FOR THE TEACHING OF ACADEMIC WRITING

The focus of this study is on metaphors and gestures used by instructors while explaining English academic writing at the college level, and utterances and gestures of the students when they talk about specific writings in naturally occurred settings. In addition, in the final interview, there are elicited data of some participating students when they articulate their understandings of EAP writing and academic writing in their first language. Thus, metaphor, and in particular conceptual metaphor, lays the theoretical foundation of this study; so this chapter will start with a review of the literature in Conceptual Metaphor Theory. The elicited metaphors of academic writing in English and in the interviewees' first languages were strikingly different, which demonstrates that the ways in which writings and texts are conceptualized across languages are different. Based on that, the second part of this chapter is a review of the literature in Contrastive Rhetoric in order to indicate how across languages, academic writing demonstrates different rhetorical patterns. Thus, Contrastive Rhetoric lays another important theoretical foundation for this study to explain why different metaphors and gestures were produced by students from different cultural and linguistic backgrounds for academic writing in English and in other languages.

Metaphor Theory

General Overview

In 1980, Lakoff and Johnson published their seminal book, *Metaphors We Live By*, which laid the foundation of metaphors as powerful cognitive tools for the conceptualization and symbolization of abstract concepts that are not sensorial or perceptual in nature (Glucksberg, 2001, p. 4). Lakoff and Johnson (1980) claimed that metaphors are fundamental to the structuring of our thought and language, and that we frequently use the concepts and lexis from one semantic area to think and talk about other areas. In this way, metaphor is defined as "a conceptual mapping from one semantic source domain to a different semantic target domain" (Santa Ana, 1999, p. 194), which distinguishes from the way it is used in literature. Particularly pertinent to this study is the idea of conceptual metaphor, a connection between two semantic areas at the level of thought (Lakoff and Johnson, 1980), such as the metaphorical connection that seems to exist between anger and fire for speakers of many languages.

Metaphors work because "we borrow the embodied conceptual structure of the familiar to make sense of the target domains" (Santa Ana, 1999, p. 194). In essence, conceptual metaphors help people interpret the world around them through mapping from some source domain to a target domain (Lakoff and Johnson, 1980; Quinn 1987). Source domains are the parts of the physical world that are handy and familiar to us, and that as human beings, we can easily think about. Target domains are frequently abstract conceptual ones, hidden from our senses or otherwise unknown to us, often of the internal

mental or emotional world, sometimes of the social world, occasionally unseen and unknown domains of the physical world (Quinn, 1991, p. 57). The source domain is already known to the thinker and bears some relation to the target domain, so that the thinker can readily conceptualize the relations among elements in those domains and the changes that result in those relations (Quinn, 1991, p. 57). Ungerer and Schmid (1996) explained the feasibility of metaphoric mapping in the following way,

> the metaphorical mappings are derived from more general classes of objects, living organism and human beings into which we divide the entities in the world when we look at them. We understand abstract categories in terms of these general classes, because the specific way in which we interact with instances of the three classes is extremely familiar to us, and this interaction provides the source for the metaphorical mappings (p. 126-127).

Ungerer and Schmid (1996) also made it explicit that the cognitive model of abstract phenomena is grounded in basic experience and that metaphor theory is essentially a theory of the experiential view of language. Through "understanding and experiencing one kind of thing in terms of another" (Lakoff and Johnson, 1980, p. 5), metaphor, as part of cognitive linguistics, transcends the scope of being only a matter of a language to become an issue "of thought and reason" (Lakoff, 1993, p. 208) to explain how our understanding of abstract concepts is embodied in our sensorial experience. Human beings "rely on models of the concrete world to conceptualize abstract phenomena", and this conceptualization of abstract categories is "grounded in our experience with people, everyday objects, actions and events" (Ungerer and Schmid, 1996, p. 121-122).

Correlation is the basis for conceptual metaphor (Grady, 2005). Metaphors derive from recurring correlations between particular types of mental experiences. Normally a correspondence between elements in two distinct conceptual representations is needed for a metaphoric conceptualization to arise. The association between the two concepts of metaphor is often said to reflect shared features to align the two. However, there are many common metaphorical patterns which are not easy to account for in terms of shared features. Many of these turn out to be cross-linguistically common, suggesting that they have a basis in some fundamental aspect of human experience, thought, or language, and this motivation is apparently unrelated to similarity between source and target (Grady, 2005, p. 1599). For example, "cold" is found in unrelated languages such as Latin, Arabic, Indonesian, Chinese and Old Irish to refer to people who are "emotionally unresponsive" (p. 1599). Thus, certain metaphors are motivated by tight correlations in experience, rather than by features shared between source and target (p. 1600), though all metaphors can be plausibly traced to correlations in experience, which sometimes, but not always, reflect either a causal relationship or an instantiation relationship between source and target (p. 1602).

With the guidance of such a theory and the idea that "metaphors are not just a way of expressing ideas by means of language, but a way of thinking about things" (Ungerer and Schmid, 1996, p. 118), one can detect that our everyday language is rife with metaphorical expressions. We do not just exploit the metaphor linguistically; it is highly likely that we also think of or conceptualize the world in that way. Bowden (1995) used the "time is money" metaphor to illustrate this. Time is "readily viewed in terms of

money; people get paid for time they 'spend' on the job-often on an incremental, hourly basis- and work is frequently valued in terms of how much money can be earned per hour. The one, then, helps us conceive of the other and guides our thinking about it" (Bowden, 1995, p. 186). One constantly hears or uses the following expressions: "Don't waste time", "Do you have a few minutes?", "I spent two hours on this project", "I am running out of time now" and "It is definitely worth the time", etc. etc. Just like money, time is also a commodity; one can have it, run out of it, spend it, waste it or invest it. Compared with our ancestors, modern people seem to be heavily influenced by such a metaphor/concept when arranging their daily activities. Time is a precious commodity; a carefree period of time is a luxury. The least possible time invested and the most possible outcome yielded, the better. When China first adopted the Open and Reform Policy, "Time is Money" was even used as a slogan, hoping to change Chinese people's working habits for a higher working efficiency.

Numerous conceptual metaphors are used both in our daily language and in books. Some examples will be briefly listed here, such as bad is stinky, linear scales are paths, categories are containers, similarity is closeness, understanding is grasping, purposes are destinations, purposes are desired objects, relationship are enclosures, organization is physical structure. In the linguistic field (Lakoff and Johnson, 1980; Ungerer & Schmid, 1996), one commonly used metaphor is the conduit metaphor. Reddy (1979, p. 290) elaborated how this metaphor works: "(1) language functions like a conduit, transferring thoughts bodily from one person to another; (2) in writing and speaking, people insert their thoughts and feelings in the words; (3) words accomplish the transfer by containing

the thoughts or feelings and conveying them to others; and (4) in listening or reading, people extract the thoughts and feelings once again from the words". This metaphor becomes part of our daily language, and we constantly think of a good speaker as someone who can "get the thoughts across better". If we fail to do so, the mind "goes blank". Students are encouraged to "capture the idea in words whenever you have a good one" and "try to pack more thoughts into fewer words". As listeners, we should "pay attention to what is there in the words" so as to "extract ideas" out of it.

Metaphors also have the ability to simplify and concretize abstract ideas for us. Ungerer and Schmid (1996) used the metaphoric icons in the computer field as an example to illustrate how these user-friendly metaphors help novice computer users understand the operating system. The general metaphoric link between the category of OFFICE and computer is established when the computer is regarded as a "desktop" that can be tidied up. On the screen, there are "windows" that can be opened and closed. One can create "folders" for filing items; while processing a Word document, one can have a "clipboard" to temporarily store items; one can drop superfluous items into the "trash can", or "recycle bin". It is only when we compare these simple but rich explanations of programming functions with the kind of non-metaphorical, often abbreviated commands employed in specialist programs or the old DOS operating system (e.g. MD, meaning making a directory) that the value of such metaphors becomes appreciated. In addition to this OFFICE metaphor, ANIMAL and ILLNESS metaphors are also employed in the computer system. The trackball tool is referred to as Computer Mouse, which fully employs the outward appearance and the flexible possible movements of the mouse to tell

us how the Mouse works in the computer system. When the computer program malfunctions, we say there is a "bug" to indicate something is wrong in the program. When the computer is malfunctioning due to a malicious attack from an outside program, we say the compute is inflicted with a "virus", which reminds us of the scenario of a mysterious and invisible spread of viruses that cause an infection in the human or animal body.

Metaphors in Education

Metaphors are often employed in the educational field to help explain abstract complex ideas. As discussed earlier, conceptual metaphors can represent how we categorize the world cognitively. But could new metaphors change our current perception? Lakoff and Johnson (1980) reasoned that the meaning of a metaphor is partly culturally determined and partly tied to one's past experiences (p. 142). Words alone, as used in metaphors, can't change reality. However,

> what is real for an individual as a member of a culture is a product both of his social reality and of the way in which that shapes his experience of the physical world. Since much of our social reality is understood in metaphorical terms, and since our conception of the physical world is partly metaphorical, metaphor plays a very significant role in determining what is real for us (Lakoff and Johnson, 1980, P. 146).

If new metaphors represent changes in our conceptual system, these could "change what is real for us and affect how we perceive the world and act upon those perceptions" (p. 145-146). Thus the production of new metaphors could be taken as a sign of new knowledge being developed, and the delivery of new metaphors could be seen as a tool in such a development process. Following the same line, it is highly likely

that the new conceptual metaphors students encountered in L2 might result in their reconceptualization of certain ideas/concepts in L2, which might further lead to a change in the way they use (speak or write) in L2.

The function of metaphors to change existed perceptions matches the purpose of education where one could totally develop a new system or change the currently-formed concept of the world with newly-gained knowledge. Thus, the explanatory potential of metaphors to help clarify and simplify abstract notions and to obtain new knowledge explains how metaphors could be employed as mediational tools to help the reformation of the knowledge system. Such exegetical usages of metaphor in education have been documented as one of the venues for new knowledge: Ungerer and Schmidt (1996) claimed that metaphors are heavily employed in the scientific world. However, studies conducted in this area are not focused on how metaphors might change perceptions in L2.

Wee (2005) divided metaphors into correspondence type and class-inclusion type from the perspective of how metaphors are processed. The correspondence model of metaphor processes the information "by systematically mapping relations present in the source domain onto relations in the target" and it works by "connecting source and target in a structurally consistent manner so that particular relations between objects and their properties are preserved" (Wee, 2005, p. 221). In contrast, the class-inclusion model accepts that "in processing metaphorical language…instead of relying on correspondences between source and target, the class-inclusion model claims that the source domain is merely treated as a prototypical instantiation of a larger, newly created super-ordinate category, which is then seen to encompass both the source and target" (p.

221). Due to the radical differences, these two types of metaphors are used differently in different activities. Wee (2005) provided examples from textbooks to show that correspondence type of metaphors are used in explaining concepts that may be fairly technical or abstract to non-expert readers. For instance, in the section of a textbook where atomic structure and the vastness of the space that is present within an atom are introduced to the students, the textbook uses a metaphor of a pinhead situated within St. Paul's cathedral and asks the reader to imagine the distance between this pinhead and dust motes located at the far end of the cathedral. The textbook draws the correspondence between the space within the atom and the cathedral example with the sentence, "the pinhead represents the atomic nucleus; the dust motes are its retinue of electrons" (Wee, 2005, p. 227). This allows the reader to appreciate how much space exists within an atom. Without such a concrete analogy, it might take more time and imagination for the readers to comprehend the vastness of space within atoms.

Another example Wee (2005) used also comes from a physics textbook in which the difference between subatomic particles such as fermions and bosons is explained. The author of the textbook associates the orderly audience behavior in one concert to that of fermions, and the rowdier audience behavior at a rock concert to that of bosons to emphasize that fermions obey the exclusion principle in an orderly way while bosons do not. Most readers are familiar with, or at least they can image, how an audience might behave in a concert where classical music is played versus how an audience will behave at a rock concert. Without this metaphor, it might be relatively harder and more laborious to explain the distinctive features of these two particles within atoms. The above two

metaphors rely on the correspondence, i.e., on the similarity between an abstract field and the world familiar to non-expert readers to make abstract technical ideas easily comprehensible. Ungerer and Schmidt (1996) also used an example from physics where the orbit model of the solar system is borrowed in conceptualizing the orbit model of atomic structure which consists of a nucleus and electrons. Although also abstract, the orbit model of the solar system is a relatively familiar concept to many students in our educational system. They have seen the visual representation of it in textbooks. Students already understand that the sun is the core of the system and the other planets revolve around it and the sun and the planets interact with each other to reach the balance of the solar system. The application of such a model definitely helps students understand the arrangement of nucleus and electrons and the interaction between different particles within the system.

In the linguistic field, the explanatory potential of metaphor is also well employed to communicate the formation of words and sentences. For example, the BUILDING BLOCK metaphor is employed to help the analysis of compounds and composite expressions such as apple-juice and wheelchair. These compounds are constructed just as "we use bricks or concrete or wooden blocks in constructing a house" (Ungerer and Schmidt, 1996, p. 144). In terms of lexical association, the FAMILY metaphor is used to represent lexical categories, since the concept of "family" suggests similarity in outward appearance but at the same time allows for differences between individual family members. Similarly, in syntax, "distribution, immediacy, embedding, nesting,

transformation" metaphors are used to explain how different elements are combined or organized in sentences (Ungerer and Schmidt, 1996).

From the above examples, one can understand why and how metaphors are employed in the educational setting to help learners comprehend abstract, scientific and disciplinary knowledge. The next section will move on to explain those metaphors commonly used in the composition field.

Metaphors of Writing

A great number of metaphors are applied in writing classes to refer to different features of writing, because underlying metaphors could help writers generate specific concepts as they work on structuring texts (Miller, 1993). Metaphors are also viewed as "a particular type of scaffold, rich with possibilities for the teacher and students" in composition classes (McCarthey, 1994, p. 598). This idea is shared by Eubanks (2001) when he argued that metalinguistic metaphors have practical and ethical consequences for writers and composition teachers. Some commonly used metaphors of writing are the JOURNEY, BATTLE, CONTAINER and BUILDING metaphors (Ungerer and Schmidt, 1996, p. 123-124). The VOICE, LENS, CONVERSATION metaphors are also frequently encountered in comparison with the BRACELET and BREAD-BAKING metaphors. All of these metaphors will be elaborated here.

THE JOURNEY METAPHOR: The following expressions might be frequently used in writing classes: "We have set out to prove that…", "So far, we've seen that…", "We have arrived at a conclusion" (Ungerer and Schmidt, 1996) . From this, one can see that writing is a journey, through which one can proceed: one starts out somewhere and

arrives at a conclusion. One experiences some events during this journey and this experience might strengthen the established point of view or challenge that view. What we know about a journey in the physical sense is now applied to help writers think about how a piece of writing could achieve the same thing. A journey requires a starting point, and an ending point, corresponding to the introduction and conclusion of the essay. A journey defines a path, and one passes by other places in the journey, just as the reader passes all the body paragraphs to get to the conclusion. Some metaphorical expressions are entailed from this, such as one needs to "cover a lot of ground" in the writing and "going over something" in the writing, etc.

THE BATTLE METAPHOR, otherwise known as the "WAR METAPHOR" or the "POLEMIC METAPHOR": this metaphor is of specific pertinence to the argumentative essay. In English Academic Writing classes, both the textbooks and the instructors emphasize that an academic argument is radically different from the view of argument as fighting against the enemy. Academic argument is more like an educated conversation, supported by reasons and evidences. For the metaphor ARGUMENT IS WAR, we associate defending, destroying and defeating as facets of argumentative writing, and we understand argument in terms of hostility, contention and destructiveness, etc. (Eubanks, 2001). This metaphor will encourage writers to "attack every weak point of the argument", to "produce several illustrations to buttress the argument", and to "defend the position" (Ungerer and Schmidt, 1996).

THE CONTAINER METAPHOR: also known as "CONDUIT METAPHOR", "CHANNEL METAPHOR" and "CODE METAPHOR" (Eubanks, 2001). According to

this metaphor, "language contains meaning; speakers and writers use linguistic containers to send meaning to audiences; and, at the end of the line, audiences remove the unaltered meaning from its container" (Eubank, 2001, p. 93). This metaphor is part of an interrelated, dynamic conceptual system that includes the metaphors Language is Power, Writing is Conversation, Ideas are Products, Argument is War, and Understanding is a Journey (Eubanks, 2001, p. 94) to reveal the power of language and to reframe our thinking of writing. When one encounters expressions such as "the argument has holes in it", "your argument is vacuous" and "this is an empty argument" (Ungerer and Schmidt, 1996), one can immediately associate the container idea to essay writing: one needs to fill the container/essay with good points and facts for others to change their point of view or to see the writer's point; otherwise, the essay will be empty and fail its purpose.

THE BUILDING METAPHOR: A piece of writing is equated with a building where one starts with a foundation. This foundation could be associated to the thesis statement which is needed in EAP writing since all the supporting claims generate from the thesis statement. The foundation, or "thesis statement", is the basic, essential part of a building/an essay. A solid building also means all the sub-structures closely hinge onto the foundation. In the same way, a good piece of writing also needs a good structure and the structure/framework needs to be supported with specific materials. So if different parts of the essay are not closely related and lack solid facts as supporting materials, "the whole structure will collapse". If one has a good "groundwork", then one might be able to "construct a pretty solid argument" (Ungerer and Schmidt, 1996).

THE LENS METAPHOR: McCarthey (1994) documented one composition teacher using Contact Lenses Metaphor to suggest the filtering of the world/idea through a particular lens of the writer. The teacher said " you can look at things and have this really important issues in your life that just changes everything. … it (the contact lenses) changes the way I look at the world because I see things in a different way. When you're writing … and you get obsessed with something, something is so important to you, it's as if you've popped these contact lenses in" (McCarthey, 1994, p. 600). Just like wearing contact lenses could make one's vision clearer, penetrating into a certain issue from a certain perspective with detailed analysis could also help clarify one's own thought or magnify the object being discussed or gain a new perspective of analysis.

THE VOICE METAPHOR: This metaphor encourages the writers to express their own ideas in writing and make their own voice loud and clear to the readers, which is somewhat related to the LENS METAPHOR. In addition, the VOICE METAPHOR closely relates to the genre of writing and audience awareness as part of rhetorical concerns in EAP writing. Bowden (1995) traced the history and the rise of the VOICE METAPHOR in composition pedagogy. The VOICE METAPHOR, which emerged in the 1970s, remains popular among American composition teachers and has a strong presence in contemporary classrooms and discussions of writing (p. 173). Voice is identified as style, personal, stance, or ethos in writing. To explain the importance of different voices the writers take, Bowden used a metaphor related to clothing in saying that:

just as you dress differently on different occasions, as a writer you assume different voices in different situations. If you're writing an essay about a personal experience, you may work hard to create a strong personal voice in your essay… if you're writing a report or essay exam, you will adopt a more formal, public tone. Whatever the situation, the choices you make as you write and revise… will determine how readers interpret and respond to your presence in the text (Bowden, 1995, p. 175).

Thompson (2001) also recognized the importance of asking students to learn to converse with the readers in different voices in their academic writing, based on the audience, the purpose of writing, and the type of writing students engage. He conveyed the idea that students should take on different voices just as they take on different assigned roles in dialogues and role-plays. VOICE METAPHOR in composition is thus closely related to the different styles and formalities of writing.

THE CONVERSATION METAPHOR: McMillen and Hill (2005) reported a study of how librarians and composition instructors integrated the research process into English composition by selecting CONVERSATION as a metaphor for research. In their teaching, the librarians and the teachers borrowed Burke's (1941) idea in breaking down the formidable task of research as conversation, a phenomenon familiar to all students. They articulated that

Imagine that you enter a parlor. You come late. When you arrive, others have long preceded you, and they are engaged in a heated discussion, a discussion too heated for them to pause and tell you exactly what it is about. In fact, the discussion had already begun long before any of them got there, so that no one present is qualified to retrace for you all the steps that had gone before. You listen for a while, until you decide that you have caught the tenor of the argument; then you put in your oar. Someone answers; you answer him; another comes to your defense; another aligns himself against you, to either the embarrassment or gratification of your opponent, depending upon the quality of your ally's assistance. However, the discussion is interminable. The hour grows late, you must depart. And you do depart, with the discussion

still vigorously in progress (Burke, 1941, p. 110-111, cited in McMillen and Hill, 2005, p. 6).

Such a metaphor draws upon and emphasizes the following parallel features between conversation and research process: learning to research is similar to learning how to converse; conversation and research are both interactive and recursive processes, context sensitive, and situated with the potential of meaning construction. By using the model of conversation, the teachers can provide a common terminology to talk about research (McMillen and Hill 2005, p. 9). Research as a conversation implies participation and engagement with interested others as well as the idea of exchange and interaction (p. 13). Similarly, the CONVERSATION METAPHOR could also be applied to writing since the writing process itself is regarded as a dialogue between the readers and the writer. In this sense, it emphasizes the essential nature of language as a dialogue, regardless of the immediate physical presence of an interlocutor. The purpose of writing is to inform readers or to persuade readers to take a new perspective. To achieve that purpose, the writer usually has a vision of who the prospective audience might be and what they already know, and their major concerns. Based on that assumption, the writer will plan what to present in the writing. When the article is circulated, there will be readers interacting with the writing, agreeing or disagreeing with the writer. The interaction and writings that are inspired from it will keep the conversation ongoing. The CONVERSATION METAPHOR is particularly pertinent to academic writing and academic argument to help writers choose proper information and evidence in their writing for the targeted audience.

THE BREAD-BAKING METAPHOR: Those metaphors discussed above apply to the writing, but not the process of writing. When the teaching of composition switches from the product-orientation method to the process-orientation method, there are some metaphors referring to the process of writing. Bread baking is one of the metaphors used by the participating instructor in McCarthey's (1994) study to their sixth-grade students. The instructor said,

> It's like you start off with this lump of dough, and you have the yeast and the flour and the water, and then you like knead it and pull it and push it in different directions. I know when I first made bread, I couldn't believe that lump of stuff was ever going to be a loaf of bread… And sometimes I think about my notebook that way. Like I'm starting with this thing here, and I don't know yet what it's gong to turn out to be. I'm going to work with it for a while. I might push it and pull it and stretch it and try to think about it in different ways (McCarthey, 1994, p. 598).

This metaphor vividly tells the students that writing cannot be finished at one step. It also encourages the students to try different ways to organize the essay. When one starts out making bread/starts writing, one is not necessarily sure how the food or the paper will turn out to be, as there are different ways to make them a final product. However, this metaphor presupposes that all the ideas are already there and there is no need to change them in the writing process. This is somewhat similar to the STAGE METAPHOR of writing process where students are recommended to start from the brainstorming stage to generate ideas, then the outline stage to briefly comb through the ideas, then the writing and revision stage. These metaphors are either explicitly or implicitly emphasized in the writing class, however, they are somewhat misleading. In reality, the stages of writing are not clear-cut and writers often go back and forth between

stages. Rather than having a fixed number of unchanged materials/ideas, experienced writers often replace unnecessary or unimportant ideas with more effective points and examples in the writing process.

Flower and Hayer (1981, p. 366) proposed that the process of writing should be best understood as a set of distinctive thinking processes which writers orchestrate or organize during the act of composing. These processes have a hierarchical, highly embedded organization in which any given process can be embedded within any other. This writing process implies that "writers are constantly planning (pre-writing) and revising (re-writing) as they compose (write), not in clean-cut stages" (Flower and Hayer, 1981, p. 367). The cognitive metaphor better reflects the dynamic nature of the writing process and the stage metaphor implies that the composing process is a linear sequence of stages, separated in time, and characterized by the gradual development of the written product. The stage metaphor also fails to address the "inner processes of decision and choice" when one tends to "take the final product as their reference point" to offer "an inadequate account of the more intimate, moment-by-moment intellectual process of composing" (Flower and Hayer, 1981, p. 367). The different ways to interpret writing processes under the stage metaphor and the cognitive metaphor define how one conceptualizes the writing process and what one will do while composing, as Flower and Hayer compared in the following way:

> in a stage model the major units of analysis are stages of completion which reflect the growth of a written product, and these stages are organized in a linear sequence or structure. In a process model, the major units of analysis are elementary mental processes, such as the process of generating ideas. And these processes have a hierarchical structure such that ideas generation,

for example, is a sub-process of planning. Furthermore, each of these mental acts may occur at any time in the composing process. One major advantage of identifying these basic cognitive processes or thinking skills writers use is that we can … look at writing in a much more detailed way (Flower and Hayer, 1981, p. 367-368).

Metaphors Gathered from Composition Instructors in an American University

The above examples are metaphors about writing presented in the literature. I also emailed the composition instructors in an American university to collect the metaphors they used in their teaching. The answers received included the scale, car riding, sandwich, party, umbrella, human body, river flowing, and sewing metaphors. Each of these targets a different feature of the writing. For example, a good piece of writing is believed to share the same features as a scale. Different parts of the essay should bear different weights and one needs to take that into consideration to write a balanced paper. The car-riding metaphor is about the importance of a proper conclusion or a needed explanation section from the perspective of the audience: while reading an unfinished article or an unexplained point, readers feel like they are sitting in a car in which the driver/writer slams the brake on but the readers/passengers still go flying forward while the car/article/ point stops. This is where readers are left: in an unexpected position where they are still moving.

The sandwich metaphor is used when the instructors tell the students how to use quotes. The top bread equals the sentence where the quote is introduced, the meat is the quote itself and the bottom bread explains the significance of the quote. Another metaphor for the integration of sources is the metaphor of a cocktail or dinner party. The

writer is the host. The reader is a guest, as are all the sources. The writer must introduce the sources to the reader and also explain why they are credible "guests".

A variety of metaphors are employed to describe the movement of ideas in the essay, such as sewing or weaving so that the paragraphs transit seamlessly. The transitional part of the essay is regarded as chain link (linking paragraphs in terms of transition language), which is similar to the bracelet metaphor when all ideas are connected to form one circle. A river flowing down the mountain to its destination applies to the organization of the essay. The paragraph has to be where it is because it belongs there and the essay has movement, has flow.

For the overall structure of the essay, the human body metaphor is used: the thesis is the brain/head, the supporting paragraphs are the ribs and the legs are the conclusion. Another metaphor for the same purpose is an "umbrella metaphor": the surface of the umbrella is the thesis; it is a guide to the rest of the essay, so it should be comprehensive. However, the surface will not stand alone. It needs support from the branches, the supporting ideas in the topic sentences, and evidence. This umbrella metaphor also highlights the relation between the thesis and the topic sentences.

Criticism and Caution

Metaphors are powerful in shaping how we look at the world and how we conceptualize abstract ideas. As Bowden (1995, p. 186) said, "all metaphors foreclose on other ways of perceiving experience. Thus it becomes important to question why and how we use metaphors and to assess their merits in terms of changing goals, ideas, and values, especially those metaphors involved in something as consequential as teaching writing".

Since the composition field is rife with metaphors, one needs to be cautious about how these metaphors could impact the writing class. Bowden (1993, p. 364) illustrated how casting, recasting, sculpting, sewing and tailoring metaphors are used to refer to the process of revision and how students might perceive the process of composing in terms of an assembly line in a linear fashion, especially from the sewing and tailoring aspect. As a matter of fact, writing is nonlinear in nature, and this is more properly represented in the discovery metaphor. Bowden also argued that the extensive use of "writing as container metaphor, the idea of containerization, the in/out orientation… puts too many constraints on the ways texts are understood and treated" (p. 365). This in/out orientation and the container metaphor give a text a bounded space within which elements such as assertions, examples, news, time sequences, arguments, etc., can be located. Such an orientation is also prevalent in the writing process, for example, "planning calls for you to gather ideas and think about a focus, shaping calls for you to consider ways to organize your material, revising calls for you to evaluate your draft and based on your decision, rewrite it by adding, cutting, replacing, moving- and often totally recasting materials" (p. 365). So writers gather ideas to put in the paper, shape or recast the paper to make things fit, and in so doing, give the paper more substantive boundaries. Just as a container with holes is often considered substandard because it will leak, a text which is "full of holes" or a text in which "there are some gaps in the argument" is not acceptable. Although powerful, this metaphor is subject to restrictions and limitations. Furthermore, when students "are encouraged to pour what is in their heads onto paper, they are being encouraged to view not only the text as a container but the mind as well… they are being asked to subscribe

to a view of knowledge that enables its transfer from one container to another" (p. 373). Containers also make it easier to "subscribe to rule-governed systems for composing. Implied boundaries protect the contents of a paper from outside influences" (p. 375); thus students might feel resistance to change or revision. Instead, Bowden argued that writing should be "considered to be part of a process- the actual text being only one (temporary) stage" (p. 375). He suggested alternatives to this container metaphor to invoke action rather than the construction to discuss writing using metaphors of discovery, play, conversation, nurturing, managing, and drafting, etc. (p. 376) to encourage students to be more creative, expressive and not confined by the norm.

Another often heard metaphor is "writing is a second language" and everyone needs to learn how to write. On one hand, this metaphor emphasizes the difference between oral and written language and the fact that no one is born a good writer. On the other hand, Matsuda and Jablonski (2000) argued that this metaphor can "mask the complexity of second-language learning" and lead to the "marginalization of second-language writers" in the writing program (p. 1). This L2 metaphor of writing for a specific discourse vividly captures the learning nature of writing for everybody. It also reflects the student writer's experience of mastering both the language and culture of academia in the way second language learners face intellectual and psychological challenges (p. 3). However, it ignores the extra difficulty L2 writers face and the extra assistance they need in the composition class. Matsuda and Jablonski (2000) reasoned that "if writing in various disciplines is more difficult for students from different ethnic and class backgrounds, it is even more so for second-language writers who do not even

share the linguistic background" and who are "literally learning a second language in addition to learning various disciplinary 'languages'"(p. 3). The consequence of this metaphor is that "writing specialists in composition studies remain unprepared to work with ESL students who, after finishing ESL course, are also enrolled in writing programs at all levels" (p. 4). They cautioned against the uncritical acceptance of this L2 metaphor being applied to all writing classes, regardless of the student body.

Another major criticism of metaphor theory is its lack of real grounded data. For example, Lakoff (1996) proposed the "strict father" and "nurturant parent" model in political discourses in the US, as represented by the two major political parties. The "strict father" metaphor is based on a model of the traditional nuclear family, hierarchically structured in which the father is the authority figure and breadwinner, the mother upholds the father's authority and takes cares of the household, and the children must learn to respect their parents' authority. Under this model, strength is highly valued. The "nurturant parents" model, on the other hand, emphasizes the horizontal structure of the family as a team working together. Under this model, nurturance is prioritized over strength. Some examples are morality is empathy, moral action is nurturance, and moral growth is physical growth. Cienki (2005) tested these empirically over the three debates held between George W. Bush and Al Gore in their 2000 presidential election debates. In the approximately 41,000-word corpus, there were only 48 metaphorical expressions belonging to either of the above two metaphoric models. Although metaphors were found, Cienki (2005) argued that it was not as important in our daily life to influence how we

look at the world as metaphor theorists claimed. To better develop this field, there is the urgent need to collect data from real life, from real language use.

Metaphors are also largely culture-specific (Quinn, 1991) and metaphors for writing in one language may not apply to another language. The zigzag path of writing in the Romance languages is regarded as superfluous and irrelevant to English readers, based on their own point of view of the linear standard. The "peeling the onion" way of writing in Chinese (Shen, 1987) also fails to work in English academic writing. These different standards represent how ideas are selected and organized in writing across languages, which will be analyzed in the next section of contrastive rhetoric.

Contrastive Rhetoric

General Overview

Rhetoric studies the way in which writers put together language to affect audiences. Contrastive rhetoric (CR) studies indicate that "different languages have different rhetorical preferences in textual organization, preferences reflected in syntactic and other textual differences, particularly among those features considered to be discourse sensitive or to influence the structural organization of the text" (Grabe and Kaplan, 1989, p. 264). How writing is structured is deeply embedded in its linguistic, cultural, and historical background, and audience expectation. As readers, "we tend to respond to texts on the basis of our culturally learned expectations concerning good writing and persuasive argumentation. If texts do not meet these expectations we tend to perceive them as unconvincing, incoherent, or even illogical. For most people, good

writing reflects good thinking, and textual expression is inseparable from the content or flow of argumentation" (Mauranen, 2003, p. 158).

Though arranging information in the order of given-new information is perhaps the most significant aspect of writing in terms of linguistic patterning, there are still variations in how the overall information is approached in writings across languages. For example, in Chinese, an essential rule of logical organization is "from surface to core" (Shen, 1989) while an essential rule of logical organization in English is the use of topic sentences. In Chinese, one needs to reach a topic gradually, systematically, instead of foregrounding it abruptly at the beginning. One metaphor for the Chinese rhetorical pattern is "peeling the onion", meaning one has to peel off layers of ideas to get into the core-the essence/the deeper meaning of the essay. Misapplying either one in the wrong language context might be regarded as illogical. Such differences could be traced to a cultural and social basis: the use of topic sentences in English keeps up with the fast-pace in industrialized societies and satisfies the busy readers' needs by highlighting the most important idea at the beginning. In contrast, preparing and leading the readers gradually to the main ideas in Chinese keep up with the "values of a leisurely paced society whose inhabitants have the time to chew and taste a topic slowly" (Shen, 1989, p. 462). A sense of refinement is ideal in the Chinese composition as it attempts to arouse the readers' interests little by little. Not only would the straightforward approach of writing in English be regarded as illogical, but it also would lose aesthetic beauty according to the standard of good writing in Chinese (Li, 1996).

Kaplan's earlier study of CR is contentious due to the lack of control of genres and authorship. His general distinction of the linear development of Anglo-European expository essay, parallel coordinate clauses in Semitic languages, indirect approach and end-focus strategy in Asian languages and incorporation of irrelevant materials in Romance and Russian languages are heavily attacked. Kirkpatrick and Yan (2002) studied several Chinese academic journals and found that Chinese scholarly writers can present their voices at the beginning of an article and use outside citations consistently, which make their writing conform to that of EAP (English for Academic Purpose) by demonstrating a linear pattern and an initial-focus strategy.

Later CR studies on similar genres of writings across languages demonstrate the existence of different rhetorical patterns, mostly from different audience expectations (Conner, 1996, 2002). Since its inception, CR has had a significant impact on the teaching of writing in both ESL and EFL classes because of its concern about the interference "in the writer's choice of rhetorical strategies and content" (Conner, 2002, p. 494) and the claim that students should be "taught to negotiate conflicting rhetorical structures to their advantage" (Connor, 2004, p. 27).

Bilingual writers are anticipated to demonstrate different rhetorical patterns from monolingual writers since they are under the influence of two writing/rhetorical systems and their L2 writing normally deviates from the writings of native speakers. Some CR studies indicated that ESL writers used different rhetorical patterns at the linguistic level in their English writing than those demonstrated in the writings of monolingual English speakers. For example, Reid (1992) compared 768 essays written in English by native

speakers of Arabic, Chinese, Spanish, and English for the distinctive features in the use of cohesion devices such as coordinate conjunctions, subordinate conjunction openers and pronouns. NSs used far fewer pronouns and coordinate conjunctions, which represents the more formal, detached, informational high-density prose expected by the US academic audience. Arabic writers used the most coordinate conjunctions of all groups, as Arabic prose uses repetition, balance, and coordination more. Hinkel (2001), from her large corpora of American university placement essays written by NSs and advanced NNSs including Chinese, Japanese, Korean, Indonesian and Vietnamese, found that NNSs used significantly more example markers, first and third person pronouns, and past tense verbs (as story narration) in their academic prose. The tendency of NNSs is interpreted as their reliance on less academically-oriented forms of argumentation when they do not know how to use the conventional academic forms. Berman (1995) examined essays written by Hebrew-speaking writers of English and native English students and he found that Hebrew student writers tended to postpose noun-modifying elements and use repetitive morpho-syntactic and lexical materials in their academic writing in English.

Valero-Garces (1996) compared economics texts written in English by Spanish scholars and English scholars and found that despite a relative uniformity of academic papers, there is intercultural variation in the rhetorical preferences of writers in terms of metatext (text about text), such as preview (e.g. in this lecture I propose), tactical enumeration (e.g. first we shall), topic shift (e.g. turning to another matter), review (e.g. up to this point we have shown that), conclusion (e.g. to sum up), and forecast (e.g. in my next chapter). Anglo-American writers seem to be more concerned with guiding and

orienting the readers as they used more metatexts than the Spanish-speaking writers. The English writers make an explicit conclusion and offer a summary of the text and evaluate the conclusion, which is missing in the writing by Spanish scholars. The English writers also show more explicit presence of the authorship in the text when author names are explicitly mentioned in the sentences while Spanish discourse tends to put authorial reference in parentheses. Editorial "we" is used by Spanish writers even when the article is written by a single Spanish writer. Thus, the Anglo-American texts reflect a more reader-oriented attitude, and a generally more explicit textual rhetoric, while Spanish-speaking writers put a greater emphasis on propositional content and favor a more impersonal style of writing with a greater tendency towards implicitness in their writing.

Rhetorical differences at the linguistic level also manifest themselves when we compare writings produced by native speakers in different languages. Anglo-American writing tends to employ more of text reflexivity (otherwise known as metatext and metadiscourse, the part of text which comments and explains the text and orients the reader towards the author's perspective, distinguished from the propositional content of the text, such as "In this article, we focus on…, The next section will introduce…, etc.) than Finnish writers (Mauranen, 1993). Finnish writers tend to think reflexive texts are "superfluous decoration", "the sign of a poor writer" (p. 169). They characterized reflexive texts as "didactic, interfering and patronizing" and "saying obvious things can be felt to be condescending" (p. 169). Instead of explaining the text directly to their reader with the help of reflexive expression, they establish the common ground between

writers and readers by giving plenty of background information before they get to the most important matters as a way of providing advance orientation.

Shaw (2003) indicated that in French and Italian the passive voice is used to encode established procedures in the methods section, while in Spanish the pronominal passive voice is used for the same purpose. In scientific Polish and German articles, passive constructions are used as hedging devices to allow authors to hide behind their texts and avoid personal claims. Cuenca (2003) contrasted the use of reformulation markers (or, that is, i.e., namely, in other words, to be more precise, this means, etc.) in English, Spanish and Catalan academic writing. Spanish and Catalan used more reformulation markers and more variety of such forms than English. This difference could be related to the overall rhetorical preference among these languages: Spanish academic prose is less concise than English academic prose, and Catalan expository prose ranges in the middle. Variation is considered a sign of formal style in Spanish and Catalan, and the form explained in other expressions is also considered relevant not tangential, in contrast to linearity in a restrictive sense in the Anglo-Saxon culture.

When the narrative genre across languages is compared, different studies came out with different results. Erbaugh (1990) found no difference in terms of the linear organization of the story plot in oral narration between Chinese and English speakers. Both groups of speakers began by introducing characters and setting and described actions chronologically and concluded the story with an explicit ending. Indrasuta (1988) also found that Thai narration and English narration by school students used the same chronological order of plot and the same pattern of organization: introduction, sequential

action, complicating action, climax, and ending. However, Thai students used more figurative language such as metaphor, simile and personification than American students, and the explicit moral theme in Thai narratives is not seen in American narration because narratives serve as the vehicle for exposition and instruction other than entertainment in Thailand. Li (1996) investigated narratives selected as good writings by composition teachers in China and the US, and compared the evaluations of these narratives by teachers in the two countries. She found that the criteria of good writing held by the teachers are "shaped, transformed, and determined to a large extent by the historical, social, and cultural forces that are beyond an individual's control, and the influence of which no individual can escape"(p. 2-3). For example, poetry seems to be the model of good writing in Chinese and science the model of good writing in English. Thus, "natural" language is to American what "beautiful" and "lyrical" language is to the Chinese. The Chinese teachers "prefer writing that demonstrates a good grasp of vocabulary, history, and classic works, uses vivid imagery, and employs a variety of rhetorical devices. The use of the colloquial and the vulgar is considered a lack of elegance and beauty and is looked down upon" (Li, 1996, p. 65).

Contrastive Rhetoric Studies of Academic Writing

Since the current study focuses on teaching and learning English academic writing, we will now turn to CR studies of academic writing, in particular the structural pattern, on ESL/EFL writers and writers across languages. When the genre is confined to academic writing, some studies still support the general distinction of Kaplan's early article of linearity and digressive patterns of writing in different languages. Golebiowski

and Liddicoat (2002) supported Kaplan's claim that Romance languages have a digressive approach to paragraph structure in which "side issues" are incorporated into the unfolding paragraph, in contrast to the linear development in English. However, digressive texts "are considered well developed and orderly by their authors and readers" (p. 63). The Romance languages view digression as enriched and a valued commodity in such texts, aiming at the "enhancement of reader-writer reciprocity rather than its hindrance" (p. 66), though it is seen as redundant and intrusive and creating swerves of topic in the flow of argumentation in the English texts.

Clyne (1987) indicates that English writers provide linear development in articles and restricted branching propositions and produce sections of more or less the same proportions, while German writers use purposeful digressions and repetitions and constructe disproportionate sections. Following Clyne, Cmejrkova (1996) also testifies that American/English writing is reader-friendly and tends to foreground the linear presentation of claims and evidence, while Teutonic/German writing is writer friendly and tends to foreground the digressive development of the author's concepts and ideas. The linearity in English means the burden is on the writer to present a tightly focused argument in a text made accessible to the reader through the use of organizational transitions and other metadiscourse signals. In contrast, the digressiveness in German means the burden is on the reader to follow the elaborated line of thought developed by the writer in a text largely without explicit organizational signals. This digressive development is characterized by indirectness, multiple definitions from slightly different perspectives, delayed presentation of thesis, and lengthy accounts and evaluation of

reasoning. The text is conceived not as a dialogue with the reader, but as the writer's monologue. The differences between these two writing norms might lie in "historical circumstances of the development of the so called intellectual styles" and "cultural aptitudes and inclinations manifested in the writing patterns" (p. 137). German texts aim at providing readers "with knowledge, theory, and stimulus to thought" (p. 144) and readers have been "trained to read between the lines and to infer that is text immanent" (p. 145). In addition to the delay in the articulation of the main purpose of the text in German, a writer has "no restriction placed upon him or her with respect to adding more and more new information, to making digressions or to providing the reader with as much information and as many standpoints as possible" (p. 145). They are "less likely than English academic writers to show the reader the formal structure of the text, dividing it into sections and entitling them: introduction, purpose, materials, method, results, discussion, conclusion, remaining issues, etc." (p. 150). The requirement to follow such a pattern was considered tough and rigid to them.

While comparing medical and economics research articles by Finns in Finnish and in English and by NSs of English, Mauranen (1993) finds Finns prefer end-weight/ final focus strategies to report previous research first and reserve the main point for the conclusion while Anglo-Americans tend to start with the central claim of the paper with the initial-focus strategy. The Finnish articles tend to begin with a very general issue which does not provide clues about the central argument of the text. The topic remains unexplained until the very end. To readers with more Anglo-American expectations, the final-focus strategy of Finnish academic writing lowers the credibility of the author

together with the factor that Finnish writers use fewer linguistic means to signal the presence of the author.

Kusel (1992) studied coursework essays written by undergraduate students in English by L1 English speakers and ESL writers from five subject areas: teacher education, English literature, history, geography, and language teaching. Despite the common purpose to set out facts, observations, and opinions in these expository essays, the distinguishing feature of indicating a gap between knowledge and practice in the current field is only prominent in essays in the Teacher Education field, although essays in all five areas claim a central importance for the topic and provide the topic statement as background. It makes sense for students to study subject-specific texts written by and for their specialist discourse community.

The awareness of disciplinary difference is brought into CR studies to question the universality of the genre of academic writing (Dudley-Evans, 1997; Golebiowski and Liddicoat, 2003; Holyoak and Piper, 1997; Mauranen, 1993), when in fact, both national rhetorical styles and disciplinary conventions affect strategic choices in academic writing. Golebiowski and Liddicoat (2002) argued that contrastive rhetoric studies tend to claim a degree of uniformity in text construction both at the level of culture and at the level of discipline. They divided texts into text of the culture and text of the discourse community:

> Texts of the culture are the primary text types which are taught to all members of the culture through the education system and which are viewed by the culture as basic types of texts. Texts of the discourse community are specialist texts used by a restricted community for highly specific communicative purposes. They have highly specialized conventions which relate to their

particular needs. Internationalist discourse communities, such as the sciences, tend to adopt a specific type of text which is recognizable across languages as a text of the discourse community. These texts appear to be heavily influenced by English language text types which are currently predominant in scientific communication. More culturally-centered discourse communities, such as literature studies, however, adopt text types which are more congruent with the texts of the culture. That is, discourse communities with culturally salient content are more likely to be influenced by the existing cultural practices of what constitutes good writing than discourse communities which have content which is less culturally salient. (p. 64).

The discipline and culture should be considered as complex and interrelated at several levels in specialized academic texts. Holyoak and Piper (1997) also argued for the distinction between scientific or empirical writing on the one hand and expository writing (as broadly defined in the humanities) on the other hand. The dominance of British and American English in scientific research and literature and international conferences make this discipline most affected by English rhetoric and "less prone to some of the purely local influences" (p. 135). Golebiowski and Liddicoat (2002) supported this distinction and pointed out that humanities sciences such as literature in French and Spanish tend to follow more digressive patterns in these two languages, while hard sciences texts in these two languages demonstrated a dominant pattern of linearity, as often seen in English.

Quite a number of studies are conducted to examine how introductions to academic texts are set up across languages, following Swales (1990) model of CARS (Creating A Research Space). There are three moves in CARS: move 1, establishing centrality; move 2, establishing a niche; and move 3, occupying the niche. Studies proved that the CARS model is a model schema in the Anglo-American academic writing context. Lee (2000) investigated introduction of research articles in linguistics by Korean

national scholars, US-educated Korean scholars, and American scholars. US scholars and US-educated Korean scholars do not show deviation in terms of the introduction: both established a territory for their studies by citing the works of other researchers. The Korean national scholars have much shorter introductions with no citation. They also lacked Moves 2 and 3 in their introductions. Such a difference is explained as the unacceptability on the Korean national scholar's parts to identify names and summarize others' works in academic discourse, especially when they will proceed to expose the weakness of the previous studies in Move 2 with the focus on the gaps or the shortcomings of previous research.

Fakhri (2004) examined the introduction paragraph of 28 published research articles from the humanities and social sciences field in Arabic. Eleven articles exhibited some instantiation of the three moves proposed in the CARS model while the rest clearly differed. Discussions of previous research in introductions are extremely rare and reference to previous research is often "vague and rather casual" (p. 1129). Those Arabic scholars did not criticize or challenge the cited works as a means to establish a niche. Taylor and Chen (1990) revealed significant differences in terms of how Chinese and English scholars treated previous studies in the introductions of research articles in the hard sciences field: the Chinese scholars provided less extensive discussions of other scholars' works, as evidenced by the number and length of the citations. They proposed that the unacceptability of confrontational styles in the Chinese socio-cultural context might explain the lack of discussion of others' works. Ahmad (1997) found the same pattern of avoiding evaluation and criticism of previous studies in the introductions of

Malay research articles in the hard sciences field. The Thai scholars in the Jogthong (2001) study also tended to avoid challenging others' researches. They exhibited little assertiveness and even engaged in self-criticism of their own works at the beginning. They also failed to reveal their findings in the introduction, thus missing a major strategy in the CARS model. Shaw (2003) studied published economics articles by Danish authors in Danish, by the same authors in English, and by NSs in English. The Danish writers are less inclined to use the "gap" move especially when writing in Danish while the native English speakers are "markedly more inclined to use a gap" (p. 353). All these studies prove that the CARS model is ethnocentrically based on Anglo-American academic writing.

Problems of Contrastive Rhetoric and Impact of Contrastive Rhetoric Studies on Composition Teaching

CR, when associated with contrastive analysis, is characterized as "static" when more dynamic and complex issues of context and personal experience are ignored (Holyoak and Piper, 1997). CR was particularly criticized for being ethnocentric (Reid, 1992; Connor, 2002) when it highlights the "cultural dichotomy between East and West and the alleged resulting promotion of the superiority of Western writing" (Connor, 2002, p. 493). Kachru (1997) emphasized the need to break down English rhetoric, as there are differences among the varieties of Englishes. He is concerned that the current field is so controlled by the native English-speaking world that "any view of rhetoric that shuts out a majority of people from contributing to the world's knowledge base, and legitimizes such exclusion on the basis of writing conventions, hurts not only those who are

excluded, but also those who would benefit from such contributions" (p. 344). Instead of "putting all the responsibility on the writers from the wider English-using world, the readers from the native English-speaking world must share the responsibility of making meaning" (p. 344).

CR studies have moved on to compare discourse structures across cultures and genres (Connor, 1996), issues of reader/writer responsibility (Hind, 1990), and the organization of information in research papers (Swales, 1990). The current field has gone beyond the study of ESL or EFL student writings to incorporate factors from multiple sources such as "L1, national culture, L1 educational background, disciplinary culture, genre characteristics, and mismatched expectations between readers and writers" (Connor, 2002, p. 504) to "contribute to knowledge about preferred patterns of writing in many English for specific purposes situations" (p. 493).

One heated pedagogical discussion of CR studies is the ideological problem "regarding which norms and standards should be taught" since "the teaching of norms invokes the danger of perpetuating established power hierarchies" (Connor, 2002, p. 505). Contrastive rhetoricians are blamed for "teaching students to write for native English speakers' expectations instead of expressing their own native lingual and cultural identities" (p. 505). Kachru (1997) reasoned that in teaching standard written English rhetorical conventions, we are teaching students to reproduce in a mechanical fashion our preferred vehicle of understanding. He argues that while it is important to raise writers' awareness of their target audience, "it is equally legitimate and desirable to raise the consciousness of editors, publishers and other professionals regarding the different

rhetorical conventions of the users of English" (p.344). Furthermore, the teaching of rhetoric in American colleges and universities seems to have an idealized notion of what an English paragraph or composition is, when in fact, most texts within the American culture "exhibit variation from the idealized pattern(s)" (p. 344).

Many researchers in this field, however, hold the position that "cultural differences need to be explicitly taught in order to acculturate EFL writers to the target discourse community" and language learners need to be clear about "readers' expectations" (Connor, 2002, p. 505). Neither paragraphing nor introducing is essential for communicating ideas, but using these conventions will enable writers to communicate more efficiently. In order to "prepare ESL students for successful academic work in the US, they should have adequate opportunities to become aware of the constraints of US academic prose and the expectations of the US academic audience" (Reid, 1992, p. 97) by learning to "identify the expectations of the academic audience, and to use both linguistic and rhetorical patterns that fulfill those expectations" (Reid, 1992, p. 101).

On the other hand, Raimes (1991) argued that rather than abstracting a principle of the "linear" development of English prose as a pedagogic principle, CR is more useful as a consciousness-raising device for students. In terms of CR study and writing instruction, students could benefit from the knowledge of rhetorical patterns of arrangement, knowledge of audience characteristics, and expectations in the target culture such as the understanding that "there are strategies for text organization that conform to coherence systems in the target language" (p. 417). It is beneficial to language learners when they know how to "grasp the uses of a thesis statement, logical relationships among

parts of a text, and available option for selecting and arranging" and understand that "these are likely to vary from the L1" (Grabe and Kapla, 1989. p. 277). This is corroborated in Shi and Beckett's (2002) study when they probed how the perceptions of rhetorical differences in L1 and L2 writing changed among a group of Japanese students from their one-year academic exchange program at a Canadian university. The comparison of these Japanese exchange students' first essay at the beginning of their stay and the revised essay at the end of the program showed that the majority of the students realized the differences in expository writing between English and Japanese in terms of organization patterns and styles. They reported using more supporting ideas to strengthen the argument and paying more attention to the overall organization to switch from the indirect Japanese style to the direct English style, specifically about the introduction and the conclusion. One of the participants articulated, "I think the most difference between Japanese and Canadian academic writing is where to put my main idea…… Canadian writing writes a conclusion at first and then describes the reason. But in Japanese the conclusion is written after describing the reason. I think this difference is related to each cultural background. Japanese tend to avoid saying something clearly, directly… in Canadian style, the main thesis should be clear, simple and easy for everybody to understand because it is put in the beginning before people read a reason" (p. 48).

Learning to write in another language is learning to write to different standards. It is more than switching linguistic codes. What happened to the students in the Shi and Beckett (2002) study might be a reconceptualization process of how writing should be approached in the new language, which is strikingly different from the way the same

ideas and contents are organized in the first language. Teaching students the rhetorical conventions will help students understand that what may be valued in one culture may be disregarded or even stigmatized in another. Learning the new rhetorical conventions is important in the L2 writing reconceptualization process. This might be a difficult task for quite a number of language learners if the rhetorical conventions are not conveyed/ explained to them in a simple yet explicit manner. It might be even more different when L2 student writers have to apply these new concepts in their own writing. This theoretical framework lays the foundation for the current study to probe whether metaphors and metaphorical gestures are useful mediational tools which could help language learners develop abstract rhetorical concepts in English academic writing.

CHAPTER III: GESTURE STUDIES- OVERVIEW AND RELEVANCE FOR THE TEACHING OF ACADEMIC WRITING

Gesture Theory

General Overview

Gesture, manual movement, a mode of symbolic representation, is closely related to language (Kendon, 2000). Gesture and speech are two sides of the same coin, with gesture conveying meaning globally, relying on visual and mimetic imagery, and speech conveying meaning discretely, relying on codified words and grammatical devices (Goldin-Meadow, 2003). Gesture and speech together provide a better index of mental representation than speech alone. Depending on the co-expressivity of verbal and gestural information, gesture has been divided into iconics, metaphorics, beats, and deictics (McNeill, 1992). McNeill, Cassell and McCullough (1994, p. 224-225) defined iconics as "representational gestures that display concrete aspects of the scene or event being concurrently described in speech". They defined metaphorics as "representational gestures but display images of abstract concepts and relationships that typically relate to the concurrent speech on a meta level". In contrast, beats are "baton-like movements" that mark words that are significant for the purpose of emphasis, "not purely for their semantic content, but for their discourse-pragmatic content" (p. 225). In that sense, beats are used when new characters or themes occur in the speech. Deictics are pointing gestures. They are further divided into concrete deictics which refer to various objects in

the immediate environment (concrete deictics) as well as abstract deictics which "create locations in gesture space for abstract concepts or relationships" (McNeill, Cassell and McCullough, 1994, p. 225).

More recently, McNeill (2005, p. 38) argued that gesture categorization was "misdirected" since "most gestures are multifaceted - iconicity is combined with deixis, deixis is combined with metaphoricity, and so forth". Each of the categories is really a dimension. Mittelberg (in press) illustrated how a gesture "consisting of a hand tracing the outline of a sort of 'base in the air'" could refer either to a real building, thus, an iconic gesture, or an abstract entity, such as the notion "theories are buildings", thus, a metaphoric gesture (p.2). What the gesture really refers to can only be determined by the concurrent speech. It then seems to be more practical to switch from the category framework to the dimensional framework to code gestures (McNeill, 2005). McNeill proposed to use "iconicity, metaphoricity, deixis, temporal highlighting (beats), social interactivity, or some other equally un-mellifluous terms" (McNeill, 2005, p. 41) for gesture dimensionality. The current paper is interested in those gestures that fall under the metaphoricity dimension to represent the abstract concepts of English academic writing in composition classes.

McNeill (2000) points out that gestural studies have been conducted in the following four areas: 1) to understand the relationship between gesture and speech in the realtime mental processes of individuals using the cognitive psychological approach; 2) to understand the functions of gestures in contexts of social interaction using the communicative approach; 3) to outline a computational model of gesture-speech

performance; 4) to study the transition from gesticulation to sign language. The cognitive and communicative approaches are the two approaches most often adopted in gestural studies: the cognitive approach aims at understanding online mental processes and mental representation, while the communicative approach addresses when and how gestures are used in a social context.

Some of the communicative functions of gestures, as pointed out in a variety of studies (Antes, 1996; Gullberg, 1998; Kendon, 1994, 2000, 2004; McCafferty, 2002), include: gestures can clarify verbal ambiguity; emphasize; avoid redundancy, and replace speech. Moreover, gestures can be used to indicate a shift or the end of a topic and a listener's gestures can provide feedback to the speaker and help shape the ongoing message in the interactional process.

The communicative intention of gestures has been established in studies by Melinger and Levelt (2004) and Ozyurek (2002). Melinger and Levelt (2004) found that gestures influenced the content of the concurrent and subsequent speech. Some participants in their study omitted the required spatial information in their verbal speech while directing their partners to solve a spatial puzzle when they produced iconic gestures to represent such spatial relations. Participants who did not gesture much provided more detailed verbal spatial information. Ozyurek (2002) also found that narrators changed their gestural orientation to accompany the spatial prepositions "into" and "out" when the addressee position was changed: in the face-to-face scenario, the gesturers moved their hands into the gestural space along a sagittal line between the two persons for "into", while they withdrew their hands from that space for "out". When the

listener was positioned to the left, the hand was moved from right to left laterally in depiction of "into" and from left to right for "out". The gesturers moved their hands along opposite directions for "into" and "out" when the listeners were positioned to their right. Gesture is also intended to solve pragmatically ambiguous utterances when deicitc gestures are used to establish joint attention with the addressee on the objects mentioned in utterances that are used indirectly as requests (Kelly, Barr, Church and Lynch, 1999). Gesture often plays a role in setting a context to reduce the ambiguity of the meaning conveyed in speech (Kendon, 2000). Holler & Beattie (2003) discovered that the majority of their participants used deictics, iconics, or metaphorics to clarify homonyms when speech alone was perceived to be problematic. In addition, gesture serves as a reliable cue to turn taking in conversation as the "initiation of hand gesticulation is a strong indicator that a person is going to speak" (Gullberg, 1998, p.57). Gestures could also regulate turns at talk by "pointing to someone to give them a turn", or to indicate that a current speaker "though not actually speaking, is nevertheless still claiming a role as speaker" (Kendon, 2004, p. 159).

Based on his 30-hour videotaped data of spontaneous interactions in eight cross-cultural/linguistic speech communities among close friends, Streeck (1993, 1994) concluded that gesture production is intended to be communicative since speakers deliberately guide their addressees' gaze to their own gestures to make meaning. In his review article of some experimental and observation studies, Kendon (1994) found that recipients also paid attention to gestures which altered their understanding of utterances. For example, participants got a higher score at the gesture + speech mode in the study

when the volume of the speech was low. Participants were faster at guessing the objects being described when the description was accompanied by gestures. Participants could recall more verbs and recall with higher accuracy when these verbs were delivered to them with well-defined gestures.

Gesture can also impede comprehension of the intended meaning when it conveys a different message. McNeill, Cassell and McCullough (1994) produced manner-mismatched gestures (uttering climbing while moving hand downward), and anaphor-mismatched gestures (carrying out a gesture for one referent in the gestural space/hand allocated for other referents without accompanying linguistic shift or discontinuity) along with some normally matching gestures when they described a cartoon story to their participants. The participants were then asked to retell the cartoon. In contrast to the control group who received normal gestures, participants who listened to the story with some mismatched gestures were found to experience some communicative and mnemonic problems. They made referential errors and moderated their own description to accommodate the information conveyed both through gestures and verbal descriptions. It seems that "the combining of gestures with language is part of the process of communication both in production and in comprehension" (McNeill, Cassell, McCullough, 1994, p. 236).

Gestures produced in L2 speech might be different from those in L1 speech (Gullberg, 1998; McCafferty, 2002; Oda, 2002). L2 speakers frequently produce gestures as compensatory strategies when they encounter word-finding problems. The seeking-for-lexical-help-gesture serves as a prompt to provoke the listener to offer help in

supplying the word (Gullberg, 1998; McCafferty, 2002). McCafferty (2002) illustrated how an L2 speaker gesturally acted out the word "splash" when he couldn't produce it linguistically. Upon seeing this, his NS interlocutor provided the correct word, which he picked up to maintain the conversation. While providing needed lexicon, NSs tend to produce beats for didactic purposes (Gullberg, 1998). Gestures produced by NSs to NNSs also carry communicative functions. Adams (1998) claims that the increase use of gestures by NSs is "an integral part of an individuals' overall communicative effort" and serves as a source of input to promote communication while talking to NNSs. McCafferty (2004) also reveals the tendency of NSs to gesturally illustrate aspects of the discourse more often while talking to NNSs to enhance comprehension.

Taken together, all those studies show that spontaneous gestures "emerge as integral components of a carefully orchestrated embodied communicative process" (Streeck, 1994, p.295) to "provide information to co-participants about the semantic content of utterance" (Kendon, 1994, p. 192) by directing listeners' attention. As a symbolic form, gestures are produced "as a part of a speaker's undertaking to shape a symbolic form of action" (Kendon, 1994, p. 193).

Pika, Nocoladis and Marentette (2006, p. 319) summarized a variety of functions that gestures take: 1) they can convey substantive information to listeners, 2) they can facilitate smoothness of interactions and the increase of liking between interaction partners, 3) they are used to communicate attitudes and emotions voluntarily and involuntarily, 4) they can facilitate some aspects of memory, 5) they have been implicated in conceptual packaging of messages, 6) they can provide insight into a

speaker's mental representations. These functions cover both the communicative and the cognitive arena. Thus, as part of language use, "gesture serves as both a tool for communication for listeners, and a tool for thinking for speakers" (Goldin-Meadow, 1999, p. 419) and "each gesture is designed by taking both functions into account" (Ozyurek, 2002, p 702). This idea is shared by more and more scholars such as Gullberg (1998), McCafferty (2002) and Nugueruela, Lantolf, Jordan & Gelabert (2004).

There are many studies devoted to the internal cognitive developmental functions of gestures to study how gestures help speakers retrieve words from lexical memory by cross-modal priming (Butterworth and Hadar, 1989); how gestures reflect internal mental representations (Cienki, 2005; Enfield, 2005; Haviland, 1993; McNeill, 1992; Mittleberg, 2003; Nunez and Sweetser, 2006); how gestures help speakers organize their thinking for speaking (Duncan, 2002; Kendon, 2004; Kellerman and Van Hoof, 2003; Kita and Ozyurek, 2003; McNeill, 2003, Negueruela, Lantolf, Jordan & Gelabert, 2004); and how gestures facilitate thinking since they may reduce cognitive burdens by freeing up effort that can be allocated to other tasks (Alibali, Kita and Young, 2000; Goldin-Meadow, 1999, 2003, 2005; Goldin-Meadow, Nusbaum, Kelly and Wagner, 2001; Goldin-Meadow and Wagner, 2005; Wagner, Nusbaum and Goldin-Meadow, 2004). These will be discussed in detail in the following sections.

Gestures and Conceptual Representation

Vygotsky first proposed the concept of gesture as material carrier of thinking, as cited in McNeill (2005). Scholars such as Goldin-Meadow (2003), Kendon (1992), Lantolf and Thorne (2006) and McNeill (1997, 2005) also agree that gestures contribute

to the production of speech. Gestures could provide insight into a speaker's mind and make the mental representation visible and analyzable. McNeill (1992) proposes that gesture and speech form a single functional system, Growth Point (GP), the minimal analytic unit of imagery and linguistic content. GP focuses on the speech-gesture synchrony and co-expressivity to analyze the whole of an image and a linguistically codified meaning category. As the utterance unfolds in real time, language and imagery mutually influence each other. With its dual nature, Growth Point is the mediating link between individual cognition and language (McNeill & Duncan, 2000). The study of Growth Point could reveal the inter-dependence between gesture and verbal expressions.

One type of gesture that receives special attention is the metaphoric gesture, which visually displays abstract notions in the accompanying speech and represents the mental conceptualization. For example, chronology based on our bodies' orientation and locomotion is visually represented along the spatial line. Many languages put the future ahead and the past behind, since that is how we think: the past has already happened. Thus, a forward leap of the hand represents future events; a pointing-behind gesture symbolizes past events; and we employ straight-line gestures for a set of events as they succeed one another but we produce curved paths for passage through time or repetitive actions (Kendon, 1992). However, Nunez and Sweetser (2006) found that unlike many languages, the Aymara (an Amerindian language spoken in the Andean highlands of western Bolivia, southeastern Peru and northern Chile) people conceptualize past as ahead and the future as behind. They use "nayra", which means "eye, front or sight", to mean past and use "qhipa", which means "back, behind", to mean "future". The

expression "nayra mara", which means "last year", is thus literally glossed as "front year". The gestural data corroborated the linguistic and conceptual differences. The ethnic Aymara people thumb or wave over their shoulders to indicate space behind themselves when speaking of the future and sweep forward with their hands and arms for the past events. When talking about wider ranges of time instead of particular points in time, they sweep the dominant hand forward to the full extent of the arm as they talk about distant past generations and times, and pull the hand back toward themselves as they talk about the relation of these past generations to the present. In contrast, Aymara individuals who speak only Spanish tend to follow the majority people in the past/future orientation. This radical difference from most languages could be explained in that Aymara culture privileges a distinction between seen/unseen and known/unknown. There are linguistic markers in that language to differentiate what is seen and can be proved from what is heard and cannot be proved. So metaphorically and gesturally, they will place the known past in the front (which can be proved and which is seen) and put the unknown and unknowable future behind their back (which cannot be proved and cannot be seen). Those gesture data from Nunez & Sweetser (2006) study "offers unique access to some of the less conscious aspects of the cognitive processes underlying language" (p. 419).

The gestures of Guugu Yimithirr speakers accurately represent their knowledge of absolute spatial orientation in the nearby environment (Haviland, 1993). Guugu Yimithirr, a native language of Australia, makes reference to absolute directional description such as north, east, west, south, etc. rather than relational spatial directional description such as

"next to" and "in front of". In many languages, speakers could describe the location of an object by referring to other objects at the point of reference with expressions like "next to" and "in front of". The speakers of Guugu Yimithirr could be very accurate in their direction orientation and adjust their gestures to fit the absolute orientation of the objects mentioned in their utterances in the actual event: when speakers refer to anything besides the actual present physical space, their gestures will map between the real space and the represented spatial structure in their talk.

While explaining the principles of kinship and kin terminology to cultural outsiders, Lao speakers' gestures clearly concretize Lao kinship relations as inherently hierarchical, based on sibling birth order (Enfield, 2005). There is an invisible horizontal line separating themselves from their older and younger siblings respectively, indicating the hierarchical system of how they position the older and the younger siblings. Correspondingly, they make repeated references to the status of individuals as "high/big" or "low/small" in the system. One speaker in the Enfield (2005) study referred to her two older siblings when she put her hands spatially higher than herself, and the hands were positioned to both sides of her body, indicating the two siblings. Lao speakers constantly use their own body as a cognitive artifact to talk about kinships. They maneuver their hands at different heights to represent siblings along a diagonal line. The vertical dimension represents relative age (the older individual is higher) and the spacing of siblings along the lateral dimension represents their side-by-side status as heads of new collateral lines of descent. Descent leading from the speaker to his child and to his child's child is mapped onto a straight line beginning at the speaker and proceeding outwards on

a sagittal line. The Lao speakers in the Enfield study were never observed to map a relation of affiliation onto the lateral line when using gestures for spatial representation. Affiliation is gesturally represented either at a sagittal line or a vertical line. All those gestures visually describe the hierarchical system of the Lao kinships.

Sometimes, the underlying concept is revealed more clearly in the gesture than from the linguistic production. To test the Strict Father and Nurturant Parent metaphors proposed by Lakoff (1996) with empirical data, Cienki (2005) failed to find large numbers of metaphorical expressions regarding the differences. However, analysis of George W. Bush and Al Gore's gestural usages, in particular their metaphoric gestures, indicated that Bush's gestural usages (tense, flat hand gestures, with the thumb toward the top, which never varies in form, leads one to suspect that Bush was advised to produce such gestures in his speech) reinforced several important source domain concepts of the Strict Father Model, especially the strength and the upright sense. Gore, on the other hand, used much fewer gestures than Bush and his gestural usage varied more. However, Gore used one gestural form with various modifications as a supportive gesture (cupped hand, sometimes with the palm up) which co-occurred with the words "enable, shepherd, feel". This supportive gesture impressed one of holding something from underneath, indicating a particular way of realizing/embodying the notion of nurturance (p. 303). It seems that "much of our physical experience is arguably better described in terms of an image or a movement" (Cienki, 2005, p. 304).

These several studies analyzed above suffice to prove that gestures provide additional sources to concretize the abstract mental representations. Gestures could also

play a significant role in the conceptual planning stage of speech. Alibali, Kita and Young (2000) found that some of their participating kindergartners produced substantively more gestures when they were asked to explain how they solved problems than those participants who were asked to describe the solving process. It seems that "the action of gesturing helps speakers to organize spatial information for verbalization, and in this way, gesture plays a role in conceptualizing the message to be verbalized" (p. 610).

In the classroom setting, Mittelberg (2003, in press) and Mittelberg and Waugh (in press) investigated the gestures produced by four linguists while explaining general grammatical issues (morphology, syntax, phonology, and different theoretical views of grammar such as generative grammar, emergent grammar, and relational grammar) in classroom lectures. They proved that conceptual metaphor played an important role in the way linguists presented abstract phenomena of grammar, in particular how their gestures visually represented metaphors such as "ideas are objects" and "control is up" which are embodied in linguistic theories. Gestures are particularly significant because they "portray a linguistic unit as an imaginary object, container, line, or as a location in space, even if the concurrent speech was not per se metaphoric, but rather featured technical terms such as noun, main verb, sentence, etc.". The gestures allow "grammatical categories as well as operations get translated into the concrete manual modality by evoking correspondences between the intangible and the embodied" (Mittelberg, in press, p23). These linguists frequently used container/object gestures for "words, constituents, sentences, or entire discourses respectively" to manifest the conceptual image schemas that "ideas are objects" or "categories are containers" (Mittelberg, in press, p. 10). Their

hands moved vertically downward to imitate the tree diagram when they talked about syntactic structure, dependent clause, and embedded clause (Mittelberg, in press, p. 15): the speaker moved both hands, which were positioned in front of his/her upper torso, laterally to both sides of his/her body until arms were fully extended "as if they were tracing a horizontal string or chain of words" (p. 16). When describing dependent clauses, one speaker moved her right hand from the eye-level height downward to her right side diagonally. This movement "can be assumed to roughly imitate the process of going down along the different nodes and branches of a tree structure" (p. 17) for the idea of subordination. Such a gesture correlated with "the characteristic feature of syntactic tree diagrams used in generative grammar … a schematic branching structure that spatially represents hierarchical relationships between constituents" (p. 16). It also implied that the most powerful governing elements are situated at the top of the branching structures and the dominated subordinated elements at lower levels, which correspond to the metaphors "control is up" and "being subject to control is down". It is rather clear that tree diagrams, the ready-made metaphorical visualizations in generative grammar theory, motivate the form of the gestures these linguists produced (Mittleberg and Waugh, in press). The tight relationship between gestures and conceptual metaphors such as "up is good, control is up" lies in that "gesture…provides a spatial projection of compatible metaphors stemming from the domains of physical structures and social hierarchies with an inbuilt up-down orientation" (Mittelberg and Waugh, in press, p. 16-17). Through metaphoric projection, gestures, the metaphoric source, depict the abstract conceptual structure, the metaphoric target (Mittelberg and Waugh, in press, p. 17).

Gestures and Thinking for Speaking

Slobin (1981) proposed Thinking for Speaking (TFS) to explain how different languages might embody different experiences at the linguistic level. Slobin believed that in speaking activity, thinking takes on a particular quality as experiences are filtered through language into verbalized events. Where languages differ in terms of the grammatical devices that are used to encode particular linguistic-conceptual domains, speakers of those languages will manifest different patterns of TFS about those domains. Gestural data clearly reveal the close interface between speech and gesture. The comparison of gestures accompanying a variety of verb aspects and motion verbs in different languages allows us to explore TFS across languages in an expanded way.

Duncan (2002) compared the gestures related to verb aspects in Chinese and English speech. Aspect deals with the internal temporal constituency of a situation. The choice of imperfective/perfective verb aspect reflects how the speaker is thinking about an event at the moment of speaking, and this distinction is likely to be reflected in their gestures. Imperfective aspect-marked verbs are accompanied with longer and more complex gestures. Gestures with agitated movements (temporally extended and have some kind of recurring cyclic features) are found in imperfective progressive aspect-marked speeches. Those types of gestures are not found to co-occur with perfective aspect-marked verbs. McNeill's (2003) study found the same correlation of types of gestures and different verb aspects.

Gestural studies are more effective to examine whether speakers of different languages share the same TFS pattern or not when gestures accompanying different

motion verbs across languages are probed. Typologically, a satellite-framed language such as English encodes manner of motion in the verb and indicates path of motion in a satellite phrase, while a verb-framed language like Spanish demonstrates the opposite pattern. English speakers may choose to highlight either manner or path in their gestures, but they rarely use manner gestures in the absence of a conflated manner verb. Spanish speakers use manner gestures when they are not encoded in speech, and such gestures can co-occur with path verbs and ground NPs (Negueruela, Lantolf, Jordan & Gelabert, 2004). This result is also borne out by McNeill & Duncan (2000) and Kendon (2004). Kendon (2004) also compared gestures related to motion verbs by speakers of Japanese and Turkish. The syntactic structure of English allows speakers to encode the event with a single clause to include both manner and path. Turkish and Japanese speakers will use two clauses to encode the same event: one for manner, one for path. Kendon (2004) found that English speakers used a single gesture, while Japanese and Turkish speakers used two separate gestures. However, whether a single gesture or two gestures, those gestures all correspond to the relevant syntactic structure of the language. Kita and Ozyurek (2003) found slightly different gestural patterns when they compared the gestural usage related to motion verbs of native Turkish, Japanese, and English speakers. For the motion verb "swing", there is no readily accessible expression that semantically encodes agentive change of location with an arc trajectory in Turkish and Japanese, but in English, both path and manner are clearly indicated linguistically. Due to this linguistic difference, native English speakers' gestures represent changes of location with an arc-shaped trajectory and the majority of Turkish and Japanese speakers produced a change

of location gesture without the arc-shaped trajectory. For the motion verb "roll", all English speakers used one clause to encode manner and trajectory (he rolled down the street) and produced one gesture for both manner and path. Japanese and Turkish speakers used two clauses to describe the same event (he descends the street, as he rolls). In their gestural usage, the Turkish and Japanese speakers were more likely to have manner-only or trajectory-only gestures as part of their representations of the rolling events. Gestures seem to be a more visible type of data to complement the linguistic data in the TFS study area to answer the question of the inner conceptualization of speakers in different languages.

Can L2 speakers switch their TFS pattern when they talk in L2? Again, studies of gestures related to motion verbs produced in L2 speech provide a means to probe this issue that is inaccessible through pure linguistic data. Nugueruela, Lantolf, Jordan & Gelabert (2004) examined gestures that accompanied motion verbs by advanced Spanish learners of English and found that Spanish speakers transferred their L1 TFS pattern to L2 English. The same transfer pattern from L1 Spanish TFS to L2 English was indicated in Kellerman & Van Hoof (2003). These two studies suggest that even highly advanced L2 speakers still tend to conceptualize in their L1 and are unable to reconceptualize the motion verbs in the L2 pattern. However, Choi and Lantolf (in review) found evidence that one of their highly advanced Korean speakers of English switched to the English motion verb TFS pattern in the English speech. This clear change of TFS pattern in L1 and L2 differs from the conclusion drawn in previous gestural studies that L1 TFS pattern regarding motion verbs will be transferred to L2. The Choi and Lantolf study reveals the

possibility that highly-advanced L2 speakers can reconceptualize in L2, which is significant in the SLA and SCT field. This achievement is not possible without studying the relevant manifested gestures. Kellerman and Van Hoof (2003) thus claimed that the study of gestures is extremely useful in revealing L2 speakers' thinking patterns which are not detectable in otherwise fluent and correct L2 speech.

Gestures in the Educational Setting

Another area of gestural study is to examine teacher-talk gestures and how gestures are employed in the pedagogical setting to examine students' cognitive development process and learning process. In this aspect, gestures are regarded as a mediational tool for problem solving. Some studies focus on teacher-talk gestures to see when and why gestures are employed by teachers. Others focus on the gestural usage of students. This section will start with gestural studies on students followed by gestural studies on teachers.

Goldin-Meadow is a leading scholar in using gestures to study the cognitive development process of children. She has done some insightful studies on gesture-speech mismatch (the information conveyed in gesture differs from that in the accompanying speech) produced by children and their potential for learning. Goldin-Meadow (1999) asked some 9-year-old children to explain how they solved the mathematical equivalence problems such as 4+5+3= __+3. One child said "I added 4 plus 5 plus 3 plus 3 and got 15" (p. 423). Her speech demonstrated no awareness of the fact that this is an equation bifurcated by an equal sign. Her gestures, however, offered a different picture: she swept her left palm under the left side of the equation, paused, then swept her right palm under

the right side. The child's gesture clearly demonstrated that at some level, she knew the equal sign broke the string into two parts (P. 423). Goldin-Meadow argued that gesture-speech mismatch "has been found to be a reliable index of readiness-to-learn" (p. 424) and "mismatchers' gestures often convey ideas that are more developed than those they convey in speech"; this "mismatch is an index of variability and variability is considered by many theorists to be essential to developmental progress" (p. 425).

Goldin-Meadow and Wagner (2005) further proved that students who produced a gesture-speech mismatch could accept a new concept and change their currently-formed assumptions more easily. This mismatch is explained to characterize the "transitional state" of the students when they are "on the verge of making progress" (p. 234). In their experiment, they asked school children to explain whether the water poured from a tall glass to a lower and wider dish remained the same amount. Of those who gave the wrong answer, their explanation focused on the height factor as one child said "it's different because this one's low and that one's tall" (p. 234). Among those children, some produced gesture-speech match when their gestures highlighted the height of the water in the dish and in the glass, and some produced gesture-speech mismatch when they produced gestures representing the width of the dish and a different gesture representing the width of the glass. Such children were found more likely to make progress on the task than children who produced gesture-speech match, since their gesture clearly represented that they had paid attention to another dimension of the problem. Goldin-Meadow and Wagner (2005) explained that "entertaining two ideas on a single problem could lead to cognitive instability, which, in turn, could lead to change" (p. 236). Such mismatches

provide insight into the mental processes that characterize learners when in this transitional state. On the other hand, "gesture could contribute to knowledge change through its communicative effects. If our gestures reflect the state of our knowledge, they have the potential to signal to others that we are at a transitional point" (p. 234). This is akin to Vygotsky's zone of proximal development. If listeners are sensitive to this signal, they might change the way they interact with others to better accommodate their learning needs. In this way, the learning environment can thus be shaped.

Gesture-speech mismatch is not unique to children. Alibali et al. (1999) asked their adult participants to solve some algebra problems and found that adults also produced gesture-speech mismatches in their problem solving explanations. They agree with Goldin-Meadow and Wagner (2005) that such gesture-speech mismatch could index a transitional knowledge state of learning. Similarly, Singer and Goldin-Meadow (2005) found that teachers often produce mismatched gestures and speech. Thus they designed a study to see which instruction method is best for children (third and fourth grades) to learn mathematical equivalence. The students were given one or two problem-solving strategies under the situation of speech only, speech-gesture match (both the speech and gesture follow the same problem-solving strategy), and speech-gesture mismatch (speech is about one problem-solving strategy, while gesture is about another problem-solving strategy for the same mathematical problem). They found that in the post-test, the children who received speech-gesture mismatch instruction performed the best at solving similar mathematical problems discussed in the instructional sessions. Gestures seem to

be salient in teaching to promote learning in this situation as it offers students a second approach to the problem.

Gestures can externalize ideas and have the potential to affect learning by influencing learners directly and contributing to knowledge change through its cognitive effects (Goldin-Meadow and Wagner, 2005). Externalizing our thoughts via gestures can help lighten the cognitive load to save mental resources that we can then put to more effective use (Goldin-Meadow, Nusbaum, Kelly and Wagner, 2001). Goldin-Meadow et al. (2001) asked their participants to memorize a list of items (unrelated letters for adult participants; words with different lengths for children) after solving some mathematical problems. Then they were asked to explain how they solved the problems before they were instructed to recall the letters and words as much as possible from the list. Some participants were instructed to keep their hands still on the table; some did not receive this instruction. They found that both children and adults remembered a significantly larger proportion of items when gesturing than when not gesturing. Thus gestures seem to permit the speakers to allocate more resources to the memory task by lightening the load on the problem-solving and explanation task. Wagner, Nusbaum and Goldin-Meadow (2004) again proved that when participants were given two tasks to perform (one of them is the memory task), those participants remembered significantly more items when they gestured than when they did not gesture. In addition, the number of items remembered depended on the meaning conveyed by gestures: when gestures conveyed the same prepositional information as speech, participants remembered more items than when gestures conveyed different information. They explained that producing speech with

gestures requires less effort on the speaker's part than producing speech without gestures. Goldin-Meadow (2003) also demonstrated that students who mimicked a math teacher's gestures learned new strategies faster than their peers who didn't gesture. It seems that when children are at a transitional point in acquiring a concept, they often find it easier to produce ideas relevant to the concept in gestures than in speech (Wagner, Nusbaum and Goldin-Meadown, 2004, p. 88). "Since gestures can convey several pieces of information all at once, at a certain point in acquiring a concept, it might be easier to understand, and to convey, novel information in the visuospatial medium offered by gestures than in the verbal medium offered by speech" (Goldin-Meadow, 2000, p. 239).

Gestures also help adult learners to acquire abstract, scientific knowledge. Gestures have been found to be used in classroom teaching, discussion activities to help convey and develop complex knowledge systems, and to reach mutual agreement. Koschmann and LeBaron (2002) presented videotaped fragments of naturally occurring interaction among medical teachers and students participating in tutorial meetings in a problem-based learning curriculum. As one of several interactional resources available to participants in the joint sense-making activities, gestures were used as a mechanism for cohesion across turns at talk and as a display of mutual understanding. For example, in one scene one student Joel partitioned his right hand with "CT" and his left hand with "X-ray" when he asked "What is the dosage relative from, uh, normal X-ray to a CT?". Then he asked the difference between CT and X-rays when he said, "CT is serial, CT, is it serial, X-rays, is it not?" At "serial CT", he rotated his right hand clockwise with this thumb pointing upward. He then executed a chopping motion in a plane parallel to his

body to indicate that X-ray is not serial, not continuous (p. 259). The "is it not?" part prompted another student Jackie to answer this question. In Jackie's answer, she gesturally reproduced Joel's CT gesture of making three slicing down strokes with her right hand for the serial continuity meaning. Jackie followed Joel's gestural distinction of associating her right hand with "CT" and left hand with "X-ray" to achieve gestural cohesion. She also imitated the shape of the gesture produced in Joel's earlier utterances. This exchange between Joel and Jackie exemplifies how reproduction of a previously performed gesture can link together elements of a conversation. For the group members to reach mutual agreement, it is important that gestural cohesion arises because "the hand with which a gesture is performed, the space within which a gesture is produced, or the form of the gesture itself can contribute to topic cohesion across turns at talk" (p. 262) and it is "a visible action on the part of a recipient to gesture to both acknowledge and display attentiveness to it" (p. 262).

Roth (2000) studied how students used gestures during science classes before they developed formal science discourse and how gestures helped the genesis and development of such disciplinary discourse. He analyzed three scenarios where students talked to each other about physics projects, in order to prove that gestures play an important role in the speech-gesture-ground interaction of science laboratory learning. At the earlier section, in the absence of scientifically appropriate discourse, students' gestures picked out, described, and explained scientific phenomena. Using gestures "as part of making scientific arguments… allow[s] for additional modes of coordinating meaning" (p. 1708). When the students had a better understanding of the content, they

started to use more science terminology and scientific language. In the initial appearance of scientific discourse, gestures preceded the associated utterances, but with the increasing familiarity with the science domain, scientific talk took on greater importance and gestures began to synchronize with the talk. Roth argued "from an educational perspective, gesture may be an underused resource in the early stages of discourse development and for producing expressions when students have not yet appropriated disciplinary forms of talk" (2000, p.1711). As described above (see those by Goldin-Meadow and her collaborators), gestures can be used to identify children's ideas before they are able to express the same content in the verbal modality. The fact that untrained adults could correctly infer cognitive content is further evidence that there is more to gestures than paralleling talk (Roth, 2000, p. 1686). Gestures may be an important aspect of the genesis of scientific cognition (p. 1689).

A number of studies were conducted in bilingual educational settings to examine whether gestures are useful tools for bilingual learners. Church, Ayman-Nolley and Mahootian (2004) investigated a group of Spanish-speaking students in an English-speaking school when the language of instruction-English was inaccessible to them. They showed math instructional tapes in the "speech only" mode to the control-group students and tapes in "speech and gesture" mode to the experimental-group students. Learning increased two-fold for the students who received the "speech and gesture" instruction. Gestures thus help students better understand the math concepts in the form of universal representation. Antes (1996) also argued for the value of employing gestures in language classrooms. Lazaraton (2004) observed that while explaining unplanned vocabulary to

her ESL student, the ESL teacher in her study used more gestures to describe the related semantic meanings of those words to help the students. Lazaraton suggested that gestures are potentially significant as a type of comprehension input provided to L2 learners in the instructional setting.

Corts and Pollio (1999) studied the relationship between the spontaneous use of figurative language and nonverbal gestures in three college lectures by an experienced professor in psychology. They found that figurative language and gestures occurred in bursts when the lecture dealt with topics beyond students' ordinary experience or presented a different understanding of a known topic. Gestures were used to augment the metaphor rather than to provide an alternative representation. They suggested that gestures and metaphors presented and emphasized novel perspectives on significant lecture content. The significance of this study lies in the confluence of figurative language and gestures into a single communicative act when the topic was an abstract idea. For such topics, the metaphor was remarkably evident in both the hands and the body as well as in the language of the speaker (p. 98). In no case did the speaker use a metaphoric gesture that contradicted or altered the message conveyed in the verbal figure of speech. The confluence of metaphors and gestures represents "the speaker's attempt to make the present segment of the lecture stand out as figural for his audience" (p. 99). Students were also found to be able to better generalize lecture information when such information is presented metaphorically rather than literally.

Gestures thus seem to be a great mediational tool in the teaching and learning setting. Goldin-Meadow (2003) believe that a student is more likely to benefit from

instruction when gestures are employed by both instructors and students because "including gesture in instruction might promote learning because it encourages learners to produce gestures of their own" (Goldin-Meadown and Wagner, 2005, p. 237). Gestures "could change the course of learning indirectly by influencing learning environments or directly by influencing learners themselves" (Goldin-Meadow and Wagner, 2005, p. 234). Roth (2000) proves that students do use gestures as a part of their conceptual developmental process. He indicated that future study of gestures could "find out if assistance in the use of metaphorical gestures could scaffold the development of scientific language" (Roth, 2000, p. 1717) and "study the genesis of formal discourses and the role gestures play during this development" (p. 1717).

To the best of my knowledge, no study focuses on the pedagogical value of metaphorical languages and gestures employed by composition teachers in second language writing classes. In ESL composition class, the students need to learn new specialized discourses and rhetorical concepts, and they have to do so in a second language. The L2 student writers might face more challenges to achieve that purpose. From the two literature review chapters, metaphors and gestures seem to be useful mediational tools in the conceptual genesis process. They might help students learn the new conventions in academic writing in another language. Whether metaphors and gestures are helpful pedagogical tools and how they reflect both instructors' and students' inner mental concepts of EAP writing are what the current study proposes to probe.

CHAPTER IV: OVERVIEW OF THE STUDY

Under the theoretical framework of conceptual metaphor theory, gestural study and contrastive rhetoric, this study probes the metaphorical expressions and gestures used by instructors and students in composition classes, in order to explore how gestures used by both instructors and students represent the way they conceptualize EAP writing, and how students perceive the effectiveness of metaphorical expressions and gestures in their EAP conceptual developmental process. Although previous studies explored conceptual metaphors about composition in English (Bowden, 1995; Eubanks, 2001; Flower and Hayer, 1981; McMillen and Hill, 2005; McCarthey, 1994; Miller, 1993; Thompson, 2001; Ungerer and Schmidt, 1996), no study has been conducted to incorporate the gestural perspective to examine how gestures could concretize the abstract ideas of writing in a visual mode. The current study is designed to contribute to this field of knowledge.

Research Questions

In this study there are three research questions.

1. What are the instructors' metaphorical expressions and gestures regarding EAP writing at the college level in the naturalistic expository discourse when they explain EAP writing conventions to the students? How do those metaphorical expressions and gestures represent the way they conceptualize EAP writing?

2. What are the metaphorical expressions and gestures used by ESL student writers in a variety of settings to discuss abstract concepts of

English Academic writing, to air their opinions of a specific piece of writing and to justify their suggestions for revision? How do these gestures reflect the way they internalize abstract concepts of English writing for academic purposes? Are there any instances when their gestural usage/linguistic expressions about EAP writing are inspired by the metaphors exposed to them in the instruction? Do they imitate their instructor's gestural usage regarding abstract concepts of rhetoric and writing conventions in EAP?

3. How do these ESL students perceive the effectiveness of the metaphors and gestures the instructors used? Do they think metaphors and/or gestures help them in comprehending abstract concepts of EAP writing? What are their own metaphors for describing academic writing in English and in their native languages?

Procedures

To answer the first two questions, in the Fall 2006 and Spring 2007 semesters, I collected naturally occurred data of the instructors' talk and their gestures while explaining EAP writing to the students in the classroom teaching setting and in the student-teacher conference setting. I also collected students' natural data when they talked to each other in peer review activities, when they presented their own revision to the whole class, and when they were in the group conference activities. In addition, I also attended the classes, observed and made notes of the activities in class, focusing on the instructors' metaphorical expressions regarding EAP writing. To answer the third

question, after I finished collecting those types of data, I interviewed eight ESL participants to elicit their metaphorical expressions of academic writing in English and in their first language. The participants were first asked to produce their own metaphors to describe writing in the two languages, and whether the metaphors used for English writing could apply to writing in their native language and vice versa. Then they were asked to explain the differences or the similarities between writing in the two languages and to explain in detail the meaning of the metaphors and how they applied to writing. When some students could not generate their own metaphors of writing, I provided a tree metaphor and an umbrella metaphor to examine whether those metaphors for EAP writing made sense to them and how specifically the tree and umbrella metaphors could be associated with different parts of writing in English. Afterwards, each was asked to reflect upon their teacher's metaphorical expressions and gestures in class to see if those expressions impressed them as vivid and effective descriptions of EAP writing, and how those metaphors helped them in comprehending the concepts of EAP writing.

Participants

Participating Sections

In this study there were four participating composition classes at a southwest American university. All of these classes were composed of ESL and American students. The writing classes at that university are divided into ENGL 106, 107 and 108, with ENGL 106 the lowest one where ESL student writers need additional help in order to meet the writing requirement at the college level. For many ESL students, ENGL 107 is their first composition class. Student writers are expected to develop their analysis and

writing skills in EAP writing through exploring the themes of some literary texts such as stories, poems, films, etc. In contrast, ENGL 108 focuses on the more technical and academic part of writing. Students normally analyze rhetorical appeals/ strategies used in the essay, and then apply the knowledge to their own argumentative writing. However, all the writing classes focus on the rhetorical conventions of EAP writing to emphasize the importance of a clear, strong and encompassing thesis statement and the close tie between the thesis statement and its supporting ideas. It is also emphasized in the classes that writing should have a logical development, with clear organization, linear progression, ample evidence, and detailed explanations. Helping students understand and conform to the overall structure of EAP writing is the priority task in all composition classes at the three levels. The writing program adopts the process-oriented methodology in writing classes, and many writing classes are more like workshops at times. For every unit, the writing process starts with an outline, a first draft, then peer review activities before the students move on to the second draft. Normally a student-teacher conference is held before the final draft. This process-oriented method provides an ideal setting for students to articulate their opinions and suggestions about specific piece of writing.

Participating Instructors

All together there were four participating instructors: TA, TB, TC, and TD. All instructors except TA are native speakers of English; all are female, except TB. The participating instructors are all experienced composition instructors: TB had taught composition classes for 2.5 years and TA and TC for 3.5 years at the time of data collection. TD has taught composition for more than 10 years at the same university. TA,

TB and TC are all graduate students in the field of applied linguistics. TD is a teaching advisor in the writing program of that university who often trains incoming composition instructors. TA, TB, and TC received the same training when they first started teaching composition at that university to ensure they covered same basic contents of EAP writing to their students. Thus, the four instructors could be said to share the same discourse community in terms of language acquisition and teaching composition in the same university. In the later section of data analysis, it is rather apparent that this shared discourse community contributes to the similar focus of EAP writing conveyed in their instruction.

Due to a health issue, TA did not teach the class for more than a month in the Fall 06 semester and there were two sub-teachers. I did not get consent to videotape the classroom teaching from the sub-teachers. When TA returned to teach the class, she only taught the third unit, the revision unit of the 108 syllabus. The designed activities for this last unit were student presentations and student-teacher conferences. For that reason, quantitatively speaking, I did not get much data of how TA taught the class. Thus, although TA is the only non-native speaking instructor in the current study, there is no solid basis to compare whether her usage of gestures and metaphors regarding EAP writing differs from that of the other native speaking instructors.

Participating Students

There were 54 ESL students in the four participating sections. All of them were in the age range between 18 and 21. Among these students, there were 31 female participants and 23 male participants. They came from Japan, Vietnam, India, Indonesia,

Spain, Canada (Quebec), Mexico, Kazakhstan, China, UAE, Korea, Lebanon, Thailand, and Iran. Although 54 students agreed to participate in this study, there were only 24 participating students in the dataset. Many participants were not captured in the videotaped data because they were very quiet in the class and they rarely spoke in front of the class. In addition, when the whole class was engaged in peer review activity, it was impossible to record all the pairs who were engaged in the same activity simultaneously. As a result, the data pool of this study contained four participating instructors and 24 participating ESL students.

I asked the participating students whether they agreed to be interviewed for about half an hour at the end of this study. Eight agreed to do so, three from China, two from Kazakhstan, two from UAE, and one from Indonesia. Six of these interviewees were males; two were female. Four interviews were conducted individually and the other two interviews were conducted with two students from the same linguistic background: the two UAE students were interviewed together and two of the three Chinese participants were interviewed together.

Methodology

This study is designed with the main methodology of observation, videotaping and interview. In the Fall 2006 semester, I videotaped some peer reviews, student presentations and student-teacher conference activities from three sections: one ENGL106 section taught by TB, one ENGL107 section taught by TC, and one ENGL 108 section taught by TA. Since not all students in those sections agreed to be videotaped as a whole class, I could not videotape the entire classroom nor how the students

interacted with each other in class. I attended the classes, observed and made notes about the teaching and students' interactions for their metaphorical expressions. In the Spring 2007 semester, I obtained consent from instructor TD and all participating students in her section to record the classroom teaching and students' participation in the class.

I sat in a corner of the classroom to observe the class activities as much as I could. I told the instructors and the participating students that the study was intended to examine how ESL students helped each other work on their papers with the guidance of EAP writing; thus, I needed to observe the classroom activities in order to provide valid explanations. The fact that I was there in most of the classes made students accustomed to my physical presence. As a matter of fact, I witnessed some undesirable behaviors from some students, such as small talks in the group activity, reading materials other than the one designed for the class, and sending text messages in class. I also experienced many happy moments of kind laughter when something funny happened in the class. Sometimes, the instructors invited me to participate in the activities. All these indicated the data I collected are more naturalistic than contrived. Though there is definitely the observer's paradox, my frequent presence in the class apparently made students more familiar with me and less nervous and intimidated by the recording equipment.

Video-recording

The video recording equipment was a Panasonic OV-GS15 with a powerful zooming function (24 X optical zoom, 800X digital zoom), which allowed me to set the equipment at one corner of the classroom to capture the movement of students sitting in another corner of the classroom. Thus, the video camera was not set up right in front of

the students, in order to make students feel less anxious or uncomfortable at being video-recorded.

When I videotaped the class, the instructors moved around in the classroom, wrote on or pointed to the blackboards, interacted with the students by walking towards them. Thus, the video camera was set up with a tripod in the back of the classroom, in order to catch the entire interaction between the instructors and the students in the classroom setting. I remained in the class the entire time, moving the video camera to follow the instructor and the participating students in different directions. Connected to the video camera is a shotgun microphone, which allowed me to capture the sound of the instructors and students. The instructors' speech was mostly monologic since they focused on conveying concepts to the students, although students were occasionally invited to answer questions or to air their own opinions. The image and sound quality of the instructors' data were satisfactory.

When I videotaped the peer review activities, I had to select one pair from the many pairs who were engaged in the same activity simultaneously. I also set the recording equipment at a certain distance away from the pair, but positioned the shotgun microphone closer to the students for better sound effect. Sometimes when the classrooms were very crowded, the instructors would allow me to take the students to a nearby classroom for videotaping. In that case, I set up the camera and then left the classroom. I waited outside the classroom and returned to turn off the equipment when I heard the students finish their activities. It was easier to videotape students' presentations in the class. They normally stepped to the podium and presented their papers to the entire

class with certain technological assistance such as computer and ELMO (an overhead projector). Unlike the instructors, they normally remained in the podium area. So I just set up the camera at the back of the classroom and recorded their activities with the help of a shotgun microphone. The image and sound quality for these two activities were normally satisfactory.

However, for group activity, if the participating group was not near the recording equipment, although I could capture what the group did visually, the sound quality of the data was usually not very satisfactory, since the nearby sound was always louder and clearer than the sound in the distance, whether the sound was captured with the help of the microphone or not. In addition, sometimes a student visually blocked the other students in the group discussion and I could not capture the speakers' gestures. These factors rendered the data of group activities unusable.

The conferences were normally held in a quiet, soundproof room, with a big round table stationed in the middle. The instructors and the students were sitting around the table, and their positions were stable. Thus, I set up the video camera before they started to talk, and then left the conference room. When the conference was over, I returned to the conference room to turn off the video equipment. Both the images and the sound at the conference setting were ideal.

I also video-recorded the final interviews, which took place in a quiet, soundproof room with a round table in the center. I interviewed two of the three Chinese participants at the same time, and interviewed the two UAE participants at the same time. All the other interviews were conducted individually. In the final interview, the interviewee(s)

and I sat across the table, and the video-recording equipment was positioned in a way to only capture the students' gestures. I held a pen in my hand and was constantly writing down something on my notebook. This was designed to get rid of any possible influence my hand gestures might have on the students.

Data Transcription

All data in this study were videotaped. Some was collected in naturally occurring settings and the others as elicited metaphor data. The data transcription focused on metaphorical expressions, both verbally and manually, of both instructors and students, regarding the rhetorical conventions of EAP writing at the college level. However, metaphorical expressions and gestures did not always accompany each other. Sometimes, the language was metaphorical without a corresponding gesture. Sometimes, the gestures represented the overall abstract metaphorical sense of EAP writing without accompanied metaphorical expressions.

The instructors' utterances were mostly monologic due to the fact that they were explaining the academic conventions of writing to the students in the class, or in group conferences. Some of the participating students' data were monologic, and some were dialogic. Only utterances containing metaphorical expressions (both verbal and manual) of writing were analyzed in the current study. All the verbal utterances were transcribed using ordinary orthography. For gestural data, only those gestures that fell under the metaphoricity domain to describe the overall structure of writing and rhetorical conventions of writing were analyzed. In other words, batonic gestures are largely ignored in the current data, since they are very unlikely to fall under the domain of

metaphoricity. Iconic gestures (e.g. making a projecting gesture to emphasize the writing should be the author's own idea and point of view), metaphoric gestures (e.g. drawing a square around the paper to indicate the constraints of what one could analyze in the writing) and deictic gestures (e.g. pointing at each body paragraph and moving hands linearly for the linearity of EAP writing), if they were used specifically to concretize the abstract idea of writing (structure, process and convention) in a visual mode, are under the scope of this current study.

The focus of this study is not on ESL students' online language processing, so pauses are only indicted without specifying the actual amount of time elapsed. Gestures are described as an entire movement, without separating them into the onset phase, stroke phase, and end phase. This simplified gestural transcription is deemed proper and sufficient for the current study for the description of the mental representation of EAP writing. The trajectory, shape and location of gestures are described in detail for every gesture. Information about the transcription convention can be found in appendix I.

CHAPTER V: ANALYSIS OF THE INSTRUCTORS' METAPHORS AND GESTURES OF ENGLISH ACADEMIC WRITING

Metaphors (both verbal and manual) are the focus of this study since metaphors could be the mediational tool to help L2 speakers understand new L2 concepts and even help them reconceptualize certain existing concepts. Gestures, the manual metaphors, will provide an easily-accessed type of data to probe the issue of mental representation of abstract concepts which might be relatively harder to analyze with pure linguistic data. So the data analysis part of this study focuses on the instructors' and the students' talk regarding the overall structure of EAP writing and their corresponding gestures. There are two types of data: those data that occurred naturally in the classroom setting and those elicited data on how students used metaphors to describe academic writing in English and in their native languages in the final interviews. Not all verbal utterances on the structural aspect of writing were accompanied by gestures; however, those utterances will still be analyzed to explore how concepts of English Academic writing were expressed and established via metaphorical language. Compared with verbal data, gestural data regarding the overall structure of the essay receive more attention in this study. In many cases, it is rather clear that metaphors are not understandable as metaphors without studying the accompanied gestures. Thus, gestures and metaphors are often blended together and the analysis is always conducted in totality of gestures and metaphors to

gain the total understanding. The instructors will be addressed as TA, TB, TC, and TD and the students will be addressed as S1, S2, S3,… etc. Altogether, 54-hours of data were collected and 112 video-clips containing relevant gestures were extracted.

There are three research questions in the current study. In this chapter, I will analyze how the instructors use metaphorical expressions to explain what is expected in the English Composition class and how their gestures might enhance such ideas. The approach of data analysis in the current study is to analyze gestures and metaphors in totality. In the next chapter, I will examine how the students' gestural usage represents the way they conceptualize writing, and whether students' gestures regarding writing are related to the instructor's metaphorical explanation and/or gestures. The next chapter will also explore students' perception of the effectiveness of metaphors used in the pedagogical setting from the final interview data. For the readers' convenience, the research questions are reiterated in this and the next chapter.

Research Question 1: Patterns of Instructors

What are the instructors' metaphorical expressions and gestures regarding EAP writing at the college level in the naturalistic expository discourse when they explain EAP writing conventions to the students? How do those metaphorical expressions and gestures represent the way they conceptualize EAP writing?

In chapter two, some of the metaphors regarding writing such as journey, voice, lens, bread making, etc. were analyzed. Most of these metaphors materialized in the current study. In addition, a variety of other metaphorical expressions were found in the current study, together with gestures used by the instructors when they explained the

abstract concepts of EAP writing. Table 1 lists the twelve patterns generalized from these four participating instructors' metaphorical expressions, both verbal and manual. Each pattern focuses on a different facet of EAP writing, such as the overall essay structure (linear progress), thesis (hierarchical, encompassing and predictive), relationship between the thesis and the supporting ideas (tie), weaving metaphor and lens metaphor (outside sources), etc. These patterns are analyzed in the order of frequency of occurrence in the instructors' data. There are 38 instances of linearity metaphor (verbal and manual), 33 of hierarchy metaphor, 26 of tie metaphor, 24 of building metaphor, 22 of PIE metaphor, 20 of container metaphor, 20 of journey metaphor, 11 of exploration metaphor, nine (9) of scale metaphor, seven (7) of weaving metaphor, three (3) of projector metaphor, and two (2) of ongoing process metaphor.

Apart from the last one of "ongoing-process metaphor for writing", which focuses on the writing process, all the other patterns highlight different aspects of structure of EAP writing such as the importance of the thesis statement; the close relationship between the thesis statement and supporting ideas; the close relationship between outside sources and the primary text; balance of different elements of essay writing, etc. However, the division of the instructors' verbal expressions and gestural productions into the following twelve patterns does not exclude the possibility that the verbal utterances and the gestures can imply more than one metaphor at the same time. In other words, some of the metaphors were closely intertwined and interdependent when the instructors used them to highlight the structural part of EAP writing. For example, the linearity pattern was often associated with the journey metaphor, and the hierarchical function of the

thesis statement was implied in the building metaphor. The sense of essay/paragraph as container is strongly represented in many instances.

Table 1: Twelve Patterns of Instructors' Metaphorical Expressions regarding EAP Writing

1.	Linear metaphor, linear progression of EAP writing
2.	Hierarchy metaphor, thesis: hierarchical, predictive, encompassing
3	Tie metaphor, supporting claims and the thesis
4	Building metaphor
5	PIE structure metaphor
6	Container metaphor
7	Journey metaphor
8	Exploration metaphor
9	Scale metaphor
10	Weaving metaphor
11	Projector metaphor
12	Ongoing process metaphor

In the next section, I will analyze these metaphors and gestures one by one in the order listed above.

Linear Metaphor

All of the instructors emphasized the idea that a good piece of writing in English is linearly structured. Gesturally, the instructors constantly moved their hands from a higher place to a lower place, or they moved their hands away from their own body, to indicate the flow of information while explaining the essay structure to the students or commenting upon students' papers. The first example is from TA when she commented

upon one student's paper. Please note that the underlined parts of the verbal utterances indicate these parts of the speech synchronize with gestures, which are described in italics in the square brackets in the next line. This notation system is adopted throughout the data analysis part of the current paper.

Example 1:

TA: "He is pretty organized, he has <u>three, eh,</u> three <u>strategies laid out </u>and eh, support through good evidence, eh, found in the text, but […]"

[moving her RH downward, pausing three times on the path; same downward gesture]

Figure 1   *Figure 2*

In figure 1, TA's right hand was positioned a little bit higher than the position of her right hand in figure 2. The two positions indicated that TA moved her hand downward from a higher place to a lower place to delineate the movement of ideas that is supposed to happen in that student essay. While talking to another student, TA again demonstrated the linear sequence of essay development in example 2:

Example 2:

TA: "I would think if you want to <u>go by ethos, logos and pathos,</u>

[LH holds a pen and moves downward, pausing on each of the three appeals]

you want to divide these points up and_ put the appropriate part of the discussion into appropriate paragraph,

[BHC, moving hands downward]

[…] rather than discussing all of these under the name logos. They are not."

[RH holding a pen and circling above the area that was previously defined as the paragraph for logos earlier]

On the surface level, these gestures could be taken to indicate the spatial location of each body paragraph in the essay, which might be taken literally as a deictic gesture. Even so, it fits the linearity pattern rather than the spiral or zigzag pattern of essay development, since TA emphasized the inherent relationship between the ideas presented in the body paragraphs: they are strategies or appeals that fit under one thread of essay development. Example 2 also demonstrates how more than one metaphor can occur in one specific instance. When TA emphasized the need to put appropriate parts into appropriate paragraphs, she produced a typical container gesture with palms of both hands facing each other and fingers slightly curved. This is a manual metaphor of essay/paragraph as container. Meanwhile, by using this metaphor, TA also emphasized that only when the writer effectively packed similar information together can the essay demonstrate a clear linearity pattern.

TD revealed the same pattern of downward movement when she explained how to structure the ideas to her students in example 3. Similarly her gestures also conveyed the sense of paragraph as container.

Example 3:

TD: "He <u>switched to </u>what, Terry and his feeling,

[LH jumping back and forth]

so anyway, when you can, try to <u>separate things</u>

[LP facing the students, moving downward and pausing on the path]

<u>so that you can get five paragraphs on just one thing</u>."

[LH index finger and thumb forming a half-open container shape, then moving LH above

her head, then moving downward, pausing on the path]

Figure 3	*Figure 4*

Here, TD produced a downward-movement gesture to indicate the progression of ideas in the essay, as seen in the different positions of her hands in figures three (3) and four (4). Similarly, TD emphasized the need to have multiple paragraphs on the same idea in her speech. It is natural to assume that ideas presented in the multiple paragraphs are related. Her gesture highlighted that these related paragraphs help the essay move forward. Notice that one common feature of these two instructors' gestures is the linearity of the hand movement. In the above examples, they talked about what the students should

do, i.e. what an ideal piece of writing should be like: all the ideas progress sequentially and linearly. This linearity also contains the idea that a specific idea should occur at its default position; just like the river-flow metaphor explained by one instructor: a point should be presented in a certain place because it belongs there, just as the river flows from one place to another.

There are certain variations in terms of the linearity path, depending on the type of essay the students were asked to produce. The assignment of the second unit of 107 was to write a cultural analysis essay where the writers were asked to talk about how they reacted to the story by relating their own experiences. TD emphasized that the students should combine two threads of development in this essay: one from the story and the other one from their own experiences. In example four (4), TD urged the students to produce an essay with two developing lines by saying,

Example 4:

TD: "You can start with the character, start with the story then go to yourself, to go back and forth that way. That might be easier."

 [drawing a downward zigzag path]

The next example illustrates how TD reiterated the same idea in another instance.

Example 5:

TD: "This is gonna work for a lot of your essays to go back and forth, ok, between the two, between the two sides".

[drawing a downward zigzag line on the board; RH moves back and forth]

Here the "two sides" refers to the text the students analyzed and their own experiences. Notice that TD did not draw one line, but two lines to indicate the two parallel threads of development in the essay. These two lines are not detached, but connected: one line transits to become another line at a joint, then keeps on moving along the same direction. In the previous examples, when the instructors produced the linear movement of one single line, the students were asked to analyze one single piece of text, thus, there was only one line of development. Here the two parallel but joined lines clearly conveyed the idea of the two required elements of analysis in that specific essay. Most importantly, the vertical zigzag path was also developing downward, indicating the same movement, same progress of ideas in the essay, despite the fact that there are two "sides" now.

Also worth noticing is the locale of these downward linear gestures. All such gestures were produced in the center front of the speaker, as if indicating the directness and importance of these ideas, since the center front is the main stage of gestural production. This continuity was broken when TC pointed out why certain ideas should not be presented in the same piece of writing when she moved her body and/or hand(s) sideways, as seen in figure 5. Her gestures were not produced in the center stage, but to the side of her body. The next three examples (example six, seven and eight) prove that an essay without linear development is problematic when those gestures are not produced in the center stage and when the trajectory of the gestures is non-linear.

Example 6:

TC: "You must back up everything that you say in this paper, must be given by the scontext, *[opening BH widely around the body as if wrapping something with this circle]* which is given by your secondary text. […] Students thought that secondary text is I can make my own assertion […]"

[turning body to left, hands opening wide in that direction in an emphatic way]

Figure 5

In this group conference, TC was talking about a text-in-context essay and how the surrounding context could help students present a deeper analysis. Before she turned her body and hands sideways, she was facing straight ahead and all her previous gestures of how the students should proceed with the essay and how all the claims they made about the text should be grounded in the contextual information were produced in the center stage in the direction indicated in the dotted line in figure five (5). When TC explained why it was wrong that some students, instead of grounding their claims within context sources, proceeded with their own ideas, she turned her body and hands sideways, as indicated with the two solid lines, to form a contrast to the linear movement gestures, as if indicating such ideas were on the wrong track when they were not following the

linear movement pattern. In example seven (7), TC analyzed why one student's paper was problematic. She said,

Example 7:

TC: "You kind of talking about American beauty, happiness,

[move BH and body to the left]

then you talk about your secondary text.

[move BH and body to the right]
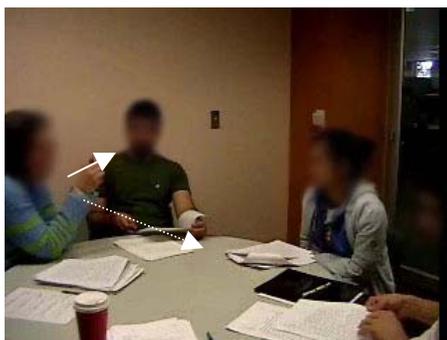
Figure 6   Figure 7

In this example, TC did not produce the linear line of essay movement. As seen in figure six (6), she moved her hands to the left side of her body to indicate part of the essay is going along that direction, perhaps the analysis of the primary text. Then in figure seven (7), she moved her hands to the right side of her body to indicate the essay is going on an entirely opposite direction for other ideas. By producing two lines in opposite directions, TC clearly indicated that the essay violated the linear progression of EAP writing by dragging different ideas into the essay so that the entire article projected to different directions. The two lines produced by TC in this example were not parallel to each other. There did not seem to be a joining point to connect them. This is in sharp

contrast to TD's two parallel but joined lines that move linearly downward in example five (5).

Similarly, while holding a conference with another group of students in example eight (8), TC suggested that the students should change the ideas presented in the writing "so that you are being consistent in what the paper is talking about, rather than <u>drifting</u> <u>off</u> and talk about what else you might want to talk about". *[move BH sideways to the right of her body]*

Figure 8

The dotted line in figure eight (8) indicates the locale and directionality of the linearity gesture that is supposed to happen for a good essay, which contrasts with the solid arrow that indicates the direction of TC's right hand that accompanied the "drifting off" part in her speech. It is rather clear from both TC's words and gestures that all ideas presented in a single piece of writing should revolve around a central idea and move along the same direction. If any of them "drift off", it violates the linearity of essay development and will not be regarded as a good essay. A gesture that is moved sideways and produced outside the center stage of gestural space indicates the peripheral nature of

the relevant ideas/ evidence represented in the gesture and the fact that they sidetrack the essay from being linear. In all, TA, TC and TD's gestures share the same concept that according to the rhetorical convention in English writing, an essay which is not progressed linearly is not recommended.

Hierarchy Metaphor

One thing emphasized by all the instructors is the default position and the hierarchical function of the thesis to control what ideas should be presented in the essay. As a writer strategy, a good thesis will help the writer organize specific ideas presented in the essay. As a reader strategy, a good thesis should help the readers predict the forthcoming ideas in the body paragraphs of the essay. Learning how to write a good, effective thesis statement is one of the priorities of student writers in EAP writing classes.

While explaining what is expected in the cultural analysis paper, TD emphasized the importance of integrating the writer's own experience and philosophy into the analysis of the text as the goal of that specific paper. As a result, "that means the thesis needs to talk about both these things. So please make sure your thesis is about the whole thing." *[LH drawing a curve above her head]*

Figure 9

The locale of this gesture in figure nine (9) is not random. TD put her left hand above her head then drew a curve line across the space above her head. The shape of this gesture reminds one of a roof, or a canvas that could cover the materials beneath. It also corresponds to the human body metaphor of essay writing when the head is regarded as the thesis statement to determine the rest of the essay. This gesture indicates that the thesis is higher in terms of the overall structure of the essay since it controls the rest of the essay and the ideas that are put underneath. The curve line for the thesis statement stands for the idea that the thesis statement is not merely a sentence. It should be encompassing and should cover all the ideas that will be presented in the essay. The thesis statement may not be needed in other languages, so ESL student writers need to be trained on how to write a good thesis statement. The skill of writing a good thesis statement is equally important and difficult for American student writers. Thus, the idea of a good thesis statement, its function, and the reason why it is needed are constantly emphasized in writing classes to help student writers produce a good thesis that fits the conventions of EAP writing. The above gesture clearly reveals the hierarchical, comprehensive and encompassing aspect that the thesis statement is expected to fulfill.

In addition, as a reader strategy, the thesis statement should also help readers predict what to read in the forthcoming body paragraphs. The weather forecast metaphor was used to highlight the predictive function of the thesis in TD's class, to help the students understand what a thesis statement should be about. In example nine (9), although no gesture was produced, the metaphor "forecast" featured on the prediction part of the thesis statement.

Example 9:

TD: "Provide a roadmap by stating your thesis and forecasting important sections. Okay, forecast is how you prove the thesis. So somewhere near your thesis, you need a statement that gives your proof. You use the story to prove your point and you can put some kind of forecast, just like the weather forecast […] Forecast is the same thing. You are gonna forecast the main point of your essay".

In example 10, TD reinforced the same idea that the thesis statement helps the readers to predict what to expect in the essay, just like the weather forecast informs people of the forthcoming weather.

Example 10:

TD: "Hopefully your forecast might help with this. <u>Something you say in your forecast should <?> your first,</u> your first paragraph.

[drawing a line on the board between the thesis and the sample topic sentence]

Yeah. You want there to be <u>a link </u>there. Good, good."

[moving RH upward and downward along a line]

This weather forecast metaphor helps students relate the familiar with what they are learning. One constantly hears about the weather forecast to obtain a rough idea of the upcoming weather condition based on that information, although TD mentioned that weather forecast is not always one hundred percent accurate. The weather forecast metaphor is important to help the students conceptualize their own thesis statement as a forecast to the rest of the essay. In another writing workshop, TD commented upon one student writer's essay by bringing in the same concept. She said:

Example 11:

"What did he set up in the thesis? What is his forecast? […] When I read that part, it seems to me like a perfect forecast, right. You see where I am from, and then the next step is to think of sections […], how easy it is for him to separate things in sections. We should have 'not caring about things what other say', 'be who we are', 'not hiding from other's sights'. To me that shouts out three sections of my paper […]. He has got a sentence prominent at that place and it makes perfect sense to follow through and go with that".

This example echoes examples nine (9) and 10 to re-emphasize that the thesis statement serves as a predictor to help the writer organize the essay. The three sections TD separated all came from the thesis statement. TD predicted that the rest of the essay should follow the thesis to analyze those three ideas in detail in separate sections. Whether that student writer produced a thesis-body paragraph match was unknown at that point, since that was the first workshop of that specific essay and students were asked to only have one-page writing at that point. However, the EAP rhetorical convention suggests that the above-mentioned structure to put the three ideas as separate paragraphs to match the thesis statement is expected.

The building metaphor is also implied when other instructors talked about the thesis statement for its overarching function, just like a roof. Although the word "building" was not explicitly discussed, TC conveyed the idea that the essay is a building and the "whole paper is framed inside that". By "that" she referred to the thesis statement. The thesis serves as the mainframe that controls the rest of the building/the essay. So,

"your point and particularly the way you illustrate your point need to be framed inside that the whole time". Again "that" refers to the thesis statement. Compared with TD's weather forecast metaphor, TC focused more on the controlling function of the thesis statement about what supporting ideas can be presented in the essay. In the building metaphor, once the "frame" is set, the rough shape of the building is set. It is the same for writing: when the writer sets up the thesis, he/she will have a clear idea about the rest of the essay and supporting claims. TC further emphasized this idea with both gesture and verbal explanation in the next example.

Example 12:

TC: "You need to frame your point, you need to, whatever you are gonna say, you need to frame inside of this idea here".

[BH facing each other, moving up and down above the space of the thesis statement, the movement of the hands seems to indicate the boundary of the essay; same gesture]

Here TC moved her hands in a container shape above the space of the thesis, as if the thesis is the infrastructure of the building and what are regarded as relevant, supporting ideas should all fit into this structure. TC also moved her hands parallel to each other in this gesture. She did not move her hands in an extended manner, nor did she narrow down the container shape of her hands. The unchanged shape of her hand gestures clearly conveyed the idea that the supporting ideas should follow the framework set up by the thesis. There should not be any new ideas in the body paragraphs that are not predicted and confined by the thesis. Nor should any ideas that are covered in the thesis be left un-addressed in the body part of the essay.

Tie Metaphor

This metaphor means that supporting ideas should relate to the thesis statement. This and the previous pattern are like two sides of the same coin. Since the thesis is higher in terms of its controlling function, every supporting idea that will be fully explored in the body paragraphs should relate back to the thesis. The relationship between topic sentences, otherwise labeled as supporting points or claims, and the thesis statement receives as much attention from the instructors as the thesis statement. Metaphors such as "link", "tie", and "match" were used frequently to indicate this inherent relationship. The instructors tended to draw a line between two spaces nonverbally; one assigned to the thesis statement, the other to the topic sentence. When they moved their hands between these two spots in a straight line, the close, direct correlation between the thesis statement and the topic sentence was visually represented. TD, in a writing workshop, set up some guidelines for her students to think critically about their own essays in terms of the structure. She said,

Example 13:

"Here is what we are doing right now…You want to think oh, do <u>my topic sentences go to the thesis?</u>

[moving LH back and forth as if drawing a linear line]

<u>You have to</u> kind of make anl, analogy all the time,

[repeating the same back and forth gesture]

<u>Does my essay match up with what it is supposed to be like</u>?"

[moving LH several times from one side of her body to the other, as if making comparison between two objects]

Verbally, TD expressed the essential relationship between the thesis and the supporting points as drawing an analogy to see whether the two match up. Gesturally, TD made a typical line-drawing movement to indicate the direct relationship between these two parts. In the next few examples, TD used similar expressions and similar gestures to reinforce this concept in different instances.

Example 14:

TD: "[…] and what you want to show as you are doing your essay, you want to have a direct tie between your thesis and your topic sentences. Ok, now, so that sentence she just read, how well does that match the thesis? How well does it match the thesis?

[LH moving back and forth in front of her body]

Can you notice that direct tie"?

[LH moving back and forth along a sagittal linear line in front of her body]

In the section of hierarchy metaphor, we already encountered a gesture when TD moved her hand back and forth to draw a line between the thesis and one of the body paragraphs to indicate the link between them. Here, TD manually represented the necessary correlation between supporting points and the overall claim of the essay. In example 15, TD asked one student to read the first sentence of a body paragraph to the class after they agreed upon which sentence is the thesis statement. She then said,

Example 15:

TD: "The thesis says she is trying to spark positive change and then with what XX <u>just read</u>, you can see how there is a <u>direct correlation.</u>

[moving her arm in the direction where the above-named student was sitting; drawing her arm back from the previous position to the text]

Right? Here is another topic sentence that just <u>goes straight to that thesis</u>".

[walking towards the board, drawing a line between the topic sentence and the thesis]

In this example, when TD moved her arm to the direction of the student's seat, she referred to the topic sentence of that paragraph. Then when she moved her arm back to the text, she was literally drawing a line between the topic sentence and the thesis statement. This was further corroborated when TD drew the line on the board to connect the point and the thesis. To emphasize the link, TD talked about this connection in several instances. In the next example, TD emphasized the same idea.

Example 16:

TD: "You got your body paragraphs that should have PIE, and what you want is you want this point<u>, your topic sentence, to go right back</u>".

[drawing a line between the written P and the bottom section of the square she drew on the board]

Prior to this, TD already drew some squares on the board, and one of them is for the introduction paragraph. She put an "X" mark at the bottom section of that square to indicate the position of the thesis statement. Then to the right of this square, she drew three squares that were piled up vertically. In the first square, she wrote down "P" at the

left top corner to indicate that that specific sentence is the topic sentence which contains one of the supporting points. After that, she explained to the students that every point should go back to the thesis by drawing a line between the "P" mark and the "X" mark. This reinforced that ideas in the body paragraphs should relate back to the overall claim of the whole essay, as indicated in the thesis. The previous hand gesture of an imagined line became visible at this moment to concretize the connection between the thesis and the supporting ideas within the essay. This line-drawing gesture is somewhat similar to the linear movement gesture analyzed in the first pattern. TD's hand moved back and forth in a linear manner, which clearly conveyed the idea that all supporting ideas should relate directly back to the thesis statement. The previous linear movement focused more on the relationship between each supporting idea since the instructors tended to pause a few times on the path, which could indicate several body paragraphs. This line-drawing gesture focused more on the close relationship between supporting idea and the thesis statement, as each supporting idea might compose a part of the thesis statement.

TC also emphasized the direct correlation between the thesis statement and its supporting points. From a slightly different perspective, TC focused on the sequence of supporting ideas and the main claim. In example 17, she pointed out the problem of one student's draft in this aspect and suggested that student should think about how to relate her supporting ideas to the thesis statement.

Example 17:

TC: "It is not you are talking about beauty in the scene then relate it to your thesis,

[RH touches upon the paper; RH moves to the top section of the paper]

you need to <u>stay clear on what your thesis</u> is and<u> talk about only</u> that which is related to

<u>your thesis</u> […]"

[emphatic gesture; moving RH to the right front of her body, then flips hand forward]

To TC, it seems that the topic of "beauty in the scene" strayed away from the

thesis statement and needed to be changed, since it did not "directly relate and reflect that

thesis statement". TC made it clear that an ad-hoc connection between what one wrote in

the body paragraph and the thesis statement is not acceptable. There should be an

inherent and logical connection between the supporting points and the overall claim: the

thesis statement controls and the supporting points follow its direction. Otherwise, there

will be a major problem in the essay structure. The next example further illustrates this

point.

Example 18:

TC: "Right now I think <u>what you are doing</u> is

[RH holding a pencil, moving down the paper in a wavy manner]

you are looking at <u>every single thing</u>, but it does not

[RH holding the pencil, touching upon the paper three times, pencil moving down]

necessarily <u>relate </u>to your point…..

[emphatic gesture]

You are just <u>talking about </u> <u>everything</u> that has to do with the beauty and the scene.

[RH moving in circles; opening both arms widely to cover a larger area]

<u>this is beautiful, this is beautiful, this is beautiful</u>, right?

[palms facing down, BH moving from one place to another, from right to left sequentially]

You need to <u>talk, stay </u>more <u>tied</u> to this context.

[index finger of RH pointing at the paper and circling around that area; RH moving down; index finger of RH pointing at the paper]

so that everything you talk about is directly related to your thesis. Then your next job is for every paragraph to write a <u>point</u> that *[emphatic gesture]*

<u>uses the same language, right, that searches the same idea</u> but now <u>it's in a particular instance</u>".

[BH projecting to the front where the thesis statement is supposed to be located; moving BH closer to the body, indicating point in the body paragraph]

When TC analyzed the problem with that draft by pointing out that the writer included "everything that has to do with beauty and the scene", she moved her hands in a circle to cover a wide area. This gesture might indicate that the writing is scattered without a focus and a direct tie related to the thesis statement. Toward the end of example 18, when she urged the student to talk about the same idea in a particular instance, she moved her hands along a line between the assumed point of the thesis statement and the assumed point of the body paragraph. The different gestures produced by TD and TC clearly highlighted the importance of the inherent correlation between the overall claim/ the thesis statement, and the smaller supporting claims/the topic sentences.

Building Metaphor

The building metaphor was commonly used in writing classes in a variety of forms to emphasize different aspects of the essay. In pattern two (2), we already encountered the building metaphor when TC talked about how the supporting points were

framed inside the thesis statement. In example 19, she also implied the building metaphor to talk about the relationship between the topic sentences and the thesis statement while holding a conference with her students.

Figure 10

Example 19:

TC: "you have to make sure that every claim you made is grounded in this idea,

[RH holding a pencil, circling around the area that is deemed to be the thesis]

and you have to make every point use the same language as this idea.

[moving RH back and forth as if between the thesis and point]

And you have to illustrate, you have to prove […]".

Notice that if TC wanted to highlight the length of the thesis in the sense of one or two sentences, she might not produce the circular gesture as drawn in figure 10. Instead, what was emphasized in the circular gesture was the foundation part of the building metaphor of writing. In this example, it is the gesture that provides the extra information in the sense of circularity to help students get the right interpretation that the ideas

expressed in the thesis statement lay the foundation of the building, and the rest of the paper is grounded in and built upon this foundational idea. Here, the correspondence between the thesis statement and the foundation is different from the correspondence between the thesis statement and the roof. This difference actually reflects two approaches of writing. Some tend to write the thesis after they finish the analysis of all supporting ideas. In this way, the thesis serves as a sentence to wrap up the main ideas, hence the roof. Some tend to have a clear vision of what they are going to write about in the essay, and they start from the central claim to the detailed argument, hence the foundation.

TD also implicitly used the building metaphor when she talked about how to organize the supporting ideas in the essay. She said,

Example 20,

TD: "However you can best prove your thesis, there are sort of two ways to do it...you can sort of start with the weak point, and go strong,

[start drawing a triangle on the board, the tip is the "weak point"]

you can go chronologically, alright? That's, that's okay too. That often works.

But you can also start with a weak point and build,

[pointing at the tip of the triangle; dragging LH downward to the bottom]

Figure 11

you can also do it opposite. You can start with <u>a crashing awful big point</u>, and then

[drawing an upside-down triangle, pointing at the top section of the triangle]

<u>slow down</u>. You can kind of do it either way, but it is interesting […]"

[withdrawing BH to her body, as if the two sides of the upside-down triangle finally meet]

Figure 12

The two triangles formed in figures 11 and 12 are opposite to each other to indicate the different ways to develop and build the essay. Although TD used the idea of "building", it was not exactly the idea of building a house. Her gesture focused on the strength of each supporting idea in comparison to each other. If it is a weaker one, then

there is not too much to talk about and not too much space should be spent on exploring this idea. Thus the weaker idea is the tip of the triangle. But when the ideas are stronger, it means there are more examples and more explanations, and perhaps one should also dig deeper into the idea, thus, they become the bottom of the triangle because it needs more space for the strong point. Notice here that TD was not focusing on the entire essay structure in this example, but just the way to organize different ideas according to their comparative strength. In the next example, TD used the building metaphor to refer to the structure of the entire essay.

Example 21:

TD: "…it seems that he has got several strong ideas that he might build on, but …".

[putting LH on top of the paper and raising the hand]

Figure 13

The thesis statement could be interpreted differently as the roof, the foundation or the blueprint of the building, depending on how we interpret it. In example 21, TD seemed to use the building metaphor in the sense of the foundation. We can clearly see from figure 13 that TD raised her hand upward to emphasize how supporting ideas are

built upon the thesis statement. Furthermore, the production of TD's gesture is context-specific: when TD raised her hand, we could see clearly that gesture was produced based on the size of the paper she was holding. Even when TD verbally produced the "building metaphor", her hand did not specify the size of a real building but a virtual building based on the size of the paper.

In example 22, TD again emphasized the importance of the thesis in the sense of a blueprint. She said,

Example 22:

TD: "That is what I look at. I look at the thesis

[LH index finger and thumb moving above her hand in a half-open container shape]

and see if you did what you say you are gonna do, so that is a very important part.

[the same posture of hand, moving downward, pausing twice on the path]

You wanna give your thesis and you wanna give how you are gonna prove it,

[moving her hand from one place to another place in a forward direction]

so sometimes it could be a little bit confusing".

[repeating the same hand-forward-movement gesture]

It is rather clear that the function of the thesis statement is a blueprint of the essay. When one defines what to write, one needs to stick with that blueprint, otherwise, the building will come out differently than expected. An instructor will check whether the essay follows the blueprint, that is, whether the essay analyzes those ideas that the blueprint/thesis indicates that the essay will be analyzing.

In the building metaphor, we see the instructors moved their hands upward to emphasize that thesis is the foundation of the essay and all the supporting ideas are derived from this foundation, since the word "building" implicates the direction from the bottom to the top as details are piled up to compose the essay. However, when they wanted to highlight the hierarchical and controlling function of the thesis, they moved their hands above the head to resemble the roof of a building. In this way, the hands remained at the top and did not produce a sequential downward movement to indicate the writing process. Perhaps that corresponds to the fact that the building process does not happen in that direction.

PIE Structure Metaphor

PIE structure is something new to many student writers; thus, this proposed model of body paragraphs at the college level of EAP writing receives much attention in instruction. PIE is an acronym used in composition classes that stands for "P", point-the topic sentence; "I", illustration-the examples; and "E", the explanation. PIE itself is a metaphorical expression to indicate the icing, the topic sentence; the filling, the examples, and the crust, the explanation. Many instructors emphasize the importance of a detailed explanation since it is what holds different parts of the paragraph together, just like a piecrust. However, students often tend to ignore the explanation part in their writing. To emphasize the significance of the explanation, TD used an analogy of a half-empty/half-filled glass when she first introduced the PIE concept to the students. She drew a glass on the board then drew a line in the middle of the glass and used a chalk to darken the bottom part of the glass.

Example 23:

TD: "You're explaining now. Let me tell you what. Here is a glass. It looks like a glass to me. Ok, here is a glass; you have to decide whether it is half full or half empty.

[moving RH to the bottom section, then to the top section of the drawn glass]

OK. It is the same thing with proof of the essay. Whatever your proof is, you are gonna explain it to me, to me, to your classmates too, what it means. Because if you just show us the proof, we don't know what way you are looking at it.

[RH holds a chalk and pointing at the drawn glass on the board, at the empty section and the darkened section alternatively]

Right? If you are using a proof to mean X and Y, you can look at something in a different way".

Explanation is an essential part in the PIE metaphor, since it represents the writer's own voice. One thing inexperienced writers tend to assume is that the idea is self-explanatory to the readers. Many student writers, even when they do have one sentence or two as the explanation, tend to make the explanation simple. By using an analogy of the half-full, half-empty glass, TD made it clear that the same example could be interpreted in a different way depending on the perspective of analysis, when she moved her hand up and down for the darkened part and the clear part. The need for a detailed explanation is clearly conveyed to the students through this simple analogy. Again in this instance, TD made use of what is available and visible to her and to her students when she gestured at the different parts of the drawn glass to indicate the two alternatives of looking at the same issue.

However, the PIE acronym/metaphor could be somewhat misleading if students take the number of examples and explanation that can be discussed in a certain paragraph literally. TD extended the PIE to PIEIEIE when she explained a sample paragraph structure to the students in example 24.

Example 24:

TD: "She has more like *<start writing PIEIEIE on the board in a vertical line>*, actually her paragraph, I think it is a little bit long, but ok, anyway, she did something like this

[moving her RH up and down along the PIEIEIE line she just wrote on the board]

where she noticed, if you notice this paragraph, she's got a quote, and she's got some text, she's got some quote and she's got some text.

[holding the book with her RH, facing the student, LH moving down sequentially]

do you see that, very far down

[LH index finger shuffling up and down on the same page]

and then, look at how she does, she's got a lot of explanation, her own explanation, of what this quote means".

[moving LH towards her body, then flipping LH outward away from her body; moving LH several times between her own body and the space above the textbook]

so she has sort of extended paragraph, but that's fine.

[RH drawing a curved line]

All you have to do is make sure readers are following you. So this is kind of a very sophisticated, complicated paragraph, as long as we see how it fits into the essay. "

[moving RH along the path from the PIEIEIE space to the P space]

Example 24 happened after the students already understood why a detailed explanation is needed from the half-empty/half-full glass analogy. Here TD moved her hand sequentially down that paragraph to see how the examples and the explanation should be interspersed throughout the body paragraph to achieve a sophisticated explanation.

Container Metaphor

The container metaphor implies that the essay is a container that needs to be filled with ideas. A well-written essay usually contains facts to support one's stance on a particular topic, just like a container packed with proper materials. An essay with only opinion but no evidence is an empty container. The writer cannot simply throw everything into a paragraph and expect that paragraph to be an organized container. Though the instructors never explicitly articulated this container metaphor, their words and gestures clearly indicated this embedded idea. As seen in pattern three (3), TD even drew containers on the board and put in a thesis statement, topic sentences, examples and explanations at the default position inside the container. For example, she put "thesis" at the bottom section of a square she drew on the board to indicate the default position of the thesis statement in the introduction container. Right next to this square, she drew another one and filled it with a sample topic sentence at the top section, then wrote down "proof" in the middle and "explaining" towards the end section of the square. This drawing clearly indicated that each paragraph of the essay is a container, and different containers will contain different information in the expected organized pattern.

When each body paragraph is regarded as its own container, it is natural to expect different foci/contents in different containers. An organized person will not put different contents in the same container. Neither should an organized writer analyze more than one idea in one body paragraph. In one section of a peer review workshop, TD asked the students to read each other's papers. After reading one student's draft, TD suggested that the student writer break down the long paragraph into different parts. She commented that there was too much information in one paragraph and pointed out that one of them should be discussed in another paragraph. She said,

Example 25:

TD: "[…]that is such an important nice factor, probably deserves its own paragraph […]

[BHC]

he has got several really crucial factors right here, it is shouting, it is shouting for its own paragraph".

Here TD posed both hands in a container shape when she suggested that one factor should be taken out of the crowded paragraph in order to be fully developed in its own paragraph. Her hands clearly indicated the container sense of the paragraph. In this instance, again it is the gesture that provided the container idea. If we only look at TD's verbal utterances, we will miss the container sense. In the next instance, the instructor's gesture served more important function to convey the container idea when TB a conference with his students.

Example 26:

TB "[…]so I imagine, what the next paragraph talk about […]"

[moving BH to form a large container shape around his body]

Figure 14

By moving his hands to both sides of his body, TB's gesture in figure 14 formed a container shape when he asked the student writer about the following paragraph. Assigning certain space to indicate a paragraph implies certain content is needed to fill the container and certain space is taken to fulfill this. This is shared when TD commented upon one student's paper. She said,

Example 27:

TD: "Look how much stuff he packed into this first paragraph. […] People already got big ideas of where to go with this essay, but let's not waste any of them".

Though here TD did not produce a gesture to accompany this comment, the word "pack" reminds one of putting materials into a container. Furthermore, ideas are just like materials to be put in containers. If they are not handled properly, the ideas will be wasted. TD emphasized that a good essay should be a container with a proper amount of ideas or information, not too much, not too little. If the student writer tries to put too

much into the essay or one paragraph, the essay will be over-stuffed. That is what one should avoid, as TD clearly explained. The length of a body paragraph or the size of the container should be proper: a longer paragraph surely means too much information is inserted, thus, it needs to be shortened and ideas need to be taken out. This idea was shown when TA commented upon one students' revised paper.

Example 28:

TA: "You are trying to put <u>too much</u> information in that<u> looong</u> , uh, <u>passage</u>.

[LH moving up and down at "too much"; raising LH way above her head then moving down at "long" with the lengthened vowel "o"; thumb and index finger of LH forming an open-container]

Figure 15

After you <u>cut it down</u>, I feel it is more focused and even more clear".

[narrowing the open-container shape gesture]

Figure 16

The up and down movement of TA's hand might indicate the length of the paragraph, or the size of the container. Furthermore, TA formed her thumb and index finger of her left hand in an open container shape (in figure 15) and she narrowed the size of this container (in figure 16) when she talked about how the writer "cut down" the length of the paragraph in the revised version. The size of the container decides how much materials could be put inside; thus, a proper length of the body paragraph is essential to ensure the proper amount of information analyzed in a certain body paragraph.

This container metaphor also implies that the essay should be a container of orderly organized ideas, not one of random or discarded materials. One cannot throw whatever waste material and expect it to be a well-organized container/a good essay. TD emphasized this idea to her students when she said,

Example 29:

TD: "It happens with some of your papers. Some of you throw in Romeo and Juliet <?>, you can't just throw in this sentence. You might want to use this […] You probably just don't want to throw them in at the end of the paragraph".

The previous verbal utterances and gestures of the three instructors share the same idea that a proper amount of information is needed to fill the essay, and the essay should be an organized container.

Exploration Metaphor

Good writing not only needs to flow well, it also needs to explore the deeper meaning and significance of the topic. Many instructors emphasize the idea that college level writing has a higher standard than high school writing. Student writers are expected to deeply analyze the significance of their arguments; and to produce an arguable thesis statement which could provoke their readers to think deeper about the topic. A thesis statement with mere observation or fact will not meet this requirement. To achieve that purpose, the students are suggested to choose a topic that will give them enough to talk about, as TD articulated, a "complicated topic". She praised one student's topic because the student writer "has got something he is gonna wrestle with". The "wrestling" metaphor vividly resembles the struggling process one has to go through to win and to reach a full-scale comprehension and analysis of the paper. Through this hard process, one might be able to get to the deeper meaning of the topic. On the other hand, she cautioned her students against the tendency of choosing something easy. She said,

Example 30:

TD: "What sometimes people do is, oh I am about to write X, that is easy. Ok, you can do that, but that is kind of dangerous, because usually whatever is easier, is harder to write a strong essay on. You would not have enough to go on to be motivated to dig deep into the

story. *[LH flipping outward twice at "enough to go on"; index finger of LH pointing downward at "dig deep"]*

So I would not choose something <u>easy</u>. I would choose something <u>interesting</u>".

[LH beats at "easy"; LH flipping outward at "interesting"]

The digging gesture and the pointing-down gesture remind one of the "iceberg metaphor" used in analysis: to read between the lines and think about the unexpressed but implied deeper meaning of a piece of work. It is like an iceberg. The tiny part above the water only represents the surface meaning; what is hidden underneath the water is more significant. What makes one's analysis thought-provoking is what one digs down from the larger part hidden underneath. Similarly, when students write their analysis paper, they are also expected to dig deeper and deeper into the text for analysis. This digging process for the deeper, hidden meaning is like exploration: to explore what is hidden underneath. This exploration metaphor was explicitly articulated when TD encouraged the students to use proof in their essays.

Example 31:

TD: "You use the texts to give you some proof, but you can also use your own experience, or you can just explore your own opinion […] This is more like exploration […] If you don't have experiences that are useful, you don't want to talk about your own family or anybody you know, fine. You choose something to explore, suggested by your text".

The recorded data suggest that this exploration metaphor for the deeper meaning was only found in TD's class. However, the observed data indicate that all of the other three instructors urged the students to "find the deeper meaning" of the text, to present a

"well-thought, well-reasoned argument". Students were told not to write about the "surface meaning that is obvious" by providing examples only. They should, through detailed explanation, strongly support what they see from the text after reading the text actively and closely. All these suggest that digging for the deeper meaning is one of the criteria for the college level EAP writing.

Journey Metaphor

The journey metaphor is another commonly used metaphor in composition and it is often related to the linearity aspect of essay writing. Words such as "roadmap", "signpost", "direction", and "lost" are frequently used as part of the journey metaphor of writing. In the analysis of the hierarchical pattern of the thesis statement, we have already seen that TC urged her students to "stay tied" to the text and TD used "roadmap" in her weather forecast example. In example 32, we will see how the roadmap metaphor is used to explain how a clear thesis statement could guide the readers through the paper.

Example 32:

TD: "*<talking about putting the thesis statement>* at the beginning of your essay, so that we know what to look for. You wanna, as people are reading your essay   <…>

[moving LH up and down along a linear vertical line]

maybe three paragraphs about the first point, then you start another topic, then you say, okay, I see what he is doing. It is a roadmap. Ok, it is hard to imagine until you start doing it, then it will make more sense".

In this instance, the gesture made by TD was not specifically on the journey/ roadmap part. However, as seen earlier, the linearity gesture might be closely related to

the journey metaphor to indicate the progression of the essay. When TD moved her hand along a linear vertical line to indicate how people read the essay, her hand indicated the path of the essay. Soon after, she talked about how the thesis statement served as a roadmap to guide readers through the essay, just as a real map guiding travelers on their journeys. Thus, the sense of the whole essay as a trip/journey was clearly conveyed. The travelers/readers need to develop the sense of where the essay will go. They need the roadmap/the thesis for that purpose. A good essay will help the readers to get the sense easily and a good essay is a straightforward journey with a clear direction of how to get to the end point. On the other hand, a not-so-good-essay is one that causes readers/ travelers to get confused/lost.

When the instructors wanted to highlight the journey sense for the entire essay, their hands tended to extend from their bodies to a faraway place, indicating the progression of the essay. This process is the journey part: one starts from a place and ends at another place while passing by different places on the route. On this route, there might be sidetracks, and one needs to figure out how to move from one stop to the next one. In this sense, TB used "signpost" to describe the transitional part of the essay. He said,

Example 33:

TB: "So use transitions to tell your reader what you are doing now and where you are about to go. In class we talked about those like signpost, directing your reader about where I am going next, use the signpost, the red flag to drag your reader through your paper".

TD also used the word "signpost" under the journey metaphor framework when she said "You are giving the main way that you are gonna prove the essay. It is like putting a signpost". To TB, a signpost is a marker when sidetracks present themselves at times of transitional ideas. TD used the word "bridge" to refer to the transitional part of the essay when she said "You might need some kind of a bridge to get <u>from here to there</u>". While making the above utterance, TD walked to the board and moved her hand from one sample topic sentence to another one written on the board. Thus, a good essay, just like a smooth journey, should be one "very easy to walk through" (TD's example) with the help of roadmap, signposts, and bridges.

The journey metaphor also implies that there are points that one "gets to" after one "goes through" a certain path. One needs to move "straight ahead" while remaining on the path and one might need to constantly look "back" to see if the path is a right one. All these expressions occurred when TC asked her students to "go through" the paper and "look for" certain signs and look "back" to make sure the path is a "straight" one. Once the writer finds the right path from the thesis to the supporting ideas, they should "stick to" that path.

Example 34:

TC: "Once you get <u>that thesis statement</u>, then you need to <u>go through your paper</u>

[RH holding a pen, touching upon the paper where the thesis is supposed to be located;

RH moving down]

and look for <u>every point</u> *[emphatic]* which should be at the beginning of every paragraph, and your point should <u>use the same language</u> *[emphatic]* as your thesis statement. So in other words, you need to look <u>back</u> at your thesis statement.

[moving RH to the right of her body]

Every time you are <u>writing your new point …</u> remember that.

[move RH to the opposite direction, to the left of her body]

[…] so <u>this</u> is designed to keep you <u>straight</u>, keep you sorted […]

[RH holding a pen, circulating above the thesis statement; moving BH from her head down to the front of her body]

[…]Your thesis statement should be couched somehow within this, and then you know something will lead to something… basically stick to that".

What is emphasized in this instance is the path of the journey. Once the thesis statement and the supporting ideas are fixed, the major path of the essay is clearly demarked. So what one needs to do while writing is to stick to that path, using signposts on the path to guide the readers, and constantly check to make sure one is following the path. In this sense, this journey metaphor not only helps the writing structure, but also the writing process.

Scale Metaphor

Good writing is like a scale and one constantly attempts to balance all of the needed elements with proper weight to make a good paper. The balance idea seems to pertain particularly to the essay that requires outside sources to support the writer's points. For those types of essays, quite a number of student writers either go to one extreme of

filling the paper with outside voices, or go to the other extreme of not incorporating outside sources. However, what is more important is the writer's own voice. If one spends too much time and energy talking about the context and hiding one's own opinion, the paper will be out of balance then, as TC stressed in example 35,

Example 35:

TC: "There are a lot of students having difficulty achieving that kind of balance. The way to structure your essay is you have a point you are making about the primary text, you should have a paragraph of it, and you know, in the context you will be saying something related to your secondary text too in relation to what you see from the primary text, then in another paragraph talk about your secondary text where you relate<.> similar topics".

From TC's explanation, it is rather clear that when an essay needs two lines of development, both lines need to receive equal attention and need to be discussed with proper amount of information. Balance is essential. Similarly, in the cultural analysis essay where students are expected to relate their own experience to the text, there are again two lines of development. In example 36, we can see that TD urged her students to give proper attention to both lines for balanced ideas.

Example 36:

TD: "[…]so on these essays, you can try to get a balance between yourself and the story, but you might want to lean a little bit more on yourself. That is gonna be the more interesting part".

Balance is not achieved in the sense that weights of different parts are absolutely equal. The scale should tilt slightly to the more important part such as the writer's own

voice/ideas and own experiences and the explanation section. While analyzing the PIE structure and the importance for a detailed, elaborated explanation, TD briefly conveyed the idea that explanation should be the longest and most weighted part in the body paragraphs.

Example 37:

TD: "…and then notice spatially, even without studying it

[LPOD, moving above the essay in a wider circle]

that he's got the point, the illustration in the middle, it's a short one

[LH index finger and thumb forming a small container shape, moving above her head, then lowering it and moving along a horizontal line]

then look how much explanation he has".

[LH index finger and thumb forming a larger container shape, moving around the essay]

Explanation is regarded as the most convincing part of the PIE structure. It is through explanation that the writer's own voice becomes clear and convincing to the readers. Without explanation, the claim might be an empty one. The balance/weight idea is spatially represented through the length of each section, since the longer you spend on the section, the more detailed and the more important it will be, thus, corresponding to the weight idea of the scale. The next example is a similar one of how TD spatially represented the weight of each section in the body paragraphs regarding the PIE structure, to draw students' attention to the essential rule of EAP writing.

Example 38:

TD: "Notice spatially he's got a topic sentence,

[raising LH a little bit higher]

actually he's got a couple of sentences to start things off

[the fingers of her LH are fumbling; moving left arm forward]

then he has a quote, and

[moving down LH emphatically onto the paper]

and look at his long explanation . OK, we could argue that […]

[left palm extending, raising]

but in general, this is absolutely what you want".

      When TD extended her arm forward, it might indicate the length of the explanation. Instead of producing a vertical movement of the hand, TD changed the direction of her hand movement to a sagittal one when she started to move her left arm forward while talking about the several sentences that start the paragraph. Later, when she talked about the explanation, she moved her left arm further away from her body in an extended manner. This and the previous gesture apparently indicated the progression of the paragraph, especially the explanation part. TD even stipulated an approximate percentage of the different weights/lengths of the explanation section in example 39.

Example 39:

TD: "[…] That's a spot to give more explanation. *<walked to the board and wrote down P,I,E along a vertical line>* You got a point, and you want that to be very quick and this is a little bit more *<refer to "I" by "this">* And this, you want this to be, spatially, you want this to be more *<refer to "E" by "this">*,

[drawing a vertical wavy line to cover a large space]

even maybe 70%, so you could use a <u>little bit more explanation </u>to back up that quote.

[circulating RH above the paper]

The percentage might seem to be a little strict and her hands actually did not move in proportion to the percentage guideline when she referred to the "I" and "E" part. However, it is very obvious that the larger vertical wavy line and the circulation around the paper all indicate the "E" part should be longer and should be the more important part of the body paragraphs and the essay.

Weaving Metaphor

This metaphor particularly pertains to essays that need outside sources, since these outside sources should work closely with the writer's analysis. Another metaphor related to the outside sources is the lens metaphor, which is used to refer to the importance of the outside sources since they might change the perspective of the writers' analysis. The idea of using other texts to support one's point of view may not be hard to understand, but one needs more practices to know how to integrate those outside sources and the textual analysis together. In addition, the student writers need to realize that the outside sources are not randomly picked. There should be a close tie between the text/the writer's own point of view and the outside sources, and the outside sources should provide a framework of how the author sets up his/her own claims. TC constantly emphasized that students should "weave text and context together" and "make sure your entire paper is inside the context of the secondary text". While holding a conference with her 107 students, TC pointed out why one student paper was problematic.

Example 40:

TC: "As far as I can say, you do not actually conform to a form of this *<referring to weaving outside sources and the analysis of the text>*. You do more of a thing where you go *American Beauty, Happiness*, and then your context, which does not work necessarily, maybe it does not <u>weave</u> the context into your paper.

[fingers of BH are interlocking]

you kind of<u> talking about *American Beauty, Happiness*</u>, then <u>you talk about your secondary text</u>.

[moving hands and body to the left; moving hands and body to the right]

Maybe they are <u>related</u>, but…. You are not <u>weaving</u> them together".

[BH moving slightly up and down several times; the same finger- interlocking gesture]
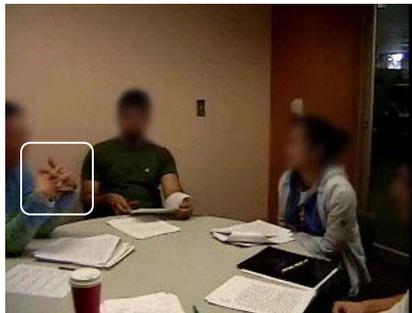
Figure 17

When TC's fingers were interlocking in figure 17, this gesture focused on the closeness between the context and the text and it clearly emphasized the need to integrate the two sides in the paper. However, when TC moved her hands and body to the left for one side, then to the right for another side, her body movement clearly indicated that the students failed to connect context and text, since they were moving along different

directions. Instead, what they should do is to weave these two together so that context helps the readers get a new insight from the text or even change the perspective the primary text is approached. In that sense, the context serves as a lens. The next three examples list how TC used the lens metaphor to highlight the importance of outside sources.

Example 41:

TC: "Whatever you say in your paper must relate to the secondary paper. You are confined. But in that sort of confinement, you have sort of to be creative in terms of figuring out what new things you see looking at this text through this lens".

Example 42:

TC: "The secondary text, the lens text, should provide the context that you are speaking about [moving RH up, then lowering it down vertically]

the primary text

[moving LH to the place where the primary text was supposed to be]

throughout your entire paper"

[moving RH down vertically]

Example 43:

TC: "Your lens text is the context, the way you speak about your primary text"

[an encompassing gesture, open hands to form a container shape]

TC did not create this lens metaphor. It is in the textbook (*Student Guide for Composition*) for English composition classes. As analyzed in the section of metaphors used for writing in chapter two, the lens metaphor indeed provides students with a clearer

vision of the function of the context: one might get a different perspective/analysis of the original text with the information or the help from the context.

In addition to being a lens, the context should also surround what the writer sees from the text or what the writer argues about throughout the entire paper. For this function, TC moved her hand around her body in an encompassing manner, as illustrated in example 44.

Example 44:

TC: "You must back up everything that you say in this paper, must be given by the context…"   *[moving BH around her body downward]*
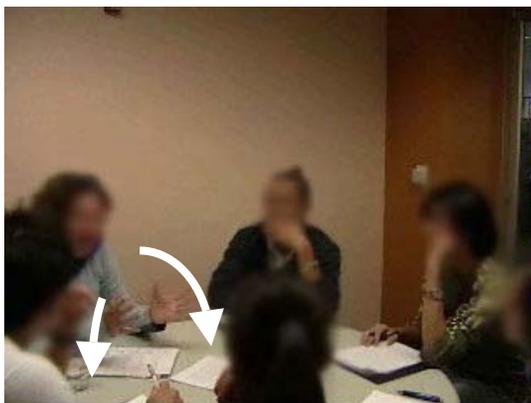
Figure 18

TC moved both hands downward when she uttered the word "context". In figure 18, her gesture reminds us of the container metaphor in the sense that both her hands were marking the boundary of the ideas that could be put in the essay, and the context confines the boundary of the essay/container. TC kept on emphasizing the significance of the context when she cautioned her students against the idea of treating the secondary text

as unimportant. Before the excerpt, TC asked some students to articulate what they thought about how to use context for that particular essay, then she refuted that idea in example 45.

Example 45:

TC: "If the secondary text kind of backs it up, great, but that is not that important. No. The secondary text is so important,

[holding hands together in a praying gesture, moving down emphatically]

it is the context through which you will speak about your primary text throughout your entire paper

[same praying hand move up and down; hands moving down, then spreading along different directions]

so there is nothing in your paper that you are talking about

[moving hands forward, to the paper in front of her]

that isn't inside the context of your secondary text"

[moving her RH up then moving down vertically]

Figure 19

The previous gesture made by TC impressed on us that the contextual information is controlling the direction of the essay. Not only does context help writers gain a different perspective to analyze the text, the context also surrounds the analysis and more importantly, guides the direction of the analysis in the essay, as reflected in her gesture in figure 19.

Projector Metaphor

This projecting metaphor was only found in TC's class. TC asked her students to write an essay to analyze a movie that the whole class watched and discussed in details. After reading first draft from her students, TC was concerned that many students imposed their own understanding of the movie upon the theme intended by the movie director. Thus, TC cautioned her students against that tendency and urged her students to support their own claims with sound evidence. If they failed to back up or support their own claims, their own ideas have been magnified to an improper proportion. TC said,

Example 46:

TC: "There is no text to back it up, right? You are just projecting, you are just saying this is like my idea, this is my opinion and this is what I am saying.

[RH thrusts open and moves forward, as if an image is magnified through a projector] which is great, except that in an academic sense, it is not the convention of academic writing. You know we are not worthy enough to say something to assert something without backing it up with some other scholars who said it already".

Figure 20

The projector is a commonly-used piece of teaching equipment in the classroom, and it can enhance and magnify what is small on the paper to something big on the screen. Together with this projector metaphor, TC also moved her hand away from her body, as if the image got out from the projector to the screen, just like one's ideas could get bigger out of proportion. Her hand also changed from a closed shape to an opened shape, which resembled the increasing size/magnitude of the ideas. This metaphor serves to highlight the importance of supporting one's own claims with resources/similar ideas from others' works to avoid making it out of proportion.

Ongoing Process Metaphor

Composition classes across America now adopt the process-oriented teaching method. The previous writing experience many international students have may not include so many different steps before they submit their final version of the essay. Thus, the instructors also explained why a variety of steps are essential to write a good essay. TB asked the students to think about their morning routines: things they do everyday before they go to school. When students collectively said getting up, taking a shower, getting dressed, eating breakfast, packing, etc. as their morning routines, TB made use of

these ideas to tell the students that writing is the same thing. It follows the same procedure of going through different steps. You do not come up with the paper on the first try, just like you do not go directly to school every morning by skipping the first few steps. You need the brainstorming stage, free writing stage, drafting stage, and revising stage, in the same way you need to go through different steps to finish the morning routines. This metaphor is useful to help students understand the different steps required for writing; however, it does not focus on the changing nature of the writing process. When TD encouraged her students, she said, "It is very hard to get a good one. It is something that you just work on as you are working through your material". Meanwhile, her left hand kept on flipping from her temple outward as if indicating the constant process of getting ideas out from one's mind onto the paper.

To sum up, it seems that the four instructors pay more attention to the essay structure, since quantitatively, there are 11 metaphors regarding the essay structure and one on the writing process. The instructors' metaphorical expressions and gestures from the current data indicate that they conceptualized EAP writing as a linear progression, with the hierarchical, and encompassing role of the thesis statement. In addition, all supporting claims should be closely tied back to the thesis statement to build up the essay. A good essay is like a container full of thoughtful ideas and support. Good essay writing, from another perspective, is like a journey where one leads the readers through an easy-to-follow path, with the use of signposts to cover different grounds to help them achieve a deeper understanding, which is explored throughout the entire essay. Different sections of the essay should receive different weight/attention for the needed balance. When the

essay needs outside sources, those sources provide a lens to help the writers achieve a deeper analysis or choose a different perspective to probe the issue at hand. These sources should be closely interwoven with the writer's own analysis. One cannot just project one's own ideas onto the paper and detach the outside sources from the text. Finally the whole writing process is an ongoing, changing one, and this changing process necessitates a variety of steps/stages.

Having said that, how do the students perceive EAP writing? What kind of metaphors and gestures do they produce while applying what they have learned in the class when they are supposed to give feedback on peer writing? Is there any connection between the instructors' metaphors, verbal and manual, and students' gestural production? How do they perceive the effectiveness of such metaphors used by the instructors? These questions will be addressed in Chapter VI.

CHAPTER VI: ANALYSIS OF THE ESL STUDENT WRITERS' METAPHORS AND GESTURES OF ENGLISH ACADEMIC WRITING

Listeners sometimes echo or mimic a speaker's gestures to form gesture cohesion as a comment to ongoing talk or to show agreement or cooperation. If the students internalize the metaphors used by the instructors to understand EAP writing, they might perceive EAP writing in the same way, and might produce gestures similar to those employed by the instructors. Thus, there may be cohesion between students' and instructors' gestures. The students' gestures and verbal expressions will be analyzed in this chapter to examine how ESL students conceptualize EAP writing and whether there is a shared understanding of the writing conventions of EAP. Chapter five analyzed the patterns of the four instructors' metaphorical language and gestures regarding EAP writing structure and process. In this chapter, I will first address research question two (2) to explore the corresponding gestural usage from the ESL students to examine the way they conceptualize EAP writing and compare their gestural usage with the instructors' gestures. All the data for question two (2) come from naturally occurring settings such as peer review, student-teacher conference and classroom presentation. I will then proceed to research question three (3) to contrast some ESL student writers' elicited metaphors of writing in English and in their first language. Finally, I will explore the effectiveness of metaphors and gestures as a pedagogical tool with the interview data.

Research Question 2: Patterns of Students

To start, research question two (2) is reiterated here for readers' convenience. "What are the metaphorical expressions and gestures used by ESL student writers in a variety of settings to discuss abstract concepts of English Academic writing, to air their opinions of a specific piece of writing and to justify their suggestions for revision? How do these gestures reflect the way they internalize abstract concepts of English writing for academic purposes? Are there any instances when their gestural usage/linguistic expressions about EAP writing are inspired by the metaphors exposed to them in the instruction? Do they imitate their instructor's gestural usage regarding abstract concepts of rhetoric and writing conventions in EAP?"

To answer this question, gestures produced by students when they were engaged in peer review activities, student-teacher conferences, and classroom presentations were recorded, transcribed, and analyzed. The result should be more representative since the data analysis of this question is based on 24 students whose gestures were captured in the video. Though group discussions were videotaped, the interference of sounds from the surrounding groups in the classroom setting rendered the collected data difficult to interpret in terms of the students' verbal production. Thus, this type of data was discarded.

The data analysis indicates that students did not produce many verbal metaphors in these activities. Only three students used the same metaphorical expressions as their instructors. One student urged her peer to "frame" the ideas within the thesis statement; another student talked about how the ideas in the thesis statement and in body paragraph should "back up". The third student criticized the "forecast" sentence as too long and too

scattered; as a result, readers might get "lost" about the relationship between the thesis statement and the supporting idea. However, these ESL students did demonstrate six of the twelve gestural patterns the instructors used. Namely, their gestures also reflected the linear progression of EAP writing. They regarded the thesis statement as the higher part in the essay structure. They indicated that all supporting ideas should match the thesis statement and all ideas in the body paragraphs should relate to each other. They focused on the PIE structure in the body paragraph. In addition, their gestures also reflected the idea that the essay/body paragraph is a container and the writing process is an exploration process. Some students manually produced a dialogue metaphor when they moved their hands from sideways to the front of their bodies to indicate the target audience being addressed directly. This pattern was not found in the teachers' data. I will analyze the reasons for that when we come to the audience-awareness pattern.

Table two lists the six gestural patterns extracted from the ESL students' data. The container metaphor is not listed separately since those container gestures very often take on other meanings in the students' data. Thus, the container gesture is combined with other patterns and each specific instance of the container gesture will be analyzed in detail in the relevant section. There are 20 instances of the linearity pattern, 16 of the hierarchy pattern, 15 of the tie and PIE metaphors, eight of the exploration metaphor and four of the dialogue metaphor.

Table 2: Six Patterns of ESL Students' Metaphorical Expressions regarding EAP Writing

1.	Linear metaphor, linear progression of EAP writing
2.	Hierarchy metaphor, thesis: hierarchical, predictive, encompassing
3	Tie metaphor, supporting claims and the thesis
4	PIE metaphor
5	Exploration metaphor
6	Dialogue metaphor: audience

Students' gestures were classified into the above-mentioned patterns, which correspond to the patterns extracted from the instructors' data. However, in more than one instance, we could see that one gesture was used in one pattern but also implied a different metaphor. For example, when one student articulated that the introduction paragraph should help readers get a sense of the rest of the essay, she simultaneously moved her hands to both sides of her body, as if indicating a boundary of the essay to indicate what ideas should be included. This clearly represented the container metaphor of writing. As discussed in chapter five, the same issue also occurred when I divided the instructors' metaphorical expressions into patterns. It should be made clear here that the above classification is just one convenient way for analysis. Putting one gesture together with the verbal utterance under one category does not exclude the possibility that it could also represent other metaphors.

Not all instructors produced metaphorical expressions and gestures for all twelve patterns that were analyzed in chapter five. In this chapter, all the examples listed in each pattern are taken from the sections where the respective instructor(s) produced similar

gestures or the instructor(s)'s verbal metaphorical expressions were presented and analyzed in chapter five. By doing that, I hope to present stronger proof for the correspondence between the ESL student gestures and the instruction they were exposed to. However, the drawn correspondence should be taken as cautiously tentative, since some ESL students might encounter similar metaphors before or outside the composition classes and not all ESL students agreed to be interviewed to find the answer for that.

Linear Metaphor

The essay is linearly structured and all ideas should move forward, to support one central focus. More than one participating ESL student moved his/her hands/fingers along a vertical line or a sagittal line from his/her body to a distant place to indicate this idea. Their hands also paused several times along the line. On the other hand, if they were unsure of the structure of the essay, they tended to produce a gesture with a messy path/pattern.

In example 47, S1 asked her peers if her essay structure made sense to them in the peer review activity.

Example 47:

S1: "I just want to know, cause you know sometimes when you just write, you just so into your subjects that you don't <.> I just want to make sure that people understand what I am saying <.> because my structure is not that clear, I don't know for the readers [..]" *[moving RH backward sequentially, pausing several times on the path]*

Figure 21   *Figure 22*

    This example is another instance where the gesture has to be taken into account to make sense of the verbal speech and the linear progression of the essay. S1 doubted whether her essay structure was clear to the readers, even though it was clear to her how the essay moved forward. She did not produce any verbal utterance to ask if her essay structure moved sequentially and linearly, but her hand movement clearly sent that information to her peers, when she moved her hand closer to her body, as shown in figures 21 and 22. One might argue that her gesture just indicated the spatial order of the paragraphs as they are located on the paper one after another with no linearity implied. Here we need to return to the instructors' gestures when they either moved their hand(s) along one single line, or two parallel lines. In chapter five, we already established the association between the single-line hand gesture and the linear progression of the essay. To further prove this point, let's juxtapose S1's gestures in figure 21 and 22 with her gestures in figure 23 to see how she gestures for good structure and for messy pattern. In the next example, S1 asked her peers to provide more suggestions about her essay.

Example 48:

S1: "So if you can like understand the <u>points,</u>

[RH moves towards her body]

cause I kind of <u>like mix them"</u> .

[all fingers fumble in a messy pattern]

Figure 23

S1's fingers fumbled when she talked about how the points were organized as if all of them were mixed together, as shown in figure 23, which formed a sharp contrast to the linearity movement illustrated in example 47 (figures 21 and 22). One can assume here that this fumble gesture will not be used to indicate an essay that is clearly structured. In the next example, we see S2 questioned the essay structure of her peer's writing by producing a jumping gesture to indicate that the ideas were not organized sequentially and smoothly.

Example 49:

S2: "There are many things in one paragraph. I, if I am not mistaken, there are five or six things that are being analyzing in your essay and you are <u>jumping from one thing to another</u>. *[moving BH in a jumping manner back and forth]*
Uh, not just from one thing to another, you are analyzing like different things in one paragraph. Try to do one particular thing in one particular paragraph."

The above gesture does not follow the logical, sequential one-by-one movement of a smooth path, which should be employed to indicate a good essay. Instead, S2 moved her hands in a jumping manner to indicate the bumpy transition of ideas, or how ideas are not progressing sequentially. As already analyzed in chapter five, many times, the linearity pattern is closely associated with the journey metaphor. Thus, one could speculate that jumping from one idea to another creates the sense of a bumpy ride, not a smooth one. To form a contrast, let's go back to some gestures where the student did follow the sequential linear path to indicate how an essay should proceed. In the next example, S3 explained to her peer why she decided to incorporate different sections in her essay and how she intended to organize those ideas.

Example 50:

S3: "So for that reason, I am going to support his idea and say for that reason, you have to write <?> <u>blah, blah, blah</u>, <u>blah, blah, blah</u>, <u>blah, blah, blah</u>…"
[RH moves sideways to her right, her body also starts to lean toward right; at each of the "blah", RH pauses, her whole body also leans further to the right]

Figure 24   *Figure 25*

S3 produced a gesture that mirrored the linear, downward movement used in the instruction when she conveyed the idea of essay movement. Again in this example, it is her gestures in figures 24 and 25 that expressed the linearity sense of essay movement, which was not expressed verbally. In the same peer review group, S3 urged her partner to incorporate different ideas in the writing by saying,

Example 51:

S3: "Yeah, you are talking about the <?>, blah, blah, blah, the soldiers, the American, you are saying that".

[BH move alternatively sideways to the right of her body, and her body also leans toward that direction]

Whether they were moving their hands along a sagittal or a vertical line or sideways, when they moved their hands in a sequential linear manner, that kind of gesture represented a good essay structure, or how the whole essay should proceed. These gestures resemble those used by the instructors to indicate how an essay should proceed. There were instances when the instructors moved their hands back and forth several times to indicate that the ideas in an essay were not moving sequentially and were not well

organized. Let's recall what TC did when she pointed out the problems in one essay: she moved her hands to the left of her body, then moved her hands to the right of her body to accompany different ideas. By breaching the linear pattern, TC suggested that the essay's organization was problematic. Although no students were reproducing the same gesture as TC, when their hands were not moving according to the linearity pattern, the intended meaning would be the breach of the linearity pattern in the writing, since it was rather clear what the ideal pattern of essay movement should be, as represented in the instructors' gestures.

From these examples, one clearly sees that the linear movement of students' gestures shares the same feature of the instructors' gestures when the concept of linearity of EAP writing is conveyed. Mirroring each other's gestures is a type of gesture cohesion, which could also occur between group members to indicate a full-scale understanding and agreement. In the next example, S1, the student whose gestures were analyzed in examples 47 and 48, was talking with S4 and S5 to explain how she structured her essay. Please recall that in example 47, S1 was concerned that her essay structure might not make sense to her readers. Indeed, S4 and S5 had trouble understanding her essay, which was about medical insurance problems in the US. S4 and S5 felt that S1's writing jumped from one country to another and from one issue to another, so they asked S1 to clarify her writing. After hearing S1's justification, S4 and S5 seemed to get rid of their doubts about S1's essay structure. Let's focus on the gestures produced by these three students.

Example 52:

S1: "I, I kind of work with problem, solution, problem, solution, problem, solution,"

[thumb and index finger of RH form a tiny half-circle, then fall down at each of the six words, each time the hand is moving closer to her body]

Figure 26

S1 was producing a typical linear movement gesture in figure 26, which was analyzed earlier, as a way to indicate how the essay moved forward. After hearing her justification, S4 and S5 briefly glanced through the draft and seemed to understand the logic behind this structure. S4 said,

S4: "So she, hah, the way, she orga-, organized her paper was one problem then one solution, that's why I didn't think that <?>, but I like her org-, organization though".

[the index finger of RH touches upon the paper at "problem", and "solution", but each time the hand moves closer to his body]

Figure 27

In figure 27, S4 moved his hand in the same direction as S1 did to indicate his understanding of how ideas in S1's essay proceeded. S5 also expressed his understanding when he said:

S5: "This is one other point, this is another one, this is another one.

[RH touches the paper at the first point, then moves closer to his body at "another one", same movement for the second "another one", each time the hand is closer to his own body]

This is how, hah, I am resolving hah, each one of them".

[the same gesture, same direction of movement as the previous one]

Figure 28

In figure 28, S5 demonstrated the same direction when he moved his hand closer to his body. Whether S4 and S5 really understood the point and the complexity of the ideas presented in S1's writing falls outside the scope of this study. What is worth exploring is the synchrony of their gestures in terms of the hand shape, trajectory and direction, when all of them moved their hands backward in a linear fashion to indicate how different ideas in the essay progressed. We already see that to indicate the linearity, some students moved their hands along a sagittal line, some along a vertical line, and some sideways. Since the first student moved her hand backward to herself, the other two students just imitated her gesture in terms of directionality. If they moved their hands forward in the direction away from their body, such gesture would also be understood as the indication of idea progressing in the essay. But when the three students produced similar gestures of the same directional movement, it is significant in the sense that full consent was reached among them in terms of how ideas were structured in that specific draft. Such a gesture represented how the three participants viewed good essay structure

as linear. More significantly, it is an indicator of mutual agreement of a specific piece of writing, when S4 and S5 no longer had doubt about the structure of S1's writing.

Hierarchy Metaphor

The introduction and the thesis statement should help readers understand what the rest of the essay is about. The thesis statement is encompassing, predictive, and higher than ideas presented in the body paragraphs. The thesis statement also controls the direction and flow of the essay. Although this important concept was emphasized in the classroom teaching, it still ranked as one of the top problems in students' writing and is the focus of the peer comments.

The next example is a conversation between S3 and her partner, S6, in the peer review activity when they went over each other's drafts, following the peer review guidelines. The third question on the guideline asked them to predict what the rest of the essay might be about after reading the introductory paragraph. S6 was a little bit confused by the question, so she asked S3 to clarify that question. S3 then produced a scope-defining gesture to answer the question and to indicate the function of the introduction.

Example 53:

S6: "I don't understand that question".

S3: "The third question, if I am going, if I tell you, tell the readers <u>what I want to say,</u> on my start […] *[BH move forward alternatively, her whole body also leans forward to the direction where the hands go]*

I want to start my <u>introduction </u>with a <u>general idea </u>about the writing."

[hold BH together; hands move wildly apart from each other in a big circle to both sides of her body]

Figure 29

When S3 moved her hands apart from each other in figure 29 to cover a wider scope, this gesture corresponded with the "general idea" part in her verbal response. Her hands drew a larger circle around her body, as if defining the scope of the essay. This reminds one of the container metaphor of writing. The boundaries marked by the hands indicate the rims of the container, the scope of the essay. However, more importantly, such a scope is defined in the introduction and ideas presented in the following body paragraphs should be confined within the boundaries. Together, both her gesture and response indicate that the thesis should set up the general idea of the essay. Furthermore, the locale of this gesture forms a contrast to her gestures illustrated in example 50 (figures 24 and 25). When she talked about ideas in the body paragraphs, her hands were positioned at a lower place than the gesture position illustrated in figure 29 when she talked about the introductory paragraph and the thesis. This contrast further proved how S3 conceptualized the function of the thesis statement.

In the next example, S7 talked about his revision process in the classroom presentation. Specifically, he presented how he took some information out because it was contradictory to what he proposed to do in the thesis statement.

Example 54:

S7: "This is too broad <#ly#> You think? Actually it does not apply to argument. Actually, uh, it kind of uh , en, <..> contradict to what I am saying".

[LH moving to the right then RH moving to the left, as if the two hands were counteracting each other at "kind of"; same gesture "un, en" and pause stage; beats at "contradict"]

By "this", S7 referred to one of the ideas he originally used in the essay, and by "what I am saying", he referred to the introduction and the thesis statement. Given certain time to go back to the original essay, S7 later felt that specific idea fell outside what he proposed to analyze in the thesis statement, thus he went on to explain that he actually took that information out for a clearer essay. S7 produced a "contradict" gesture to indicate that ideas in the body paragraphs should not go against the ideas set up in the introduction and the thesis statement, which, from another perspective, proved the stage-setting function of the thesis statement. Both S3 and S7's gestures emphasized that the thesis statement should set up the scope of discussion for the entire essay. Any information that falls outside and any information which might be contradictory should not be presented in the body paragraphs. Such a predictive function is mainly realized in the thesis statement, as illustrated in the next two examples.

Example 55:

S8: "I like your thesis cause it said oh, <u>what you are going to talk about</u>".

[index finger points at the paper, then touches upon the paper several times in a linear, sequential manner]

Example 56:

S9: "Every single paragraph is a <u>point that is framed by your thesis statement</u>".

[raises LH and drags LH all the way down]

Figure 30

S8 clearly verbalized the predictive function of the thesis statement. From her words, we can see that S8 had no problem foreseeing what the rest of the essay would be about. Her gesture focused on the linear progression of the entire essay. S9's gesture was more significant when he first raised his hand in figure 30, then dragged it downward. The raising of the hand reminds us of TD's gesture when she moved her hand above her head to emphasize the function of the thesis statement: it is hierarchical in terms of the essay structure. When S9 dragged his hand down, this path indicated that all supporting claims in the essay should proceed under the framework set up by the thesis statement. Both S8 and S9's verbal utterances focused on the controlling, framing function of the

thesis statement and it seemed to suggest that they did realize the need for a thesis statement and they knew the criterion for a good thesis statement.

Tie Metaphor

Closely related to the hierarchical function of the thesis statement is the issue of relevance between thesis statement and supporting ideas. All ideas in the body paragraphs should relate to the thesis statement, support it and frame inside it. This is achieved when the students moved their hands upward to indicate the thesis statement and downward for supporting ideas and the close relationship between the thesis statement and the supporting points. We already saw that pattern in example 56. More examples will be provided here to illustrate this point.

In one peer review workshop of the 107 class, S9 expressed that one of the supporting ideas did not match the thesis statement. He said,

Example 57:

S9: "In the second paragraph, he mentioned Darwin's survival of the fit theory. I do not know how it relates to this".

[moving LH away from his body to a faraway place]

By "this", S9 referred to the overall point of the essay, the thesis statement. Previous to this utterance, the group already agreed that the thesis statement was positioned at the beginning section of the draft. Spatially that sentence was located at a place farther away from the speaker. By moving his hand from his body to a far away place in that direction, S9 manually traced a line to show the essential link between the

ideas presented in the body paragraph and the thesis statement and this movement corresponded to the "relate" part in his verbal speech.

Similarly, S10 emphasized the relation between topic sentences and the thesis statement. He also highlighted the default position of the thesis statement as a preferred way to make the link apparent to the readers.

Example 58:

S10: "[…]it *<introduction>* is so long that rather than at the end of the <#sentence#>,

[LH index finger and thumb form a half-open container shape]

the thesis is kind of, it is towards the beginning of the <#sentence#>

[LH moves forward]

because readers might get lost as to how the topic sentence relate to the thesis.

[LH moves away from his body]

Maybe a forecast needs to be like one or two sentence. She uses like kind of a big chunk".

In this example, S10 might mistakenly use the word "sentence" to mean "paragraph" since he produced a container-shape gesture. He suggested that the student writer should condense the information in the introduction and put the thesis statement at the default position, which is the end of the introductory paragraph. He justified this suggestion by emphasizing the explicit relevance relationship between the thesis statement and the topic sentences.

The next example is somewhat complicated in the sense that S11 combined the linear movement of essay development and the linkage between all supporting ideas and the thesis statement in her comments.

Example 59:

S11: "I just have one comment. <u>All paragraphs</u> have different <u>ideas</u>.

[moving RH across her chest]

<u>One is about <#pretty#>, one about courage, one about kindness.</u>

 [RH moves to left, then right, then left again]

They must be <u>connected</u> with one idea. That is the same as the <u>introduction</u>.

[RH moves to the front of her body; pointing at the paper]

The way to organize your paper is around ideas, and you gonna make sure every point reflect the thesis statement. You are going to frame your writing in that way".

Figure 31	*Figure 32*	*Figure 33*

Let's first go back to chapter five when TC's gestures were analyzed in the linear pattern. TC moved both hands and her body to different directions when she pointed out why one student's writing was problematic in the sense that there were too many unrelated, different ideas in the essay. In chapter five, I contrasted this gesture with the linear-gesture produced when other instructors emphasized how an essay should proceed. Here in figures 31 to 33, S11, a student in TC's class, also moved her hand to the left, then to the right, then to the left again when she listed three different ideas presented in

one essay. S11's gestures mirrored the gestures TC used for the same idea and it clearly demonstrated that S11 did acquire the linear concept of EAP writing. Furthermore, she could apply this concept to judge a problematic essay in that respect. After that, S11 moved her hand right back to the front of her body to suggest that all ideas should relate to one central idea, that is, the "thesis" to reinforce the embedded linkage between ideas and the thesis statement. What is also worth noticing is that S11 verbally produced the word "frame", which was emphasized and used by TC many times in the class and in the student-teacher conferences. When S11 moved her hand to the front, together with the "frame" function of the thesis statement, she might also criticize the peer draft for its failure to frame all ideas in the same direction. S11's example is revealing in that it is a significant moment that shows her acquisition of the concept from both the instructors' metaphorical expressions and gestures.

In the next example, S12 articulated her meta-understanding of the relationship between the thesis statement and the supporting ideas.

Example 60:

S12: "Like thesis, on thesis you know what's, uh, the readers know what is going to be happen next. *[move RH to the level of her eyebrow; move RH downward]*

[…] So from the thesis, you know what the PIE paragraphs going to be about, and then, *[same gesture as "thesis" earlier; hands start to move down]*

the PIE paragraphs you understand, I mean you can know from your PIE paragraphs what's your thesis *[move BH quickly and forcefully downward; index finger of RH moves from a lower place to a higher place]*

so they are like <u>back up. …</u>*[BH move alternatively]*

…thesis is more important than PIE paragraphs, in my opinion, but they kind of, they are <u>connected, they are related</u>". *[a connection, relation gesture]*

In this example, S12 moved her hand vertically. When she talked about the thesis statement, she always moved her hands to a higher position, and she moved her hands down to a lower place for the body paragraphs. A sagittal movement of hands for the relationship between the thesis statement and supporting ideas might only represent the spatial allocation of the thesis and supporting ideas, since one always starts with the introduction and the thesis and then moves on to the body paragraphs. However, another layer of meaning is suggested in the vertical gesture: the thesis is hierarchical and it controls what could be presented in the essay. S12 also believed that there is bi-directionality between the thesis statement and supporting ideas. When there is not a clear thesis statement, the readers could provide one based on the ideas gathered in the body paragraphs. Thus, the thesis statement and supporting ideas are "connected", "related" and they should "back up" each other.

PIE Metaphor

The main point, supporting evidence and explanation should all be linked. A similar gesture of moving hands back and forth, sometimes moving hands several times along a vertical line was found for this pattern. As a matter of fact, this movement resembled the linear-pattern gesture. However, the previous back-and-forth movement of the hand applies to the overall structure of the essay, and here the focus is on how, within each body paragraph, each part should be linked. Example 60 illustrates how S13

produced a linear movement for the body paragraph to represent the sequence of topic sentence, example and explanation in a peer review activity.

Example 60:

S13: "You bring your point, then bring your illustration, I think it is really well… ah, linked". *[use a pencil to point at the beginning section of the paragraph; use the pencil to point at a later section in the same paragraph; the same hand moves quickly back and forth on the same page, from the point position to the illustration position several times]*

S13 moved her hands sequentially from a top position of the paragraph to a lower one to represent the spatial allocation of two of the three important elements in the paragraph, though in this instance, she did not address the issue of the explanation. When S13 talked about the "link" between the point and the illustration, she also moved her hand linearly between these two parts of the body paragraphs.

Let's look at example 61 when S14's hand gesture went beyond the topic sentence and examples to incorporate the function of the explanation.

Example 61:

S14: "So if you understand the point, illustration, and the explanation […]"

[RH moves towards her body, pauses at "Point" and "Illustration"; RH moves backward]

S14 produced a similar gesture to refer to the topic sentence and the examples. However, when she discussed the explanation section, she moved her hand backward to cover the spots for both "P" and "I" assigned in her previous gesture. This should not be taken to indicate that S14 was confused about the explanation part. Instead, this gesture clearly represented the function of the explanation section in the body paragraph to cover

both the point and the examples which are used to prove the point. Through this going-back gesture, S14 actually glued the "P" and "I" part together as a unit. In fact, many students' papers lacked such an effective explanation to make all the different parts of the body paragraph work together tightly for a central claim.

Exploration Metaphor

One thing emphasized in the instruction is that college writing is expected to be deeper and more thought-provoking than high-school writing. The exploration of deeper meaning in an essay can be achieved when each idea is presented in great detail with sufficient explanation. Very often the dimension of the depth of the essay goes with the focus metaphor in writing. In the next example, S9, the 108 student whose gesture was analyzed earlier, talked about how he narrowed the scope of his writing in the presentation of his final version. After showing his classmates what was included in the previous writing, he said:

Example 62:

S9: "So I took all that junk uh out, and uh just kept like this, <reading the sentences of the final version> *[pointing to the screen where the essay was projected]*

then I got uh more specific saying that effect <reading the new sentences>

[BH folding, forming a sharp-angle shape and diving downward twice]

so now I actually focus on economy, eh, economic problems[…]"

[the same gesture as the previous sentence, sharp-angle pointing downward]

Figure 34

S9's gestures of "specific" and "focus" reminded us of the diving movement. In figure 34, he narrowed his hands to form a sharp-angle then plunged his arms downward. This gesture seemed to indicate that only with a narrow focus can one bring depth to the essay. This is a prime example of how the focus and the depth of the essay are combined. This diving gesture also reminds us of the need to go deeper under the surface meaning, which is the essence of the exploration metaphor. This diving gesture is not exactly the same as the digging gesture used by some instructors analyzed in chapter five. However, they do share the same essence of going beneath the surface for more significant meaning as conveyed in the exploration metaphor.

A similar diving gesture was produced when S2 (whose gestures we also encountered earlier) offered suggestions to her partner about how to engage the readers in the concluding paragraph.

Example 63:

S2: "Then in the end, you need to close with the society where somebody can see the soldier is a hero, for the dark <?>, the <u>deep</u> meaning".

[hands form a sharp angel as a diving gesture]

Figure 35

S2's gesture in figure 35 and S9's gesture in figure 34 demonstrate exactly the same pattern of trajectory and manner to resemble the movement of diving. Diving will bring one deeper down, thus, hopefully to get the deeper meaning of the essay. This gesture is in tune with the metaphor that writing an essay is an exploration and the encouragement from the instructors to urge the students to go deeper in their essay writing, which is always hidden beneath the surface. Thus, to engage the readers, the writer also needs to explore deeper into the essay.

Dialogue Metaphor

Writing is like a conversation. They are similar in the sense that both are interactive between speakers/listeners and writers/readers. In the instructors' data, there was no instance of how they talked about the reader/audience concern of essay writing. The reasons could be: 1. There might be instances when the instructors talked about this part, and those were not recorded due to the fact that I could not record the entire classroom teaching for the three sections (106, 107 and 108 in the Fall/06 semester); 2. The 108 section focuses on rhetorical appeal and addresses the audience concern.

However, due to health issues of the official 108 instructor, there was more than one sub-teacher for the 108 section and those sub-teachers were not recorded due to consent issues.

However, it is rather clear that this audience part received focus in the instruction, as more than one 108 student addressed this issue in their final revision presentation. As a matter of fact, all the examples provided here for this pattern came from the 108 section. Their gestures clearly conveyed the idea that the writer should always bear the audience in mind since the audience is the receiver of the ideas/ information presented in the essay. They formed a sharp-angle posture to indicate the specific audience group, or drew a straight line between themselves and somewhere in front of them to represent the imagined audience, to indicate the target audience is the direct receiver of the message. In example 64, we can see how S15 articulated the target audience when she moved her hands in a sharp-angle to the front of her body. She said,

Example 64:

S15: "The students, it is <#group#> more like the huh, foreign students? I think, huh, it's the, that's huh, the target students".

[BH move to the center front of her body, the whole path is a sharp-angel one as if to hit the target; RH emphatic gestures at "target"]

Let's look at example 65 first to see how S16 described her revision process. She said,

Example 65:

S16: "The original copy did not have, eh, <u>a targeted audience,</u> so I decided to focuses on,

the, eh, tax payers…" *[BH move downward quickly and forcefully, to define a scope]*

Figure 36

From S15's and S16's gestures, it is very clear that in order to write a good piece

of writing, the writer can't deliver the message aimlessly. Both S15 and S16 moved their

hands in the center gesture production stage, that is, right in front of their own body

around the chest level, which might represent the concept of talking directly to the

audience. In figure 36, S15 produced a narrow-down gesture to highlight the focused

sense of the target audience group. S16 moved her hands downward parallel to each other,

which seems to suggest a confined, bounded audience group. Their gestures convey the

idea that writing cannot be effective if the author aims at a very general, broad audience.

One has to take the potential audience into consideration. The audience gesture might

originate from the dialogue metaphor that writing is a dialogue between the writer and the

readers. Such an idea is more vividly represented from the two contrasted gestures S17

made when he presented the changed audience group in his draft and the final revised essay in class. He said,

Example 66:

S17: "[…] and audience, before, it was like, kind of, I was <u>aiming to the, the students</u> who eh, who were like trying to use the music while they are studying<.>

[moving his LH to the side of his body as a circle]

but after, my audience is, is specified to the <u>father </u>of <#Mike Carr's#> […]

[extending his LH to the front of his body]

Figure 37   *Figure 38*

The different locations of S17's gestures in figures 37 and 38 seemed to conform to two of the three types of hearers distinguished by Goffman (1976): un-ratified overhearers whether their participation is unintentional or encouraged; unaddressed recipients who are ratified but are not specifically addressed by the speaker; and those ratified participants who are directly addressed. S17's first gesture was to move his hand to the side of his body to cover a larger area, as if talking to a group of students who were around him. He produced this gesture to accompany the target audience in his first draft.

In contrast to the next gesture that was produced in the center gesture production stage, the first gesture sent the information that he was not really addressing the audience he wanted, or he was not talking directly, effectively to that group of people. The "group of students" in his first paper was regarded as unimportant recipients of his message. Then in the revised version, S17 decided to change the audience from the students to one specific parent, so his hand moved to the front of his own body, as if he then redirected his attention to talk to the one interlocutor who stood right in front of him. This ratified participant was then being addressed directly. We can imagine that when we talk with a group of people, we will face our primary interlocutor face-to-face and secondary interlocutors sideways as unaddressed participants. The turning of S17's body and the different locations of his gestures revealed how he viewed the audience in the original paper as ratified but unaddressed participants, in contrast to the new choice of the primary audience/addressed participant in the revised paper.

In all, from the students' gestures and the instructors' metaphorical expressions and gestures, we can see that there is correspondence to a certain degree. Of the twelve patterns extracted from the instructors' data, six were reproduced by the students gesturally to a certain extent. Students seem to develop a better understanding of the linearity part of EAP writing and the overall structure of EAP writing. They clearly understood the hierarchical, encompassing and predictive function of the thesis statement and the direct relationship between the thesis statement and every supporting point. Though the container-metaphor was not analyzed as an independent pattern, some

students produced gestures that combined the container and other metaphors of writing. To the students, a good college-level essay should be thought-provoking with deeper analysis. This was visualized when they produced diving gestures to urge their peers to explore the deeper theme of the essay. All those concepts were highlighted in the instruction, as we already saw from the twelve patterns in chapter five. This correspondence will lead one to assume that students' gestures might be inspired by the metaphorical expressions they were exposed to and the gestural cohesion between students and instructors is a sign of learning and development.

But there is not sufficient proof for that. This tentative conclusion, based on assumptions, could be confirmed if students clearly indicate their awareness of metaphors and gestures used by their instructors. We also see that there is not much metaphorical expression used in the students' verbal utterances. The majority of them just pointed out specific problems in their peers' writings with very concrete descriptions. If elicited, would they reproduce the same metaphors used by the instructors? With those questions in mind, I interviewed eight participating ESL students to elicit metaphors of writing from the students and their perception of the effectiveness of metaphors and gestures used in the teaching. Three of these interviewees came from Mainland China (Sc1, Sc2, Sc3); one from Indonesia (Si); two from Kazakhstan (Sk1, Sk2) and two from UAE (Su1, Su2). Each interview lasted about 30 minutes. The two interviewees from UAE were interviewed together, so were two of the Chinese interviewees, Sc1 and Sc2. All the other interviews were conducted individually. The interviews were designed to answer research question 3.

Research Question 3: Interview Data

"How do these ESL student perceive the effectiveness of the metaphors and metaphoric gestures the instructors used? Do they think metaphors help them in comprehending abstract concepts of EAP writing? What are their own metaphors for describing academic writing in English and in their native language?"

I will start with their own metaphors to describe EAP writing and academic writing in their first language.

Book Metaphor in English

When asked what might be their metaphors to describe the structure of EAP writing, Sk1 offered the book metaphor. He said "it is a book, because of the same cover in the front and in the back, so <..>, but inside it is different". Before that, when I asked him to explain the major structural differences between English academic writing and Russian academic writing he has encountered, he said, "The American way to write essay is about the introductions. You write what you write about in the thesis, like to explain to the readers what you are going to write in the text. Well, in Russian you are not really explaining that, you are just explaining the author, the text, explain what it is, showing it. Then you write some paragraphs, some points in the text, five to six, probably seven. Then in conclusion you write what was the thesis about". He clearly saw that "American essay is more like you start from the conclusion and end with conclusion". While saying that, he produced a chopping gesture to accompany the word "conclusion" as it occurred twice in the speech. However, instead of moving from one place to another, his hand remained at the same position for the word "conclusion". This clearly represented his

perception that EAP writing does not bring the readers to a new layer of understanding after reading the entire essay. As a matter of fact, since the writer is telling the readers what to expect in the essay, nothing comes as a surprise to the readers and nothing new comes out in the conclusion, so the introduction and the conclusion are like mirror images to each other, just in different expressions. Thus, his hand remained at the same place to indicate the sameness of the introduction and the conclusion part of EAP writing.

Pyramid and Tree Metaphors in Russian

In contrast, Sk1 used the Pyramid Metaphor to describe writing in Russia because in Russian "you start from somewhere else , then you go to, point by point, you go to the conclusion *[moving RH close to his body]*

like every single paragraph comes from the previous one.

[moving RH from left to right, as if tracing the previous paragraph]

Well here it is like four or five body paragraphs, they come from the first, like the thesis, they are connected, so… ".

[index finger of RH pointing backward, then moving RH between the thesis place and the body paragraph place several times]

Sk1's gesture represented that ideas in the body paragraphs in a Russian essay are connected to each other and built upon each other. Thus, he addressed this as "pyramid, you are from some small points about the text, then you go to the conclusion, it is based on pyramid". The entire shape of the pyramid resembles a triangle with the top part being a tiny point and the body extending towards the bottom. To Sk1, this way of Russian writing clearly differs from American essays when all the ideas in English

writing are viewed as only connected to the thesis statement, to the introduction, but not to each other. This meaning was strengthened by his gesture when he moved his hand between the position assigned as the thesis statement and different positions for different body paragraphs. To emphasize the close connection between different ideas, he moved his hand sequentially from one position to another position, as if indicating that ideas are more tightly related to the previous one. Here, the book metaphor and the pyramid metaphor differ radically to reflect how Sk1 perceived writings in these two languages. He also articulated that one is "consistent, it is the same everywhere", but the other "is growing to space, it starts with a tiny then goes to huge spaces like differently".

Sk2 produced a Tree Metaphor for Russian writing, but he focused on the overall shape of the tree: the tip of the tree is smaller and it extends. He produced a triangle gesture for this idea. In this sense, the tree metaphor Sk2 used for Russian writing is the same as the Pyramid metaphor produced by Sk1.

Sk2: "In Russian, we will write an introduction, not that kind of introduction in English, cause in English we have to write the thesis, and all the stuff. And in Russian, we don't have to write the thesis, just like, like, you know a tree,

[move BH to form a triangle in front of his body]

Figure 39

it <u>begins with this one</u> *[move BH along the two sides of the previously-formed triangle]*

ends with a <u>big thing</u>,

[BH posture as if holding the bottom line of the triangle]

so you have the, to, uh…".

[move BH up, close to his head, to form the tip of a triangle]

Sk1 and Sk2 shared the same idea of how Russian writing progresses. Though they used nominally different metaphors, the same idea was highlighted in their metaphors to indicate that ideas are built upon the previous ones and deepen the meaning of the previous ideas. This meaning is clearly represented in figure 39 when Sk2 formed a gesture to represent the top section of a tree. It is arguable that different points in EAP writing are not built upon each other, or not connected. But those two students from Kazakhstan felt that what they learned from EAP writing was the close connection between supporting ideas and the overall powerful thesis statement, which is missing in their L1 writing. In addition, what impressed them was the presence and lack of the thesis statement in the two languages, as Sk2 articulated that in Russian "maybe something else,

like specify the story, but it was not called, like a short strong sentence, which is called thesis. We did not write a sentence."

Plan Metaphor in English

In contrast, Sk2 produced a Plan Metaphor and partially a Human Body metaphor to describe English writing. He said, "Before we write the whole essay, we used to write, uh, it was called a plan, for the essay, so you write like one sentence, for example, in the introduction, I will say something like this, *[moving RH laterally to the right of his body],* for the body paragraphs, it will be like three paragraphs.

[moving RH downward vertically]

The first paragraph I write about, for example [sample sentence omitted here…]

[moving RH laterally to the right of his body]

in the second paragraph I write about [sample sentence omitted here…]

[same gesture, but at a lower place]

and in conclusion, I will say even though they struggle, they love each other, that kind of things, so according to this plan, I will write the <.>,

[RHC, moving along a vertical line downward; move RH laterally to the right of his body]

it is kind of like a skeleton,

[moving hand vertically downward, the same gesture as the one for "plan"]

according to this paragraph, this plan, I will write the whole essay.

[moving hand vertically downward; moving hand laterally to cover a larger area]

Sk2 viewed the thesis statement as the plan and every idea presented in the essay comes from this plan. When he moved his hand downward quickly, he indicated the thread of development of the essay - the plan. Then when he illustrated the sample topic sentences, he moved his hand along a horizontal line, in contrast to the earlier vertical line. So the vertical line represents essay development and the lateral ones represent enriched body paragraphs. The thesis statement/the plan guides the entire essay. When Sk2 moved his hand either horizontally or vertically, the scope of his hand movement clearly indicates that this movement is based upon the size of the paper rather than the size of an exhibition board. This gesture also somewhat resembles the building metaphor when the thesis statement is regarded as the foundation of a building and the rest of the essay is based upon this foundation and fully developed. Sk2 then commented that the plan was like a skeleton, which is part of the human body metaphor. What he referred to by the word "skeleton" was the bone structure of the human body, which again refers to the part of the essay that defines what the rest of the essay will be about. So far, his gestures and his metaphors all represented the thesis statement as the essential part of the essay structure, like the bones; the thesis statement also guided development of the EAP essay, like the plan.

Food/banquet Metaphor in English

Si used a food/banquet metaphor to describe EAP writing when he was interviewed. When asked to elaborate on this idea, Si said: "[…]the connection is higher, because like when you want to eat, you have like different food, it is like a thesis statement, *[BHC],* it contains many food but it correlates these <?>

[RH starts to move around the table, pauses at different places]

just like in the thesis statement there are <u>like many food, but it has a correlation with</u> <?>.

It's higher. *[RH moves back and forth along a line]*

So after that you <u>describe every food in the, in every body paragraph[…]"</u> .

[BH move sequentially sideways to the right of his body]

Si did not clarify what the thesis statement stood for in the banquet metaphor, so I asked him to further explain that metaphor and to describe the relationship between the thesis statement and the supporting ideas. Si then equated the menu with the thesis statement. He said, "When you read the menu, you understand what dishes are provided". In the same way, when the readers read the thesis statement, they should have an idea of what will be presented in the body paragraphs. Relying on the food idea, Si further explained that a delicious dish needs all kinds of seasonings, and "writing like a food, so when you take one of the spicy, it will be like different. So you need to put everything like <u>is balance</u> […] *[both palms face up, move up and down alternatively, as if weighing something with a scale] […]* It is like the food, because you need to put everything as <?> […] It is like a food, right? So when you <u>put everything you need to put balanced</u> thing like the salt or everything." *[RH imitates the action of putting spices into the pot]*

Figure 40

Si clearly perceived a good piece of writing as a delicious dish, which means the writer has to put the needed spices in proportion, just as putting the needed elements in good proportion in a piece of writing. To emphasize this idea, Si opened his hands, palms facing up, and moved his hands alternatively up and down, as if the two sides of the scale moving up and down to reach the balance. It is the same for a good essay. Different contents will take on different weights. This reminds us of the balance metaphor used by TD to indicate the assigned weight to different parts of the essay. In Si's banquet metaphor, the thesis statement was equated with the menu to list different dishes/body paragraphs; every idea fully explored and presented in the essay was equated with the individual dish in the banquet.

When asked to produce a metaphor for writing in Indonesia, Si first answered that "In Indonesia, I did not remember the rules, but I can write". Later on he said, "there is not much difference between writing in English and in Indonesia. Both require a strong thesis and good topic sentences and good stories". Perhaps due to this, he did not produce a metaphor for writing in his first language.

Sandwich Metaphor in English

Su1 used a sandwich metaphor to describe writing in English. He said,

"a sandwich, <u>the top have the bread, so that's the introduction,</u>

[move RH higher and move along a horizontal line]

then you have <u>the meat, <?> that's the body paragraph,</u>

[move LH up, but lower than the RH, also move along a horizontal line]

<u>and the end you have, another bread,</u> <u>the conclusion</u>"

[flip LH palm facing up, as if holding something, wrapping something; RH palm facing

down, LH palm facing up, move RH down and move LH up for a press action]

Su1's metaphor of the two pieces of bread was similar to the book metaphor Sk1 produced. The commonality of these two metaphors is the sameness of the introduction and the conclusion and the sameness of the front cover and back cover. However, later on in the interview, Su1 revealed that he learned the sandwich metaphor from the English class he attended before he joined the university. So in the strict sense, this metaphor was not a new metaphor created by Su1 although it did impress Su1 deeply so that he could still borrow this learned metaphor to describe his understanding of EAP writing.

When asked to produce a metaphor of academic writing in Arabic, both Su1 and Su2 indicated that they did not learn how to write academic essays in Arabic; thus, I did not push them to produce a metaphor in their L1, since there is no comparable basis for the two metaphors in that sense.

Human Body Metaphor in English

Su2 was interviewed at the same time with Su1. His metaphor for EAP writing is somewhat like a human body. He said, "the thesis is the heart, heart of the essay, like human heart, it gives the pushes to, like the blood pushes to everything in your body, so like the essay. Thesis goes to the introduction, goes to the conclusion, goes to the main body, every idea. […] the body paragraph is <?> like a body with ends *[moving both arms up, to the sides of his body]* cause they help how to move the, the function of this, uh, this essay. And the conclusion is a, conclusion is kind of a brain, cause in conclusion, I always think more deeply. I am trying to reflect, to relate myself to the story. I draw more attention to the conclusion than to the thesis. The conclusion is more like a brain".

Su2's human body metaphor highlighted the importance of the thesis statement to guide the rest of the essay, just like the heart pushing blood throughout the body.

Tree Metaphor in English

Two of the Chinese participants were interviewed by their instructor outside the regular class activities. I provided the questions to the instructor. When asked to produce a metaphor for EAP writing, Sc1 proposed a tree metaphor. He said,

Sc1: "The tree I mean, <u>um, um,</u> <u>the structure like</u> trees, um, ha <@> <…>"

[move BH together; RH stays higher, LH moves down]

Sc2: "Is it like <u>different branches</u>? *[stretching index fingers of BH to different directions]*

There are<u> a lot of ideas going on, like the trees have different branches".</u> *[same gesture]*

Sc1: "<u>Ah, oh,</u> <u>one structure,</u> and then <u>um, hum, <.> that goes all"</u>

[holding BH together; LH moves upward along a vertical line above his head; move BH to different sides of his body, as if the ideas are spreading out]

Figure 41

Figure 42

Sc1 did not finish his sentence in the first utterance. Nor did he clearly explain which part of the tree corresponded to which part of the essay. It seemed that he had some trouble articulating this idea. With Sc2's help, he manually represented what he meant by this tree metaphor. When he moved his hands along a vertical line in figure 41, it resembled the trunk, the central idea of the essay, the thesis statement. Then when he extended both hands along different directions in figure 42, he represented that the ideas in the body paragraph generating from the thesis statement to be fully developed. This gesture helped the instructor understand his idea that "the central part would be the thesis, or the main argument, and the branches come out to make all those small arguments".

Environment Metaphor in Chinese

In contrast, Sc1 produced an environment metaphor to describe writing in Chinese. He said, "it is more like to give you, uh, use words to give you an environment to think, think about the problem". However, his metaphor focused on the function/purpose of writing, rather than the structure of writing.

Proof of Learning via New Metaphors

Whether a book metaphor or a sandwich metaphor, what is highlighted is the sameness demonstrated in the introduction and conclusion. These two metaphors clearly represent how Ski and Su1 perceive EAP writing, which might be strikingly different from writing in their first language. These two metaphors are not captured in the current instructors' data, though the interview data with Su1 revealed the previous class he attended was the source for the sandwich metaphor. What in the current instruction might stimulate the book metaphor then? The instructors' data indicated that teachers tend to use two triangles to represent the introduction paragraph and the conclusion paragraph. The introduction is an upside-down triangle where students start with the more general issue and gradually lead to the specifics in the essay. On the other hand, the conclusion paragraph is a flipped triangle, where one starts by reiterating the specific points discussed in the essay then moves on to its general implication. The reversed triangles convey the idea that the same contents are presented in the introduction and the conclusion in different words. This triangle image of the introduction and the conclusion might be the source of the book metaphors, where the introduction is equated with the front cover and the conclusion with the back cover. The sameness of the introduction and the conclusion demonstrated in the book metaphor confirms to what the students have been taught about how to write the introduction and the conclusion. Here, although these two students did not produce the same metaphors or explanations they were exposed to, they clearly absorbed the ideas and created new metaphors or borrowed the metaphor to capture the essence of the sameness of the introductory and conclusion parts of the essay.

This exemplifies that they have understood the EAP writing conventions and internalized those concepts. The creation of new metaphors is even more significant than mere imitation or repetition of the same metaphors used by the instructors. The ability to create transcends the competence of imitation and pushes the students to a new level of learning.

On the other hand, the plan, human body, banquet, and tree metaphors highlight the essential role of the thesis statement in EAP writing and how the supporting points are derived from and related to the thesis statement. These metaphors clearly represent how the students perceive EAP writing structure. Though these metaphors were not the same as the ones used by the instructors, one can clearly see that these metaphors produced by the students were influenced by the instruction they were exposed to, since they emphasize the hierarchical function of the thesis statement and the tie between the thesis statement and the supporting ideas, which were the focus of instruction analyzed in chapter five. Furthermore, what the students were exposed to in instruction were separate metaphors that highlighted the importance of the thesis statement (such as the forecast metaphor) and the close relationship between the thesis statement and the supporting points (such as the tie metaphor). These students were able to synthesize all those concepts together and produce their own metaphors that were more complex and comprehensive to represent the different features of EAP writing in one single metaphor. Once again, the creation of these new metaphors is based upon what they have received in instruction, but this competence transcends the simple repetition of metaphors to prove that not only did these students understand the EAP writing conventions, they also

internalized these concepts to create their own metaphors. These newly created metaphors are strong proof of the occurrence of learning.

Explanation of Tree and Umbrella Metaphors

There were some cases when the interviewees did not produce a metaphor to focus on the EAP writing structure. For example, Sc2 produced an ocean-going metaphor of EAP writing which targets at the process of writing rather than the overall structure of writing. Sometimes, they did not produce a metaphor at all for writing in their first language, because they did not learn how to write an academic essay in their first language at the same level of the EAP writing they did here. Sc3 did not produce a metaphor for Chinese writing. She said, "maybe like building a house, no, building a house has a base, that is not a good one <…> I think Chinese writing is just like American free writing, you think something, you write something, <…> maybe Chinese has some style, but I did not learn, I forgot". Nor did Sc3 produce a metaphor for EAP writing. In that case, I provided the tree or umbrella metaphor to ask them to explain the specific correspondence between different parts of the tree/umbrella and different parts of the essay. Sometimes I asked those students who already produced a good metaphor to explain the tree or umbrella metaphor to further explore the way they conceptualize EAP writing. The next section will discuss those ESL students' understanding of the two metaphors. Let's first examine how Si produced similar gestures as Sc1 did when they explained the tree metaphor.

Si: "…because it strongers your idea, it's like the tree, the <u>root</u> makes the<u> tree stand,</u> really really strong. *[palms facing down, close to the table to indicate the root; then BH move up to form a trunk shape of a tree]*

Figure 43

The most like the explanation is <u>the trunk,</u> *[form a trunk shape]*

trunk is almost like <u>the big part of the tree,</u> *[open hands to make a larger circle shape]*

it's like the explanation is the big part of the writing, I don't know the name but like the

<u>trunk has many …</u> *[project index fingers of BH to different directions]*

it is like <u>many topic sentences,</u> *[same gesture as the previous one]*

Figure 44

so like, like, what is this name? Like this". *[same gesture]*

<interlocutor answered "branch" here>

Si: "Yeah, it is like the branch of your idea so maybe topic sentences. *[same gesture]*

So if you make every topic sentence has every leaf

[index finger of RH revolves around the LH]

like every topic sentence, every explanation *[same projecting gesture as before]*

is strong by the leaf, so the leaf should be the topic sentence". *[RH revolves around LH]*

Like the banquet metaphor Si produced, the tree metaphor made sense to Si in that the thesis statement is the controlling part of the essay and all the supporting claims are derived from and connected to it, just like the relationship between the branches and the trunk. All the other interviewees provided somewhat similar explanation to assign the trunk as the most important part of the essay, and the branches as the supporting ideas.

I then prompted some interviewees to see how they understood the umbrella metaphor. Two instances are provided here.

Su2: "the thesis statement is the, when you hold on <.>"

[RH acts a holding action]

<interlocutor providing the word "the handle">

Su2: "Yeah. The handle, is the thesis statement, then you have the topic sentence of each paragraph,

[finger of RH moves along the branches of umbrella]

then you have the conclusion to like ,

[move RH higher in a half-circle as if to cover all the ideas]

to <u>cover all</u> your body paragraph and thesis".

[open BH in a half-circle movement]

Su2 further explained the relationship between the branches and handle,

Su2: "<u>like because they like,</u>

[RH forms the handle shape]

<u>come from the handle</u>, so like <u>separate them from</u> <?>

[move RH downward to indicate the branches of the umbrella; move RH upward to

imitate the branches, move hands sequentially from right to left]

Su2 equated the handle to the thesis statement, since that is the part to connect all the branches and the supporting ideas. Again the way Su2 equated the umbrella with EAP essay structure highlighted the central role the handle has for the umbrella and the central role of the thesis statement. Su2 explained that the surface part of the umbrella was the conclusion, since the conclusion should wrap up all the ideas discussed earlier in the essay, just like the surface part of the umbrella covering all the branches. In contrast, Su1 believed that the surface part of the umbrella was the thesis statement. His explanation focused on the comprehensive role of the thesis statement to include all the points that will be discussed in the essay.

Su1: "This is the, I think<u> this is the thesis</u>

[move RH along the membrane part of the umbrella]

<u>these are the topic sentences </u>and this <u>the conclusion</u>

[move RH along the branch part of the umbrella, move RH downward for the handle]

[…] I think<u> all the topic sentences ,</u>

[move BH to form a circle, then hands fall down]

<u>all the topics lead to one conclusion</u> maybe

[move BH to indicate the branches, then branches connect to the handle]

[…] here <u>it kinds of leads to one thing</u>, that is what I think.

[same gesture as the previous one]

In this example, the thesis statement is equated with the surface part of the umbrella, unlike the branch=thesis in Su2's explanation. It is interesting to note that one student equated the surface part with the conclusion and another equated it with the thesis statement, an essential part of the introduction. However, they provided similar explanation in that the conclusion should include all supporting ideas/branches and the thesis statement should cover all supporting ideas/branches. Both explanations make sense since they focus on different features of EAP writing. But the opposite explanation did reinforce their understanding that the introduction and the conclusion of EAP writing are similar to each other, like mirror images. Thus, one student is approaching the umbrella metaphor downward to emphasize the predictive function of the thesis statement, and the other is approaching it from the bottom to emphasize the wrapping function of the conclusion.

Perception of Metaphors and Gestures

Finally the interviewees were asked to think about what the instructor said or did in the class to help him/her understand the EAP writing conventions and get the "aha" moment in their learning processes. Not surprisingly, none of them indicated gestures in their answer. Many of them took the "did" part of my question as the activities held by

the instructors in class. They explained that workshops were useful and specific comments provided by the instructors were helpful. When I asked them whether anything the instructor did with his/her hands caught their attention in terms of how their writing should be arranged, none of them could recall any such instance. It is not surprising that gestures did not cause their attention, since gestures are usually produced unconsciously and most gestures are not intended to replace the verbal utterance, but to provide additional information or to clarify ambiguity. However, gestures used by instructors might be produced subconsciously or even consciously to serve pedagogical purposes than gestures used unconsciously in other types of discourses. Even so, unless the shape of the gesture is strikingly different from the ones used in one's native language, most gestures (metaphorics, iconics, deictics, and beats) demonstrate similar patterns when they depict the shape, size, height, trajectory information of the accompanied verbal utterances. Thus, most people might only roughly realize that people in one language tend to gesture more than people in another language, but it is very unlikely for them to notice specific cases of gestures produced. The interview data seemed to indicate that the effectiveness of gestures is not well perceived in comparison with verbal descriptions.

However, when asked what the instructors said to help them understand the EAP writing conventions, many interviewees provided some specific instances, such as how the instructor questioned them why they put the most important claim in the conclusion paragraph. For example, Sk1 said, "She explained the structure a lot in class, when I met her, she said you do not have a thesis statement in the introduction, what was you idea about the text, I said I was gonna write about this in the conclusion, she was really

surprised. 'Why do you write about that in the conclusion? You have to write about this in a thesis in the beginning, and in the end you do the same'". None of them put metaphorical expressions in their answer in the first round. So I prompted their understandings of metaphorical expressions used by the instructors, such as the forecast metaphor, roadmap metaphor, etc.

For the "forecast" metaphor, the interviewees all recognized that it was a helpful metaphor. One of them said it helped him understand the function of the thesis statement. He said "like thesis say what you are going to write about, now in body paragraphs what is coming up, like tomorrow is like going to raining, and it is raining". Another interviewee articulated that "forecast is kind of, when you don't want to say all that you will say in your essay, but you just mention like a small part of it, like, you want to make the reader be interested in your essay. You want to make the readers go further, read further. So I think forecast is something that can tell the reader what the essay is about, but not the whole idea. Cause forecast, when I hear the word forecast, I remember the weather. When I see the television forecast of the weather, they say like ok tomorrow will be like a rainy day, but it will not always be the same as they said". Due to the frequent occurrence of and familiarity with the weather forecast in our daily lives, the forecast part of what will occur in the near future weather-wise is a great help in terms of what the thesis statement can do to predict the supporting claims that will occur soon after the thesis statement in the essay.

When I asked the interviewees whether the "roadmap" metaphor helped them get the idea that writing is a trip, one of them replied with a "no" immediately, since he did

not use a map for a trip, thus he felt the forecast metaphor made more sense to him in explaining the function of the thesis statement. However, another interviewee answered "roadmap is a plan, planning something, like you plan what to write about in the essay". Another interviewee also answered "when you start to read, you don't know what <?> so again the introduction, I think it is the kind of map and the thesis tells you where exactly you are, go with this introduction". The different answers from these three students suggest that familiarity is essential in using metaphors to make sense of the abstract, scientific knowledge.

Sc3, during the interview, revealed that she got the idea of EAP writing as a tree from a tutor and the tree metaphor helped her tremendously in understanding how to structure her own essay. She said, "It is a big help at that time". When I asked her how the tree metaphor helped her write her own essay, she answered "so I find some main ideas there is the root, then I find the topic sentence support the root […], so these branches is PIE paragraphs, PIE 1, PIE 2, PIE 3 PIE 4. First time I heard this, I have direction how to write, so last semester a few time make me surprised like this 'oh, I got something, I can do it.". Even though Sc3 did not get this metaphor from classroom instruction, Sc3's answer confirmed that the tree structure helped her visualize the way she should organize her own writing in English. She then articulated that "I think that is more helpful cause you will understand it better, right? You know, it is like the tree, you have like the thesis statement *[making the trunk gesture]*, then you have like the topic sentences *[making the branch gesture]* then you have the conclusion *[making the root gesture]* ."

In another interview, Su1 explained the first metaphor he learned about EAP writing was from a community college he attended before he pursued his bachelor degree. The sandwich metaphor impressed him deeply in that "I know that to write a general, like general <#item#>about what you are going to talk, then you will have in the middle the ideas and the topics, to support your, like, to support your thought, then you have to, we said like the introduction and the influence, so …". Actually he also borrowed this sandwich metaphor to describe EAP writing in the interview. To him, this metaphor made sense in that the middle part of the essay was the meat, the juicy part and the writer will put general thought both before and after the fully developed body part. Though this sandwich metaphor was not a metaphor encountered in the current instructors' data, it supported the claim that the familiar image in our daily life helped students conceptualize writing in English.

In all, these interviewees' answers seemed to suggest that though some of them did not consciously realize how metaphors helped them comprehend the rhetorical conventions of EAP writing, they actually absorbed the concepts that were vividly conveyed in the metaphors. It also seemed to suggest that those metaphors worked effectively on the overall structure of the academic essay, since that is what is highlighted in the students' own productions. Metaphors also seemed to work well at an early stage of learning, as one of the interviewees articulated that "at the beginning when you learn about English language writing, it is so helpful". In contrast to these metaphorical expressions, gestures did not seem to raise much conscious awareness/attention from the students to help them comprehend the rhetorical conventions of EAP writing. Although

in explanatory discourse gestures might be used somewhat subconsciously or consciously to simplify and concretize the abstract rhetorical conventions to help students understand, internalize these concepts and apply these conventions in their own writing, the effectiveness of gestures is not well perceived in comparison to that of metaphors. On one hand, metaphors are verbalized while gestures are used as paralinguistically, so it is natural to expect that metaphors will receive more attention. On the other hand, metaphors are used on purpose and even designed by the instructors while gestures may not be designed by the instructors at the moment of speaking. From both the instructors' data and the students' data, we could see that gestures are used as an additional source of input to accompany the verbal speech to concretize the abstract concepts. They never contradict the meaning conveyed in the verbal metaphors. Sometimes they are an essential part to better understand the verbal metaphors. Even so, the students' responses seem to suggest that metaphors are a better and more effective teaching tool in comparison to gestures.

CHAPTER VII: IMPLICATIONS AND CONCLUSION

One special contribution of this study is that it probes how metaphors and gestures are employed in teaching EAP writing at the college level and how the different metaphors and gestures employed by language learners reflect the different rhetorical conventions of academic writing across languages. Through analyzing both metaphorical expressions and gestures employed by the instructors and the students in totality, this study reveals how they conceptualize EAP writing conventions both verbally and gesturally. It shows that the linearity aspect of EAP writing, the hierarchical function of the thesis statement and the close relationship between the thesis statement and the supporting points are the patterns highlighted by both instructors and students, although their gestures and metaphors also reveal other concepts such as viewing essay writing as a container, a journey, a dialogue, and an exploration process, etc. The juxtaposition of the instructors' gestural patterns and the students' gestural patterns indicates that students' gestures are inspired or related to the instructors' gestures regarding specific patterns of EAP writing, which is assumed to contribute to the learning process. In addition, the newly created metaphors elicited from some students in the final interviews provided stronger proof that learning has occurred among those students. The creation of the book metaphor to refer to EAP writing shows that cognitively, the student has understood what should be covered in the introduction and conclusion paragraphs, possibly from the opposite triangle images he was exposed to in the instruction regarding

the introduction and the conclusion. Furthermore, these ESL students synthesized some simple metaphors they were exposed to in the instruction and formed more complicated metaphors, such as the tree and banquet metaphors, to cover a variety of features of EAP writing conventions to highlight the hierarchical role of the thesis statement and the close relationship between the thesis statement and the supporting ideas. The creation of new metaphors is more significant than the mere repetition of previously encountered metaphors in proving the occurrence of learning.

Metaphors are recognized as useful pedagogical tools to help students bridge the known and the unknown. A number of studies recorded metaphors used in the pedagogical setting (Cortazzi and Jin, 1999; Ungerer and Schmidt, 1996; Wee, 2005). However, many studies of metaphor are criticized as lacking real data (Cienki, 2005). Although the Cortazzi and Jin (1999) study was conducted empirically to collect metaphors used by teachers and students, they only obtained elicited metaphors by asking their participating teachers and students to articulate their own metaphors of learning. No naturally occurring metaphors were recorded in their study. This study is grounded in real, authentic data to record metaphorical expressions used by the instructors and the students in naturally occurring settings and the elicited metaphors from the students in the interview setting. As indicated in the data, many of the metaphors encountered in the literature about writing are echoed by the instructors and also by the students, such as the journey, scale, dialogue, lens, building, and container metaphors. In addition, students created their own metaphors such as the banquet, tree, book, and pyramid metaphors to

highlight important features of EAP writing and to reflect the striking differences between EAP writing and academic writing in their first languages.

This study also analyzed metaphors and gestures in totality in order to examine how the instructors and students perceived EAP writing, and how such usage by the instructors might help students in their learning processes. As mentioned earlier in chapter two, there have been some studies of conceptual metaphors of writing (Bowden, 1995; Eubanks, 2001; Flower and Hayer, 1981; McMillen and Hill, 2005; McCarthey, 1994; Miller, 1993; Thompson, 2001; Ungerer and Schmidt, 1996). However, no study combined the gestural perspective and metaphorical expressions to examine how they work together to concretize the abstract ideas of writing in a visual mode. The current study contributes to this field of knowledge to pinpoint the importance of considering both gestures and metaphors in totality for a full understanding of the abstract concepts. More than one instance in chapters five and six prove that gestures are essential to comprehend the metaphorical sense of the verbal utterance when the speech itself is not metaphorical per se. This study also points out that although students did not articulate their conscious awareness of the gestures used by the instructors, their gestures were indeed inspired or related to their instructors' gestures to convey similar concepts such as linearity pattern, container pattern, and hierarchical pattern, etc. All these exemplify that they perceive of EAP writing in the way they were taught. The loose cohesion between the instructors' gestural production and the students' gestural production provides visual proof of the occurrence of learning.

The interview data indicated that, compared with gestures, verbal metaphors seem to be a more effective teaching tool to help students comprehend the abstract knowledge. As analyzed in chapter six, this difference might result from the purposes behind the production of metaphors and the production of gestures. Metaphors are generally intended by the instructors to simplify and concretize abstract, complex, and scientific knowledge; while gestures are not designed to replace verbal utterances. In the pedagogical setting, even when gestures are subconsciously or consciously employed by the instructors as additional cues to help students acquire knowledge, the interview data of the current study seems to indicate that gestures are not well perceived. The lack of conscious attention on the students' part to gestures could be explained when we analyze the types of gestures produced by the instructors in class. Lantolf and Thorne (2006) argued that one important area of gestural studies in the L2 field is the acquisition of emblematic gestures by language learners. Emblematic gestures are those gestures unique to one culture and one language and can replace verbal utterances to convey the idea with a well-established, conventionalized form. For example, the "OK" gesture can only be recognized when the thumb and index finger form a closed circle and the rest three fingers extend upward. If the three fingers form a curved shape, it is not an "OK" sign. If the thumb and the middle finger form a circle, it is not an "OK" sign either. In addition, emblematic gestures can send different information in different languages. For example, revolving one's finger around the temple in English means "craziness" but "thinking hard" in Chinese. Emblematic gestures in one language can be missing in another language. The popular air quotation gesture in English is not found in the Chinese

gestural repertoire. The specificity of emblematic gestures might catch language learners' attention to its form and meaning and proper usage. However, the other types of gestures that cannot be used to substitute verbal utterances are generally produced and perceived unconsciously. They are produced at the moment of speaking as a visual representation of the ongoing mental activities of the speakers. Normally, speakers could not recall the gestures they just made and listeners do not pay attention to speakers' gestures consciously either. Thus, the unconventional gestures might not alert the language learners/student writers as something unusual or different. This lack of conscious attention might explain why gestures were not brought up in the interview data as something helpful in the students' learning process.

This being said, it does not deny the roles of gestures in reflecting the abstract mental representations of EAP writing structure. We have already seen that instructors demonstrated similar patterns of using gestures to highlight the linearity aspect of EAP writing, the hierarchical function of the thesis statement, and many other patterns. In addition, they all agreed upon the close relationship between the thesis statement and supporting ideas, etc. In the instructors' data, we could find both metaphorical expressions and gestures for those patterns, but only gestures were found in the students' data. One reason for that might be the different focus in the instruction and in students' interactions. Cortazzi and Jin (1999) summarize that teachers tend to use metaphors to establish the general patterns to the students by identifying what they experience. Metaphors also help them express the meaning more concisely and capture multiple meanings in experience. The teachers in the current study were also trying to convey the

general abstract idea of the rhetorical conventions of EAP writing to the students. Metaphors seem to work well in this setting of explaining general knowledge. In contrast, the students were providing suggestions about individual papers and they were targeting the specific problems. The focus is on individual, specific and concrete problems, thus, it was not ideal for the production of metaphors. This difference might contribute to the lack of metaphorical expressions in the students' data. However, gestures were found to accompany both students' and instructors' verbal explanations, to represent the way they perceive EAP writing and to visualize the metaphors. For example, when some students presented how they focused on the target audience, their gestures visualized the conversation metaphor. One student moved his hand sideways as if talking to a group of people when he talked about the audience choice in the first draft. He then moved his hand back to the central stage to indicate the single legitimized participant as the new audience in his revised paper to highlight the face-to-face talk nature. Since gestures are produced unconsciously, they will visually represent what one knows but what one may not realize or cannot articulate verbally. According to Roth (2003), students produced more gestures before they were engaged in scientific discourse. Those gestures represent their comprehension of the concept and their lack of linguistic competence to verbalize the concept. In the same way, we might say that our ESL students may not have the awareness to articulate the problems in metaphorical expressions or they did not know how to indicate specific problems or justify specific comments metaphorically; however, they have acquired the concepts and these concepts are naturally represented in their gestures.

This study is designed with the methodology of observing, videotaping and interviewing. Due to the non-obtrusive nature of this study, the data collected from the classroom teaching setting and the student activity setting are natural, authentic data. This explains why quantitatively, although there are only four instructors, there are much more gestural and metaphorical data from the instructors' data pool than the students' data pool. As is the case in most classrooms, teachers talk the most in class. Even though the writing class is combined with different student activities such as peer review, group discussions and workshops, teachers still dominate the classroom talk. In addition, many ESL students are very quiet in class. Some of them only spoke up in the class when they were called on. In the peer review activities, most students spent a long time reading each others' drafts and then writing down their comments. They only spent the last few minutes exchanging opinions. All of these explained why quantitatively speaking, although there were 24 ESL students in the data pool, they were not as productive as the instructors in terms of the specific type of data probed in this study.

Originally, I hoped to find instances of how students/learners help each other to support the role of gestures in the ZPD process of learning in peer activities. However, in the current students' data pool, there were only two instances where students used gestures in the group activities to help clarify their ideas to their peers. In those instances, gestural cohesion was achieved among the group members to indicate their mutual agreement on the issue under discussion. One of the instances was already explained in example 52 in chapter six (6). In that example, the three participating group members moved their hands in exactly the same manner and direction to indicate the linearity

pattern of one student's writing. I claimed above that the directionality of that movement was a significant indicator of complete agreement and it was used to corroborate the linearity structure shared among the group members. In another instance, one student had trouble articulating the metaphor verbally and another student helped him both verbally and gesturally. The first student then produced gestures in exactly the same way to correlate the different parts of a tree with the different parts of an EAP essay. Here, gestures took on important roles in offering support to the less capable student when they talked about the abstract ideas of EAP writing. Through the co-construction of gestures, together the two students reached a better and more comprehensive understanding of the tree metaphor for EAP writing. The example will be provided in detail.

TB: "So I like to hear more about these ideas. How about Sc1? (*the student's real name is substituted with "Sc1" here)* Can you tell us a little bit more about why you say the writing process is like a tree?"

Sc1: "The tree I mean, um, um, the structure like trees, um, ha <#@#>"

[move hands together; RH stays higher, LH moves down]

Sc2: "Is it like different branches?

[stretching index fingers of BH to different directions]

There are a lot of ideas going on, like the trees have different branches".

[same hand posture as the previous one]

Figure 45

Sc1: "<u>Ah, oh,</u> <u>one structure,</u> and then <u>um, hum, .. that goes all <…></u>"

[holding hands together twice; LH moves upward along a vertical line above his head; move BH to different sides of his body, as if the ideas are spreading out]

Figure 46

Figure 47

Sc1 first mentioned the idea of writing as a tree, but he did not specify the correspondence between parts of a tree and parts of an essay. Sc2 did not initiate the tree metaphor, however, she continued along Sc1's thought to assign the trunk as the main claim and the branches as the supporting points. Not only did she verbalize this idea, she

also moved her hands to represent the trunk and the branches, as shown in figure 45. Sc1 then got help from her and said "one structure" when he moved his hands along a vertical line in figure 46 to indicate the trunk and "that goes all" when he projected his hands to different directions in figure 47 to represent that branches of the same tree extending in different directions. Here Sc2 is the more capable one, but she is not the one who came up with the tree metaphor. Sc2 might not think of an essay as a tree, but at the prompt of Sc1, she clearly saw the correspondence between parts of a tree and sections of an EAP essay. Although he initiated this idea, Sc1 either had trouble relating parts of a tree to parts of an EAP essay or had trouble articulating this idea in detail. Only with Sc2's help did Sc1 reach this goal. This is a good example of how Sc1 and Sc2 worked together to complete and enrich the detailed explanation of the tree metaphor of writing. Sc2 provided clear explanations both verbally and manually, however, only her gestures were imitated by Sc1 in his later explanation. Sc1 did verbalize more in terms of the specific correspondence between parts of a tree and parts of an essay. Through the co-construction of this tree metaphor and the gestural cohesion, both Sc1 and Sc2 had a clearer vision of the tree metaphor and EAP writing. This instance is a significant example of how the ZPD occurred among peers to help each other.

However, as mentioned earlier, throughout the whole students' data pool, there were only two instances of gestures used in the ZPD activity to help each other reach a better understanding. What might be the reasons then? The writing program is conducted using process-oriented methodology. Compared with other classes, there is more student participation such as peer reviews, group discussions, and writing workshops. It is thus

expected that there will be more instances of the ZPD. In addition, since the participants are language learners/student writers, it is assumed that they might encounter more language problems in articulating their suggestions. Consequently, they might turn to gestures to make themselves understood in the interactional process. How to account for the fact that only two instances of the ZPD were found in the data then? The lack of instances of the ZPD among peers might indicate that the ZPD among peers needs a specific environment to occur. These students only attend the class twice or three times a week with 150 minutes each week. Very likely, the writing class is the only class these particular students take together during the semester. During the 150 minutes, the teachers talk most in the class. As I observed, quite a number of students did not know each other's names even toward the end of the semester. Obviously, they were not very close to each other. In addition, the composition class is a required general education course. Whether the student is interested in writing or not, he/she has to attend the class. Besides the unfamiliarity factor, low motivation and interest of some of the students might be another reason that they did not put their hearts into the activity. What's more, if the task is too challenging or not challenging enough, there will not be a ZPD to occur at all. From the students' evaluation, the writing class was not extremely difficult for them. Many thought the composition class was about the average level of difficulty or easier than most classes they took; thus, it is very likely that the task of diagnosing problems of peer writing and understanding peer writing is not stimulating and intellectually challenging for them. If that is the case, the ZPD just will not take place. As seen in the two examples of the ZPD that were listed above, gestures were employed but the sheer

quantity of such gestural usages is not significant to prove that in this specific setting, gestures are used as a mediational tool in the ZPD activity.

This study records the instructor's data in order to explain what students learned and how they learned from the class instruction setting. In order to probe more effectively how gestures are employed in the learning process as a mediational tool, future studies might look at instances of the ZPD in courses with relatively more difficult topics such as physics, engineering, psychology, etc. where students need to engage more in group activities in order to finish their projects. In addition, Roth (2003) examined some extracurricular activities when the students formed their own groups to finish the class project. In this sense, the students have more control of the when, where, and who factors of the group activity and they might feel more at ease and more motivated to work together to solve the problem. In contrast, the activities recorded in the current study all happened as class activities and the teachers tended to assign the group members most of the time. Future study might extend from what happens in the class to what happens out of the class for a more complete picture of the learning process and for more instances of the ZPD activities in group activities where gestures serve more significant roles in helping each other to reach a better understanding of the issue being discussed.

The current study only asked a few ESL students to articulate their own metaphors of academic writing in their first language, and the interviews were conducted in English. Future studies might record how some experienced academic writers across different languages narrate their perceptions of academic writing in their own languages. For example, how Mexican scholars perceived Mexican academic writing and how

Korean scholars perceived Korean academic writing. The interview should be conducted in the first language of the interviewees to eliminate the language deficiency issue. That kind of study should provide firm data as to whether the linearity, hierarchy, building, journey, lens, and container metaphors are represented across languages.

APPENDIX I: DATA TRANSCRIPTION CONVENTIONS

Pseudonyms used for all participants. The participating teachers are referred to as TA, TB, TC, and TD. The participating students are referred to as S1, S2, S3…, etc.

Oral Data:

[…]=ellipsis;

<.>, <..>, <…>= pauses of different lengths;

<*italics*>=comment by the transcriber; movement other than gesture by the participants;

<?>=unclear utterances;

<#word#>=uncertain hearing;

<@>=laughter during speech;

wor- =word truncation;

＿＿＿= verbal utterances corresponding to the whole gestural phase.

Gestural Data:

[*italics*]=description of gestures, trajectory, shape, location

LH=left hand;

LHF=left hand forming a fist;

RH=right hand;

RHF=right hand forming a fist;

BH=both hands;

BHC=both hands open, facing each other, forming a half-open container shape;

LPOU=left palm open, facing up;

LPOD=left palm open, facing down;

RPOU=right palm open, facing up;

RPOD=right palm open, facing down;

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