CIRCLES OF MEANING: GROUP DISCUSSION OF POETRY-BASED VOCABULARY TASKS FROM A SOCIOCULTURAL PERSPECTIVE

A Dissertation
Submitted to
the Temple University Graduate Board

---

in Partial Fulfillment
of the Requirements for the Degree
DOCTOR OF EDUCATION

---

by
Claudia Gellert Schulte
May, 2001

ABSTRACT
Title: CIRCLES OF MEANING: GROUP DISCUSSION OF POETRY-BASED VOCABULARY TASKS FROM A SOCIOCULTURAL PERSPECTIVE
Candidate's Name: Claudia Gellert Schulte
Doctor of Education
Temple University, 2001
Doctoral Advisory Committee Chair: Dr. Aneta Pavlenko

This study is based on work conducted in the researcher's own advanced ESOL classes at a public high school in Philadelphia. In small groups, students collaborated on a series of vocabulary tasks which called for choosing the correct word to fit in a blank space in a poem. Starting with a definition, they had to arrive at an understanding of which word would best fit the context and network of meanings in the poem. Students were given some preparatory training. Primary data sources included transcripts of group sessions, student learning journals, student work, the researcher's reflective journal, and interviews and questionnaires given at the end. All data went through a continual process of coding and re-coding. Data analysis consisted of (a) ethnographic descriptions of students and groups, and (b) a detailed taxonomy of categories of interaction on the cognitive, group, and social/affective levels, along with an analysis of the role of the teacher/researcher. Results from a combination of data sources, representing both the students' perspectives and the researcher's observations, indicated that students were able to think more effectively through interaction with one another than they could have working individually. Many students also felt that the communicative and social skills they learned would be valuable in other situations.

DEDICATION

To a remarkable woman -- my mother, Adele Knapp. Your love, knowledge, faith, strength, and wisdom have guided me and grounded me. By marching to your own beat, perpetually questioning, and speaking your mind no matter what, you have inspired me to find the path that is deeply and uniquely my own.

To God and Sheikh M. R. Bawa Muhaiyaddeen, who opened that path, kept it clear, and provided everything needed for the journey.

To Ishmael -- the child who's got his own -- for needing so little and giving so much.

To Lev Semenovich, who knew more than any of us about the pressures of time.

And finally, to all the women (and others) throughout the world, and throughout the ages, who never had the opportunity to make their visions a reality.

ACKNOWLEDGEMENTS

First I wish to thank the staff of Temple University, and the C.I.T.E. Department in particular, for making this journey so rich, challenging, and rewarding.

Particularly deep appreciation goes to my advisor and chairperson, Aneta Pavlenko, who held me to the highest standards, and whose rare perception and expertise allowed this vision to unfold as I always meant it to. No one else could have understood quite so well.

To Anita Pomerantz for a dazzling introduction to qualitative research, and for continuing to work with me even after a change of location.

To Ellen Skilton-Sylvester, whose deep understanding of qualitative research added an important dimension to this work.

To Steven Gross, who was willing not only to join my committee in the late stages, but to be of great help as well.

To Joseph DuCette, a man of sensitivity and compassion, who provided valuable assistance at a crucial time.

To Raymond Lolla for his deep concern and support for graduate students.

To Rod Ellis for the vast perspective and keen analysis of "what works" that made his courses particularly excellent, and for his skillful guidance at the beginning stages of this project.

To Dan Slobin for the Berkeley course in the 60's that opened up the brave new world of psycholinguistics for me, as well as for his continued assistance. I may have taken a few decades to come back, but the inspiration was always there.

To Jim Lantolf, for his interest, encouragement, and rare grasp of what constitutes good research.

To the staff of John Bartram High School, and especially my coordinator, Peter Exarhoulakos, for their help and support during my data collection.

To the marvelous students I am so fortunate to teach, without whose energy, curiousity, and hard work none of this would have been possible.

On the more personal side, I would like to express my gratitude for the best set of friends anyone could have: Malika Moore for her unconditional love and wise advice; Farida Parker for her support, insight, and abundant supply of useful knowledge; Baseera Maher for her incredible energy, vision, and expert computer assistance; Rabia McDevitt for her open heart and radiant presence; Linda Hutchings for her music, deep sharing and *joi d'vivre;* Ruth Levikoff, a wonderfully creative teacher and role model, for believing in me and cheering me on; and brother Will Hall, for exemplifying teaching as a healing art, and for being so tuned in to, and able to communicate about, the things that really matter. Thanks also to all the other beautiful souls I've been blessed to have as my companions on the journey, including Anne Hochberg, Sarah Aschenbach, Razeenah Hedden, Myra Diaz, Abd al-Hayy Moore, Dave Mason, Aziza Weiss, Susan Growe, and Ethel Weinberg.

To Fatima Shahab and Rich Menges, who helped me ride the inner and outer waves by showing me some deep -- and practical -- aspects of spirituality.

To David Broida, Kim D'Angelo, Eileen D'Angelo, and Rich Kardon for providing balance. They tended the fires of music and poetry that kept my right-brained self warm, nourished, and feeling like an equal partner -- which is, after all, what so much of this is all about.

To Manny and Teddy Levin, and Maryam Kabeer, for providing places for love and wisdom to bloom.

To Kathie Andrean, my sister, and Ben. Despite the miles between us, our minds, hearts and spirits always seem to stay tuned to the same channel.

To Larry for helping at a crucial time.

To my aunt and uncle, Richard and Nancy Knapp, for their music, interest in my work, and examples as expert and compassionate healers.

To Aunt Lucie for the early love that has stayed with me.

And finally, to my stepmother, Syd Gellert, for her beautiful heart that sees only the good in everyone, and her interest in reading this dissertation at the age of 91.

Consciousness is reflected in a word as the sun in a drop of water. A word relates to consciousness as a living cell relates to a whole organism, as an atom relates to the universe. A word is a microcosm of human consciousness.

L. S. Vygotsky

An idea does not fulfill reason; it fulfills existence.

Akhter Ahsen

TABLE OF CONTENTS

CHAPTER 1
INTRODUCTION

The world is changing faster -- and in more ways -- than even the experts can keep track of. The sheer amount of available knowledge is exploding, the world of work is being totally transformed, and social patterns are being redefined. Today's high school students are faced with an entirely new set of demands which only some of them will be able to meet. The rest will face disappointment, confusion, and frustration as they try to find their place in this Brave New World.

This situation is so serious and so urgent that Alan Greenspan, Chairman of the Federal Reserve, chose to address it in a speech to the nation's governors. Cautioning them against both an over-emphasis on technology and outmoded educational approaches suited to the economy of the 1950's, he stressed that graduates in the 21st century need "the ability to think abstractly, to hypothesize, to interpret and to communicate" ("Rational Exuberance," 2000).

Difficult as the situation is for many students, particularly those in lower-performing schools, it is even more so for many of our students with limited proficiency in English. With so much to be learned by way of basic reading, writing and grammar skills, teachers do not always feel they have time for abstractions. Even when communication is practiced, it is not always in ways that enhance thinking as well. And yet, if students are to have any hope of navigating through the current information explosion, this is precisely what they most need. With *so much* knowledge, it is absolutely essential that they learn to integrate and synthesize it – i.e., that they become proficient in seeing patterns and forming new concepts. Also crucial is the ability to communicate their knowledge by working effectively in groups and teams – a skill at the top of the list of many prospective employers.

These and other recent changes in how we view and process knowledge have profound implications for educational research, for before we can expect our students to change their own thinking we must be willing to change our own. It is becoming increasingly important to view what happens in the classroom with a multi-perspective awareness of how knowledge is changing, how it is actually acquired, how its nature is altered and transformed by the communication process, the different forms thinking takes and how they relate to communication, and finally, what the teacher's role might be in creating optimal conditions for the creation of knowledge.

Here, again, the old approaches are insufficient. Most current educational research continues to follow the traditional empirical model that originated in the physical sciences, in which a given cause was found to have a corresponding effect in a world in which the laws of physics never changed. If the researcher was a competent scientist, the experimental conditions were "objective" -- free from his own influence and therefore able to be replicated by anyone else under the same conditions. The advent of quantum physics, however, brought this entire model into question with the ground-breaking discovery that sub-atomic particles take on their identity as particles only when they are being observed – that in effect, human consciousness creates them. Most of us are familiar with the Heisenberg principle, an extension of this finding which states that the observer alters the observed phenomena merely by observing. However, the implications are actually much more far-reaching than might be thought. According to Michael Talbot, "If the human mind has an effect on even so much as a single particle, the entire ecology of the material universe is affected. Our view of reality is in the first sluggish pangs of a radical change." (Talbot,1993, p. 4) Talbot contends that "our understanding of the universe depends upon modes of thought that Western civilization is only beginning to

suspect" (Talbot, 1993, p. 9) – one of them being that it is possible to be only an "observer" of an external reality:

> The outcome of any particular experiment no longer seems to depend only upon the 'laws' of the physical world, but also upon the consciousness of the observer. Indeed, as Princeton physicist John A. Wheeler suggests, we must replace the term 'observer' with the term 'participator'. We cannot *observe* the physical world, for as the new physics tell us, there is no one physical world. We *participate* within a spectrum of all possible realities (p. 3).
>
> [Wheeler] further asserts that subjective and objective reality sort of *create each other*. . . .The vital act is the participation. "Participator". . . strikes down the term "observer" of classical theory, the man who stands safely behind the thick glass wall and watches what goes on without taking part. (Talbot, 1993, p. 25)

What is true of the physical world is even more true in the elusive sphere of human consciousness and interaction. In ethnography and other forms of qualitative research originating from within the social sciences, participation, the interplay of the subjective with the objective, has always been a given -- needing no rationale from quantum physics but no doubt springing intuitively from many of same understandings. Another approach can be found in contemporary sociology:

> The ongoing, swampy and often shifting written narrative of the research is not reality, but a representation of that – a highly selective, virtually constructed understanding of what you have penetrated by being there and listening, writing, thinking, interpreting carefully and thoughtfully. Yes, take pains to present the experiences, but don't be afraid to create from your data. Yes, think about ways to bring out the life and drama in the data. . .
>
> Clifford Geertz (1988) suggests that we need to 'convince our readers that we have actually penetrated (or been penetrated by) another form of life, of having, one way or another, truly "been there".' (Ely, Vinz, Downing & Anzul, 1997, p. 58)

In the field of education specifically, many researchers have become aware of the shortcomings and limitations of the traditional experimental paradigm – created, after all, to study inert substances – for investigating the complexities of how conscious, complex human children actually learn. These include such factors as motivation, personality, effects of early experiences, attitudes, affect, interpersonal dynamics, and communication –

not to mention the elusive ways in which learning tends to take place unexpectedly. Increasingly, qualitative researchers are placing themselves in situations in which real-life phenomena unfold in their own time, according to their own patterns, and are including their own experience as part of the data. And just as subject matter has begun to shed the boundary lines that have always existed between specific disciplines, today's researchers have begun to borrow from an eclectic tool kit that incorporates elements of narrative, journals, interviews, transcripts, student work, quantitative data, mixed media, and even poetry. Even the boundary between art and science is no longer as clear as it once was.

At the same time, educators already situated in the classroom are conducting their own "teacher research" along the same lines. Just as Dewey and others paved the way for an approach to learning in which students are active and involved participants in the construction of their own knowledge, these teacher-researchers are becoming aware of how closely their own experiences and perceptions are bound up with those who have traditionally been considered the "objects" of their pedagogy. For them, too, knowing is "an active process, with the knower at the heart of the construction of her or his knowledge" (Ely et. al., 1997, p. 4).

It is within this relatively new body of research that the present study belongs. As a teacher of secondary ESOL students, my interest has always been in seeing them, and teaching them, as whole human beings – and my research likewise has had to take account of a complex variety of factors. As adolescents, my students are exploring their inner and outer worlds in entirely new ways and coping with intense emotional pressures. As foreigners, they are trying to adjust to a society that is almost always more materialistic, unwelcoming, and violent than the one they left. Their social and communicative needs are great as they attempt to create a place for themselves in their new culture, and find friends who can ease the hardships of the journey.

On the cognitive level, the needs of my students are just as urgent. As mentioned, they feel the pressure to become part of the new world of information by learning new concepts needed to process large amounts of knowledge – but often find themselves in a struggle just to consume rote information or transfer existing concepts into a new language. Numerous and diverse as their needs are, however, if asked what their most basic academic need is, most of them will give the same answer: *new words*.

It was largely for this reason that I decided to make vocabulary the focus for the tasks in this study. For most students, words are the key to both expressing old concepts and forming new ones. They allow us to communicate who we are with precision and subtlety, and open up pathways to new perceptions. More than any other element of language, words make it possible for students to make their strange new worlds their own – worlds in which they can think as well as function. Words are also intriguing mysteries in their own right, full of surprises and unexpected treasures when their secrets are unlocked.

Sadly, however, words are not often taught in ways that mine their rich possibilities. Even when considered beyond the level of simple definitions – i.e., in the context of a sentence, paragraph, story, or grammatical example – they are seldom examined closely in and of themselves. It is not the rule to explore subtle levels of meaning, networks and patterns of meaning, or how meanings are determined and shifted by surrounding words; likewise, it is rare for words themselves to be the focus for new types of discussions, problems, and tasks.

The study of poetry provides an ideal vehicle for exploring the intriguing possibilites of words as linguistic and conceptual phenomena in their own right. In a poem, a word is often chosen because it pulls the reader into a whole world of experience and perception, with other considerations being secondary. I believe it is largely for this

reason that second language learners, even on a beginning level, respond so well to both reading and writing poetry.

Poetry also tends to be ambiguous. As such, it provides important lessons on the contingent, ever-changing, and elusive nature of word meanings – maybe even knowledge in general – in an academic environment in which knowledge is generally assumed to be fixed and unassailable. There is much ground here for learning to form and defend hypotheses. The ambiguity of poetry also makes it supremely challenging -- able to provide the raw material for complex, extended discussions in which diverse perspectives need to be reconciled and easy answers are hard to come by. In addition, both metaphorical thinking and the tendency for words to fall into patterns of meaning present unique conceptual challenges in themselves.

It was largely these considerations that went into designing the tasks for this study. In a way, too, the tasks seemed to share certain characteristics with the overall nature of the study itself, and even the nature of qualitative research in general. A metaphor that helps me see my own research process as a unity, and hopefully may enable the reader to better perceive the underlying threads and patterns in what is to follow, is that of a *hologram.* Going back to quantum mechanics, Niels Bohr postulated that subatomic particles, because they do not exist until observed, could not be thought of as independent 'things' but rather as part of an indivisible system. One implication of this was that all effects could be thought of as having multiple causes. Another, according to Talbot's (1991) account, was that the whole, being the primary reality, actually organized the parts rather than being merely the result of their interaction. Building on this view, physicist David Bohm saw the movement of electrons in certain specialized states as being more like a coordinated ballet-dance than a scattered crowd, more like the organized unity of a living being than the parts of a machine. In his picture of reality, "all things were part of an

unbroken web and embedded in a space that was as real and rich with process as the matter that moved through it" (Talbot 1991, p. 43). Bohm eventually combined these understandings into a metaphor: "The universe actually employed holographic principles in its operations, *was itself a kind of giant, flowing hologram"* (Talbot, 1991, p. 46). According to Talbot, the implications are profound:

> Just as every portion of a hologram contains the image of the whole, every portion of the universe enfolds the whole. . .Every cell in our body enfolds the entire cosmos. So does every leaf, every raindrop, and every dust mote, which gives meaning to William Blake's famous poem:
>
> > *To see a World in a Grain of Sand*
> > *And a Heaven in a Wild Flower,*
> > *Hold Infinity in the palm of your hand*
> > *And Eternity in an hour.* (Talbot, 1991, p. 50)

In my view, this is also an apt description of effective qualitative research, in which a wide spectrum of data all reflect a central theme, and a whole new kind of 'validity' results from minute details resonating with an underlying, universal human reality. It could also apply to the nature of the group process, where the participants reflect each other's knowledge and understandings. Certainly, too, it is an apt metaphor for poetry itself, in which networked meanings resonate within a unique structure, creating an integrated unit with a life of its own. Finally, it is possible to look at words themselves this way, as did the Russian psychologist Lev Vygotsky decades before the discoveries of quantum physics:

> Consciousness is reflected in a word as the sun in a drop of water. A word relates to consciousness as a living cell relates to a whole organism, as an atom relates to the universe. A word is a microcosm of human consciousness. (Vygotsky, 1986, p. 256)

On many levels, this study is about the relation of the parts to the whole. My hope is that its parts will be sufficiently unique, abundant and well-chosen to create an interesting whole, and to resonate in the hearts and minds of those asking questions

similar to mine. I hope, too, that the patterns of meaning revealed by my reflections and analysis will aid the attempt to understand, challenge, and inspire many dimensions of learning in those of our students who need it most.

CHAPTER 2
REVIEW OF THE LITERATURE

This section will examine how second language learning research and theory have dealt with conceptually-oriented vocabulary study, as well as with thought and language generally, group collaboration, and the role of the teacher in group work. I will begin by describing significant developments in the area of vocabulary pedagogy, the primary focus of the present study. This account will be followed by a discussion of underlying issues involving the relationship between thinking and speech, and the ramifications this relationship has for collaborative classroom work, including the role of the teacher.

2.1 Vocabulary and Conceptual Development

Probably more than any other feature of language, an extensive vocabulary is a crucial prerequisite for continued learning, as well as for making a place for oneself in the rapidly changing knowledge communities of both the present and the future. In 1994, Oxford and Scarcella noted that college-bound students would be expected to understand and use between 60,000 and 100,000 words in their second language (L2), and that it is easy for learners to become overwhelmed by the need to store such vast numbers of words in their short-term memory within a short amount of time. They add that the problem is further complicated by the large number of factors that go into knowing a word, such as form, grammatical use, collocations, function, shades of meaning, and associations with other words.

A great deal of the recent work in the field of second language acquisition (SLA) has been concerned with looking beyond traditional approaches to learning L2 vocabulary, towards more effective ways of acquiring large numbers of words. There is some debate, however, over how directly vocabulary should be taught. Some have argued that direct teaching of L2 vocabulary is actually inefficient and largely unnecessary, since incidental

exposure to words in the course of extensive reading will build up large stores of vocabulary (Krashen, 1989; Nagy, Herman & Anderson, 1985). Others such as Rott (1999) cite evidence that even multiple exposures often failed to have a positive impact on acquisition, suggesting that more directed approaches are in fact needed along with reading. Both Hulstijn, Hollander & Greidanus (1996) and Knight (1994) found that vocabulary enhancement techniques combined with reading yielded significantly more word gain than reading alone. Paribakht and Wesche (1999) point out that while intensive school reading programs have had some positive outcomes, "the process is slow, often misguided, and seemingly haphazard, with differential outcomes for different learners, word types, and contexts" (p. 197). In their own study, those who were successful in learning vocabulary through reading did so not "incidentally", but through inference processes which drew on a variety of knowledge sources. Fraser (1999) found that learners became increasingly successful when inferencing through "sense creation," a deliberate, context-centered process in which meaning is created from grammatical and situational clues within a sentence.

While there is wide agreement on the importance of *context* in learning vocabulary, whether incidentally or intentionally, Huckin and Coady (1999) question how much – and how well – it is actually used. For one thing, they contend that words tend to be learned not incidentally from context, but in response to task demands. In addition, they cite Lawson and Hogben's (1996) study in which, while the highest-scoring learners used context along with a broad range of other strategies, the rest relied far more on *definitions* for target words. Huckin and Coady make an effective argument that for all but the most advanced learners, acquiring words from context can be highly problematic – mostly because they lack the threshold level of vocabulary necessary for accurate contextual guessing. Estimates of this threshold range from a minimum of 3,000 word families (95%

of ordinary texts) to 10,000 word families for university studies (Hazenberg & Hulstijn, 1996; Laufer, 1997; Nation, 1990).

Huckin and Coady suggest that this situation calls for teaching vocabulary in ways that do not rely solely on contextual guessing – i.e., through processing strategies covering such areas as word forms, metacognition, and dictionary use as well as context clues. Even for Fraser's (1999) subjects, who were capable of making increasingly effective use of inferencing strategies, retention was enhanced when the dictionary was used to verify an inference – quite possibly, she suggests, because this procedure resulted in a greater depth of processing. For this reason, and because consulting a dictionary has been found to enhance both the reading comprehension (Knight, 1994) and vocabulary learning (Knight, 1994 and Luppescu & Day, 1993) of L2 learners, Fraser concludes that it is time to reevaluate the minimal role often given to dictionary use as an explicit vocabulary-learning strategy in the reading class.

In 1988 Summers voiced a similar concern that rather than discouraging it, L2 teachers should train their students in the use of dictionaries which present full L2 definitions. She observed that L2 students tend mostly to look up higher frequency abstract words, and that they need "concrete help" from a dictionary in order to avoid the interference errors that are likely when they revert to their first language. Like Fraser, Summers believes dictionary use can result in greater depth of processing, due to the fact that the mental activity involved in unpacking the definition helps to implant the word and its concept in the student's mind, especially when backed up by explanatory examples (Johnson-Laird, 1988).

Still, the unfortunate truth is that dictionary definitions are notoriously inefficient in enabling students to gain useful understanding of new words. Tolstoy observed, "When you explain any word. . .you put in its place another equally incomprehensible

word, or series of words, with the connection between them as incomprehensible as the word itself" (cited in Vygotsky 1986, p. 143). Nagy and Herman (1987) point out that dictionary definitions often fail to take into account gaps in children's knowledge, and in any case cannot include all the information about a word or concept that is necessary to comprehend a text.

Some researchers have suggested ways in which definitions can be used to better advantage. Following the example of Vygotsky (see below), pedagogical investigators in Russia such as Davydov (1988) recognize that in traditional instruction, students are often given definitions without mastering the underlying concepts; as a result, they often attempt to solve problems using wrong concepts developed through everyday thinking. The response of these investigators has been a more empirically-based approach to teaching, such as learning to identify geometric figures through an analysis of their attributes (Kozulin 1995). Specifically with regard to L2 vocabulary, Nesi and Meara (1994) studied patterns of errors made by EFL learners in interpreting dictionary entries, hoping to provide useful knowledge for those who both write dictionaries and train others to use them.

There is much room for developing new ways to combine dictionary work with context-based inference strategies. In particular, ways need to be found to avoid the "Catch-22" situation in which extensive vocabulary must already be in place in order to acquire extensive vocabulary from context. One approach, using definitions as a starting point for later inferencing, could make it easier for *all* learners to benefit from context-based activities, even those who lack extensive vocabulary and may not have attained the threshold level of general L2 proficiency ordinarily needed for using effective inference procedures (Haastrup,1990). The present study will explore such an approach, with a view towards helping all learners (a) infer meaning from context at their own level, assisted by

definitions, (b) understand and apply L2 definitions, and (c) experience in-depth processing through doing so.

As we have seen, much of the debate in the recent research on L2 vocabulary learning has centered on the issue of "incidental" acquisition. There appears to be a growing consensus that most successful acquisition of new words does not take place "incidentally", but as a result of the learner having applied some very conscious and deliberate strategies, whether these are applied automatically or taught in the classroom. While these strategies vary according to learners' previous knowledge, interests, and other differences (Paribakht & Wesche,1999; Parry, 1993 & 1997), the most successful ones appear to include knowledge of grammar, syntax and word morphology; skillful dictionary use; metacognitive strategies such as self-initiation and selective attention (Gu & Johnson, 1996); and finally – once the necessary skills are in place to support it -- inferencing from context, especially in ways that require deep processing.

Apart from the question of readiness, it is to the use of such contextual strategies themselves that particularly close attention has been paid in the recent literature, with some of the more interesting, cognitively-based research having implications for a broader approach. In 1987 Drum and Konopak argued that word knowledge is gained less from cues in written text, and more from the wider conceptual structure provided by broader domains of knowledge. Huckin and Coady (1999) have since found that students who used the wider context in their contextual guessing were in fact more successful in building rich vocabularies than those who used only the immediate context (Gu & Johnson, 1996). Nagy and Herman (1987), despite their belief that incidental acquisition of word meanings is most efficient for comprehension, cite two studies (Beck, Perfetti & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983) in which comprehension of target words was increased through instruction aimed at developing ties to prior

knowledge, as well as identifying networks of semantic relationships among the words. Henriksen (1999) also emphasizes the importance of *network building*, which she describes as "the process of discovering the sense relations or intensional links between words – that is, fitting words together in semantic networks" (p. 308). She decries the fact that most of the focus in vocabulary study has been on mapping meaning onto form, with the result that L2 learners' semantic networks are less developed than those of native speakers (Read, 1993). In particular, she notes, responses involving paradigmatic relations are under-represented in the bilingual data, reflecting "missing links, gaps, or fuzzy relations" in the lexical systems of immigrant children (Verhallen & Schoonen, 1993, p. 362).

Henriksen's assessment, valuable as it is in addressing the conceptual aspect of vocabulary learning, is limited in that it views the problem solely in terms of relating already-existing concepts in the L2. Henriksen not only believes there is no need for mature L2 learners to develop new concepts, but also fails to acknowledge the possibility that problems could arise from new L2 vocabulary conflicting with existing L1 concepts. Jiang (2000) addresses this lapse, maintaining that the common tendency to base L2 word meanings on L1 translations activates L1 concepts – or "semantic specifications" -- which are imprecise and inadequate. This often results in "lexical fossilization", in which the L1 information becomes so set in the learner's mind that it may even block the ability to utilize contextualized input about the target word. Jiang recommends context-based approaches in that they are less likely to encourage learners' reliance on L1 than are word-association approaches; other than that, however, she raises more questions than answers about such issues as the use of L1 translations, the roles of episodic and semantic memory, and, in general, how to promote the acquisition of accurate L2 concepts. There clearly is a pressing need to go beyond issues of incidental vs. conscious

acquisition – and even context-based inferencing – in an attempt to address the "missing links, gaps, or fuzzy relations" referred to above in a meaningful way. In order to do so, it will be necessary to thoroughly investigate the problem of conceptual representation in the L2 -- especially the question of how L2 words and concepts might be acquired without the interference of prior associations. Such an investigation should be part of a new and broader theoretical framework for understanding vocabulary acquisition in the wider context of sensory input, affect, culture and cognition, and the interrelations between them. As described below by Pavlenko (1999), four factors have accounted for our present lack of understanding of bilingual conceptual representation:

(a) *A continuous confusion between semantic and conceptual levels of representation.* Contrary to the prevalent Chomskian belief that languages can be reduced to interchangeable codes (linked to mostly English-based concepts), words are actually "embedded in intricate semantic networks and linked to culture-specific imagery and episodic memory" (Pavlenko, 1999, p. 210). This, together with the fact that concepts can exist on non-lexical levels -- e.g. as imagery, scripts, and somatic information – suggest that approaches which simply relate words to other words on an explicit semantic level are inadequate for teaching concepts.

(b) *The scarcity of methodologies that target conceptual representation.* The study of bilingualism has moved away from both the "fascination with meaning" and an awareness of the social context of language acquisition. Methodological approaches have emphasized statistical validity and controllability, and focused mainly on surface processing.

(c) *The assumption of the static nature of the bilingual's conceptual store.* Little attention has been paid to the fact that concepts are intrinsically relational things, many of which embody explanations of other concepts (Keil, 1989). Since they are also highly dynamic

and flexible, restructuring one concept may involve a reorganization of the whole conceptual domain, with implications on the social and cultural levels.

(d) *The lack of any but superficial acknowledgement of linguistic and conceptual relativity.* The idea that conceptual representations are specific to languages and cultures first originated with the Sapir-Whorf hypothesis. An early pioneer in the area of cognitive psycholinguistics, Whorf (1956), was among the first to introduce the idea of linguistic relativity – i.e., the possibility that an individual's thought processes could be determined not only by the cultural context in general, but also by specific features of the language spoken by that culture. The conceptual relativity hypothesis has since been documented in a number of lingustic and anthropological studies. Lucy (1992) investigated conceptual differences reflected in lexical choices, while Slobin (1996) has done much research on language-specific grammaticalized concepts. Pavlenko's own work (1997), based on Russian and English speakers' narrative descriptions of films, demonstrated that some concepts were comparable though not equivalent (e.g. 'private' and 'personal') while others were language-specific ('soul' and 'emotions'.) Language-specific concepts are more readily acquired since they have less competition from L2 equivalents.

Pavlenko's recommendations for future research on conceptual representation include: placing more emphasis on conceptual domains as opposed to cognates or "translation equivalents," considering semantic issues such as polysemy separately from conceptual ones, creating models based on concept rather than word properties, developing tasks that go beyond processing to address various levels of representation, and using more tasks based on contextualized words with their "astonishing variety and multiplicity of connections" (p. 213). Investigations into contextualized language would include such things as elicited language use, role play, and non-linguistic behaviors of specific populations, such as object categorization.

This study will consider the key issues of conceptual development and representation in an attempt to contribute to our understanding of L2 vocabulary acquisition. It will address each of the four deficiencies in current research as set forth by Pavlenko in the foregoing analysis, as follows:

(a) *Semantic and conceptual representation.* As will be shown below, the study will be based on tasks which focus on target words *as concepts,* in the sense that they are richly contextualized, are consciously attended to, are somewhat 'systematic' in calling for the consideration of extensive networks of meaning, and are linked to somatic/affective phenomena through poetry. They also fit Vygotsky's (1987) criterion of requiring both analysis and synthesis to process..

(b) *Methodology.* Working collaboratively on a series of tasks over an extended period of time will allow for gradual, in-depth study of concepts. Close analysis of learner interaction over an extended period of time may provide important insights into how concepts are developed and represented, rather than simply processed. In addition, by incorporating consideration of many dimensions of the learning process, an ethnographic approach will better suit the complex and dynamic nature of the phenomena being observed than would more traditional methodologies.

(c) *Static vs. dynamic nature of the conceptual store.* The use of poetry, with its built-in connections and networks of meaning, will contribute to an awareness of how word meanings influence each other. Learners will gain a further appreciation for the fluid, contingent, and changing nature of concepts because their interaction is likely to lead to continual shifts in their understandings. This effect could be enhanced by the already ambiguous nature of the words and contexts, as well as the problematic process of deriving meaning from dictionary definitions.

(d) *Linguistic and conceptual relativity.* The tasks will make it necessary to reconcile differing understandings of word meanings through group interaction. While this would not necessarily be observable in the context of the present study, it is possible that doing so could cause learners to recognize the effects of L1 transfer on the building of new L2 concepts – i.e., to realize when their L1 concept is inadequate and a new one is called for.

The nature of concepts and their development, as well as the importance of teaching them deliberately, were stressed decades ago by the Russian psychologist and semiotician Lev Vygotsky (1896-1934), many of whose ideas have influenced the thinking of current educational researchers, including Pavlenko. To Rieber and Carton, his ideas have "an uncanny ring of modernity" despite being based on research findings of a distant time (Vygotsky, 1987, p. 7). A number of them continue to echo through ongoing controversies, and could even hold the seeds for resolving some apparent dichotomies in present-day thinking.

On the one hand, anticipating the debate over "incidental" vocabulary learning which was discussed earlier, Vygotsky (1986) believed it was possible, and necessary, to teach concepts intentionally. He took issue with Tolstoy's belief that doing so is "as impossible and futile as teaching a child to walk by the laws of equilibrium" (cited in Vygotsky, 1986, p. 151). In his view, Tolstoy left too much to spontaneity and chance, underemphasizing the role of learning and instruction – which, though they involve long and complex processes, have the potential to "chart new paths" for the development of the student's own concepts (Vygotsky, 1986, pp. 151-2). Such processes are based on what Vygotsky identified as the *meaning* aspect of words – i.e., that part which is constant across different contexts of use. Objective and independent of concrete contexts, meaning is what enables us to consider words in relation to each other, to communicate, and ultimately to form concepts.

Along with meaning, however, Vygotsky was also very much aware that words have another, more dynamic aspect. The *sense* of a word, which predominates in inner speech, is acquired solely from context; complex and mobile, it changes according to different minds and situations. Agreeing with Tolstoy in this respect, Vygotsky wanted to challenge the idea that thought and word were constant and established forever, by uncovering the workings of "the whole inward aspect of language, the side turned toward the person, not toward the outer world" (Vygotsky, 1986, p. 254). He also stressed that behind a word was always a thought with an *affective* basis – i.e., engendered by desires, needs, interests and emotions.

Both the meaning and sense aspects of words have been dealt with in different areas of current L2 vocabulary research, although seldom in ways that address Vygotsky's deepest concerns or the more interesting implications of his work. On the more *meaning*-related side, while Vygotsky was concerned with the *development* of concepts and their relation to speech, the focus of cognitively-based vocabulary for the most part has not moved beyond the *processing* of words, valuable though this research has been. Craik and Lockhart (1972), for instance, found that retention and recall of words were highest when learners were forced to process words at greater cognitive depth, making decisions at deeper levels. Stevick (1976) argued that because deeper processing is called for than with isolated word lists, vocabulary is easier to learn in context (Nattinger, 1988). Eishout-Mohr and Van Daalen-Kapeijns (1987), hoping to encourage students' spontaneous learning by studying how they approached unfamiliar words, found that an analytical approach – breaking the word into separate components – worked better than a holistic one because it allowed for the incorporation of new information about the word. Haastrup (1987), using an introspective approach, examined the lexical knowledge sources used by learners at different stages of L2 proficiency. Using tasks that called for inferencing

meanings of utterances, she found that in pair thinking aloud, as opposed to individual recall, more of the conscious thought processes were verbalized out of a need to explain and justify them to fellow informants. Extending cognitively based L2 research into the area of pedagogy, Nation (1990) discusses such matters as how definitions convey a range of meaning, how words are best organized for learning, how to use contextualization, and how to teach concepts.

Despite the usefulness of cognitive approaches to processing L2 vocabulary, they are of only limited value without an additional focus on the nature, development, and representation of concepts. At the same time, there are some current lines of research – mostly outside the field of L2 vocabulary acquisition – which do hold some promise of throwing light on these questions. These appear to be more within the area of the subjective, *sense* aspect of words, and largely echo Vygotsky's own thoughts on this subject.

First, it needs to be mentioned that Vygotsky was among the first to put forth the now common idea that "enrichment of words by the sense they gain from context is the fundamental law of the dynamics of word meanings" (1986, p. 245). This viewpoint has been adopted to a radical degree by Anderson and Nagy (1989), who have fueled the "incidental acquisition" side of the debate by arguing, like Tolstoy, for the impossibility of either defining or teaching word meanings. Like Vygotsky, Anderson and Nagy see word meanings as fluid and dynamic, but they go a step further in proposing that both sense and reference are dependent on context. While not denying the value of dictionaries, they refute the entire idea of fixed, "core" meanings characterized in terms of abstract "criterial features." They replace it with Wittgenstein's notion of meanings as "family resemblances" which are based on specific uses of a word, and whose important features shift from use to use.

Secondly, there are still other lines of sense-related research which, like Vygotsky's ideas, hold promise for investigating conceptual representation precisely because their theoretical basis, like his, *transcends the dichotomy between sense and meaning*. Despite the primary status he gave to sense, Vygotsky continually emphasized that thinking involves a *reciprocal relationship* between the two aspects: stable *meanings* find their way into inner speech through internalization, while inner speech facilitates individual thinking by generating an idiosyncratic *sense* unique to the immediate circumstances. This constitutes the dialogical nature of human thought (Kozulin, 1995) (see Section 2.2.3, p. 35).

There are a small number of present-day researchers and theorists who recognize the origins of concepts in somatic experience, affect, motivation, and even visual imagery – thereby helping to bridge the sense-meaning gap, and making their insights potentially valuable for an investigation of conceptual development and representation in L2 vocabulary research. One of the first was Paivio (1971), whose "dual code theory" described connected but independent systems for processing verbal and nonverbal information, the latter consisting mainly of mental images. Ahsen (1984) took issue with Paivio's assumption that both imagery and verbal symbolic processes evolve from concrete to abstract, arguing that *physiological* processes, and their effect on affective states, play an equal role with visual and verbal ones in cognition and semantic relevance. A particular meaning mode, he noted, can be sabotaged by "a hidden image which, by association with the body, has another [somatic] dimension attached to it, in fact another version of existence" (p. 39). Ahsen, who clearly shares Vygotsky's understanding of the roots of thought in affective/ motivational phonomena, also echoes his belief in the complex, multidirectional interactions between different states and levels of meaning. Vygotsky emphasized the bi-directional way in which scientific, or systematic, concepts

must be based on "rich and relatively mature representations", and how they likewise affected original, spontaneous concepts, "remodeling them 'from above'" (1986, p. 172).

Specifically within the area of L2 vocabulary learning, Bugelski (1982) carried out a study which demonstrated the effects of somatic/emotional phenomena on L2 concept formation, and which Ahsen in fact cited in his article. Observing a group of Spanish-English bilinguals who spoke Spanish during childhood but later used English, Bugelski found that responses to Spanish words referred to childhood experiences, while reponses to English words referred to more recent activities. Neither language could successfully describe experiences that occurred at the age when the other was being used. Both language systems were found to be "concrete" because the continued emotive/somatic connection continued to block the transition of words into abstract instruments. This, of course, stands in contrast to Vygotsky's misconception, unfortunately still held by many, that "in learning a new language, one does not return to the immediate world of objects. . .but uses instead the native language as a mediator between the world of objects and the new language" (1986, p. 161).

Siguan (1991) contends that more attention should be given to dimensions of language related to thinking, imagining, and feeling in addition to its communicative aspects. Like Bugelski, he emphasizes that it is in the native language, originally learned through both action and communication, that the most personal and intimate language develops. This affective and personal resonance is very difficult to translate into the L2, and is more likely to be linked instead to the abstract knowledge of school and society.

Martin (1993) considered the implications of what Tulving (1972) termed *episodic memory* – i.e., the autobiographical recall of specific events which contrasts with *semantic memory,* containing more general, semantic or procedural information distilled from prior experience. Martin postulated that students' misconceptions tended to be formed from

such memories arising from specific teaching contexts. One implication of his work is that new episodic memory can activate a spectrum of responses, involving imagery and associated physiological responses, which can reconfigure an erroneous web of mental structures.

Again in the area of L2 vocabulary acquisition, Ellis (1995) uses the construct of episodic memory as a possible explanation for the finding that learners in his study did better on a follow-up test, in which pictures could have triggered memory of the context in which the words were originally encountered, than on a post-test involving lists of decontextualized words.

Other recent research supports the importance of specifically physical phenomna in L2 learning. McCafferty (1998), investigating the connection between thought, gesture, and speech, found that when integrated with L2 speakers' efforts at self-expression, gestures play a role in the mediation of thought. In a study of purely somatic links to cognitive development, McNeill, McCullough and Tyrone (1994), building on Vygotsky's work, found that interactions involving gesture and actions during childhood opened an important path to intrapsychic knowledge, and could affect a child's approach to objects in the world.

Finally, it is interesting that no less of an authority than Albert Einstein described his mental processes not in purely rational, semantic terms but as a kind of "combinatory play" involving "elements. . . of visual and some of muscular type" (Slobin, 1971, p. 102).

It remains to examine how the above findings, considered together, can be incorporated into a pedagogical approach to vocabulary aimed at effectively developing and representing of L2 concepts through a rich experiential base, while minimizing the effects of L1 transfer. One medium that holds great promise for this type of learning is

poetry. Some of the advantages of poetry-based tasks, and ways in which they can address the present concerns, are outlined in the next section (see p. 57).

One particularly intriguing part of *Thought and Speech* (Vygotsky, 1986) has particular relevance to one of the advantages mentioned – i.e., the possibility that the networks and patterns in poetry can contribute to the development of conceptual thought. This section, in which concepts are considered in terms of the interrelation between sense and meaning, in fact offers clues to possible pedagogical approaches using poetry. In it, Vygotsky describes "influx of sense," a phenomenon found in inner speech in which the senses of words combine and unite, following different laws from those governing combinations of stable meanings. In this process, "the senses of different words flow into one another – literally 'influence' one another – so that the earlier ones are contained in, and modify, the later ones" (pp. 246-7). To illustrate, he points to the way in which the whole sense of a book – in this case, Gogol's *Dead Souls* – is contained in its title; the title then becomes a "concentrate of sense" which would require many words to unfold in overt speech (p. 247). On the level of actual concepts, Vygotsky wrote that they must be studied as a "fabric" rather than in isolation (1986, p. 204). As mentioned above, he describes this later kind of thinking elsewhere as taking place within a *system*, in which concepts shift to planes of greater generality, subsuming and combining earlier ones.[1]

Although Vygotsky had a strong interest in poetry, read it to his children, and was considered a connoisseur, he is not known to have written about it directly in terms of

---

[1] There is an interesting paradox here. Vygotsky claimed that children's autonomous speech, being dominated by perceptual structures, does not reveal the types of generality associated with thinking in concepts (Vygotsky, 1986, p. 204). At the same time, however, as an example of a phenomenon found in inner speech, he uses what would appear to be an extremely conceptually complex structure -- i.e., a sophisticated novel. It seems quite possible that in its formative stages the mind anticipates through "influx of sense" the kinds of networks and interrelationships that are later to become the "fabrics" associated with thinking in true concepts. These "fabrics", then, could be seen as a more sophisticated development of "influx of sense," in which earlier senses also appear to be subsumed by later ones.

implications for conceptual development. He did, however, speak of the need to include the development of "the consecutive levels of understanding of figurative meaning" with other aspects of formal instruction which encourage the emergence of the higher processes through "awareness, abstraction, and control" (1986, p. 179).

Other writings by Vygotsky on adolescent developmental processes (1987) make a strong case for the power of fantasy and imagination in laying the groundwork for conceptual growth, and for liberating imagination from more primitive forms of cognition. As he saw it, the central problem is "to discover the peculiar relationships between the abstract and the concrete aspects which are characteristic of imagination in adolescence" (1994, p. 275). A key point here is that it is within the development of the adolescent's *imagination and fantasy* that concept formation actually takes place. At the outset, concrete visual images replace childish play; as they become more sophisticated, they eventually form the basis for "visual concepts" which are important for counterbalancing the overuse of logic and intellectualism in education. Particularly interesting here is Vygotsky's citing of Jaensch's observation that the general word meanings found in "civilized language. . .rather limit than facilitate the attention paid to sensory given facts" (Vygotsky, 1994, p. 272). Aside from its usefulness in keeping language in tune with immediate experience, Vygotsky also believed that *extended visual thinking in childhood is crucial for the development of intellect.* Observing that gifted children remain longer on the level of concrete conceptions than non-gifted ones, he notes: "It seems as if the intellect had to start developing by first becoming satiated with visual contemplation and thus building a concrete foundation for the further development of abstract thinking" (1994, p. 277).

This presents an intriguing case for using poetry, which – in addition to more abstract networks and connections – contains abundant visual images likely to promote the

"visual concepts" that are the basis for effective abstraction. While againVygotsky did not mention poetry specifically in this regard, he did speak of it in relation to the *emotions* of adolescence, which fuel "the inner drive for creative expression" that manifests in keeping diaries and writing poetry" (1994, p. 280). The emergence of "a whole new and complicated world of new longings, strivings, motives and interests," (p. 285) begins to create new problems; these problems stimulate the adolescent to detach himself from the immediate situation and to gain control over it through active *fantasy*, in which he creates novel images. Going beyond the more concrete level of imagination, it is this process which drives abstract thought and forms the basis of even scientific thinking. Further informed by problem-solving and the exercise of judgment, new modes of perception emerge which enable the adolescent to envision and realize his future. Poetry, which itself runs the gamut from the concrete and emotional through the highly abstract, seems to offer an effective way to navigate, inform, and stimulate development at the various levels of this process.

Some modern semioticians could be seen as strengthening the link between poetry and conceptual development by speaking of poetry in terms similar to Vygotsky's "fabric of concepts". Roger notes that "the precise contextual value of every word, phrase, clause and sentence of a poem can be inferred only from its interaction with all the others in the text" (Roger, 1983, p. 41). The semiotician Riffaterre (1978) refers to this phenomenon as a *hypogram:* a holistic entity based around a nuclear idea to which each of the poem's elements refers in some way. A number of more recent pedagogical works offer activities aimed at fostering vocabulary knowledge through the networks and associations found in poetry, such as those developed by Carter and Long (1987), Collie and Slater (1987), and Maley and Duff (1989).

The present study is intended to foster both vocabulary development and conceptual development. "Vocabulary development" is defined as (a) learning to understand new words in relation to their full context by considering key words, connections, and networks of meaning; (b) understanding the dynamic, shifting character of word meanings, (c) learning to make more effective use of dictionary definitions, and (c) forming accurate conceptual representations which hopefully minimize transfer from L1 concepts (although this will not be assessed as such). "Conceptual development" is defined as the ability to form "true" concepts that are not dependent on concrete impressions, are synthetic as well as analytic (e.g., require understanding of patterns and imagery), have their roots in judgment as well as ideas, and arise out of voluntary attention (Vygotsky, 1994, pp. 255-257). They must also be accurate representations of experience, well grounded on the affective and somatic levels, and undistorted by L1 concepts. As so defined, it may be possible to assess vocabulary and conceptual development to a significant degree through the use of tasks which necessitate learning to think along the lines described. Once the tasks are set up to provide these challenges, and adequate preparation is given, student problem-solving behavior can then be analyzed to determine how well, and through what means, the demands of the tasks are being met. Assessment can be supplemented by students' reports on their own learning processes.

The present study will employ a such a series of original tasks which the researcher hopes will be consistent with Vygotsky's "fabric" of concepts, Riffaterre's hypogram or nuclear idea, a flexible and contextualized approach to definitions, and existing tasks which take into account the dynamic interconnection between sense and meaning, imagination and thought. It will go beyond the scope of previous task work, however, in that the tasks will be done collaboratively, through distributed cognition, rather than individually. Morrison (1996), using pair think-aloud procedures and retrospection,

found that working with partners encouraged L2 learners to consider a wider range of inferencing possibilities, make use of the other's input and suggestions, organize their thoughts, and think about the meanings of words more than they usually did. My study will consider a longer series of tasks over an extended period of time. Such an approach could extend the potential range of meanings and associations to be considered, allow students to learn more from each other, and possibly also provide some insight into how concepts are developed and represented. It could also encourage the building of important social, communicative and cognitive skills. Use of a wide variety of data sources, within a rich ethnographic context, could provide a multidimensional understanding of the process. It is even possible that the need to reach understanding on common meanings may help learners avoid the pitfalls of L1 concepts.

In any case, perhaps the most salient feature of the process as a whole is that it is fundamentally driven by contact between living beings, their shifting modes of relating to one another, and the interconnections between their minds The sections that follow will situate my discussion of conceptually oriented vocabulary learning within the wider social sphere in which thinking inevitably takes place.

2.2 Thought and Language

While much vocabulary research is based on the assumption that cognition is individual, I contend that it is only possible to explore its true nature by regarding it as an inherently social phenomenon. This chapter will explain the reasons behind this position, beginning with a discussion of why the connection between word meanings and conceptual development is part of the more general question of the relationship between thought and language. Later sections will explore some of the ramifications of this view for classroom practice.

Vygotsky considered words to be the key to understanding thought. This belief was the starting point for investigations which extended into many other areas of importance to contemporary education and psychology – above all, those concerned with the maximization of learning, the development of cognitive processes, and the nature of consciousness in general. As seen, his concerns included understanding the relationship between the subjective, inner meaning of language to the outer one used in communication, uncovering the internal and external processes through which thought develops, understanding how thought becomes manifested in speech, and emphasizing the central role played by the social and cultural context in the formation of consciousness. The present study will address all of these issues to some degree.

Before considering further how language -- in particular the study of words – can be used to enhance "cognitive development," it is important to define how I am using the term. According to Kozulin (1998), cognitive education falls into two general categories. In teaching that is "content-based," reasoning and concept formation are incorporated into a specific educational task, thereby promoting generalized changes in the child's thinking. "Infusion" programs, the more popular form, call for the separate teaching of cognitive skills – including analysis, attribution, hypothesizing,sequencing, classifying, judging, predicting, taking another's point of view, and performing metacognitive reflection. Kozulin notes that such programs often remain poorly coordinated with the conceptual structure of the curricular material. My study, though initially "content-based" in that it deals specifically with vocabulary learning, takes this form of teaching well beyond the types of activities usually used for vocabulary study. In a manner appropriate to the subject matter, it incorporates many of the thinking skills found in infusion programs into a wider approach which explores many of the neglected possibilities of words. Moreover, it takes place on an interpsychic, *socio*cognitive level on

which students use each other as valuable resources for developing important thinking skills. Among the skills to be stressed in particular are hypothesizing, exploratory thinking, synthetic thinking (networks and figurative language), seeing another's point of view, and metacognition.

There is a wide body of writing which looks at the connection between thought and language in a general sense. Much of the groundwork was laid by Sapir and Whorf's linguistic relativity hypothesis, mentioned in the previous section. This line of inquiry has been pursued extensively by Slobin (1996), particularly in his investigations into how acquiring a particular native language affects the child's ways of "speaking for thinking" – e.g., how grammatical features of particular languages, such as degree of completion indicated by verbs, allow children to experience the events in a story differently.[2]

Although these lines of research have extensive implications for classroom discourse, other paradigms developed from within pedagogical research and theory are likely to be more directly relevant for the classroom. The following sections will discuss some of the research and theory that have considered the thought-language relationship within educational settings, particularly those involving group work.

2.2.1 Thought and Language in Group Interaction

Mainly in the 1970's and 1980's, cooperative learning began to emerge as an alternative to strictly teacher-fronted classrooms. Realizing that students had much to learn from each other, researchers and educators began to devise tasks and settings which gave them the autonomy to direct their own learning and explore new modes of thought and discourse. Although there is a considerable literature on methods and benefits of cooperative learning (Johnson & Johnson, 1972, 1987; Kagan, 1989; Slavin, Sharan, Kagan, Hertz-Lazarowitz & Schmuck, eds., 1985), Douglas Barnes was among the first to

[2] Slobin's 1971 book *Psycholinguistics* was one of the first to draw attention to Vygotsky's works in the United States. Slobin had been introduced to them by Bruner while studying at Harvard around 1960.

scrutinize the subtle and complex ways in which speaking in groups actually helps students learn to think and construct knowledge in the classroom. In *From Communication to Curriculum* (1976, 1992), he traces to Bruner and others the origins of interest in this area of education, which is part of the larger constructivist movement to make children become responsible learners by formulating knowledge for themselves, especially in collaboration with other students. He discusses typical modes of classroom communication, noting how little opportunity exists for the type of learning that really encourages thinking through speech. Barnes then presents a variety of detailed classroom data, collected by himself and others, involving middle-school children engaged in the types of collaborative activities he feels are valuable.

Barnes discusses several ways in which speaking helps to foster thinking. One of the earlier educational theorists cited is Moffett (1968), who, following G.H. Mead, suggested that our ability to think depends on the many previous dialogues we have taken part in. Barnes adds that students learn to actively re-articulate, organize and reshape knowledge by having to explain ideas to someone who, unlike the teacher, does not have prior knowledge of them. In addition, the process of searching for meanings and having to articulate them for others actually *restructures perception:* "We observe not with our eyes alone but with our hypotheses" (Barnes, 1976, p. 58). Finally, Barnes includes a review of several research studies in which speech was shown to have affected problem-solving directly. In one such study, by Gagne and Smith (1962), adolescent boys were asked to move a pile of discs while following certain rules. Those who were asked to explain the purpose of their moves as they carried them out were most successful in solving the problems.

Britton (1990) offers another perspective on how speaking helps foster thinking, in a way that is somewhat reminiscent of Vygotsky's description of the movement from

"spontaneous" to "scientific" concepts. He notes that a child's language, being the means through which he meets new mental demands, takes on new forms corresponding to new powers as they are achieved. The language for making arguments and scientific hypotheses is a form that arises relatively late, whereas *expressive language,* as one of the more accessible forms, is primary. Britton suggests allowing students to use a great deal of expressive language in the kind of mutually supportive exploration that leads to the gestation of ideas. Ideas emerge collectively, he believes, through "a leap-frogging of listening and speaking" in which "each may give what he could not have given had it not been for the 'taking', and in turn what he gives may provide somebody else's starting point" (p. 120). Unfortunately, Britton notes, although expressive speech is a necessary condition for the development of other forms of thought, it is not something that can be taken for granted. In fact, it is likely to be lacking because the *trust* that is a necessary condition for it is usually absent in the classroom.

Britton mentions two ways in which students' expressive speech can move on to a more *referential* mode – i.e., speech that is more accurate and specific. One is by being asked by another student to make an explanation more explicit. A second way is through the need to consider alternative possibilities other than one's own point of view. In a process called a "Rogerian debate" after the psychologist Carl Rogers, "A tries on B's viewpoint and sees how the world looks from that angle – in particular that bit of the world about which differences of opinion have arisen" (Britton, 1990, p. 120). In such a discussion, students are less able to appeal to "common sense"; they are compelled to use more explicit reasoning and more referential uses of language.

Finally, in Russia, Markova (1979) developed a detailed curriculum, inspired by Vygtoskian principles, which was aimed at making learners more aware of speech as thinking. Organized around various stages of learning from the abstract to the concrete, it

emphasized refined study methods and organization of student materials so as to mobilize learners' mental resources.

2.2.2 Thought and Language in Second Language Learning

Within the field of second languge acquisition, cognition has traditionally been seen as being situated within the individual, in the "black box" that is the learner's mind (Ellis, 1994). The move toward negotiation of meaning within a communicative framework which began in the1980's was a step outward from the "black box," in that it somewhat acknowledged the reality of distributed cognition. Group work became increasingly popular due to the opportunities it afforded for more extensive and varied language practice (Long and Porter, 1985), as well as for pushing output towards increased comprehensibility and accuracy in the light of "negative evidence" from co-learners (White, 1987).

However, while the value of collaborative learning was being increasingly recognized, important connections between communication and cognition were being overlooked. Perhaps the first to seriously raise the issue of the relationship between communication and thinking in SLA was Henry G. Widdowson (1984). Widdowson attacked narrow conceptions of "communicative" language teaching which equated language with functional categories such as requests, orders, descriptions, etc. while ignoring "the proposition, the conceptual element, in the speech act" (1984, p. 68). He insisted that the two functions of language, for framing thoughts and conveying them for a purpose within social interaction, be considered together – and that we "reinstate conceptual activity in the context of communication as a whole" (1984, p. 70).

Widdowson sees negotiation within social discourse as a way in which the two potentially conflicting functions of language are continually being reconciled. In terms of pedagogy, he speaks of the need "to develop in learners a capacity for using language for

both thinking and acting so that they can exploit its meaning potential in discourse," mainly through the use of broad learning strategies as opposed to specific or restricted speech acts (1984, p. 79). Communicative tasks should enable students to internalize grammar for the sake of its meaning potential and "the achievement of purposeful outcomes" – something which will bring students "into closer alignment" with the demands of other areas of school work (1990, p. 176).

Legutke and Thomas (1991) discuss the value of cognitively challenging problem-solving tasks in the L2 classroom. As opposed to the kinds of language games that mainly provide practice for particular language items, such tasks train thinking in the foreign language by developing refined negotiation skills, and by teaching language at a level that enables students to "compare, agree, suggest, summarize, etc." (p.105). These tasks might require other valuable skills as well; for instance, some activities involving deductive reasoning "emphasize experientially for learners the need to clarify the procedure of the task before they can hope to solve it" (p.103).

Kessler (1992) presents similar arguments to advocate the use of cooperative learning in general in the L2 classroom. Among the wide variety of advantages she lists and discusses is increased complexity of communication, and the opportunity to acquire what she calls "school-information talk critical for academic success." Such "school talk" might include paraphrasing, justifying a position, describing or explaining a process, analyzing events and considering alternatives, projecting into new situations, developing imaginative situations, and hypothesizing (p. 61).

Finally, Van Lier (1988) believes that studying communicative social interaction *is* in fact studying cognition, since "both are aimed at reaching an agreement or accommodation between the cognitive apparatus inside the person and the outside world" (p. 83). Unlike certain models which emphasize the distinction between academic/

cognitive and communicative/interactive aspects of classroom work, Van Lier sees them as closely related. Nevertheless, he argues, they need to be balanced, so that the cognitive demands of a particular task are weighed against the learner's interactive resources.

Van Lier's interest in challenging students to higher levels of thinking is discussed at length in *Interaction in the Language Curriculum* (1996), which was largely influenced by Vygotsky and the paradigm based on his work. This framework, which has enabled Van Lier and others to explore thought and language on increasingly deeper levels, will be addressed next.

2.2.3 Thought and Language Within the Sociocultural Paradigm

The previous section mentioned some individuals within the field of SLA who have advocated the use of more cognitively challenging tasks in the classroom, and have called for a more unified view of cognition and social interaction. The rediscovery of Vygotsky's works, along with that of some of his contempories, students, and followers, has done much to make such a view possible, and has stimulated efforts to elucidate, on a deeper and more subtle level, what is actually happening when learners think, communicate thoughts, and interact. Known as the sociocultural paradigm, this view has inspired significant developments in many areas of education (Forman and Cazden 1985; Moll, 1990; Rogoff, 1990); the present section will give an overview of it and address the particular relevance it holds for L2 vocabulary development.

Key to understanding Vygotsky's ideas on thought and language is his explanation of the origins of thought. As he saw it, much of what what sets humans apart from the animals is the ability to mediate action through the use of tools. Among these tools are *signs*, which are significant because they "extend the operation of memory beyond the biological dimensions of the human nervous system", moving our behavior beyond mere stimulus-response functions (1978, p. 39). As signs become speech, we

become increasingly less dependent on the immediate context, allowing for the development of the higher psychological functions. Thought and language, neither natural nor innate and arising from separate sources, develop and begin to overlap within each individual through interaction on the social and cultural levels, "governed essentially by the general laws of the historical development of human society" (Vygotsky, 1986, p. 95).

Next, in order to understand the deeper processes at work in collaborative learning, it is necessary to understand the importance Vygotsky placed on the role of *inner speech* in the development of thought. According to his description, the child first uses speech for social communication, then begins to transfer these social, collaborative forms of behavior to himself in what is termed "egocentric speech", which, though "autistic", is already geared largely toward problem-solving (1986). Eventually it develops into "inner speech", which forms the basis for logical thinking and serves as "a mediator in purposive activity and in planning complex actions" (1986, p. 39). By contrast, Piaget, influenced by Freud, had seen egocentric speech as an immature mainifestation of the pleasure principle, which is outgrown and replaced with more social speech as the child matures. Vygotsky summed up the difference between the two by observing that Piaget viewed the development of thinking as moving from the individual to the social, while for him it was from the social to the individual (Vygotsky, 1986, p. 36).

At the same time as it is forming the basis for thought, inner speech also mediates a movement *outward* between thought and its external expression as communication. Initially a "dim, amorphous whole", (Vygotsky, 1986, p. 219), thought undergoes many changes as it is first formed into inner speech and then externalized into speech. As Parilla puts it, "both inner speech and external speech do not merely express [thought] but also change it to fit the available means of expression" (1995, p. 174).

In either direction of movement -- whether inner speech is bringing the social context inward or shaping thought outward into speech – the process unfolds largely through *dialogical* means. As Kozulin (1995) points out, inner speech retains a dialogical structure as it moves within (p. 126). By the same token, thought develops externally through various types of verbal exchanges, or dialogue. This would suggest that, in studying the conceptual development of the student, the nature and extent of his communicative interactions in the classroom must be an important consideration.

In the works of Bakhtin, who was writing at the same time as Vygotsky though probably independently of his influence, Wertsch (1991) sees an explication and extension of some of the ideas Vygotsky was working on toward the end of his life. Even though Bakhtin's ideas mainly dealt with written text, they are highly relevant to the application of Vygotsky's ideas to spoken communication in the classroom. Wertsch notes that Bakhtin wrote at length on the sociocultural situatedness of mediated action, focusing mainly on the concept of dialogicality, though in a way quite separate from the Hegelian and Marxist views popular at the time. Bakhtin emphasized the dependence of an utterance's meaning on the situational context: it has both a *voice*, dependent on the speaker's perspective, and *addressivity*, the quality of being addressed to another person. Since meaning comes into existence only from the contact between the two, "an utterance reflects not only the voice producing it but also the voices to which it is addressed" (Wertsch, 1991, p. 53). Understanding occurs when the person addressed orients himself to the utterance with his own "answering words. The greater their number and weight, the deeper and more substantial our understanding will be. . *Any true understanding is dialogic in nature"* (Voloshinov, 1973, p. 102).[3]

[3] Some works now recognized as Bakhtin's were published under the name of his student, Voloshinov.

The process of understanding is further complicated by what Bakhtin (1981) calls "ventriloquation". In this process, when a person is first learning a social language, other voices are speaking *through* him; the words he learns reflect other people's contexts and intentions, and must be appropriated by being adapted to his own (Wertsch, 1991). This takes places largely through inner speech (Wertsch, 1992). Looked at as a whole, the process of understanding another person's utterance is a subtle, dynamic one involving "the listeners' inner speech responses to others' overt, social speech utterances" (Wertsch, 1992, p. 68) – while others' utterances themselves arise out of inner speech representing different "agendas" and subject to interpretation.

2.2.3.1 Sociocultural Theory and Second Language Learning

Quite apart from the new directions they have inspired, the views of Vygotsky and others on thought and language affirm much of what has become increasingly known – if not universally practiced – in the area of both first and second language teaching. First, as mentioned in the previous section, it is now generally recognized that words and utterances carry little meaning in isolation, and need to be considered *in context.* In the field of L2 learning, Widdowson (1978), as mentioned earlier, was pivotal in advocating a true communicative approach emphasizing authentic, contextualized language. Good teaching in all areas has also become more geared toward more *active participation* by students in constructing their own knowledge, in the tradition of such leaders as Dewey and Bruner. In L2 learning specifically, there has been increased awareness of the importance of collaborative group tasks in providing increased opportunity for speaking, leading in turn to improved linguistic complexity and accuracy (Long, 1981). Group work has also come to be recognized as providing opportunities for the *negotiation of meaning.* Here students can make use of feedback by their peers to further refine their spoken communication,

largely by becoming aware of errors that keep others from understanding what they are saying (Doughty and Pica, 1986; Long and Porter, 1985; Swain, 1985).

Nevertheless, despite some acknowledgement of isolated phenomena that form the basis of sociocultural theory, the field of SLA remains bound within old and limited ways of thinking. Still mostly unquestioned is the view -- prevalent in most of the social sciences though actually appropriate only for more mechanized views of language -- of human communication as the *transmission* of information (Wertsch, 1991). This model involves "the translation (or 'encoding') of an idea into a signal by a sender, the transmission of this signal to a receiver, and the 'decoding' of the signal into a message by the receiver" (p. 71). Such a view sees the receiver as passive rather than as an *active co-constructor of meaning* and an integral component of the utterance itself in a Bakhtinian sense. It also tends to reinforce the assumption that messages have a single, unaltered meaning, rather than mutually reflecting one another and being influenced by "past and future receivers" (p. 73).

A radically new approach to L2 pedagogy, incorporating more fully the insights of Vygotsky as well as other foward-looking thinkers, and applicable to the complex issues of conceptual development and representation, is needed to bring current research into closer alignment with the newer scientific models of reality. However, this has been slow in coming. In the opening chapter of *Vygotskian Approaches to Second Language Research* (1994), Lantolf and Appel point to two reasons why Vygotskian theory, specifically, has so far had little influence on western L2 research, even though it has been carried out for decades in the Soviet Union. First is the fact that western scholars have only recently obtained access to the writings. Second is the traditional placement of SLA research within the natural science research tradition, with its emphasis on predictive explanation and controlled, largely quantitative experimentation. Because, as mentioned

earlier, communication within this paradigm tends to be seen as the passing back and forth of information, intrapsychological strategies have been generally ignored in SLA (Brooks and Donato, 1994). The studies that constitute the remainder of Lantolf and Appel's book, along with research published before and after it, use Vygotsky's ideas to fill this void and provide a fuller understanding of what is actually taking place when students learn another language.

Central is the emphasis on "the inseparability of the individual from the semiotic systems mediating and constituting action;" i.e., the act of *speaking with others* is what "simultaneously constitutes and constructs learners' interactions in the target language" (Brooks and Donato, 1994, p. 264). Because they reveal important cognitive processes, all forms of discourse are relevant for study -- including learners' attempts to set goals, understand a task, and orient to each other (Frawley and Lantolf, 1985). Brooks and Donato (1994), as mentioned on p. 42, discuss these discourse functions in some detail and provide examples.

The inseparability of L2 performance from cognition has important implications for task-based learning. Rather than being classifiable on the basis of external task features, "tasks are in fact *internally* constructed through the moment-to-moment verbal interactions of the learners during actual task performance" (Brooks and Donato 1994, p. 272). Coughlin and Duff (1994) showed how tasks can give rise to unpredictably varied results with different subjects, suggesting that there is much to be learned from such variations. This line of research is in keeping with Vygotsky's "subject-based approach to behavior;" for example, Lantolf and Ahmed (1989) note his warning that a sudden shift in thought during an experiment would always impact the subject's overall behavior. The present study offers a way of looking at tasks "from within," in terms of moment-to-

moment interactions, over an extended period of time. All categories and findings arose out of the data itself, with few preconceptions as to what would be found.

2.2.3.2 Inner and Private Speech

Interest in examining the role of private speech in SLA was initiated by Lantolf and Frawley in the 1980's (McCafferty, 1994b). Arguing against the "conduit metaphor," they put forth a view of communication as an attempt to process experience rather than just report it (Frawley and Lantolf, 1984). Frawley and Lantolf (1985) studied intermediate adult L2 learners in order to demonstrate how private speech is used to achieve self-regulation in a task situation. Adopting Wertsch's (1979) three categories, they found that early forms of private speech were used to achieve *object regulation* – i.e., gaining control of a task by "externalizing" certain concrete elements of the task environment. *Other regulation* was ahieved through self-directed questions, dialogic strategies deriving from early interaction with adults. At the level of *self-regulation,* still other private speech forms emerged which indicated that mastery had been reached. While Frawley and Lantolf (1985) suggest that use of private speech decreases with gains in the communicative use of the second language, others point out that it also continues to serve important cognitive and metacognitive functions such as planning (Appel, 1986; McCafferty, 1994b).

Citing a revitalized interest in introspective methods resulting from the cognitive revolution in SLA research, DeGuerrero (1994) makes a case for studying inner speech, the silent and more condensed counterpart of private speech. Its importance, she claims, lies in its being not only an instrument of cognition, but also in its three communicative functions: internalizing social language, self-communication, and preparing for communication with others. In her study, DeGuerrero questioned Spanish learners about the inner speech they had experienced while mentally rehearsing for two communicative activities, and used her findings to compose a detailed list of the functions and

characteristics of inner speech. From her research she concludes that exposure to cognitively demanding tasks can help learners' inner speech "develop into an increasingly indispensable and rich vehicle for thinking in the other language" (p. 97). It is hoped that the tasks in the present study will encourage such development.

2.2.3.3 Classroom Speech

Incorporating sociocultural principles into classroom practice has major implications for the kinds of speech we are interested in fostering in our students, and how we view task-related behavior. A pivotal study by Brooks and Donato (1994) contends that many second language researchers, intent on "unwrapping" linguistic messages and achieving literal comprehension, often tend to overlook and devalue many of the speaking modalities that are most directly involved in actually carrying out group problem-solving tasks. These are the very types of speech through which the learners' social, cognitive and linguistic situations are both constituted and transformed; they also lay the basis for what Rommetveit (1979, as cited in Wertsch, 1985) terms "intersubjectivity" – the sharing of common understandings and goals.

Brooks and Donato's study, done with Spanish learners, focused on three functions of speech, or aspects of semiotic mediation. In speaking as *object regulation*, students step out of the interaction to engage in "metatalk", which is about the actual language they are using while participating in the task. Such talk might be addressed to themselves, and is often in the native language. Secondly, speech as *shared orientation* serves to orient the learner and others to the problem and to how the task will be carried out, in a way that is highly individual and not defined by imposed task requirements (Talyzina, 1981). Brooks and Donato make the important point that "they talk in order to set up problem-solving. . . rather than problem-solving as an opportunity to practice speaking." (Brooks & Donato, 1994, p. 269) The third function of speech described is

speaking as *goal formation.* Even though task goals are often specified by the teacher, students often need to reformulate and externalize them for themselves to make them comprehensible. Establishing a purpose and focus help achieve intersubjectivity and help students make sense of their actions.

The present study will focus on a multiplicity of contributions which group task work makes to the language-learning process, as well as to social interaction.

2.2.3.4 Scaffolding and the Zone of Proximal Development

Another major concern of L2 sociocultural researchers has been the way in which growth takes place within the *zone of proximal development* (ZPD), the term used by Vygotsky to describe "the discrepancy between a child's actual mental age and the level he reaches in solving problems with assistance" (1986, p. 187). Growth within the ZPD occurs largely through *scaffolding,* a more recent term referring to the process through which a novice extends his ability by *internalizing* the strategic processes of an experienced individual through dialogically constituted processes in which the other guides, supports and shapes his actions (Donato, 1994, p. 37) (See also p. 52). Donato (1994) was among the first to focus on scaffolding as a phenomenon of L2 learning, having become dissatisfied with the current emphasis on comprehensible input/output and negotiation moves – an emphasis that arose from the view of meaning as basically fixed and immutable. Claiming that this approach only superficially recognizes the influence of the social context, and in fact "masks fundamentally important mechanisms of L2 development" (Donato, 1994, p. 34), he conducted a study which focused on actual developmental changes in learners' speech during group work. Analyzing recorded tasks involving linguistic problem-solving, he found that learners working in triads were able to use scaffolded utterances in their independent performance even after help was no longer available. Donato believes his study indicates that scaffolding occurs routinely as students

work together on language learning tasks. Ohta (1995), comparing Japanese learners in pair work and teacher-fronted settings involving a role-play activity, also showed how one student in a pair situation provided help which allowed the less proficient speaker to perform at a higher level of competence. Ohta (1997) later studied a pair-work task guiding students to construct L2 sentences using prompts written in English. The students helped each other in ways that were explicitly requested as well as ways that were not, with the less able student again becoming increasingly self-reliant. Anton and DiCamilla (1999) found that pairs of Spanish learners provided scaffolding for one another by offering suggestions for each other's consideration and evaluating forms posed by the other. One form of scaffolding that recurred in their data was repetition of a particular word to provide "a safe platform in the scaffold from where students can jump and construct new text" (Anton and DiCamilla, 1999, p. 3).

Aljaafreh and Lantolf (1994) examined corrective feedback, a form of scaffolding. They found that the dialogic presence of a one-on-one tutor established a *collaborative frame* within which a learner could test and reformlulate her hypotheses, accomplishing much of her own learning and self-correction through private speech, without explicit help. The authors conclude that for a full picture of a learner's developmental level, we must look at each learner's starting point within the ZPD and how much implicit or explicit feedback she requires in a regulatory situation. They add that much was also learned from *failures* in communication between the learner and the tutor, illustrating Vygotsky's (1978) point that we often learn more about how a cognitive system operates when we observe it under conditions of failure and breakdown than when it is functioning smoothly.

Lantolf and Ahmed (1989) studied an Arabic learner of English in interview and conversational situations. They found that in the interview situation, he ceded control and

allowed himself to be other-regulated by the interviewer, resulting in little negotiation of intersubjectivity. In the conversation, the desire to find out information led him to shift to a more "pragmatic" mode of speaking in which control was shared and his speech became self-regulated. The authors maintain that when considering people's attempts to "transcend their private worlds through linguistic means," the issue of control is important because "it will determine whose private world will or will not be endorsed" (Lantolf and Ahmed, 1989, p. 103). They also emphasize that in order to fully understand language variability, linguistic phenomena need to be considered in terms of people and the evidence that comes directly from them.

Hall (1995) raises concern that in a typical classroom, topic development takes place almost exclusively through lexical chaining, excluding the broader frames of knowledge which provide the types of scaffolding that encourage cognitively complex discourse. Speaking specifically of vocabulary, she also notes that much of the talk involves "a limited variety of simple words used in simplistic ways," with the result that "there is little chance to build knowledge of word meanings through their contextual and discursive placements, or through their connections to other words" (p. 54).

While existing studies of scaffolding greatly add to our understanding of this phenomenon as a complex, dialogic, interpsychological process, more detailed studies need to be carried out in different areas of the curriculum. The present study will allow for observations of how students provide scaffolding for one another, as well as ways in which the teacher's interventions provide support at different stages of the process (see pp. 52-53) -- hopefully encouraging development within the ZPD on both group and individual levels. Enough detail will be provided to illustrate both successful and unsuccessful communicative and problem-solving behaviors. The tasks will be carried out within a frame of knowledge that is broad and challenging, not only in terms of the

concepts that must be understood, but also in terms of the types of discourse that will be needed on the group level in order to help each other navigate through unfamiliar territory and resolve ambiguities.

2.3 Collaborative Interaction in the Second Language Learning Classroom

Brooks and Donato's (1994) discussion of some of the less-recognized aspects of semiotic mediation, mentioned above, give fuel to the argument that it is important to look beyond speech directly related to group problem-solving and consider what is happening on other levels. Hopefully, by doing so, further research can identify, expand and promote categories of verbal interaction that will encourage inter-subjectivity and effective group work.

Barnes and Todd's *Communication and Learning Revisited: Making meaning through talk* (1995), influenced to an extent by Vygotsky, provides valuable new ways of looking at group collaboration. Having previously identified, along with his colleagues, ways in which speaking helps to construct knowledge and thought, Barnes now examines with Todd"the relationship between small-scale aspects of the social interaction of small groups and the cognitive strategies generated in the course of this interaction" (Barnes and Todd, 1995, p. 7). Using similar classroom data to that in Barnes' previous book, they (a) identify three basic categories of interaction, along with various sub-categories, (b) identify communicative acts within each sub-category, (c) reflect on how the categories are interrelated, and (d) discuss the implications of their findings for helping teachers conduct more effective group work.

The categories are:

(1) *The nature of collaboration (group level behaviors)*: initiating, eliciting, extending and qualifying;

(2) *Social skills for task management*: controlling progress, allocating activities, dealing with competition and conflict, supportive behavior (formal expressions of agreement, naming, referring back, explicit praise, expressing shared feeling), and collaborating or defending; and

(3) *Cognitive strategies and reflection*: constructing the question, raising new questions, setting up hypotheses, using evidence, expressing feelings and recreating experience, and reflexivity.

These categories would be useful for any study of classroom interaction which viewed speaking, thought and communication as interrelated phenomena and attempted to explore the multiple functions and purposes classroom speech. While Barnes and Todd themselves worked within an L1 context, an approach such as theirs would be equally useful for L2 situations, though here it might be useful to add an additional category for comprehension-based communicative strategies.

In understanding and promoting intersubjectivity and effective group work, it might also be useful to think in terms of the type of speech that Barnes (1995) and Van Lier (1996) call *contingent* – i.e., that in which the familiar is embedded in the new, thereby allowing learning to take place (Van Lier, 1996, p. 170). For Barnes and Todd, contingency is a key element in *positive collaboration,* in which students students actively listen to one another, pick up on one another's ideas and develop them further. They believe, in fact, that beyond facilitating the completion of a given task, "the support implicit in attending seriously to another's opinion may. . .be the form of support most likely to influence learning" (Barnes and Todd, 1995, p. 47).

Barnes and Todd's framework provides a solid basis for observing the nuances of what is actually happening when students interact and solve problems in a group setting. Further classroom research using that framework in the L2 classroom is needed to

increase our insight into how student behaviors on the three levels interact and affect each other, in ways specific to various types of subject matter – with a view toward increasing the quality of that interaction. The present study is an attempt to fill this need. Unlike existing studies on L2 communication strategies, it will develop a detailed typology of interactions (see Sections 4.3.5 to 4.3.9, pp. 102-139) on the sociocognitive, group, and social/affective levels, mainly from extensive analysis of transcripts of student group work. The term "interactional conduct" will be used in three ways: (a) in the sociocognitive sense of participants building on one another's understandings and contributions in order to arrive at new levels of meaning and problem-solving ability --as opposed to the narrower cognitive sense of arriving at shared meanings in situations where such meaning structures do not seem to be shared (Tarone, 1977, as cited in Ellis, 1994); (b) as discourse strategies for specific functions such as initiating, closing, and maintaining conversations (Ellis, 1994), as well as for problem-solving purposes such as articulating hypotheses; and (c) to refer to behaviors on the social level, such as resolving conflict.

An analysis of the teacher/researcher's own role will be part of the typology, including interventions to encourage outcomes such as effective communication, and a collaborative approach to both logical and exploratory thinking. A major focus will be on elucidating in detail how students relate to and carry out the problem-solving process, work through challenges, learn to consider things from the perspective of others, and form understandings. The study will incorporate a variety of perspectives, in a way that hopefully will contribute to the formation of a dynamic, integrated whole.

2.4 The Teacher's Role

2.4.1 The School and Conceptual Thought

Underlying the role of the teacher is the influence of the school environment in general, and underlying the expansion of learning is the promotion of higher-order thinking skills. Vygotsky had much to say about these matters that can put the role of the teacher into a wider perspective.

Central to Vygotsky's views on pedagogy was his belief, discussed at length in *Thought and Language,* that schooled instruction plays a key role in the development of the child's mental processes by teaching subjects that require "consciousness and deliberate mastery" (Vygotsky, 1986, p. 186). These include writing, through which the child learns to disengage himself from the sensory aspects of words and engage in actions requiring abstraction and analysis. Because "instruction precedes development" (p.185), the child can be challenged with material that he cannot completely master at the time. He will acquire certain habits and skills which he will learn to apply only later, according to his own developmental schedule, through activities appropriate to his zone of proximal development. Effective instruction in one area "can transform and reorganize other areas of the child's thought" (p.177), extending into other subjects as well.

Much of the reason for the effectiveness of schooled instruction can be found in Vygotsky's distinction between "spontaneous" and "scientific" concepts -- or to use Gallimore and Tharps's (1988) more accurate terms, "everyday" and "schooled" concepts. *Everyday concepts* arise from concrete experience and are inseparable in the child's mind from the image of the object they represent; *schooled concepts* are "mediated" and can be manipulated independently. Although mediated semiotic processes come to play an increasingly important role in mental functioning and are emphasized in school learning, Vygotsky stressed that the two types of concepts are

interrelated in a two-way process. An everyday concept moves upward, clearing a path for the other by creating a series of structures necessary for its evolution, and giving it "body and vitality". Moving downward, schooled concepts "supply structures for the upward development of the child's spontaneous concepts toward consciousness and deliberate use". As the child gains control through his experiences in the ZPD, schooled concepts never get too far ahead: they remain "just above the spontaneous ones" (Vygotsky, 1986, pp. 194-95).

Apart from their origin in mediated semiotic processes, there are important other ways of looking at the distinction between the two types of concepts. First, schooled concepts come into being through conscious, voluntary control (Wertsch, 1985). Secondly, and even more importantly, they can be considered in relation to each other as systems, with an internal, hierarchical system of interrelationships (Vygotsky, 1994b). This is what allows language to be used as a tool for thought (Gallimore and Tharp, 1988). Thirdly, Vygotsky stressed that *the manner in which the concept comes into being* is essential to its nature and sets it apart from a "pseudoconcept", which can share its external nature as an aggregate of properties or attributes (Wertsch, 1985). With a pseudoconcept, reasoning is still partly determined by the concrete environment, and not solely by the manipulation of decontextualized word meanings; as a result, the child is not fully able to put the underlying ideas into operation in a learning context (Hanfman and Kasanin, 1937). A final distinction, actually an elaboration on the last point, is that made by Davydov (1969), who was largely responsible for implementing Vygotsky's ideas in Soviet education but found it necessary to modify and extend them. In Kozulin's account (1995), as mentioned earlier, Davydov considered *content* to be a crucial factor in concept formation – i.e., the learning task itself should reflect the general principle through which empirical understanding becomes a concept. As an example, when a child learns what a

circle is by understanding how all circles are *generated* rather than through identifying common features, he has moved from "the domination of the empirically given" to true theoretical comprehension. Kozulin makes the significant observation that as a result of this type of learning, "a child starts to learn that the essential characteristics of objects do not necessarily lie on the surface, but should be uncovered" (1995, p. 124). An approach to vocabulary based on these principles might go a long way towards making words more effective tools for thinking (see next section).

There are many important implications here for teaching which attempts to create the conditions for cognitive development, including the area of second language vocabulary instruction. Ironically, when Vygotsky mentioned second language study, it was to *distinguish* the process from the acquisition of schooled concepts in the L1. In the L1, he believed, "the *system* must be built simutaneously with their development," whereas for the L2 learner the native language "serves as an already established system of meanings" (1986, p. 197). Here Vygotsky seems to have missed the mark. Though it is no doubt *more* true of children and adolescents, even with adults we must take into account the fact that conceptual structures are still actively developing as they learn a second language. It is every bit as important as with native speakers to address their need for conceptual development; what is required are creative ways to integrate the two types of learning.

One aim of the present study is to demonstrate some of the ways in which students form and understand concepts in groups, assisted by teacher scaffolding, using tasks that require them to think in terms of systems and networks. There will be sufficient time for extended conscious attention to particular concepts, and for engaging in both analytic and synthetic thought processes. The inherent ambiguity of the poem-based tasks will preclude easy answers, making it necessary to consider various points of view and

reassess ones own thinking in the light of another's. Finally, the tasks will aim to foster an understanding of figurative language, an important aspect of higher-order thinking.

2.4.2 The Teacher's Role: The Zone of Proximal Development

A sociocultural perspective can be helpful in enabling us to set up the types of conditions most suited to how students actually learn, and to provide them with the opportunity to take on -- and master -- difficult and challenging tasks in an interactive environment. Probably more than any other, Vygotsky's concept of the zone of proximal development (see p. 43) has found the widest application in modern pedagogy – but a great deal is required on the part of the teacher to make effective use of its implications. According to Parilla (1995), ideas need to be communicated on an increasingly complex level if teaching is to succeed in helping the student reach the point of *self-regulation,* or being able to perform on his own without the help of another, more able student. Parilla goes so far as to cite Wertsch's extreme and probably controversial suggestion that "other-regulation by means of uninterpretable directives seems to be an important way of luring the child further and further into the communication" (Wertsch, 1979, cited in Parilla, 1995, p. 176).

Although Vygotsky spoke of the ZPD mostly in terms of adult-child interaction, he also referred to it as including "collaboration with more capable peers" (Vygotsky, 1978, p. 86). Wertsch's observation on how teachers constantly "test the waters" to see if students are ready to move to new levels of self-regulation (Wertsch, 1991) could apply either to the extent to which the teacher either guides or disengages from the process, or to the level of difficulty of assigned group tasks.

Whether it is taking place on a teacher-student or student-student level, as mentioned earlier, sociocultural theory sees growth within the ZPD as unfolding largely through the process of *scaffolding* – the provision of various means of support which,

when internalized, eventually enable the student to function at a higher level on his own (see p. 43). Even outside of sociocultural theory, some research in second language acquisition has acknowledged the importance of this phenomenon. The term, originally used in cognitive psychology, was redefined by Chaudron for SLA as "the provision through conversation of linguistic structures that promote a learner's recognition or production of those structures or associated forms" (1988, p. 10). Van Lier (1988) suggested that L2 methodology could learn from tacit use of scaffolding as it already exists in L1 classrooms (Donato, 1994). Hatch (1978) pioneered SLA research on scaffolding by looking at its role in vertical discourse between native and non-native speakers. Ellis (1985), observing teacher-student interaction, found evidence that students acquired new syntactic patterns when the teacher supplied crucial chunks of language to a student-initiated topic.

The present study will extend the investigation of scaffolding into the area of L2 vocabulary learning. In addition, it will make a needed contribution by going beyond the teacher-fronted classroom, even partner work, to observe the instructor's role in the midst of a collaborative learning situation. As well as casting some light on some of the more subtle, human aspects of the learning situation, it may open up possibilities for analyzing the effects of teacher scaffolding on expanding the ZPD, promoting self-regulation, fostering exploratory thinking and risk-taking, and generally enabling students to complete challenging tasks successfully.

CHAPTER 3
METHODOLOGY

3.1 Introduction

The present study is a hybrid of various types of research which were selected to reflect its theoretical framework. While there are elements of what is usually referred to as "teacher research," which centers on classroom problem solving (Cochran-Smith & Lytle, 1993), it is perhaps closest to what Van Lier (1988) terms "classroom research," which incorporates many of the principles of ethnography—though even here, it probably resembles sociological ethnography more in both content and style. It is largely situated within the tradition of ethnography which draws on a variety of richly detailed data sources to reflect the subjective reality of the observed as well as the observer, and which exploits rather than denies the "reflexive" nature of social research – i.e., the fact that researchers are part of the social worlds they study (Erickson, 1986; Hammersley & Atkinson, 1983). In addition, part of it relies heavily on *narrative* to capture a sense of the constant changes and transformations that were an integral part of what actually took place. Certain literary and rhetorical devices are employed in order to tell the story (Atkinson, 1990), including a metaphorical model and subjective accounts constructed by the researcher from participant data (Ely et al., 1997). While especially the latter may be open to question by some, it is important to keep in mind that "the choice of genre, style and articulation of authorial voice is now open to argument and experimentation across a wide palette" (Edge and Richards, 1998, p. 342).

In addition, a large part of the data draws on an aspect of ethnography which borders on the conversational analysis end of the spectrum. In this section I closely examine transcripts of student group tasks in order to ascertain what behaviors are taking place on the socio-cognitive, group and social/affective levels, and to attempt to assess whether certain kinds of learning are taking place. While other parts of the analysis draw

on participant accounts to make some of the same points, thereby lending some element of triangulation, in this section the data is mainly allowed to speak for itself (Schlegoff, 1987) Similar approaches have been used by Markee (1994) and others within the field of SLA (Tarone, Gass, & Cohen, eds., 1994).

A final factor that distinguishes my study from other forms of classroom research is the incorporation of elements traditionally found in empirical studies – e.g., sections on procedure, selection of participants, materials, etc. Like most purely qualitative approaches, however, it is concerned not with the causes of behavior in isolated experimental participants under artificial conditions, but rather with the meanings and intentions of "authentic, flesh and blood individuals" (Lantolf, forthcoming) within a shared social and experiential context, naturally occurring and unique unto itself. Data consists not of statistics—whose claim to reliability is based on experimental conditions which in fact can never truly be replicated—but of first-person perspectives and categories derived from ongoing, detailed interactive processes (Lantolf, forthcoming). The subjective perspectives of both students and the teacher/researcher are not considered as interfering variables, but as rich, privileged, highly valid sources of information (Pavlenko & Lantolf, 2000). As Lantolf points out, Vygotsky, in laying the groundwork for what was to become the theory of Activity, argued that the only way to understand human mental processes was to study their formation and functioning "in the interaction (that is, concrete and symbolic activity) which links humans to each other and to their artifacts" (Lantolf & Appel, 1994, p. 5).
A sense of continual flux was apparent in a number of key aspects of the process. It was perhaps most evident in the changes I was able to make in the actual study as a result of analyzing and reflecting on some data collected during the previous school year. I had actually intended to collect all the necessary data that year; however, for a number of reasons it turned out to be inadequate for my purposes. At that point I decided to use the

first year's results as a kind of pilot study to help me design a much better one the following year. As it turned out, almost everything was affected, including selection of participants, the preparation they were given, the way the tasks were broken down, my own part in helping the students solve them—even the importance I attached to my role. The time frame for collection of data was extended, and metacognitive journals took more of a part in the learning.

In addition to those changes resulting from the transition between the two studies, there were others—occurring throughout the entire process and documented in the project journal—which were the natural outcome of continual observation and reflection on how the study was proceeding. Things showed up in the data that I had not anticipated; certain phenomena became more salient, more interesting, or more important to focus on than previously thought. There were major shifts of emphasis, a narrowing-down of the tasks to be analyzed, even changes in research questions. Equally important, the students and the groups themselves went through metamorphoses that I found fascinating and noteworthy. It became apparent that these changes, too, which could only be told through narrative, would have to be considered a vital part of the total process.

As Vygotsky (1987) liked to point out, methodology cannot be separated from participant matter; what is being looked at must inevitably influence the means used to study it. It is for this reason that the following description of methodology may at times seem to follow a logic of its own, in keeping with both the fluid nature of the study and the multidimensional, "holographic" character of the phenomena being observed. Hopefully, this will serve not to confuse the reader, but to clarify what is to follow in subsequent sections.

3.2 Poetry as a Pedagogical Tool

The decision to eventually focus only on poetry tasks is in keeping with the fluid character of the study, as well as the nature of vocabulary study itself. In many ways, poetry is an ideal vehicle through which to convey an appreciation of the dynamic, elusive and multifaceted nature of words. It can also contribute in some powerful ways to the effective development and representation of L2 concepts. Some of the advantages of poetry-based tasks might be summed up as follows:

- Poems provide rich context containing varied and subtle meanings.
- Poems tend to employ words on a variety of levels ranging from the concrete, sensory level through the highly abstract; these levels interact in a continuous, multidirectional manner.
- Poems encourage the reader to form visual images, which, like eidetic imagery in experience, might help form memory traces of words.
- Poems make use of metaphor, a form of higher-order thinking.
- Poems are often rich in emotional expression, and can activate a wide variety of feelings in the reader. According to Vygotsky, emotions – including specifically those found in poetry – provide an important developmental link to creativity and the formation of ideas during adolescence (Vygotsky, 1994).
- Related to the previous idea, poetry can help move thinking to a higher level by encouraging "liberation from earlier, more primitive forms of cognition" toward "advanced forms of imagination." Though not specifically with relation to poetry, Vygotsky asserted that "a more profound penetration of reality demands that consciousness attain a freer relationship to the elements of that reality, that consciousness

depart from the external and apparent aspect of reality that is given directly in perception" (Vygotsky, 1987).

• Because of its inherent ambiguity, poetry is ideal for promoting both exploratory thinking and interaction between varied perspectives within a group context.

• Because the same word can be used in many different ways to achieve a variety of meanings and effects, poetry can help learners become aware of the fluid, contingent nature of word meanings. Vygotsky argued that word meanings "change. . .with the various ways in which thought functions," and that we need to find out "the way they function in the live process of verbal thought" (Vygotsky, 1986, pp. 216-217). Being "alive" with layers of meaning, poetry can heighten and accentuate this process.

• Due to the subtle, precise and subjective nature of word choice, and the consequences this has for understanding the poet's meaning, it is possible that poetry can promote a heightened awareness of translation differences. This could make the existence of L1 interference – and the necessity of understanding the precise L2 concept – more apparent.

• Poems can be used to great advantage at all levels of proficiency. Since their impact is achieved mainly through choice of words, many poems can be appreciated without sophisticated knowledge of grammar and syntax.

• For Vygotsky, a "real" concept "implies a certain position in relation to other concepts, i.e., a place within a system of concepts" (1986, p. 172). Most poems could be seen as providing these in abundance, in that they contain networks of meaning in which words are interrelated in discernable patterns. It therefore seems worth exploring the possibility that studying poetry can contribute to the development of conceptual thought.

3.3 Research Questions

Based on the issues and considerations discussed in the previous section, Review of the Literature, I formulated the following research questions, with the intention of drawing on specific data sources as mentioned (See Section 3.5.2, p. 63):

1. *How can vocabulary be taught in ways that enhance conceptual development?* All student data will be analyzed for possible evidence of conceptual development: transcripts of group work, written task work, learning journals, and questionnaires and interviews. In addition, I intend to use my own reflections and observations (project journal) to consider ways of both identifying and enhancing this outcome.

2. *What cognitive, group and social/affective behaviors – both positive and negative – do students engage in while collaboratively solving challenging vocabulary tasks?* Data for this question will come almost entirely from transcripts of group work, supplemented by my own observations, which will provide a detailed of categories describing the various behaviors.

3. *How can spoken group collaboration be conducted so that it leads to more effective thinking and learning?* As in Question 1, all data sources will be analyzed for evidence of various types of thinking and learning. Again, my project journal is expected to supplement more objective data in order to aid the problematic process of identifying possible thinking and learning outcomes.

4. *How do teacher scaffolding and other interventions affect the process?* The main sources of data for this question will be: transcripts from the group work, much of which included my questioning, scaffolding, and assisting the students; student learning journals, which sometimes mention my role in the process; and questionnaires and interviews, which were designed in part to determine how effective the students felt my interventions were.

3.4 General Overview: The "Grand Tour"

John Bartram High School in Southwest Philadelphia, at the time of the present study, was considered to be one of the better Philadelphia public high schools. The ESOL program had recently been moved there from another high school largely for that reason. Our program was localized in one corridor, with several classrooms and an office that served as a coordination center as well as a sort of "clubhouse"; the students enjoyed spending time with each other here whenever they could, away from the more unfriendly, unruly and intimidating rest of the school.

Bartram is in a neighborhood that includes whites, blacks and Asians (mostly Vietnamese), all living in more or less separate enclaves without much interaction or sense of unity. Although Bartram reflected these divisions to a large extent, in our program students often tended to have good friends from other cultures. Roughly half of our population were Vietnamese with a few students from Cambodia, Laos and Thailand; most of these students lived in the neighborhood. The others were mainly from Africa, with the Ethiopians and Eritreans in particular commuting from a neighborhood in West Philadelphia. A fair number were from Haiti, with others from Bangladesh, Pakistan, Jamaica, Costa Rica and several other countries.

There were three levels of instruction, ESOL 2 (Beginner, with some literacy in the first language), ESOL 3 (Intermediate), and ESOL 4 (Advanced). Staying within certain general standards and guidelines, teachers had a great deal of freedom to design their own curriculum and use the materials and approaches they felt most comfortable with.

The study took place in three different classrooms, one the first year and two the second year, as a result of having had to move from the basement to the first floor. The arrangement of all three classrooms was similar: they were fairly large rooms, within which I had arranged desks in clusters of four in order to facilitate frequent group work.

This arrangement usually allowed for relative privacy, so that interference resulting from overhearing other groups did not usully seem to be a problem. My desk and the main blackboard were in the front of the room. There was sufficient space for me to walk around freely among the groups.

3.5 Procedure

3.5.1 General Description

This study is largely an ethnography, though it contains only partial description of settings and surroundings, and incorporates some structural elements found in experimental research. It is an investigation of high school ESOL students working together in groups on a set of vocabulary tasks requiring decision-making at considerable levels of cognitive depth and complexity. While the students worked on other tasks as well, those used in the study required them to choose which of four target words fit into a blank space in a poem. My idea was suggested by a task from Maley and Duff's *The Inward Ear* (1989) which called for guessing what word might be missing in a poem; the elements I added were a choice between four options, consideration of dictionary definitions, extended group discussion, written explanations, and learning journals. Primarily, the tasks I constructed were designed to:

1. foster students' ability to function in groups, on both a communicative and a social level
2. enhance cognitive functioning through collaborative problem-solving
3. expand overall lexical knowledge by requiring students to think in terms of "networks of meaning"
4. promote the retention of specific vocabulary through active mental processing, and
5. foster metacognitive awareness

It was also hoped that the process would encourage general language development, reveal some of the subtleties of how words convey meaning, and build skills to help students acquire new vocabulary on their own.

The study was carried out in two parts, in the spring semester of two consecutive school years. In the second year I was able to draw on what I had learned from the pilot study in order to greatly improve the quality of the data.

In both instances, before beginning the tasks I spent considerable time teaching skills which I hoped would prepare the students for them. The tasks consisted of problems that required contextual understanding of vocabulary words for their solution—i.e., realization of how and why a given word fits into a specific situation. Working in either dyads or triads, students started with dictionary definitions of target words, and collaboratively tried to decide which one was called for in a particular context. Although more than one type of task were presented, the only ones ultimately included in the study involve finding the missing word or words in a poem, then writing an explanation of how the group arrived at their decision. All sessions were audiotaped. The groups' effectiveness in solving the problems was assessed by their written answer sheets, as well as analysis of tape transcripts. In the final study only, students were asked to write "learning journals" after each session, reflecting on how they and their group worked and what was learned.

Data from the sources described below was analyzed by means of an extensive coding process. First, transcripts from the pilot study were coded into a series of categories and sub-categories which were examined closely for improvements that could be made the following year. Similarly, in the final study all transcripts were coded and re-coded until a final series of categories and sub-categories emerged. The learning journals, project journal, and interviews were coded for recurring themes and answers to research

questions. The questionnaires were evaluated quantitatively according to the numbers of points received, then analyzed in terms of the types of information they provided.

3.5.2 Data Sources

A major objective of my research was to view the learning process from a multitude of perspectives, including that of the students, and to sort through my findings in a variety of different ways in order to come to as complete an understanding as possible of what was taking place. As in most ethnographic studies, this called for the use of a number of different sources of data. They were as follows:

3.5.2.1 Tape Recordings and Transcripts

I used two portable Aiwa tape recorders, with small but sensitive separate microphones which picked up very little normal-volume background noise. When two groups were working simultaneously, each had its own recorder. I transcribed all tapes myself on a Panasonic transcribing machine.

All transcriptions were coded and re-coded, resulting in a series of continually shifting categories.

3.5.2.2 Project Journal

Beginning in early April of the first year, I began to keep a reflective journal which, though not directly cited in the final study, was useful to me as I considered improvements. It included the following:

1. Observations on what was happening in the groups, interesting or particularly successful events or exchanges, sources of confusion or difficulty, indications of progress or the lack of it, etc.

2. My subjective reflections on how well the process was going, what might need to be changed or modified, new directions the study might take based on data collected and analyzed so far, how an individual or group might be helped, etc.

3. My reflections on how past or current readings related to the ongoing study, insights or practical knowledge that could be gained from them, etc.

3.5.2.3 Written Work for Tasks

The written work from the first study told me very little except that most of the students had found the tasks quite difficult. Even with the poetry tasks, in which I had expected explanations for the chosen answers even if they were wrong (as most of them were), there was little to indicate what their thought processes had been. Although I realized this was partly because little real thinking had actually taken place, I also knew that I would have to better prepare the next group to articulate their thoughts, and do so further in advance.

The second year, we did extensive work with context clues in which the students had had to explain their answers. For some, explanations were mainly a matter of identifying key words, while others elaborated more on the reasons for their choices. By the time we started the tasks, most of the participants in the study were at least somewhat comfortable about writing down their thought processes. However, most of the written work was fairly sketchy and, in comparison with the tape transcripts, revealed very little about how the students arrived at their answers.

3.5.2.4 Student Learning Journals

For the pilot study, these consisted of answers to questions on a sheet which was given out after only a few of the tasks. Answers were mostly superficial and predictable.

The second year, I changed the procedure somewhat. Instead of simply having students give answers to a series of questions, I told them to write down their thoughts more extensively, using the questions as suggestions and guidelines. I also asked them to write after each day's work, although this was difficult to enforce with the class as a whole, and even with some of the study participants. Only a few of the participants, and none of

the others, wrote consistently and thoughtfully. Still, from what they did write I was able to gather much in the way of feedback, insights, information, and suggestions which helped me not only understand what was going on with the students, but also make some improvements.

3.5.2.5 Student Questionnaires and Interviews

For the pilot study, students were given preliminary questionnaires to help me assign them to groups. Although I did not plan to take social factors into account *per se,* I was interested in knowing who liked to work with whom, who students thought they worked well with, whether they preferred to work in twos or threes, and whether they were more comfortable working with someone of the same gender. There were no final questionnaires.

For the final study I dispensed with the preliminary questionnaire since, as previously mentioned, the make-up of the groups was determined by other factors. Instead, these students were asked to answer, completely and confidentially, a long series of questions about what they felt they had learned, what they liked and disliked about various aspects of the work, etc. (See Appendix F, p. 240). In addition, eight out of the ten participants were interviewed on tape (See Appendix G, p. 241).

3.5.3 Time Frame

During the pilot study (starting in Spring 1997), several factors intervened in the taping procedure, causing enough of a delay that by mid-May we were just beginning the tasks and had to do them in something of a rush. I had been too intent on preparing the students in various ways, most of which took a lot longer than planned, and most of which proved not to have been worth it. Several factors made the situation even worse: students often had to be out of class for trips and events in their separate charters (small learning communities), a number of standardized tests took several days each, there were the usual

absences, and we had to stop before the end of the school year because several of the students, being seniors, were released early for graduation activities.

For the final study (Spring 1998), I was less of a perfectionist regarding preparation. Knowing that there would again be interruptions, and that the data collection would probably take longer than anticipated even with an earlier start, I let go of any illusions that I could prepare them in all areas. I also decided to let some things, particularly some of the discourse strategies and refining the use of the learning journals, take place concurrently with the tasks.

We started the tasks in late April. Although this was only three weeks earlier than the previous year, the fact that I had excluded seniors this time gave me what I thought would be another two weeks. As it happened, two disruptive events cut into that time drastically. First, our entire department was suddenly forced to move to another floor so that our classrooms could be pepared for new kindergarten classes, necessitated by overcrowding at a local elementary school. Next came a transit strike in June. Fortunately, although I had some anxious moments, there was only one major casualty; the rest of my participants managed to make it into school nearly every day.

Taped sessions took place on an average of twice a week in both studies, becoming slightly more frequent toward the end. Depending on how much explaining and other class business needed to take place, I was usually able to tape for between 30 and 40 minutes during each 50-minute period.

3.5.4 Research Design

3.5.4.1 Pilot Study

1. All students from one class of 12 were prepared for the tasks through classwork activities on word study and dictionary skills. They read *West Side Story,* which would form the basis for one of the tasks.

2. A total of six participants were chosen from this class on the basis of good performance in class and high scores on a standardized test (LAB); they were divided into groups of three. A third group consisted of three former students who volunteered to participate in the study.

3. Tasks were done in groups between two and three times a week. All sessions were tape recorded and transcribed.

4. Students wrote answers to Learning Journal questions regarding their work in their groups and how they were learning.

5. During the preparation period, several weeks before starting the tasks, the researcher began to keep a reflective project journal consisting of thoughts and observations on students and groups, reflections on readings and activities, and thoughts about the progress of the study.

6. All transcripts were coded with the intention of making improvements in the final study, to be carried out the following school year.

3.5.4.2 Final Study

1. Students in three different classes, averaging about 14 students each, participated in all the same activities as the students who became participants. All of them were prepared for the tasks mainly through classwork activities on word meaning in context and interrelated meanings. They were given some preliminary practice in explaining their thought processes. They read *The House on Mango Street,* which would form the basis for one of the original tasks.

2. A total of ten participants, from three different classes, were divided into two groups of three and two groups of two. They were chosen on the basis of demonstrated skills in reading and vocabulary, a departmental levels test, and interest in participating in a

study which, I explained, was intended to help other students learn vocabulary. All participants and their parents signed written consent forms.

3. Tasks were done in groups between two and three times a week. All sessions were tape recorded.

4. Students wrote more extensive learning journals, using questions only as guidelines and suggestions.

5. The researcher continued to keep a reflective project journal.

6. After the tasks were completed, students answered confidential questionnaires about how they felt about the work and what they had learned.

7. After the tasks were completed, students were interviewed on tape.

8. All tape recordings were transcribed, coded, and analyzed in conjunction with all other sources of data.

3.5.5 Reliability and Validity of Data

As in qualitative research generally, it is more fitting not to speak of reliability in the traditional sense of replicability, which derives from the rationalistic paradigm (LeCompte and Goetz, 1982). Edge and Richards (1998), citing Lincoln and Guba (1985) describe it more appropriately as *dependability*:

> Dependability is not a matter of replicability, but of taking care that the inevitable changes in the situation being investigated, in the participants, and in the emergent design of the research itself are properly documented, so that the decisions made and the conclusions reached are justifiable in their own contexts. (Edge and Richards, 1998, p. 345)

In the present study, the criteria for reliability as thus defined – and as related in the same article to the concepts of *consistency* and *confirmability* – are met through full descriptions of my own status as participant-researcher, my selection of participants, the social situations and conditions, my analytic constructs and premises, and methods of data collection and analysis. The project journal, in particular, meets Guba and Lincoln's

(1985) criterion of "records of reflection and decision making according to which the steps of the research process can be reconstructed" (Edge and Richards, 1998, p. 346).

Internal validity, or the extent to which I will be measuring what I am purporting to measure, is enhanced by the richness of detail of the data, which was collected over a fairly long time period, from students with whom I was in constant interaction. The fact that the data comes from a variety of sources and perspectives lends an important element of triangulation. Although student journals would seem to be resistant to measures of reliability, being almost entirely subjective, Van Lier (1988) claims that studies using them have elicited much useful data for understanding learners' cognitive processes—probably due to the likelihood that "there are many parallels between interpersonal and intrapersonal interaction, when both are aimed at reaching an agreement or accommodation between the cognitive apparatus inside the person and the outside world" (Van Lier, 1988, p. 83).

I make no great claims to external validity, or generalizability to other contexts. Rather, my aim is to contribute to the understanding of pedagogical processes by means of a rich and authentic collection of data, or what Edge and Richards (1998) call "a genuinely inhabited statement. . .not idiosyncratic to the researcher. . .[but] informed by the experience, perceptions and interpretations of others". My hope is that such rich contextualization will allow for "resonance" with the experience of my readers, thereby permitting comparison with—or even elucidation of—their own situations.

3.6 Participants

3.6.1 Selection

All participants were ESOL students at the public high school in Philadelphia where I work. Although they were classified as Advanced, they represented a fairly wide

spectrum of linguistic skill and ability. All but three were students in classes I was currently teaching. Most were African, Haitian or Vietnamese, ranging in age from fourteen to about twenty. While all class members did the same activities, those designated as "participants" were students who had agreed to allow me to use data from their group participation and individual work in the study. Groups were a mixture of dyads and triads.

I originally set out to select participants according to the following criteria: (a) overall language ability, including knowledge of vocabulary, (b) sufficient oral fluency to get fairly complex ideas across, though not necessarily with a high degree of accuracy, (c) willingness to contribute to group work, (d) demonstrated ability to utilize pre-taught skills and strategies, (e) some grounding in basic lexical principles, including simple parts of speech and context clues, and (f) interest in being part of the study. For the pilot study, I administered the Language Assessment Battery, a test widely used by the School District of Philadelphia to determine levels, to assess the first two criteria. However, I ultimately came to rely more on concrete observations as to which students had the requisite skills and were motivated to work. As it happened, there were not enough qualified students in the one small Advanced class I had that year; even some of the six I chose fit the criteria loosely at best. Fortunately, I was able to add three former students whose class coincided with my lunch period; the data from this group was the most useful in that it showed the most focus and careful thinking about word meanings.

For the final study I used basically the same criteria, replacing the LAB with a diagnostic levels test that had been given to all students. Again, however, it was my practical experience which proved to be the best indicator. Although I now had three Advanced classes, I was able to tell easily from diagnostic scores, classwork , and attitudinal factors which ten students would be the most suitable. The choice was made

easier by the fact that I had decided to exclude seniors, whose school year was slightly shorter than that of the others.

3.6.2 Grouping

Although I had developed a fairly detailed set of criteria for assigning the participants to groups (including mixed ethnicity, ability levels and social considerations), decision making proved to be a fairly simple process. In the pilot study there were three triads, one of which consisted of my three former students. I decided to divide the remaining six (of whom four were Vietnamese, one was African and one Haitian) so that each group had one non-Vietnamese student, and one with stronger skills than the others. The grouping was as follows, with the stronger member listed first:

Group 1 (former students):

Thai (Vietnamese, Age 17)

Lee (Vietnamese, Age 17)

Senait (Ethiopian, Age 16)

Group 2:

Samuel (Eritrean, Age 19)

Kim (Vietnamese, Age 18)

Trang (Vietnamese, Age 18)

Group 3:

Mai (Vietnamese, Age 18)

Ho (Vietnamese, Age 18)

Louisa (Haitian, Age 17)

In the final study, again, division into groups was not a complicated matter. I now had three classes to choose from instead of one the previous year. In each of the first two, the only three students to meet my criteria formed themselves naturally into a triad. The third class had four participants; I easily formed two dyads by separating a sister and brother, and allowing the sister to work with her best friend—something that would not have worked well in all situations, but which seemed to be called for in this case and in fact proved to be a very fortunate decision, for reasons which will be described below.

3.6.3 Descriptions of Participants (Final Study)

GROUP 1 (1st Period class):

Mariam - Mariam was 17 and had been in the U.S. for two years, less than any of the others. Her reading and writing skills were very low when she first arrived since, as is the case with most students from her country, her education had been continually interrupted by war. Nevertheless, being strong, outspoken, and determined to become a doctor, Mariam worked hard, read constantly, and moved up to Advanced ESOL rapidly, though still with some major gaps in her knowledge. Mariam seemed to enjoy interacting in a group quite a bit, and often made very thoughtful contributions.

Yasmin - Yasmin, a 16-year-old girl from Eritrea, had fairly good skills. She had lived in the U.S. for four years and seemed to be the most "Americanized" of all the participants. Outgoing to the point of being brash, Yasmin was well-versed in street talk and almost seemed to enjoy provoking people with her clever, somewhat "smart-alecky" sense of humor. Though she tended to wander off-topic fairly often, she was capable of making quite insightful comments when focused on the task.

Ruth - A Haitian young lady of grace and sophistication, Ruth, 16, was the deep thinker of the group. She had been in the U.S. for four years. In addition to excellent language skills, she seemed to have the best grasp of the subtlety and complexity of the thinking that was being called for, and constantly tried to get the others to press on beyond obvious answers. She also took most of the responsibility for keeping the group on-task.

GROUP 2 (3rd Period class):

Duc - Duc, a 15-year old boy from Vietnam, had come to the U.S. three years earlier. He was a voracious reader and prolific writer, who would often write page after page in his journal about books that interested him. His oral skills, however, were not

nearly as developed, and he was very uncomfortable about working in partners or groups. His contributions were brief, and given very reluctantly.

Martin - Martin, from Ethiopia, was the "baby" of the class at 14. He had been in the U.S. for four years. Despite his playful and talkative nature, he was bright and hard-working, with fairly good language skills. Having Duc as a partner, however, was a major challenge that at times seemed to tax him to the limit.

GROUP 3 (3rd Period class):

Helen - Helen, 16, was Martin's older sister, and had also come from Ethiopia four years before. Her skills were slightly lower than his. Though I considered her knowledge "borderline" for purposes of the study, she was extremely interested in the tasks and wanted very much to participate.

Anna - Anna was 16 and from Eritrea. She had been in the U.S. for four years, but had such low skills that I wondered if she should have been in the Advanced class at all. I never would have considered her as a participant, and probably would not have included Helen either, were it not for the fact that the two of them really "caught fire" when working together. The two best friends seemed to be tremendously energized not only by the challenges of the task, but also by the opportunity to interact with each other in a new and interesting way.

GROUP 4 (7th Period class):

Reine - Reine, a 15-year old girl from Haiti, had been in the U.S. for three years. She was a serious student with good skills who was also an avid reader and an aspiring writer. Reine appeared to enjoy the challenge the tasks presented, and thought deeply about them. Apart from her sophistication, she had a gentle, pleasant manner and seemed to get along well with all kinds of people.

Felipe - Felipe, 15, had just come from Costa Rica and was undecided about staying in the U.S. He was a good thinker with broad general knowledge who was quite proficient in all skills. Like Reine and some of the others, he clearly enjoyed having to do tasks which required him to think in new ways.

Kim - Kim, a 16-year old boy from Vietnam, was bright, sociable and outgoing. He had been in the U.S. for three years. Unlike Duc, who also had trouble pronouncing English clearly, he did not seem to be overly self-conscious about his speech, and participated in his group with great enjoyment and enthusiasm. As a whole, the three students in this group seemed to revel in the opportunity to engage in intelligent conversation with others of similar ability and motivation. Their talk was interspersed with a lot of laughter.

3.7 Materials

3.7.1 The Tasks

One of the more extreme instances of metamorphosis taking place within the study as a whole was the process of choosing which tasks to focus on. My original intention was to include a wide range of tasks, varying according to whether they (a) were closed or open (i.e., with or without a predetermined solution), (b) called for specific "information-gap" or open-ended input, (c) provided students with definitions, context clues or both, (d) assigned formally structured roles to the participants, and (e) required presentation of the outcome to the class. The wide variety of activities I envisioned at the outset—impossibly wide, as I later realized—involved various types of pictures, dramatic texts, cloze stories, a series of songs, thematically interrelated poems, and contrasting subjective and objective states in poems. I planned to use five or more tasks, embodying a balance of the variables mentioned above.

As a concession to reality (including my revised time frame), I narrowed the pilot study down to four types of tasks, covering only variables (a) and (b) above. I decided it would be better to keep things simple by eliminating context clues and using only definitions. As for assigning roles, I felt that the groups were too small, and that doing so might hinder natural communication. The decision not to have students present their results to the class was made partly to save time, although in retrospect I realized that doing so, or at least having them write explanations for their answers, might have brought some much-needed focus to their work.

In all tasks, I tried to choose target words that the students would find interesting and want to use. The majority of them are related to human qualities and states of mind; each is sufficiently abstract in nature to allow for some degree of ambiguity and preclude a specific concrete referent. They require the participants to start with dictionary definitions, then consider the context to decide which word fits best. Some of the tasks (though not those chosen for the final study) allow for more than one possible answer.

The tasks used during the pilot study were as follows (only those used in the study are shown in the Appendixes):

1. A series of four poems in which one word was missing and was chosen out of four possibilities. All of the poems used fairly straightforward language, without unusual uses of words, double meanings, or undue complexity (see Appendix A. p. 227).

2. A short cloze story describing a painting by Norman Rockwell. The five target words were to be placed in the appropriate spaces.

3. A list of words describing characters in *West Side Story*. By drawing on their knowledge of the play, students decided which character was being described, backing up their answer with a specific reference and an explanation. There could be more than one acceptable answer for each word.

4. A series of postcards of paintings depicting a variety of types of people. Students had to match pictures with a list of target adjectives. Here too, different answers were possible.

For the final study, the tasks actually performed were basically the same, with a few changes:

1. A series of nine poems, graded in difficulty (see Appendix B, pp. 231-235). Four of the eight earlier poems had questions intended to help students discover how the words were related (see Appendix C, p. 236). The final poem incorporated elements of the earlier ones, contained two missing words rather than one, and came with a list of definitions in order to save time and limit the focus to interrelated meanings. I also made up a general guide sheet to demonstrate different types of meaning relationships in poems (see Appendix D, pp. 237-238). For extra practice, I gave a homework assignment, later discussed in class, which called for picking out interrelated words in three extra poems (see Appendix E, p. 239). The students also worked individually on the four tasks from the first year (see Appendix A, pp. 227-230).

2. The cloze story became an "extra" task; it was done towards the end, by only two of the groups.

3. The literature vocabulary task was basically the same, but was taken from *The House on Mango Street,* the book we had read that year.

4. The postcard task was refined so that each student had a list of specific words to be matched with pictures belonging to the entire group. Since no two students could choose the same picture for their word, it was necessary to negotiate whose word best fit a particular picture.

What constituted the most radical departure, not only from the pilot study but also from how I had originally envisioned the final study, was the fact that I eventually decided

to use only the transcripts from the poetry tasks. I considered these tasks the central part of the study, and the data they provided was so rich and detailed that it soon became clear that in order to do them justice I would have to narrow the focus to what eventually became more of a microanalysis.

3.7.2 Instruments for Evaluation

3.7.2.1 Stories

After all tasks were completed, some of the groups collaborated on stories which incorporated many of the words that had been learned.

3.7.2.2 Questionnaires and Interviews

Each participant was given a confidential written questionnaire to assess such things as how much they felt they had learned, how they felt about working in their groups, and how well they thought the study had affected their knowledge of vocabulary (see Appendix F, p. 240). It consisted of a series of 22 statements, rated on a five-point scale. Similar questions were asked in individual interviews, allowing for a wider range of feedback (see Appendix G, p. 241).

3.7.2.3 Guidelines for Learning Journals

These were designed to provide a framework for students to think about how well they and their groups had worked on a particular day, what they felt they had learned, problems they had encountered, and feedback on the task itself. Students were told to use the guidelines as suggestions for their writing, and not to feel they had to answer every question. The last question, intended to detect possible scaffolding, asked whether they remembered repeating words or phrases they had heard others use in their speech (see Appendix H, p. 242).

The next chapter will present the data from the study in two ways. The first

The next chapter will present the data from the study in two ways. The first section consists of an ethnographic account of the process as a whole, introduced by a metaphorical model; it includes a description of the individuals who participated from an approximation of their own perspective, and the unique story of each group as I saw it unfold over time. The second part covers (a) categories derived from the transcripts of group work, arranged according to cognitive, group and affective/social behaviors; (b) positive and negative behaviors (in terms of what seemed most effective in solving the problems in the tasks); (c) my own role in the process; and (d) student perspectives as given in questionnaires and interviews.

CHAPTER 4
DATA ANALYSIS

4.1 Introduction: The Expedition – A Metaphorical Overview

Although the undertaking I am going to describe here might seem foolhardy to some, it was something I felt would be a valuable challenge for myself as well as my students. I knew from the outset that, whatever the outcome, the lessons gleaned would prove to be important on many levels.

My project was to lead several groups of students on a difficult climb up a steep mountain – definitely not the sort of mountain usually attempted by students at their level. None of them had ever made such a climb, nor had I ever led one. Still, it was important to me to present them with this opportunity, for I believed there were things they could learn this way that they would never get on easier walks.

The first year, only one group ever made it more than half way. The skills I'd thought would prepare them for the climb were not the ones I later realized were the most important. The second year, utilizing what I had learned the previous year, I prepared my four groups carefully for the climb by taking them out on trails that would give them some idea of what they were in for. There were uphill climbs on which they could build their muscles, and which called for some of the skills they would need later. I provided practice in working as a team, and in using the ropes and pitons that would be needed for much of the climb. Once we began the actual ascent, I gave them a lot of help at the beginning. Although I stayed close by and continued to assist them in some ways, the idea was for them to eventually become as self-sufficient as possible by assimilating and applying what I had taught them, and by helping one another. Still, it turned out that they needed some extra assistance at the final leg of the journey, which proved to be especially steep.

Naturally, for such an undertaking it was necessary to choose the participating groups carefully. The four groups that finally materialized turned out to have entirely different personalities and dynamics.

4.2 The Groups

[Note: The following subjective accounts, while based on actual data, are fictitious. In keeping with examples found in Ely, et. al., 1997, I have attempted to arrive at an approximation of the students' perspectives using (a) their own accounts as given in their learning journals, questionnaires and interviews; (b) data from the transcripts; and (c) my own observations and personal interactions with the students throughout the school year, though especially during the time of the study.]

4.2.1 Group 1: Reine, Felipe and Kim

This group hit it off really well and enjoyed each other's company tremendously. They were all interested in the climb, and seemed genuinely glad to be in the company of others who took it as seriously as they did. Although they would occasionally take breaks (including one long one) during which they stopped moving and just sat around joking and talking, I believe this ultimately proved more helpful than otherwise, since it seemed to build solidarity and good feeling among them, and energize them for the steep climb ahead. Because they were in good conditon and got along so well, they probably could have made the ascent fairly rapidly had it not been for their tendency to misinterpret some of my signals, which led them to wander off in some unfruitful directions. Another somewhat limiting factor was that one group member was able to see well ahead toward where they were going, while the other two – one in particular -- tended to focus more on the immediate surroundings.

4.2.1.1 Group 1: The Participants -- A First-Person View

Reine (Haiti, Age 17, 3 years in U.S.) Finally, something I can sink my teeth into! School is often pretty boring for me. I'm interested in people, ideas, poetry, imagination, interaction, making things happen. I want to explore everything there is, learn to be a leader—and if I can manage to gain the confidence that I'm good enough, I want to write a novel! Needless to say, most of my classes aren't geared toward people like me. You sit there and listen to the teacher, maybe have some discussion. . .but it's basically pretty limited.

You can imagine how excited I was when we started doing this group work in ESOL. Real thinking, real interaction, getting to hear other people's opinions, working with partners who are serious students like myself! Felipe's really good; like me, he resists easy answers, and really thinks about things before offering an opinion. Kim I'm not so sure about—sometimes I think he wants to decide on an answer just to have it done with, though he probably did this more at the beginning than he does now/ Also, I sometimes have a little trouble understanding him.

The tasks really intrigue me. To show you what I mean, I had to miss the class where Ms. Schulte gave some practice tasks to be done individually. I came and got them, then worked on them at home for a long time. I knew Ms. Schulte probably didn't expect me to work so hard on them, but I really enjoyed the challenge! I kept coming to see her to find out if I had the answers right.

I think group work helps you get along better with other people. Not only that, but we really have fun together as a group; if you listen, you can hear us laughing a lot! I really value the time we spend together – I just don't have that kind of interaction with most of my friends on the outside, though I wish I did. Sometimes we have too good a time; we start talking about other things and I have to make them stay on the topic. One

time Ms. Schulte was busy getting some of the kids ready to read their poems for the Creative Writing program in the library, and the three of us just talked and talked for about twenty minutes, mostly about our favorite foods! That's the only time we went that far, though – and we did work really well for the rest of the period! I've found that when we really pay attention to what we're doing, we can finish a lot faster. Well, maybe not with the final task, "Heavy Summer Rain"—that took a really long time even though we were focused. It was hard to decide between two answers because they both seemed to have a lot of key words, though at the end I could see that one of them really did fit better.

Felipe (Costa Rica, Age 16, less than one year in U.S.) This kind of work is very new to me – in fact the whole school system in the U.S. is new to me. Luckily, I learned English well enough back home that I'm able to handle most of my subjects pretty well, though I don't find most of the work very interesting.

What we're doing in ESOL now is OK, though. It's good being with kids who are smart, funny, and interested in things like myself. The tasks are a nice challenge, and they're about vocabulary, which is what I particularly want to learn. I really get into doing them right—I think carefully about the words, and try to make sure my group doesn't make any decisions before we understand all of them. My main problem with the tasks is that I don't like poetry, and sometimes I don't understand everything about the poems—although I know I understand them better than Kim, who only works on the level of individual words and never sees the whole picture. I think he tends to be a little lazy, too. When we were first getting started with the tasks and I was working just with him, he agreed to whatever I said, not because it was right but because he didn't want to work! I knew then that I was going to have to make him work so I wouldn't have to do everything myself. One time I got really annoyed was during the "City Park" task when Reine asked, "Why those key words?" and Kim answered, "Because all these words are related

to it." Of course they were related if they were the key words – we were supposed to explain *why!* I was pretty annoyed, and let him know how I felt. Finally Reine came up with an explanation. Reine's really good, though sometimes she gets too analytic, too caught up with slight discrepancies in meaning instead of seeing the bigger picture like I do.

Another thing that bothers me a little is the kind of help Ms. Schulte gives us. Sometimes it seems like she's telling me something is wrong, then it turns out later she was just raising questions to make us think. Why can't she just tell us if something is right or wrong like other teachers?

I'm willing to work hard when I'm in class, and I like the interaction, but I don't like having to write learning journals afterwards! In fact, I don't like having to write at all. Action is more where it's at for me – especially playing soccer!

Kim (Vietnam, Age 16, 2 years in U.S.) I'm really having fun in ESOL these days! I'm getting to work with two kids who are not only smart, but like to have a good laugh like I do! We always have a good time, and I look forward to the time we spend together. We don't have any big problems because we listen and understand each other pretty well. I wish I could do this more in my other classes – it's something I need. Another thing I like about Reine and Felipe is that they help me understand these confusing poems! I have a lot of trouble with that, although I find a lot of the new words very interesting, and really enjoy thinking and learning about them. Of course I help them too, like sometimes giving them advice they need. I could help more if I had an easier time explaining what I meant. Sometimes I know a word is the right answer, but I don't give my reasons and the group just goes on to something else. One time Ms. Schulte made me explain, and made sure the others listened to me—and I found I had a lot to say! It's all a bit of a struggle, but I feel that my work is getting better in a lot of ways.

The only problem with Reine and Felipe is that they take so long to find the answers. They'll just go on and on debating these small points, when it's clear to me what the answer is (well, OK, sometimes I'm wrong!). They always seem to be changing their minds and bringing up new things to think about, when I'm trying to narrow things down and finally decide on an answer. Something else I don't like is having to write learning journals!

4.2.1.2 Group 1: My View

It wasn't difficult to form these three into a group; they were the only three in their class who had the necessary skills and weren't seniors. As it turned out, it was quite a fortuitous match. They enjoyed working together from the very beginning, laughed a lot, and never had a serious disagreement. I could tell that they looked forward to their time together, seeing it as an opportunity to engage in the kind of stimulating sharing that was probably lacking in their outside friendships. As I noted in my project journal, even when their off-task talking became excessive, it seemed to serve a good purpose:

> They rambled on about lobster, and various other kinds of foods they liked, for about 20 minutes! They were taking advantagae of the fact that I was busy preparing kids to read their poems at the Creative Writing Festival this afternoon. When they did get back on task, though, they worked extremely well – and on balance I strongly suspect that the digression had a *positive* effect in building solidarity and team spirit. There was a lot of sharing and laughter. These three bright, motivated kids really relish the chance to work together – like Helen and Anna, except that they're not friends outside of school, so this is their *only* chance to be together. (project journal, 5/15/98)

This group really stood out on the four practice poetry tasks that the students did individually. Reine was on a trip when I gave them out, but got them from someone and worked hard on them on her own at home. She came to see me during lunch, genuinely interested and eager to meet the challenge. Instead of direct feedback, I gave her hints about where she was on the wrong track, and she seemed to enjoy that. When we went over the tasks in class the next day, Felipe was one of only two people in all three classes

to have guessed 'cadences', the answer that gave even the best of last year's groups so much trouble! (The other one was Mariam.) Kim got 'implosions' and all the others except 'cadences'. Interestingly, Reine didn't do as well.

On two occasions, the work of the group was slowed down because they had misinterpreted things I had said to them. In "City Park" (see Appendix B4, p. 234), they wrongly remembered my telling them that 'timidly' was not the answer, and decided instead on 'relentlessly'. Doing so involved them in some twisted logic – the idea of trapped, bent and weary trees acting 'relentlessly' – from which I had to disentangle them. Felipe was the first to see the fallacy, and Kim the last. On the second occasion, in "Heavy Summer Rain" (see Appendix B5, p. 235), they had just arrived at the correct answer for the first part, 'toppled'. I told them to look for key words in other parts of the poem that might fit in with it, explaining that *if* it was the right word, they should be able to find several key words. Felipe and Reine took that to mean that their answer was wrong, though Kim defended the answer for the time being. Eventually they had all convinced themselves that 'metamorphosed' had more key words – focusing only on the idea of *changes in shape* while ignoring the obvious fact that most of those changes had to do with *falling over!* It took them several class periods, and a lot of scaffolding from me, to correct the misconception. To keep them from jumping to conclusions again, I was very restrained about the feedback I gave them, hoping they would keep their options open until they were certain of the answer.

Reine caused problems for herself and the others by focusing in too narrowly on individual words, and not looking enough at the patterns in the poem as a whole. In "Wondering" (see Appendix B3, p. 233), she was too concerned about the lack of relationship between 'greedy' and 'bustling' to see the general pattern of *busy movement* that Felipe was trying to point out to her. In the second part of "Heavy Summer Rain",

(see Appendix B5, p. 235) she confused 'wildly' with 'widely' – then proceeded to ignore all of Felipe's convincing evidence for 'blustering', which was the correct answer. She later apologized.

4.2.2 Group 2: Ruth, Mariam and Yasmin

These three were all strong and capable climbers who often gave each other wonderful support, enabling the group to reach great heights fairly quickly. On other occasions, however, they tended to give up easily and lose energy. It was Ruth who would spur them on at such times -- and also, along with Mariam, kept them moving forward when they would tend to wander off on side trails. Ruth also found herself frequently settling disagreements between the other two; these tended to impede their progress considerably and keep them from giving each other needed assistance.

4.2.2.1 Group 2: The Participants -- A First-Person View

Ruth (Haiti, Age 16, 3 years in U.S.) For some reason, I always wind up being the strong one who holds things together for other people. A lot of the time I'm the only one really thinking in my group; Mariam and Yasmin sometimes give up too easily and settle for easy answers, though I think maybe they got a little better toward the end. Also, it takes a lot of patience to deal with the way they speak, which is less clear than the way I do. An even bigger problem is Yasmin's attitude – a lot of the time she gets smart-alecky, even nasty, and just won't work with me and Mariam. Mariam gets caught up in it too, and lets it distract her from our work. This puts a big dent in our communication, and really cuts down on our effectiveness. There have been times when I've really wanted to say something but just couldn't manage to get it out because of all that stuff going on between the two of them.

Well OK, it's not that way *all* the time. Yasmin has learned to talk a little more slowly, and there are times when all put our heads together and move along really fast.

They're both pretty smart – if we could work that well all the time, we'd be amazing! I especially like how Mariam always looks up words she doesn't know; this has rubbed off on me and Yasmin, so now we all look at all the definitions first and keep them in mind. Despite the difference in how we speak, Mariam and I usually communicate well and help each other understand the tasks – though there have been times when I've felt she wasn't listening to me very well. As for me, if I'm not sure of something, I always make sure to keep asking questions till I'm sure I understand and can get it right. Ms. Schulte told us to listen to each other, and not let anything get by that we don't understand. I took that seriously.

Though I thought the tasks were easy at first, they've gotten a lot more challenging, and once or twice I was really stuck. But when we put our heads together we're able to solve them, and I really like them on the whole. I especially enjoyed the poem with "sweet attic of a woman."

I think one reason I'm able to smooth things out so well in the group is that I give my whole mind to my partners, and all my attention. For a while I was really managing to keep things from getting too nasty between Mariam and Yasmin – but then I had to stop coming because of the transit strike, and things finally blew up between them!

Mariam (Liberia, Age 18, 3 years in U.S.) I grew up in Liberia, where I didn't get a very solid education due to the constant wars that were going on. Since I want to be a pediatrician, I've been working hard to make up for the gaps in my literacy skills ever since I came to this country. One thing I really want to learn to do is think better – and I find that working in the group helps a lot. When my partners explain their answers, I get ideas, and I really like that! Sometimes I come up with some pretty good ones on my own, too. Other times I need help figuring things out, and I'm not afraid to ask for it. I also try to make sure we keep reading things over till we really have something to base an answer

on. Once Ms. Schulte got mad at me for not knowing the meaning of an important word, so now I try to make sure we look up all the definitions for the words we need!

Ruth and I communicate well just about all the time. She's patient when she doesn't understand what I say, and always asks questions when she's not sure about something. That really helps us solve the tasks. When Yasmin and I are getting along, we can communicate effectively too, but there are two major problems. For one, she sometimes kids around too much and gets us off the task. The other is that she can get downright nasty; it's like she teases me on purpose, and I find that really annoying. Towards the end of the year, when Ruth stopped coming because of the transit strike, Yasmin and I had to work together alone -- and without Ruth there to smooth things out, it turned out to be a disaster! The tension that built up in the group carried over to outside of class, and we almost had a fist fight.

Yasmin (Eritrea, Age 16, 5 years in U.S.) I really like learning in a group, all working together to understand something. I've been learning that three brains are better than one – I mean, if you have three brains you get to have three different sides.

On the whole we don't have a lot of problems relating to each other. . .well, I do sometimes have a problem understanding what Mariam is saying, but Ruth helps me with that. Sometimes also it's hard to communicate with Mariam because she doesn't know what we're talking about; we have to explain things very slowly. On the whole, we manage to solve all our problems by communicating with each other and trying to understand. I work very hard to come up with answers and help my partners with some of the meanings; it also helps that I already know a lot of the words they're not familiar with.

I'm getting better at this. I'm good at making connections, and sometimes I get really excited when I'm finally able to find an answer we've been wondering about for a long time. I'm bored some of the time, but that part I love! Besides that, I contribute a lot

by explaining why I chose an answer, finding key words, and telling how they're related to each other. I especially liked "Thel" because I could relate to the word "attic"-- when my parents used to fight all the time I used to go up to the attic and turn on the radio! I'm really getting into figurative language, and understanding how it works!

Mariam has improved, too; I can really understand what she's saying now. I just wish my partners wouldn't get so upset about the little disagreements we have; I just like to have fun and keep things lively. Mariam takes things too personally.

4.2.2.2 Group 2: My View

When they were at their best, this group was phenomenal. On the other hand, a number of things kept interfering with their efficiency. Most noticeable was Yasmin's rather flip, smart-alecky sense of humor – what Mariam referred to as her 'attitude' – which the others found distracting, abrasive, at times even offensive and insulting. Usually Ruth would good-naturedly chuckle at her witticisms, then try to get the discussion back on track.

A combination of factors contributed to the group's efficiency when things were going well. Probably the single most valuable was Ruth's single-mindedness in keeping the focus, refusing to accept answers that hadn't been thoroughly discussed and justified, and raising questions about anything she was unsure of. Yasmin's contribution was a sharp mind which, undoubtedly aided by her fluency in English, enabled her to see and explain many connections; she also seemed to develop the best grasp of figurative language. It was Yasmin, too, who seemed to take the greatest delight in finally coming up with an elusive answer. Mariam helped things progress mostly by helping keep Yasmin on track, insisting on looking up needed definitions, and continuing to ask questions when she wasn't following the group's train of thought.

Such questions came up fairly frequently. Though extremely intelligent and motivated, Mariam was still in the process of closing the literacy gap between herself and other students who had received better early education. She did seem to do a lot better when given detailed explanations and a lot of time to think; in the four "extra" poetry tasks which the students did individually, she came up with some answers which most of the others found very difficult. One area in which she disappointed me was writing learning journals, of which she only did two. Interestingly, too, though she never mentioned it in her learning journals, I learned during Ruth's interview that she had felt frustrated with Mariam as well as Yasmin. She said both of them often didn't pay attention to the task when they were mad at each other, and didn't listen to her well at other times either. She added that Mariam tended to be impatient and short-tempered, though I'm convinced from hearing the tapes that Yasmin was mainly at fault here!

Though they were a lot fewer in number, Ruth had her own imperfections, and one of them – overconfidence -- caused a big block of the group's time to be wasted! Here is a description of an event from my project journal:

> I've located a potential source of further serious errors, and am determined to prevent its reoccurrence! I told the first period about the tape I listened to on "City Park" (5/14), where Ruth stated authoritatively that 'timidly' means "like you have an attitude or something." Everyone assumed she knew what she was talking about, and they proceeded to dismiss that as one of the possibilities. Yasmin finally did look it up and read out the correct definition, but at that point nobody listened to her because they were discussing 'tenement', and thought she had 'timidly' confused with that word. Because they never stopped to think about what she was saying and why, they lost their opportunity to correct the wrong definition Ruth had given them earlier. The rest of their session was spent running around in circles, trying to make square pegs fit into round holes! And the task really wasn't all that hard. All the other subject groups got it, and most of the rest of the class. I'm sure they wouldn't have had any trouble with it if it hadn't been for that careless mistake.
>
> I told them from now on, they can't just take someone's word for it. They have to look up *all* the target words, whether or not they think they know them. (project journal, 5/20/98)

4.2.3 Group 3: Martin and Duc

Martin and Duc were an unlikely pair in many ways. While Martin started out as an enthusiastic climber, he quickly became exasperated, bored and discouraged by Duc's lack of participation. Duc seemed intimidated by the climb; Martin ended up doing almost all of the work himself, and soon tired of pulling his partner up the mountain. Duc did improve his climbing skills somewhat by the end, but this was clearly a painful and frustrating ordeal for both boys.

4.2.3.1 Group 3: The Participants -- A First-Person View

Martin (Ethiopia, Age 14, 4 years in U.S.) This is both an exciting adventure and a horrible ordeal at the same time!! The work is completely new to me, and really interesting. I'm the youngest here; I like to play around a lot, and as a ninth-grader I'm still getting used to the more serious tone of high school. But I also have a quick mind and enjoy a challenge, especially if it's something I've never done before. A lot of the kids thought this stuff was pretty weird, but I think it's fun! I like the poems, even though it takes me a while before I really understand some of them. I like the new words we're learning, too. I thought some of them were way too hard at first, but I'm finding out I can do it – you just have to make sure to look them all up!

The main problem is my partner. Why did Ms. Schulte have to pair me up with a Vietnamese kid who hardly ever says anything, and who I have trouble understanding even when he does? Ms. Schulte kept telling us to work together, share our ideas, think together, listen to each other....All this is fine, but how about if your partner refuses to cooperate??? I have to do all the work for both of us, and even so we're not doing it the way we're supposed to.

Sometimes when it's really driving me up the wall I can act pretty strange. I think Ms. Schulte likes it when I kid around, but when I'm frustrated like that it really gets to be

too much and she gets annoyed. A couple of days I was really tired, too, and that made it worse. I just couldn't concentrate and keep plugging away at it the way I was doing before. Ms. Schulte caught on about how tired I was and asked my sister Helen if she knew why. She had to spill the beans about how Dad was working nights and I was staying up late watching TV! Well actually, I'm glad that happened, because after that I started working better again.

You should see me when I'm at my best! I really put my mind to it and come up with some good answers, though a couple of times I've gotten the feeling Ms. Schulte didn't understand my answer, or maybe she didn't think hard enough about how it might fit. Also, when I'm at my best I try really, really hard to get Duc to talk. When I ask him to talk louder I can usually understand him better. Sometimes I think I know what he wants to say and start to say it for him; I think that might help him a little too.

Anyway, I know Ms. Schulte appreciates what I do. My grade is important to me, and I know it's going to help with that!

Duc (Vietnam, Age 15, 2 years in U.S.) This has not been a comfortable experience for me *at all.* I've never had to do anything even remotely like these tasks before, and it's been very difficult to try to adjust and do what's expected of me. To start off, I was scared that a lot of people were going to hear the tapes and know it was me. I only just found out that I heard wrong, and it wasn't true. Meanwhile, the fear was adding to my natural shyness, inability to express myself well in speaking, and lack of experience with this kind of task.

When Ms. Schulte assigned me to work with Martin I just didn't know what I would do! He kept talking on and on – one time I even told him to shut up! It was torture for me to have to sit there and listen to him. Sometimes he'd get impatient with me for not saying anything, and put me down – he seemed to be kidding, but I knew he mostly meant

it! As time went on, though, I saw how good he was at doing these tasks, and started appreciating him more – especially when he was able to get me to talk more. Sometimes I had really good hypotheses, and I think him pushing me to talk might have encouraged me to get them out. I'm not always that good at explaining things – in fact, most of the time I don't even try. But Martin has helped me with that too. Sometimes he seems to know what I'm trying to say, and helps me say it.

4.2.3.2 Group 3: My View

In one sense, Martin and Duc were grouped by default, since I definitely wanted Helen and Anna to work together and they were the only other two subjects in that class. From the beginning I sensed that although it was a good tension between opposites, the difficulties would not be minor ones:

> This group's ability to function smoothly and communicate easily is going to have to be built up. Martin is loud and talkative, and not always a good listener. His thinking is quick, but not always on target. Duc is a good thinker, but quiet, lacking in fluency, and slow to put his thoughts into words. He's also easily intimidated by people like Martin – in fact, he's not at all overjoyed about working with him at this point. I assured him, though, that we'd work on getting Martin to quiet down some and listen better. (project journal, 4/23/98)

I was counting on Martin helping to draw Duc out and help him get more comfortable with group work. As it happened, he did succeed in drawing him out to some extent, but the process was anything but comfortable. Duc would "clam up" for extended periods of time, and Martin would be driven up the wall in an effort to engage him in meaningful discussion. Fortunately, even at the height of frustration he almost always kept his wonderful sense of humor. Though I once heard him going on about how he wished he were home, his feelings emerged mainly in the form of mock put-downs, silly rhymes and songs, and other forms of humor unique to bright, upbeat 14-year-olds.

For Duc, meanwhile, his initiation into group work was very much of a baptism by fire. Although Martin did try to tone down his natural talkativeness, at least much of the

time, Duc appeared to find it overwhelming and annoying. Especially at the beginning, it may have even contributed to his reluctance to talk. Here is another excerpt from the early days:

> It's hard to hear Duc, so I tried to get him to speak up, and to hold the microphone. Then he wouldn't make the connections between his hypothesis and words in the poem. When asked, he'd just read lines from it, with no attempt at an explanation. Martin was getting impatient too; he tries hard to explain things. I tried having them repeat each other's explnations, but this had only limited success because Duc wouldn't say anything that could be repeated. (project journal, 5/11/98)

As it happened, there was another reason for Duc's reticence as well. In his interview at the end, Martin informed me that Duc had misunderstood my explanation of the project, and thought that the tapes would be listened to by many people. He said Duc was much more comfortable speaking with him outside of class.

As the tasks progressed and Martin continued his efforts, Duc became a little more willing to offer hypotheses -- even some fairly adventurous ones – and at times even attempted to explain them. On several occasions he appeared to be thinking about things more carefully than Martin. Martin became very solicitous towards him, holding the microphone for him, trying to draw him out, prodding him, helping him express his thoughts (see Section 4.3.8, pp. 135-136), and, towards the end, even praising him for being smart.

4.2.4 Group 4: Helen and Anna

Neither Helen and Anna ever seemed like the type to climb a steep mountain. In fact, I'd never even considered them as candidates for the trip, lacking as they were in the muscles and basic climbing skills which I considered prerequisites. Nevertheless, during some of the preliminary exercises involving the whole class, this pair of best friends made the discovery that mountain climbing, especially as a team, was something they loved doing – and begged me to be included in the expedition! As it turned out, they proved in

some ways to be the best climbers of all: they made a real attempt to follow the rules and guidelines closely, worked closely together, and kept each other from becoming discouraged by the rigors of the climb, which were considerable for both of them, particularly Anna.

4.2.4.1 Group 4: The Participants -- A First-Person View

Helen (Ethiopia, Age 16, 4 years in U.S.) It was so neat, the way we got into this. The whole class was working on the first task, and Ms. Schulte was trying to choose who her subjects were going to be. She probably never thought either of us could do it, though I was pretty sure she'd pick my brother Martin. Anna and I were struggling along on the task – it definitely wasn't like anything we'd ever done before – and there was this guest in the room who worked with us and helped us along with it. What an amazing feeling it was when we caught on! And not only that, but it was really great to interact with each other in a whole different way. We're good friends and talk a lot, but this *thinking* together was a whole new thing! After that I really knew I wanted to be in on the study. I practically begged Ms. Schulte to let us be a group, and she agreed. Anna probably didn't want the challenge as much as I did, but I think she was into it a little bit -- and anyway it was a chance for the two of us to keep working together.

Anna and I are so close that it comes easily for us to think together and help each other. There's a lot Anna doesn't know -- in fact, sometimes she can't even read the simplest words. I know she'd never have been chosen as a subject just by herself. I help her understand things a lot, though there are also times she sees things that I don't. There were a lot of answers we didn't get, but also some that we did, and I know that's because we worked well together and tried hard. We always stayed on the topic, never argued (except in fun), looked up all the words, did really careful learning journals (*I* did, anyway), and were really determined to do well. I think there was even a time when

Martin, in one of his weird moods, tried to steal our answers, and Ms. Schulte had to move him! Being friends and being willing to really communicate helped a lot. We solved a lot of problems when we stopped arguing, listened to each other, and became more understanding of each other. I'm glad she's my partner as well as my friend.

I have to admit I was bored with this class before we started doing these tasks, but now it's fun for everyone, and I'm learning a lot about words and how to think about them in context. I'm also learning that helping someone who doesn't understand is a good feeling!

Anna (Eritrea, 16, 4 years in U.S.) Well, those tasks were definitely some of the hardest things I've ever had to do in school, but to my amazement we actually came through OK. Thank God for Helen – I don't think I could have done it with anyone else. But our natural communication was a big help -- I asked questions when I didn't understand something, and she was really patient and helpful with me. One time, for instance, I said something that showed that I didn't really understand what the poem was talking about. Helen didn't want to be rude by saying something like, "You're wrong!" So she just said, "Do you think so?" I answered, "If you have another opinion about it, I will be glad to hear it." Then she told me her thoughts and I thanked her for not being nasty even though my answers were way off-base!

There were also a couple of times I knew things that she didn't! (I hope Ms. Schulte noticed that. I think people often consider me less smart than I really am because of my low reading and writing skills.) One time, for instance, I helped her see how 'bustles' fit in with the rest of the words in "Wondering" which all had to do with busy movement, like in a jungle. It was obvious to me, but she had a hard time seeing it! I asked her questions patiently, just like she does with me, and that helped her. In the last task, it

didn't make any sense to Helen when the poem talked about "doors swinging wildly." I explained how it meant the doors swing back and forth every time he enters the door.

One reason I'm enjoying this is that I like poetry. These poems are interesting, and they're also helping me learn how to write poems of my own.

4.2.4.2 Group 4: My View

Helen and Anna were a "long shot", and probably would never have been chosen had it not been for what happened at the beginning:

> It was never my intention to have either Helen or Anna be one of the subjects. They're both lacking a lot of the skills I've been assuming are necessary for deep involvement with the subject matter. Their test scores are low, they're missing basic grammatical understanding, have little sense of word forms, etc. But today as we were working on the preliminary task "Fire", they seemed to catch fire! With the help of a visitor in the class today, they were able to finish it and write a good explanation of their thinking. Of course, I can't be sure how much of that may have come from our visitor, directly or indirectly. But they've caught the fever, and want terribly much to continue to work as a pair and be subjects in the study. I think it's entirely possible that a lot of what they were able to accomplish came not from direct help, but from the synergy, the high level of energy created by their enjoyment of working with one another, and the easy communication they have between them. (project journal, 4/23/98)

Whereas her brother Martin sometimes tended to be a bit rash and hasty in forming his hypotheses, Helen was thoughtful and careful in everything she did. In a sort of Tortoise-Hare scenario, there were times when her group came out ahead of her brother's despite his and Duc's higher skills. Helen considered and reconsidered; she stayed close to the guidelines and looked up almost everything, although Anna didn't always speak up when there was a word she didn't know. They took time out to clarify points of procedure and blocks to communication. When there was a disagareement it was invariably handled with light-hearted humor. Though Anna's learning journals were a bit scanty and not done regularly, Helen's were wonderfully detailed, thoughtful and expressive.

This was the only one of the four groups in which discussion was occasionally carried out in a native language, in this case Amharic. Of course, it was the only group in which it was possible, since all the others had a mixture of languages -- but it was also necessary in order for Anna to understand certain words and concepts.

Helen and Anna probably could have used more direct support as well as more encouragement. Their dismay at the increasing difficulty of the tasks – maybe even some doubt about being able to meet the challenge -- were evident both in Helen's learning journals and in the transcripts. Towards the end I wrote down these reflections:

> I know it was a mistake to have let Helen and Anna come up with the wrong final answer last time. There's no way it couldn't have been a damper on their enthusiasm. Success, seeing what great things they can do together as a team – this is what fuels that great enthusiasm, this is what compensates for their lack of skill compared to most of the other subjects. I have a responsibility to keep it going. (project journal, 5/18/98)
>
> . . .
>
> I now realize I've neglected to tell them something very important: that it really isn't a bad thing if they don't always come up with the correct solution, that it's the process of *doing whatever they can do* that I'm interested in. They seem to feel a tremendous pressure to be just as good as the others, and it's not about that at all. I'm going to clear that up first thing Tuesday. (project journal, 5/23/98)

In the next section, we will see the personalities I have described, both group and individual, in action -- as they ponder new complexities, articulate ideas, argue, try to reach consensus, explore strange possibilities, and generally expand their boundaries by participating in each other's conceptual, communicative, and social worlds.

4.3 Categories of Interaction

4.3.1 Introduction

This section will present the results of the extensive coding and analysis which I carried out on the transcripts of the taped group work. The categories I eventually chose were those which were most relevant to my research questions, as well as those for which

the data was the most interesting and potentially useful. Hopefully the foregoing descriptions of the groups and individual subjects will serve as a useful background for understanding the dynamics of what is happening in each of the excerpts. To shed further light on the process, the following account will recount something of how it developed and took form, beginning with the preparation for the original study.

4.3.2 Preparation: Pilot Study

Toward the middle of the first school year, hoping to help the students figure out meanings of unfamiliar words, I focused closely on word parts and etymology, in addition to basic dictionary skills. We also made an exhaustive study of the three main parts of speech -- something I had increasingly felt was necessary, since even the most skilled of the students found it extremely difficult to use vocabulary words in grammatically appropriate ways. Although this seemed to go on forever, with less than satisfying results, we spent at least as much time reading *West Side Story* and doing related vocabulary activities. I hoped to give them a thorough grounding in the play because one of the tasks would be based on it -- but most of the students failed to read and study it at home, as they needed to do since we did not have time to read every word in class. The sketchiness of their knowledge unfortunately was all too apparent in the transcripts from this task.

To encourage an interest in learning new words and to get them started thinking about how they acquired new vocabulary, the students wrote vocabulary journals. These involved looking for interesting new words, then describing the context in which each one was found, how it was learned, its meaning, and personal associations with it. As we got closer to doing the tasks they did one piece of extended reflective writing on a vocabulary task from *West Side Story*; this yielded some promising results, but only among a few of the more able students. After a few of the tasks, the students answered a series of

questions intended to get them to reflect on how they and their group had done. Results were mostly superficial, and I decided that on the whole this had been too little too late.

To facilitate group negotiation I taught some communication strategies, mainly by listing some on the board with the help of the class, then having the students write and perform dialogs to practice using them. I focused mainly on those designed to prevent and repair breakdowns in communication -- i.e., comprehension checks, and requests for repetition and clarification.

As it turned out, very little of the work involving word parts, parts of speech, or communication strategies seemed to have much of an effect on either the quality of the students' interaction or their ability to solve the tasks. As will be discussed in more detail in a later section, analysis of the transcripts showed that the major communication problems were more a matter of not listening to one another than resolving linguistic ambiguities. As for the tasks themselves, the main difficulties they presented had relatively little to do with parts of speech, roots or suffixes. Much more, it was a matter of not being able to understand -- and particularly to *articulate* -- patterns and interrelations of meaning. I also decided to eliminate the Vocabulary Journals. Although they had proven enjoyable and motivating, I realized that the time would be better spent doing more with the learning journals, developing metacognitive knowledge more directly related to the tasks.

4.3.3 Preparation: Final Study

Over time, my perceptions regarding what constituted the most effective preparation for the tasks changed considerably. In the end, the form of preparation I spent the most time with during the second year was studying word meanings in context, and becoming conscious of the thought procsses involved. The students did exercises with various types of context clues, occasionally alone but mostly in groups of two or three.

Though it took a while to "get the hang of it", most students eventually got used to locating the key words for their answers, and writing down explanations for how the various words were related. Some were better at it than others, of course, and this became one of my bases for selection of subjects. Just before starting on the poetry tasks, students were given a sheet of poems in which to identify networks of meaning, after which we discussed the results at length. There was some attempt made at this point to have them write about their learning process, but most of the work with Learning Journals came later, when we started the tasks.

The second main form of preparation, on the discourse level, consisted of suggesting a variety of phrases which I hoped would help the students actively listen to one another and think together more effectively (Barnes and Todd, 1995). With the help of the class, I listed ways of introducing a hypothesis, disagreeing, asking for reasons and explanations, changing the subject, expressing approval and support, getting someone to contribute, etc.

Although most of the work with learning journals was done concurrently with the tasks, the students had been writing personal journals since the beginning of the year, and therefore had some experience with reflective writing.

4.3.4 Further Refinements

As I reflected about how to best achieve the goals the tasks were intended to fulfill, I began to see that it would involve more than just laying the pedagogical groundwork for the tasks, teaching the basic conventions of group work, and preparing students for communicative and social troubleshooting. Although the original research questions had included the concepts of "positive collaboration" and "exploratory thinking", I had found disappointingly little of either in the pilot study. In between studies, I thought about my own role in new ways, began looking for improved means of promoting intersubjectivity,

and kept searching for strategies and suggestions that would help the students learn to think together more effectively. I became increasingly interested in looking for "scaffolding", to see if I could pinpoint specific ways in which students were learning from each other and building on each other's thinking. I also started to think in terms of identifying factors that could distinguish the more successful from the less successful groups, suspecting that these might include the original categories of "positive collaboration" and "exploratory thinking", but being open to others as well. Increasingly, I looked closely at which teacher behaviors were helpful. It was my abiding hope that such information might be useful for myself as well as others in the future.

4.3.5 Sociocognitive Behaviors

As described earlier, cognition develops within the social sphere,. Speech originally develops for social communication and only later becomes inner speech, forming the basis for the child's thought and actions. The term 'sociocognitive' is used here to distinguish this view of cognition from the way it tends to be seen in mainstream SLA – i.e., as a process taking place mainly within the "black box" of the individual mind, unfolding according to innate, predetermined programs. The forms of cognition presented in the following section are unique to dynamic, dialogical interaction, and would have no existence apart from it.

4.3.5.1 Sociocognitive Behaviors – Asking and Wondering

The beginning of knowledge is knowing that we don't know. When we take the step of acknowledging our uncertainty to another person, we are on our way to achieving understanding. This is not an easy step for many students (and others) to take.

When questions were asked in the groups, they usually appeared to reflect a sincere desire to know, and more often than not, actually led to a degree of increased understanding. Typical modes of asking included: (a) requesting a routine explanation,

(b) challenging someone to explain something that sounds doubtful, (c) pressuring others to answer a question, (d) pushing for a more complete answer, (e) checking one's understanding, (f) clearing up uncertainty or confusion, (g) requesting another's input or opinion, and (h) asking about definitions, terms and referents.

In this example of (d), pushing for a more complete answer, Felipe rejects Kim's first answer as being insufficient, and demands a fuller one ("City Park", see Appendix B4, p. 234):

R: Now why, why, why those key words? . . .
K: [taken aback a bit?] That the meaning.
R: No, there's the key words for the answer—now why?
K: See? Because all these words related to it. (F & K laugh)
F: (under his breath) Go 'way.
K: Yeah, because all that word is related to 'timidly'; that why we know the answer....You see? . . .
F: I don't think that's a good answer.
R: What?
F: "'Cause they're related". . .I would give something else.
R: All about...
F: Course there's the key words, they're related! You have to write down *why*.
R: It has something to do with being fear, you know. . .
F: Well, yes. Write something like that, not "because they're..." (K. laughs, R. joins in)

In this exchange from"Thel" (categories a, d and h; see Appendix B4, p. 234), Ruth asks for her group's input on one of the questions relating to the poem. When Mariam replies, Ruth requests evidence. This brings forth a thoughtful explanation from Yasmin, which Ruth asks her to repeat so they can write it down. Mariam then asks about the word 'humming'.

R: You think she...keep them [the songs]?
M: I think she keep them, yeah.
Y: Yeah, you could talk about that.
R: You have to have evidence.

Y: Oh, yeah. "Sweet attic of a woman, *blank* of old songs. She keeps her old songs in the attic. She's...her brain I think is an attic or something...in this poem.
R: Yes, what is it again?
Y: Girl!
R: We were supposed to explain it first before I write it; that's the whole idea. .
Y: Her brain is like an attic or something...a storage thing that she hardly needs.
M: Maybe she does, hmm?.....What does 'homing' mean? 'Homing?'
Y: (hums)
R.: *Humming*. (hums along with Yasmin)
M: Oh.
Y: That's what it means. (silence)

Here, in the final stages of "Heavy Summer Rain" (see Appendix B5, p. 235), I have presented the difficult challenge of trying to understand how the images convey the underlying feeling of the poem, and the type of relationship the two people might have had. Kim and Felipe are getting very uncomfortable. Reine also finds it difficult, but takes up the challenge and tries to deal with it, eventually bringing Felipe along (c):

K: What time is it? (chuckling)
R: OK, what kind of relationship did they have? (F. reads low out loud) . . .
K: (low) This is boring here.
R: Yeah, what kind of relationship? I do not know.
F: I don't like this poem anyway.
K: (laughs, R. joins in) You know, first I understand, now later, later, and... you know...I'm confused. I don't understand it.
R: They...they had a good relationship? Like, she misses him a lot?
F: I think they did, 'cause...
R: They did, 'cause if they did...
F: (ov) ...she miss...she miss him.

4.3.5.2 Sociocognitive Behaviors – Explaining and Defining

When we explain, we address ourselves to another's question, need for information, or state of confusion. Often, as we speak we begin accessing information we didn't even know we had; mysteriously, things we have picked up along the way converge into something we suddenly recognize as understanding. As we manage to successfully

convey that understanding to others, we create something called "knowledge" – even if it turns out to be something other than the expected "correct answer."

Much of the explaining in the groups consisted of (a) giving reasons for a hypothesis – i.e., a suggestion for either an answer or a related "key word". At other times it involved (b) defending or clarifying a hypothesis, (c) discussing a word's application to the problem at hand, or (d) using questioning to explain something. Other instances dealt with definitions (see Section 4.3.5.5, p. 110), networks and connections (see Section 4.3.5.3, p. 107), or correcting partners' errors (see Section 4.3.5.4, p. 109). Helen and Anna, the only group that shared a common language, gave occasional explanations in the L1 with my permission .

Because of the challenging and often ambiguous nature of the tasks, it was not uncommon for the explanation of a hypothesis to be somewhat off-target, or even far-fetched. This one (a), though a bit of a stretch, does make some sense – and also contains an illustration of a concept. In it, Helen is trying to find connections between 'toppled' and the rest of the poem ("Heavy Summer Rain", see Appendix B5, p. 235). Anna appears not to be totally convinced by her argument. (They have confused the genders of the two characters):

> H: It's like this. I think I figured out this.
> A. Where?
> H: If...he is toppled. . .If he misses her threats and her protests, that means he's falling forward, he's getting weakness because he mmmisses her. . .steadily and painfully, he said, right?
> A: That is good.
> H: And he misses her very much.
> A: Yeah.
> H: And the word 'toppled' is like...if you miss something so much....Now if you miss...I miss eating chocolate (A. laughs)...so much. . .so I would get weakened, right? I'd get weak, and...
> A: You'd give every...

H: (ov) And you'd give up everything.
A: Yeah, OK...(L1)...Just...check. . .Ms. Schulte, come here for a minute.

The next example is noteworthy because it shows a concerted effort over time to get an explanation across—this time by Anna, who has seen that 'bustles' best fits in with "Wondering" (see Appendix B3, p. 233). After failing to convey her understanding to Helen, she intensifies her efforts with questioning (b and d):

A: All right. . ."Busy, often with much noise," right? . . .It makes noise, right? A lot of noise...Know what I mean? (high, squeaky voice)
H: (laughs nervously) I don't know.
A: (excited) Yo, like. . .when it says like "about the green jungle the leaves grow," it means like...hit each other and it's like noise, makes noise, a lot of noise?....You know how the jungle is?. . .Wait...why don't you speak?
H: . . .'Cause I don't understand...
A: OK. What's in a jungle? What is in a jungle?
H: Noise.
A: (ov) Noises, right?. . .Ms. Schulte, I tried to explain; she don't understand.
H: It make a lot of noise. Ummm...I understand now.

The next day, however, Helen is still not sure. Anna does two things to get her point across more effectively: she makes sure Helen doesn't write down her explanation before she has understood it (as I had taught them), and tries to calculate her questions to gradually build understanding (d):

H: How we got that answer, 'bustle'?. . .You explain it, I'll write it.
A. Because....don't write anything. First listen.
H: Um hmm. Go 'head.
A: OK. You know what a jungle is, right?
H: Um hmm.
A: You know how all the trees and stuff would be in a jungle?
H: Yes.
A: You know what a jungle is – there you can hear all the noise and stuff?
H: Yes...
A: And...like a green jungle.
H: What's...OK, I got it. Like, why we chose the answer is...I got what you mean. In the jungle there is a lot of noise.

4.3.5.3 Sociocognitive Behaviors – Exploring, Connecting, Keeping Things Open

Exploratory thinking was built into the game. There was no way the students could avoid it, since the tasks were totally new terrain for them, unlike anything they were familiar with. As a result, when any real thinking was taking place at all, it tended to be exploratory in nature; most of the students were willing to extend their conceptual horizons and venture onto shaky ground – at least occasionally -- even if it meant coming up with some fairly implausible explanations and connections. The more far-fetched creative explanations often resulted from fixing on a particular word before looking up and considering all the others. Those who fared better tended to look beyond the first answer that seemed to "fit" and push the group to consider other possibilities.

The behaviors that made up this category were: (a) putting forth a hypothesis, (b) using creative thinking to render it plausible, (c) seeing networks of connections, (d) finding key words, and (e) preventing premature closure.

Here, in the first part of "Heavy Summer Rain" (see Appendix B5, p. 235), Yasmin is making the connection between 'topple', and the key word 'bow' (though her science is less than accurate). Mariam, going out on a limb, extends the association to the word 'unconscious' (b, c, and d):

> Y: Over here. . .right here, we were talking about 'topple'; I mean, fell over from a weakness. And over here, it's a bow. "Everything blooming *bow* down in the rain." It's dying; it's falling from weakness....You get it?
> M: Yeah, I got it. Ruth, you got it?
> R: OK.
> Y: So, because like...it's trying to get water. . .It's bowing and leaning trying to get rain. . . .
> R: This is what I got: "Everything blooming down...in the rain" because the flowers are getting the water from the rain, so they have to bow down and find the rain, right? . . .
> M: You know like if you're unconscious, like you need to drink something...
> R: Right.

M: ...to bring you back to normal.
R: OK.
Y: You need a drink to get your memory back?

In this exchange, to help them discover the network of meaning in the same poem, the group has been told to look for its main feeling, types of movement, and relation of the nature images to the characters. Mariam has gone beyond considering specific key words, and is connecting the changing movement of the *grass* to the *man* in the poem (c):

M: Let me guess; I want to see if it's right. They're like...you know like how the grass is, like...you know, they change places and stuff?
Y: They do.
M: (ov) Like that, right? Now it's compared...compared to him, it's like...like when he come home sometime like he do some, you know, lousy stuff, noisy stuff. Sometime like he...he change himself. . .
Y: (ov) He's quiet, he's noisy...
M: (ov) Like some...like when somebody's being nice today, and somebody be bad, and the day after that they be so sweet, and stuff like that.

Here, in the second part of "Heavy Summer Rain", Felipe staunchly resists his partners' attempts at closure by continuing to consider new meanings and possibilites (e):

K: Now, the second answer is what?
R: . . .What do you *think?* . . .
K: I think 'gallant'. . .because it say, "I miss you steadily, painfully, none of your gallant entrance or exits..."
F: That can't be.
K: "...doors swinging wildly on hinges"...see?
F: Um, let me see the other definitions.
K: Same thing. Same, but...
F: No...I want to see the definitions. . . ."Very annoying, offensive". . .It can be this one too, 'cause. . . "None of your...whatever..entrance or exits, doors swingling . . .wildly. . .can be um... 'obnoxious.'
R: 'Obnoxious'?
F: Look what it saids: "irritating or offensive." (silence) But it can be... 'blustering' too, "loud, noisy."
K: (silence) Now the answer is what? Gallant or...obnoxious?. . .I think 'gallant'.
R: I agree, because..um...I...I...I don't have anything better to say.

K: See? That's what...that's the best answer.
R: Yeah, it looks like the best one.
F: 'Obnoxious' can be too. . .And 'blustering' too. . .Look. . . "Loud noises or defiance."

4.3.5.4 Sociocognitive Behaviors – Correcting, Teaching, Realizing Mistakes

One of the main advantages of working in a group, beyond being continually called upon to come up with one's own opinions and explanations, is the ever-present likelihood that they will come into conflict with those of one's partners. In both defending our own views against attack and perceiving points of disagreement with the views of others, we are constantly made to sharpen our understandings, refine our thought processes, and learn to use the dialogical process more effectively.

The process took various forms: (a) disputing an answer or rejecting a hypothesis, (b) challenging a faulty explanation, (c) correcting a misunderstanding, (d) realizing that a group or indivudual has been doing something wrong, (e) clarifying a logical fallacy, and (f) self-correcting.

Here, in "Visit" (see Appendix B3, p. 233) Helen self-corrects a mistaken idea about a word, though she is not quite able to use her new understanding to articulate an explanation (f):

H: Gradually, gradual...Does this 'gradual' mean...I think I have an idea of 'gradually'. I think it means 'suddenly'... . . .[A. is looking up another word while H. reads from her dictionary] OK, it means....I said it the opposite way. I thought it...I said it 'suddenly'. It's not...*not* suddenly. "Happening slowly, by decreased degrees".
A: . . .I don't find no definition in here.
H: (Sudden inhaling sound) It's 'gradually'. You know why? I can explain it. . . It means happening slowly; now he's "climbed our wall, and now stood like a statue of stone dressed in a dark and mystery. The air was old." It's 'gradually', because....I can explain it. [She never does]

In this exchange, Reine has hypothesized 'gallant' for the second answer in "Heavy Summer Rain" (see Appendix B5, p. 235) and Kim suggests 'blooming' as a key word related to it. Reine seems to accept it, but when Felipe finds fault with Kim's thinking she withdraws and sides with him (a, b, and e):

R: . . .'Gallant' mean grand, big, whatever. . .
K: Ah, 'blooming'? Blooming, you know...when the flower bloom...
R: 'Blooming'?
K: Yeah, big. . .
R: OK, 'blooming' is a key word, see...
F: For what?
R: *He* said that. Blooming...is grow big.
K: Blooming is big, yeah.
F: So?
R: Not every time, not every time.
F: No, it don't have...
K: But...but in this case...
F: ...it doesn't have to do with 'big', you see...you see things blooming, they can be like this (gesturing).
R: Yes, things can bloom like that too, so it's not...it's not really a key word.
[K. keeps trying to explain]
F: Shut up.
K: It's not hold together.

4.3.5.5 Sociocognitive Behaviors – Dealing With Definitions

Much of what the tasks involved was making new words ones own, discovering what conceptual worlds they can open, then applying these new tools both creatively and accurately to make new connections. Unfortunately, the basic step -- dealing with dictionary definitions -- tends to be fraught with pitfalls and frustration: definitions often include other unfamiliar words, and are stated in convoluted language the students are not used to. The dialogical evolution from definition to meaning is a complex and interesting process, one requiring much patience on everyone's part (including the teacher!). There were five main categories, each of which appeared to reflect a separate cognitive

process: (a) using defintions to find answers, (b) thinking about definitions, including polysemy, (c) explaining a definition in one's own words (from the dictionary or prior knowledge), (d) seeing the need for definitions, and (e) trying to understand a word for reasons other than finding an answer, or using it in context.

In the first example ("A City Park," see Appendix B4, p. 234), the group has just looked up 'captivity' in response to Mariam's asking what "tamed with captivity" means. Ruth relates it to 'tamed', then later relates it to the trees in the poem. As she continues to talk about the connection, her explanation also becomes clearer and more concise (a and c):

> R: OK...I think 'tame' and 'captivity' are like the same, like prisoner, 'captivity' mean you know about prisoner, and 'tame' mean like you know what to do, like a tame dog, "Sit!", you say.
> Y: Like a trained animal, right?
> R: Yeah, a trained animal. And then when you're in prison you're gonna be not trained, but if they tell you to go in your cell you gotta go.
> Y: Mmmm!
> R: Right?
> Y: Yeah, I got it now.
> R: So the trees are not tamed by people, but they are tamed by the way they grew up, because they going skyward, you know. . .
> M: I don't get it. . . .
> R: Think about it, think about it. . . "Tamed with captivity." 'Tame' is trained. 'Captivity' mean prisoner, like if you think about when you're in prison, they tell you to go to you cell, you have to go in. . .Think about a tamed animal, trained animal. If they tell the animal to sit, he sits. Get it? You sure? [M. says yes]

Here Helen is trying to explain the word 'steadily' to Anna ("Heavy Summer Rain," see Appendix B5, p. 235). While she frequently used their L1 to clarify words, in this case she has found it necessary to give an illustration as well (c):

> H: 'Steadily'...That means, you know..(L1)...Every day he think about her...every single day...
> A: So can...(?)...the word? . . .

H: (L1)...Now I'm doing a line, right? I did...but you all stopped me....I just go, go, go, go, go, go, go, go...if I stop, that's not steadily. I just go, go, go, go, go, think about it until I see something and stop, like I see...
A: (ov) something, OK.

On a few occasions someone would adapt one of the words to her own purposes, as Mariam did here (e):

M: Can you repeat this word again, 'obnoxious'? [I help her with pronunciation]. . .I love that word --'cause Yasmin is obnoxious!
R: (laughing) Yeah!
Y: You're not nice.
M: She is obnoxious.
Y: Not annoying as you.
Me: Now, in this task we're going to try our best not to be obnoxious; we're going to try our best to be cooperative and likeable, and friendly...

4.3.5.6 Sociocognitive Behaviors – Understanding Figurative Language

Figurative language is one of the hallmarks of higher-order thinking; Vygotsky knew this, as do many educators today. Yet, for students who have not had much exposure to it, it can take a lot of getting used to. Before starting the tasks the students had read some poems containing metaphors, but these were not enough to prepare them for what lay ahead. Although I eventually gave them some assistance (particularly towards the end of "Heavy Summer Rain" when they were asked to see more deeply into what was happening in the poem), in these examples the students are figuring things out on their own.

Here, at the beginning of the "Heavy Summer Rain" task (see Appendix B5, p. 235), Mariam and Yasmin are still somewhat perplexed by some of the poem's language:

Y: I was thinking. . ."bows down in the rain; white rises"....that's all flowers, kind of flower..."with their black and secret center lie shatter on the lawn."...This is the reason. . .It's like one minute she's talking about grass, and one minute she's talking about some person.

M: I don't understand; that's what make me confused about hearing that. . Maybe like the...whoever wrote this poem like is trying to compare the human life to a.... plant or something? I don't know.
Y: I guess. . .

In this rather interesting exchange, Felipe knows that 'bustles' is the answer for "Wondering" (see Appendix B3, p. 233) and is trying to relate it to 'greedily'. While Reine doesn't think there is a close enough connection between the two words, Felipe, aware that metaphors often imply a looser, more abstract connection, succeeds in getting her to see the larger picture:

F: We know it's A, right?. . .Do you agree, A?
R: A, 'bustles'. . .oh, goodness.
F: But 'bustles' can be with 'greedily' too. . .
R: Greedily. I don't think...no, no. Bustles, I don't think. . .You can be busy without being greedily, I mean greedy.
F: Yeah, 'cause they're greedily looking for more.
R: Yeah, but busily...in a sense I see what you're talking about, but. . .the animals can be busy without being greedy. . .
F: They give ideas of something that it's not the real thing. They give ideas of something.
R: Yeah.
F: It's not the real thing.
R: I think it probably *is* busy, bustles, because, you know, like...little insects crawl through the green jungle. They're probably busy looking for...
K: Busy looking for their food.

In this humorous example ("Heavy Summer Rain"), Yasmin seems to be getting into thinking metaphorically, while Ruth momentarily 'cracks' under the strain and comes up with something completely outrageous:

Y: The grass is comparing this person that she's talking about.
R: What?
Y: The grass is compared to...this guy.
R: The grass is...then?
Y: All of it's one poem.

R: OK, wait, let me think about it.
M: I still don't get this for real.
Y: She's comparing the grass to the person she's talking about.
R: The guy's in pain, the grass is in pain, because animal....He don't want animal to eat him; he wants to *grow!*....(low) I don't know how to do anything....(?)
Y: I don't think it have...(laughs)
R: (laughs) Let me think what I'm saying. (all laugh)

4.3.5.7 Sociocognitive Behaviors – Considering Subtleties and Fine Points

Most of the students entered into the spirit of the tasks with gusto, and put a great deal of effort into thinking well – so much, in fact, that I was frequently surprised at the subtlety that characterized some of their thought processes.

Here Felipe and Reine are trying to decide between 'metamorphosed' and 'toppled' in "Heavy Summer Rain" (see Appendix B5, p. 235). Their discussion centers on whether being 'absent' is a kind of 'change', which would argue in favor of 'metamorphosed'.

R: I'm confused. I don't know. You know what? I think it's...either 'toppled' or metamorphose'. . .
F: It says "now absent"...
R: (ov) Change... "now absent"....I don't know...change. . .a form.
F: That might mean. . .that it changed, then, right?
R: Yeah, but doesn't mean...absent doesn't mean...like when something change shape it's...you can still see it.
F: That might mean that it's...not the same thing; it's change...substance...or shape, or whatever. I don't know.

In this exchange, again from "Heavy Summer Rain", Mariam has hypothesized 'unconscious' as a key word related to 'toppled'. As Ruth thinks about it, she appears to conclude that the word is used only in an indirect sense, different from that of 'toppled':

M: What do you think of. . .this one right here, "your huge unconscious sigh..."
Y: What?
M: 'Unconscious'.

Y: What's that got to do?
R: Unconscious when you're knocked out. . .
Y: What's that got to do with um...meanings?
R: As from weakness?
M: Um-hm.
Y: Where?
R: Right here. . .what it's mean so...like when you're unconscious, you...
Y: Dream?
M: Weak, you can't do anything, yeah.
R: (ov) Can't do anything. . .(after unrelated business). . .Um...how does 'unconscious' deal with hay, and. . .all them other stuff?
Y: 'Unconscious', yeah; you're not doing anything.....(low) you can't remember anything. It's almost as you're dead but breathing. . .
R: I wouldn't say it have anything to do with the poem...'cause I don't see nowhere in the poem where...he said uh...you know, unconsc...he said it, and like "you're unconscious'.....
M: (low) Whatever.
Y: No,. . .we just trying to say how does it fit there.
M: It doesn't fit, so. . .let's go on to another one.

In this final example from the same poem, Martin has given up on Duc for the time being and is now talking with me, offering 'steadily' as a key word for 'toppled'. Although I expressed some doubt at the time, I later realized that the connection he was making, one of opposites, was valid in its own way and not just a far-fetched attempt to make something fit:

M: 'Steadily'-- standing still, right?
Me: No...well, yeah, but it doesn't have anything to do with being toppled.
M: Yes it is, "fell forward". You fell forward and then you...right yourself, 'cause when you put yourself back in one place, and when it's steadily you were in one place.
Me: All right. I mean it's a little...uh..distant, the connection, but if you see that connection, that's fine.

4.3.6 Group Behaviors

Many of the students' behaviors seemed to pave the way for sociocognitive development by helping them orient themselves to the tasks and making it possible for the interaction to run more smoothly and efficiently.

4.3.6.1 Group Behaviors – Structuring the Task

Before the students could move forward and begin meeting the demands of the task, it was necessary for them to make sense of it, to understand what was required and how to go about doing it – i.e., to bring it onto their own 'turf' and make it their own. The two main areas here were (a) establishing procedures and delegating responsibilities, and (b) negotiating procedure issues, which included clarifying guidelines and responsibilities. Here Helen and Anna begin the "Wondering" task (see Appendix B3, p. 233) by "getting ready" -- laying the groundwork for their group's work in a kind of 'commentary' spelling out how they will be proceeding (a). Later, they negotiate when to look up words and how they will divide the work (b):

> (They introduce themselves by saying their names into the microphone)
> H: Now I got a dictionary. Here you go; look the... 'bustles'.....creeps. I think it's that, because, "as I lie here wondering I feel"....hold on. (adjusting seats, etc.) OK, we're gonna read it together. "Wondering": . .(they read it aloud together, with some laughing; they can't pronounce some words, so I read it)
> A: OK, Ms. Schulte just finished that, so we have to go look in the dictionary for the words.
> H: The grass *creeps* about like a green jungle. . .Look A and I'll look B.
> A: OK. . .OK, I got this word.
> H: What does it mean?
> A: It means, "to be busy, often with much..."
> H: Page what?
> A: Page 87. . .That can't be, though. . .It can't be A, because. . .
> H: It *could* be...
> A: The grass cannot make her. . .
> H: So what is the definition? Look at the definition... "He bustled around the houses..."

A: (ov) I want to look at the other words first.
H: OK. I can't find that one.
A: Write the definition somewhere for this one.
H: Fine, then maybe this not in here...
A: What you want me to...?
H: B.
A: You want me to find the B?
H: Um hmm.
A: OK.
H: Because that's a short one...I'll look for 'climbs'.

In this example from the beginning of "Heavy Summer Rain" (see Appendix B5, p. 235), a procedural issue is clarified (b). Felipe thinks 'metamorphose' would fit for the second answer (possibly because he has it confused with another word), but Kim points out that it is only a choice for the first one:

K: One-A the answer.
F: A, 'metaphors'.
K: Yeah, 'metaphors'.... 'metamorphose' (correcting him).
F: Oh, th...that.
K: The first one here is the answer.
F: I think it's the second one.... 'cause...look what it says: "I miss you steadily, painfully, none of your...metaphors..."
K: No, that's for B, that's for B.
F: Oh.
K: This one, see, that's for B. First one is A. (silence)

4.3.6.2 Group Behaviors – Following Guidelines, Staying on Topic, Moving Forward

Groups and individuals varied as to how closely they tried to follow the guidelines, and how determined they were to make progress. They had all been asked to keep certain things in mind, among which were: making sure to look up all unfamiliar words, giving evidence for hypotheses, listening to each other, making sure they understood each other, disagreeing politely, and being sure everyone understood an answer before it was written

down. On the whole, as might be expected, those who were most motivated to reach a solution seemed to be the most conscientious about keeping these things in mind.

The basic categories were: (a) focusing the discussion, (b) following guidelines, and (c) moving the task forward toward a solution. In the first example (a), from "Heavy Summer Rain" (see Appendix B5, p. 235), Yasmin's humor is becoming annoying and taking the group off-task; Ruth has to be persistent to get her to focus:

Y: You got to do the date. . .
M: The date?
Y: Oh, shut aaaaaahp.
R: Come oooon. You did it already.
Y: I'm playing.
M: (low) She's still a freshman. (R. laughs)
Y: So what? You're still....whatever you is.
R: Anyway, next.
Y: Shouldn't you be in college? (M. makes a sputtering sound)
R: Um, the task.
M: Yeah, the task.
Y: (ov) ..I don't know what you're trying to impress on people.
R: The task.
M: We need to...
R: *The task.*
Y: Um-hm.

The next, from later in the same session, illustrates both (b) and (c). While Yasmin is still getting in an occasional wise-crack, Mariam appears intent on covering all the bases in order to move toward a solution (I have told them that the two missing words in "Heavy Summer Rain" are related in some way):

Y: OK, you got the first one, right? (short silence)
M: Which one?
Y: We said it was four.
M: Um-hm....Remember she said like. . .they got to be a little bit in common; they got something to do with each other. . .So I'm trying to see what word in here has common with this word. (silence) . . .

Y: The second one. I think the second one is um... 'gallant'. (silence)
M: Let me see the dictionary.
Y: I'm broke; I don't have no more money. (silence) Wht are you looking up?...Hmm?
M: I'm trying to see 'reproduce'; wanted to make sure....reproduce (whispering).
Y: You know what it means, right?
M: Um-hm.
Y: Um-hm.
M: Just trying to make sure.

4.3.6.3 Group Behaviors – Improving Communication, Understanding, and Progress on the Task

The fuel that moved the process forward was the main thing the guidelines were intended to promote: effective communication. This was the essential ingredient that allowed for intersubjectivity, distributed cognition, sharing of ideas, building on one another's knowledge, resolving misunderstanding, and in most cases, succeeding in solving the task. The discourse strategies which I taught as we went along were intended to facilitate all of these.

This rather large area included: (a) negotiating comprehension, (b) asking for input, (c) requesting and giving agreement, (d) expressing disagreement, (e) indicating non-understanding, (f) clarifying confusion and misunderstanding, and (g) contingent speech.

No one worked harder to achieve communication, or had more of a need to, than Martin. Here, even though we are on the last part of "Heavy Summer Rain" (see Appendix B5, p. 235), Duc is still mostly silent and unresponsive. Although I have intervened to work with Martin -- knowing his abundance of good ideas would otherwise never see the light of day -- he knows it is Duc he is supposed to be discussing it with, and continues to prod him for input (b):

M: So, can I use that?
Me: Yeah!
M: Can I use it, Duc?. . .Come on, Duc, you gotta talk *some*time. . .What was 'blooming' again? What does it mean?
Me: Opening up into flower...when the buds bloom, they open up and become flowers.
M: That's not a...it looks...it *sounds* like a metaphor. Don't it, Duc?. . . Come on, Duc, it's your turn. Answer, answer, come on, give me some ideas....I'm waitinnnnng.....Oooooh (makes funny gutteral sounds, then yawns).

A little later in the same discussion, Martin tries a variety of other strategies to get Duc to express his ideas -- telling him what he thinks he might have been trying to say (a), asking him to explain and complaining to me when he won't (b), requesting repetition (a), holding the microphone for him, being patient when he digresses, completing a thought for him (g), and encouraging him with validation before trying to bring him back to the original word. They are looking for key words for 'topple':

D. 'Lies'.
M: Show me, show me where....lie? Why lie?
D: (unint.)
M: It hurts your feelings, and...and makes you weak or something like that? I don't know (laughs nervously) Why?
D: Forget it.
M: Huh?
D: Forget it.
M: No, *why?*....huh?...Ms. Schulte, he gave me a key word and he won't explain it! (singsong voice), and he said "forget it."
Me: No, try, try to explain. Come on, try hard. . .Hold the microphone.
M: I'll hold it for him.
D: "Bow dow."
M: 'Scuse me?
D: "Bows down."
M: No, we're not talking about that. We're talking about 'lie'. . .
D: 'Bow'.
M: 'Bow'...repeat that.
D: When you fall down, and...

M: Yeah, and it hurts you.
D: And you fall and lie on the grass, on ground.
M: He's smart, man. He's smart. Too smart, man; too smart....Wait; why don't you explain 'lie'?

In this example (also from "Heavy Summer Rain"), Helen tries unsuccessfully to get Anna to give a coherent explanation for her hypothesis of 'propagated' -- finally supplying her own suggestion for a possible connection (b and f). She then proposes her own hypothesis, 'toppled', but only after introducing it to make sure Anna is listening. This could be considered an example of (g), contingent speech, since it is apparently intended to make sure Anna responds to it instead of going off in yet another direction – as, sure enough, she tries to do:

H: How you figure, anyway? How you figure on number 4?
A: OK, like... "the grass in the field has..."
H: Speak up!...Go ahead.
A: The...let's see... "the grass in the field have..."
H: Propagated. . . 'propagated' means 'reproduce'.
A: 'Cause....
H: They..reproduce over the night? That's what you trying to say?
A: Yeah.
H: (low) Um-hm....Look, I have an idea, OK? Let me tell you my idea...
A: What about this?
H: (ov) The grass...look, OK...listen first. The grass in the field have...number 3, 'toppled'.

4.3.6.4 Group Behaviors – Metacognition and Metacommunication

Every so often, one or more group members would take a step back to assess how well the group was functioning, or to deconstruct their communication process. Helen and Anna, also the only group who were close friends outside of class, were the most prone to do this, as in this example from "Heavy Summer Rain" (see Appendix B5, p. 235):

H: The grass in the field have...number 3, 'toppled'.... (pronounced 'top-led').
A: Toppled (pronounced the same).

H: ...and in place it seem that a large, now absence.... 'toppled' means fell forward. Animal must have...you know, when the animals walk on it, it be like, you know, all squished and...fell forward and just be. . .weakness and stuff?
A: Um-hm.
H: Don't say um-hm. You agree with it?
A: (ov) I know what you saying. Yeah, I understand; that's why I'm saying "uh-huh." If I don't understand, Helen, I'll tell you, and I'll ask you a question if I don't understand what you're saying.
H: (ov) OK, you got it?
A: Yes.

In the next rather humorous exchange (also from"Heavy Summer Rain"), I have finally succeeded in getting Reine, Felipe and Kim to realize that 'toppled' is the answer to the first part, not 'metamorphose', which also could have been made to fit to some extent. I had taken them through a very circuitous route, raising questions without letting them know when they were right or wrong, in order to get them to think more carefully. Here they are laughing about the frustrating ambiguity of it all, and joking about changing their answer yet again:

K: Ok now, the second.
R: Let's move on. (they laugh)
K: Now move on. We just changed; now move...
R: And when she say, "What did you think about that?" and then... (they laugh harder)
F: Cross it out, cross it out, cross it out!
K: No no no no...we're going to think about it before change it!...
R: The same key words; they have almost the same key words. (laughter)

Here, at the end of "Heavy Summer Rain", the same group is assessing how they did. Reine clears up the matter of why she had disagreed with 'wild' as a key word for 'blustering', the second answer: she had confused it with the word 'wide', and the mixup had resulted in quite a bit of unnecessary discussion over whether 'blustering' was actually the correct answer:

R: We're finished?
F: So, we're done?
Me: We're done for now. . . .
K: My group is so bad.
F: (to me) Reine did it all.
R: I didn't do it all. You did some. I was confused. You know why I was confused when I said it wasn't 'wide'? 'Cause I thought, you know, 'wide'. I didn't see 'wild'. I thought that word was 'wide'. You know why, when something... 'wide' is huge? That's what I thought. . .
F: By side to side, right?
R: And when I...when I see the 'L' in 'wild'...
F: From one side... 'wide' means something big from side to side.
R: Yes. And 'wild' is like something crazy.
Me: Um-hmm.
R: That's different.

4.3.7 Social/Affective Behaviors

It is well known today that emotion and motivation work closely with cognitive factors to influence learning – though in Vygotsky's day, of course, there were few others besides himself who recognized the importance of this interaction. How the students felt about each other and themselves, and how they worked through difficulties in these areas, had much to do with the nature, quality, and outcomes of their work on the tasks

4.3.7.1 Social/Affective Behaviors – Positive Feelings

One area in which the connection was quite apparent was that of positive feeling. It was wonderful to see, for instance, how enthusiasm and pride -- over a difficult job well done, or a shaky hypothesis that turned out to be right -- brought new energy and motivation for further tasks. The main categories here were (a) satisfaction, pride and excitement over work well done, (b) enjoyment of the process, (c) validation, and (d) encouragement through difficulties.

No group responded to success as much as Helen and Anna. This excerpt shows their excitement over having come up with both correct answers to "Heavy

Summer Rain" (a) when Duc and Martin, Helen's brother, were still struggling over it. They are having such a good time, in fact, that they are dismayed when the bell rings and it is time to go (b). The mock-argument is typical of their light-hearted banter.

> Me: OK, listen. . .You have it, but I don't want you to talk to Martin about it, OK? 'Cause his group is still trying to figure it out. . .
> H: OK.
> Me: This is top secret, OK?
> H: (laughing) OK. (Anna laughs)....OK, number...A. We got it! That means we got it!
> A: Ahh (high-pitched), that's the stuff.
> H: *I* got it.
> A: What are you talking about?...Don't make me curse, OK? (Helen laughs) 'Cause you know I curse a lot, so shut up.
> H: OK. (bell rings)...Oh, no! My God.
> A: It's always time to go.

Yasmin, though she sometimes seemed bored, got quite excited when the group was thinking well and things 'clicked' into place (a). In the first part of this exchange from the first part of "Heavy Summer Rain" (see Appendix B5, p. 235), the group tries to decide between 'propagate' and 'metamorphose' and chooses the latter, using some dubious reasoning. In the second part they consider Mariam's hypothesis,'toppled', after having rejected 'jettisoned'.

> M: We picked number one [metamorphose] and number four [propagate]. We said we gotta decide which one, one of them.
> Y: Number four got nothin' to do with that. . .
> M: 'Reproduce'...
> Y: I think...(silence)...We're talking about *hay*. I don't think hay is reproduced.
> M: This poem is not about only hay.
> Y: "The grass..and the field have 'blanked'..."
> M: Grasses are not hay.
> Y: (gasps excitedly) Right! It's one!
> M: That's what I'm thinking too, I don't know.
> . . .
> Y: Okayy... 'toppled'. (pages turning) Here it is. . . "Toppled: to make or

become unsteady and fall down."
M: (repeats definition) So...
Y: I think that has something to do with it. "The grass in the field have 'blank' and in places it seems that a large, now....." Then a little later, it goes, "animal must have passed the night. The hay will right itself if the day is dry".... "Puts itself back." Oh, *yeaaahh!*
M: What? You get an idea?
Y: Yeaahh. You was right; it was this one! You were right.

4.3.7.2 Social/Affective Behaviors – Humor

One of the great joys of working with these bright, good-natured young people was hearing them kid around, tease each other, and say outrageous or silly things – all of which they did quite frequently. The categories in this rather large area were (a) general humor and wisecracking, (b) teasing and chiding, (c) silliness and playing, (d) using other languages, and (e) playing with words.

One example that made me laugh out loud was directed at me (b). In "Thel" (see Appendix B4, p. 234), I was trying (unsuccessfully) to get Ruth to see how the expression "sweet attic of a woman" conveyed a metaphor:

R: Ms. Schulte, what does it mean by "sweet attic of a woman?" That she's in the attic or something?
M: . . .Does it sound like they're saying she's *in* the attic? "Sweet attic of a woman." What's the relationship between her and an attic? . . .
R: Like she's lonely and she's shy and she...
Me: "Sweet attic of a woman". They're saying that she is *like an attic*, right?
R: OK.
Me: Like saying, "you're really a *dog* of a person," right? (laughter) I didn't say that, but if I say, "You're a dog of a person," I mean you're like a dog, OK? You're a gem of a person: you're like a jewel, OK? (I leave)
R: She dog of a woman.

In the same category of teasing and chiding (b) as well as that of playing (c), here is Martin in a particularly manic mood ("Heavy Summer Rain", see Appendix B5, p.

235). He is very tired that day, not thinking well, and not getting through to Duc as well as on other days. His frustration takes the form of intense silliness:

> Me: Don't just shoot your mouth off. Read the poem *over* and think about it.
> M: Uhhhh. (pained sound) . . . (loud) Oh, she thinks...Ms. Schulte...
> Me: Shhhh. Talk to *him*. Ms. Schulte isn't your partner. Duc Lam is your partner.
> M: Who?...Oh, *Duc* Lam. Yo...she...(whispering) he makes her feel like an animal. I'm done. (odd exclamation) I get a better grade than you – ah, ha! . . . Girls go to Jupiter to get more stupider, boys go to sun to get more gun.... (makes clappping noises) Hey, OK...(low) I play too much. Um...she makes him.....ah, copy off of me! Let me tell you one more...(singing and clapping) Boys go to college to get more knowledge, girls go to Jupiter to get more stupider...
> Me: Shhhh.
> M: (singing and clapping) uh...uh-uh.
> Me: Martin, stop it.

The next day Martin is more rested, and I have asked him and Duc to make up for lost time. Less manic but still playful (c and e), Martin starts off the day's business by introducing himself and his partner, though a bit differently from the way his sister Helen did earlier:

> Me: All right. So let's hear some good thinking now.
> M: OK.
> Me: Go over what you've already done...
> M: OK. (into mike) This is Thursday, May 29th and this is Jean-Claude VanDamme and...this is Jean-Claude VanDamme and...
> D: Duc (in a low, raspy voice)
> M: C'mon, man, she's not using our names. We use other names; I'm Jean-Claude Van*Damme* I look good!....Mmm...mm....I don't remember where we left off, Ms. Schulte. . . .

Yasmin was constantly making plays on words, often in a chiding manner. In this exchange, I have told them that the two answers in "Heavy Summer Rain" are related; Mariam and Yasmin are trying to find out what 'elegant' means, to see if it might go with

'toppled'. Yasmin makes fun of Mariam's mispronunciation of 'elegant', then later diverts the discussion with more word play (b and e). (She never does teach Mariam to pronounce the word correctly.)

> M: So when it's 'tippled', so then that's mean the second blank gonna be um....
> Y: 'Elegant'... 'elegant'.
> M: Yeah, 'gelegant'.
> Y: Oh, Gilligan. (laughs) Oh, villain!...I'm trying to find out what this word mean.
> . . .
> M: Yasmin, what is it, this word right here?. . .Would you help me write...
> Y: 'Toppled', and what, that?
> M: 'Galligant'.
> Y: Because, because, because, because, because...
> M: Because I don't know. (laughs) Just help me to explain it. (Mariam keeps asking, and eventually Yasmin looks it up)

4.3.7.3 Social/Affective Behaviors – Drama and Irony

As the students gradually made their way into the meaning of the poems, they read parts of them over and over. At times, reading a line or a word with dramatic expression, or putting expression into a related word, appeared to be part of the process of getting to know the poem and understanding it.

In this exchange, Helen invokes drama to help her explain to Anna why 'toppled' has to be the answer for the first part of "Heavy Summer Rain" (see Appendix B5, p. 235):

> H: For the metaphor...they says...animal must have passed the night... (sigh)... because.....(silence)...the animal walk on the grass....you know, when they walk on the grass, you know, they squish it up.....say *smmaashh* it (slow, stretched out)... so the word...the word 'toppled' is the...only one...
> A. That can fit in.

Here Helen again waxes dramatic. In this case it seems to be part of a process of coming to feel the movement in "Wondering" (see Appendix B3, p. 233), which leads her back to the correct answer she had considered previously, 'bustles':

H: I'm looking up 'whirl'.
A: Let me read the poem, OK.
H: 'Whirl'. W-h-i-r-....Whirl: "To move around and around real fast". I *know* what that means. "I feel an angry sweeping *gust*" (whispered dramatically).... Look, what is 'gust'...you know?
A: 'Gust'. Where does it say 'gust'?
H: G-u-s-t. Look it up and see....Here 'whirl', moving fast, fast, fast . . .An angry sweeping *gust*....does it mean 'dust'?
A: 'Gust' mean it's a sudden strong rush of air, rain, smoke...
H: Ok. "My legs...I feel an angry sweeping gust whirl around my legs"...
A: "A gust of wind below the..."
H: Whoa, whoa! What did we say 'bustle' was?

In this last example, it is Anna who has become caught up in dramatically reading the dark and mysterious "Visit" (see Appendix B3, p. 233), apparently somewhat oblivious to the misguided argument Helen was making for her hypothesis, 'gradually':

H: (sudden inhaling sound) It's 'gradually'; it's 'gradually'. You know why? I can explain it. . .Gradually means it's not fast; he didn't climb it fast. She saw him coming from across her lawn, and he was "climbed our wall"...

A: OK. Climbed our wall. . .
H: (ov) Gradually climbed... 'gradually' means like not suddenly...
A: (ov) ...*of stone* (dramatically)
H: It means...why don't you listen?
A: I'm listening.

In an example of irony, at the beginning of "Wondering" (see Appendix B3, p. 233), Helen correctly argues that the answer is 'bustles', but they go off in some different directions and eventually decide on 'climbing'. When I intervene and lead them back to the right word, Helen no longer sees how it fits, and Anna claims *she* was the one who knew it earlier:

H: (discussing 'bustles') OK, let's see. . . "to be busy, often with much noise"...
A: That can't be A. It can't be A, because...
H: Why not? "I feel an angry sweeping gust..."

A: (ov) ...because they be talking about something else. . .It can't be...
H: It *could* be... . . .
A: I want to look at the other words first.
. . .(they discuss 'spreads', then decide on 'climbs')
Me: Look a little further. Look at some of these words here: "feel an angry *sweeping* gust," "leaves *flap* about", paper *whirls* around the playground". What's going on there? What sort of feeling do you get from all those words?
A: Didn't I tell you it was A? . . .
H: It was A?
A: Yes.
H: No, it's not.
A: Yes, it is too A.

4.3.7.4 Social/Affective Behaviors – Negativity

Most of the encounters were happy, positive ones; on the whole, the students enjoyed each other's company and kept things cheerful. Still, it was probably inevitable that negative feelings would creep in at times – though they tended not to be serious and, amazingly, didn't last long (except for the growing tension between Mariam and Yasmin). They took the form of (a) getting on each other's nerves, (b) complaining about the work, (c) lack of confidence, and (d) physical discomfort.

Here Helen and Anna are continuing with "Visit" (see Appendix B3, p. 233). Helen expresses annoyance that they were in a hurry and weren't thinking the day before, after which there is an exchange in their L1 that sets off the following (b):

H: E-l-g-....
A: Why don't you get out?
H: I am getting out.
A. Yeah, right.
H: I wish I could get out.
A: You wish.
H: That's why I'm trying. 'Elegant' – I found it...

In the next exchange ("Heavy Summer Rain," see Appendix B5, p. 235), I tell them they have to find more key words – setting off a small crisis of confidence which

nevertheless gets resolved with some metacognitive awareness, along with their usual positivity (b and c):

> Me: With this one, there's something towards the end, actually a couple of things. There are key words or phrases, groups of words, OK?
> H: OK.
> Me: And...there are a couple of other key words you can get for this one too.
> H: I don't know how to like finding..uh...
> A: There are phrases and stuff...that's too hard.
> H: OK, we'll read it. "Everything blooming..."
> A: We didn't read it to the end; that's why.....(reads, low, misreading words)What is that...what is this word?

Then there is Martin on that awful day when he didn't get enough sleep. His usual effervescent humor now has a negative edge; he isn't looking the words up, isn't thinking carefully, complains more than usual (b), and even listens in on his sister and her partner:

> M: Give us another paper; we did it.
> Me: Neither of those is correct. I think you should go a little deeper, think more about what the words really mean, what's the pattern here that's being carried through the whole poem...
> M: (ov) What, they're not...they're not right?
> Me: Neither of those is right.
> M: Aw, gee. This is hard, man! This is the hardest of all. . . .
> (I catch him listening to Helen and Anna and move their chairs, despite his protests)
> Me: We need to put a little more distance between you. It's distracting to be sort of halfway hearing what they're saying. . .
> M: I'm not listening.
> Me: Yeah...please just move to these chairs here.
> M: (sings: "If you really dig me, can't you see what I see...") This is boring; I don't even know why I'm doing this. OK (makes funny gutteral noises). I made a guess; now your turn to make a guess, Duc.

Shortly afterwards, Duc hypothesizes 'propagates' for the first answer and Martin accepts it too readily, giving what I might have considered a creative explanation if it had come

from someone else. By now, however, I have heard enough to know that his uncritical agreement is just another symptom of his run-down state -- and try to get to the bottom of the matter (d):

> Me: Propagating has to do with going to sleep and then waking up?
> M: (ov) Energy, energy. You get new...you reproduce your old energy to new.
> Me: Now isn't that a little far-fetched? . . .First of all, sit up. You can't think like that. . .
> M: OK, um...um...um...um... . . .
> Me: What's the matter? Are you not getting enough sleep, or what?
> M: I get enough sleep. I sleep at 9, I wake up at 7.
> Me: Then what's the problem?...The problem is that you're wearing a long-sleeved shirt; you're too hot.
> M: No, I'm not.

It turned out Martin was not being truthful about his sleeping habits. As mentioned earlier, Helen told me he had been staying up late watching television since his father had started working a late shift – and the problem was solved after Helen talked to their father about the situation.

4.3.7.5 Social/Affective Behaviors – Conflict

There also were times when negativity would escalate until it actually managed to ruffle some feathers – although here too these exchanges were always very brief and tended to be resolved quickly, without any intervention from me. The only major blow-up -- the one described earlier between Mariam and Yasmin -- came towards the end of the work, and outside the context of the group work.

The categories here were (a) small disputes, (b) disputes requiring intervention by another group member, (c) name-calling and put-downs, (d) power and control issues, and (e) disputes between groups.

Yasmin was the main culprit at giving offense, and some of the worst conflicts seemed to occur when her wit took too sharp a turn – as in this example from the

beginning of "Heavy Summer Rain" (see Appendix B5, p. 235), where she manages to offend both of her partners within a few minutes' time (b). As usual, Ruth's way of dealing with her is to be firm, while Mariam tends to be more inderect and diplomatic.

Y: OK. Any guesses?
M: We gotta read it over one last time before we do any guesses. How you gonna guess if you don't understand?
Y: Am I supposed to read your mind?
M: No.
Y: Then show me.
M: Hey little girl, don't be smart.
Y: There is no little girl...(unint.)
R: (ov) Excuse me, *excuse me*. (silence) . . .
(they decide on 'metamorphose' for the first part)
R: Yasmin? Please say you agree. Just say it, just say... (Mariam is laughing)
Y: I just said "uh-huh". Don't get smart, Ruth.
R: Excuse me?
Y: You heard me.
M: (ov) She didn't get smart.
M: Can we just forget it now? Let's get over it and go to the text. Ru...oh, Yasmin, come on.
Y: What?
M: Forget it.
Y: Fine. (silence)
R: OK, you're writing it?
Y: Uh-huh. . . .
M: Please write it (laughs)...please.

When the going got rough, even Helen and Anna occasionally got on each other's nerves as they did here at the beginning of "Heavy Summer Rain" (a):

A: Get harder and harder every time, man!
H: (hums)
A: (gently) Shut up, Helen.
H: (ov) This is really hard. (mutters, reading, while Anna sings) ....Stop singing.
A: I'm allowed to....this is free country....Why we pick that?

Once in a while the groups would become involved in small rivalries and disputes with each other (e). Martin seemed to enter into this sort of thing with particular gusto – possibly enhanced by the fact tht his sister was part of the rival group. Here he starts the teasing; the tables turn on him, then turn back again ("Heavy Summer Rain"):

A: B-o-w-s, what is it, b-o-w-s?
Me: How come you're just asking me now?. . .You've been working on it for how long? And there's still a word you don't know the meaning of and...
M: That's stupid!
Me: ...just now you decide to ask me?
H: Yeah.
M: Did you hear that? She doesn't even know, Ms. Schulte.
H: Be quiet, Martin, because we figure this out.
. . .
(I scold Martin for asking me about a word that's on his definition sheet; Anna laughs and says something in their L1)
Me: We even talked about these.
M: So I didn't remember; it was three days ago.
A: (L1 comment)
M: Shut up! (H. and A. continue to comment in their L1)

4.3.8 Intersubjectivity

When the phenomenon known as intersubjectivity occurred, it usually seemed that the students were performing at their best in terms of both cognitive and group skills, with smooth functioning on the affective level contributing as well.

In true intersubjectivity, individuals put aside their own agendas in an attempt to reach common ground. As Wertsch (1985) points out, citing Rommetveit, we cannot assume that when interlocutors come together they share a fund of "background knowledge" that provides an agreed-upon basis for communication. Rather, through negotiating their different perspectives within a particular communicative context, they *impose* a structure which is one interpretation out of many possible ones. It is in this way that they transcend their private worlds and create a shared social reality.

Four of the following examples demonstrates such a created reality. The students are orienting to the task and pursuing their goals in similar ways; they could also be said to be thinking along similar lines using shared knowledge, or at least attempting to. The categories are (a) trying to create intersubjectivity, (b) reaching simple goals through intersubjectivity, (c) reaching less obvious goals through intersubjectivity, and (d) thinking "in sync."

The fifth category, (e) managing disagreement, is a departure from the movement towards consensus or agreement that is typically considered to be a defining feature of intersubjectivity. In his definition of the term, Matusov (1996) allows for the coordination of multiple agendas, goals, and viewpoints within a joint activity, which can result in participants diversifying rather than unifying their perspectives.

Starting from within the traditional paradigm, the first example is an attempt to achieve some sort of simple common frame of reference (a). Martin and Duc have hypothesized 'blustering' as a choice for the second part of "Heavy Summer Rain" (see Appendix B5, p. 235), and are looking for key words. Having achieved very little in the way of communication or intersubjectivity with Duc so far, and evidently anxious to do so, Martin listens to what Duc is offering and adjusts his own ideas to his partner's:

M: 'Blustering' because it deals with noise; it deals with...
D: Wildly...
M: ...actually loud noise.
D: Swinging wildly...
M: Swinging what?
D: Wildly.
M: Swingling...yeah, he's right. When you swing wildly you make loud noises.

The next example, a simple and straightforward one from an early task ("City Park," see Appendix B4, p. 234), shows the group arriving at an understanding of a word

by sharing definitions from three different sources -- two dictionaries and Felipe's prior knowledge (b):

R: 'Timidly' (looking it up).
F: Do you know what that is?
R: I know; I just don't know the exact word.
F: Like "be afraid," yes, it is....What are you looking for, huh?
R: What do you think I'm looking for?
K: "Lacking courage."
R: "Fearful....without courage."
F: Afraid to do something.
R: Yeah, fearful....so.
F: Do we have key words?

When writing down an answer they had arrived at, the students seemed similarly focused on a common goal -- albeit a relatively simple one -- and closely connected in their thinking and speaking. This is from a little later in the same session, when Reine is writing down key words for 'timidly' (b):

K: "Thin and sapless..."
R: Hold on... (she writes) "Thin..."
K: ... "and sapless".... "Bent and weary" . . .
R: Um hmm.
K: Oh... "helplessly before the wind."
F: "Forward, backward."
K: Yeah.
F: "Panicky deer"
K: "Caught in the cage"
F: "Caught in cage"
R: So....(writing)...uh-huh.
K: "A group of panicky deer"
R: (ov)
K: ... "caught in a cage".
R: (writing)... "caught in a cage."

The next examples appear to reflect motivations that are somewhat less clear (c). Towards the end of "Heavy Summer Rain" I asked the groups to consider how the

poem's images convey the feelings of the writer. In their response to my first question, Reine and Francsico appear to be on the same track, but at this point might well be more concerned with directing their answers at me than with interacting with each other.

> Me: What are her feelings, and how are her feelings related to. . .the way she's describing things in the poem?
> R: Oh, it's like... (low) "I miss you steadily..."
> F: He's gone. He. . .um..he misses her.
> R: (ov) Um...she misses him, because...they're probably not..um...
> F: Together.
> R: Together.
> Me: OK, talk to each other; don't talk to me.

My second question, about the nature of their relationship, brings confusion and discouragement at first; the repetitions and overlap in the ensuing discussion seem to be an attempt to make the most of the one point they are able to come up with, and possibly also to keep themselves on track:

> Me: What kind of relationship do you think they had when they were together?
> . . . [K. and F. express boredom and confusion]
> R: They...they had a good relationship? Like she misses him a lot?
> F: I think they did, 'cause...
> R: They did, 'cause if they did...
> F: (ov) ...she miss...she miss him.
> R: Yeah, 'cause if they did...
> F: (ov) They...they have...they have to have a good relationship...
> R: (ov) A good relationship. (K. laughs)
> F: ... 'cause if she...she misses him. (R. laughs)
> R: That's...that's one thing. So... We think that they had a...um...a good relationship.
> F: They had.
> R: Yeah, um hmm...
> F: (ov) 'Cause...she miss him.
> R: 'Cause she miss him a lot.

In the next example, there appears to be some real thinking going on (d). Although there are moments here when the girls are mainly answering my questions, on

the whole it appears to be a fine example of group members trying to reach consensus by listening to each other, thinking about the task in a similar way, speaking contingently, "playing off" each other, and responding together to shifts in focus. This is towards the end of "Heavy Summer Rain," and reflects how well – and how continuously -- Mariam and Yasmin could work together when they were getting along (it is a condensation of a discussion that went on for quite some time):

> Me: So see if you can find out anything about her feelings, and her inner state, and maybe her relationship to this man...*through* how she talks about other things, all right?
> Y: OK. She is talking about her husband, I guess.
> M: I guess like he's...maybe he's not there no more, he's dead, or...
> Y: He's not like...the way he used to be.
> M: Yeah, or he's left or he's died, or anything. . .
> Y: Maybe she's just lost him. . .
> R: Wait, but if you think about it, 'blustering': "loud, noisy or defiant; making empty threats or protests."
> M: Maybe she thinking like when they were together, all those stuff he used to do. Now he's not there...
> Y: (ov) Of course, but now he's not there, she ain't got...nothing to do.
> M: (ov) So she...she can't hear none of the stuff that was going on...swinging the door, and all them stuff...his entrance and the exits. . .He's weak or something; he can't do none of that no more, so she miss it all...
> R: He's dead.
> Y: Or they broke up. (silence)
> Me: Think about what went on while they were together, also. . .
> M: I think he used to do some stuff to her like...stuff she never liked or something.
> Y: But now he's gone...she misses him.
> Me: What kind of stuff?. . .
> Y: Like the way he leaves the door open. . .
> R: Like the way he swings the door wildly around, like...
> M: (ov) Yeah, or he used to be kind of mean or stuff; I don't know (laughs).
> Me: How do you think that made her feel? . . .
> M: It made her feel bad...
> Y: (ov) It made her feel bad.

R: (ov) Like she, like now she misses him, and...
M: (ov) ...and painfully. . .
R: OK, I got it. Like. . .everything that he used to do, like you know, the...door loud noise, the swinging doors, . . .
Y: (ov) She used to hate that.
R: Yeah, but now she's...
Y: (ov) But now he's not there...
R: (ov) But now she misses him...
M: Yeah.

In the final example ("Heavy Summer Rain"), consensus is not the issue. When the question arises of whether or not grass can feel pain, a lively, well-coordinated debate ensues (e) – providing an interesting change of pace and allowing the group members to consider new and unusual perspectives. Ruth argues in favor of the premise, Mariam against it. Yasmin, seemingly unconcerned about having to take a consistent stance, appears to enjoy trying out various points of view – including, at the end, a bit of imaginative speculation:

Y: She's comparing the grass to the person she's talking about.
R: The guy's in pain, the grass is in pain. . . .
Y: I don't think it have... (laughs)
R: (laughs) Let me think what I'm saying. (all laugh) . . . No, seriously, if you think about it, the grass *is* gonna be in...pain. 'Cause...like...
Y: How we know if it feels anything? (laughing)
R: Hah?
Y: We don't know if it feels anything. It just water stuff comes out.
M: Does grass...can grass be in pain?
Y: Yeah!
R: (ov) Anything can be in pain. Grass...
Y: I was watching...
R: Anything can be in pain.
Y: (ov) ...Don't you watch "Pocohantas"?
R: Oh, shoot.
M: "Pocohantas"? That's a fairy tale!
R: (ov) I know, I... No, no, not anything you mean here. I mean when they mowing the lawn...

M: Come on, they don't feel *anything*. (amused tone)
Y: You don't know that.
R: But think about it...
Y: They probably do.
M: I don't...I don't believe it. . . . *Creatures* can be in pain. . . .
R: When they kill a flower, ain't *you* in pain?
M: No, I don't. I don't feel it. (laughs)
Y: I'm gonna turn into a flower some day, I bet.

4.3.9 Negative Behaviors

The factors which tended to impede progress and smooth functioning could be considered "negative" in that regard, but looked at another way were equally instructive in their own right for what they revealed. I suspect that, at least a good part of the time, the students may have learned as much from them as I did.

4.3.9.1 Negative Behaviors – Digressions and Diversions

Getting off-track was only an issue for two of the groups. As mentioned earlier, Helen and Anna were extremely conscientious about staying on-task and almost never digressed. On the few occasions when Reine, Felipe and Kim went off in other directions, it seemed to have a positive effect, contributing to feelings of friendship and group solidarity. Only in the other two groups did digressions appear to actually impede the process.

Martin's ramblings appeared to be mainly due to two factors: his frustration at not being able to engage Duc in meaningful interaction, and physical tiredness from lack of sleep. Often they took the form of taunting and silly songs, typically directed at his sister (see earlier example); on occasion these got so outrageous that I had to intervene to get him back on track.

In these examples Martin takes out his negative feelings towards Duc with his characteristic zany humor ("Heavy Summer Rain," see Appendix B5, p. 235). Whether or not Duc was offended remains unclear.

> M: Ms. Schulte, would you turn off this [fan]? We can't hear each other. Um.....I'll talk in your language so you can understand. (Speaks mock Vietnamese) . . .
> Me: What kind of marriage is this? How did she feel? How did he make her feel?
> M: It...it doesn't say! . . . Ms. Schulte, look.....Oh, Duc is evil; he looked at me like....(snorting sound)

As demonstrated in earlier sections, the problem in Yasmin's group seemed to stem from her communicative style, which Mariam – and Ruth to a lesser extent – found quite abrasive. It often took the form of clever, irrelevant, and often insulting comments. On top of that, this excerpt from the first task ("Fickle Wind," see Appendix B1, p. 231) is a particularly clear example of what appears to be a difference in *cognitive* style – i.e., Yasmin is more changeable and spontaneous than her partners, more likely to change her mind and less likely to value consistency. Whether some of it reflects a conscious desire to annoy is unclear, but in any case the group's inability to reconcile their different styles took them in some quite unproductive directions.

> M: It can't be 'charmed', though. The only thing about it, it's not...
> Y: I didn't say it was 'charmed'.
> M: Yes, you did; you said that yesterday.
> Y: Not yesterday; I said now. I'm not (?) yesterday. . . .
> R: You have to say you agree or you don't agree. You can't just sit there.
> Y: (?) ...what I'm trying to say.
> Me: Say why, *why* you agree or don't agree.
> Y: I didn't say I did.
> M: Yes, you did. Yesterday you said it was 'charms'.
> Y: That was yesterday.
> M: But we did it yesterday.
> R: Fine.

Y: I know. Stop living in the past.
R: "Stop living in the past!" (exasperated) Oh, Yasmin, child, you a (?).

4.3.9.2 Negative Behaviors – Resisting Exploratory Thinking and Faulty Logic

Because the tasks called for types of cognitive functioning well beyond what most of the students were accustomed to, it was probably inevitable that some of them would try to take short cuts. At such times certain individuals, in a hurry to arrive at a solution, were more inclined to grasp at easy answers than to explore possibilities and take chances. Inevitable too, perhaps, were some lapses in logic and less-than-seamless arguments. The main categories were (a) not considering all options, (b) premature closure, (c) insufficient explanation, and (d) faulty logic and misconceptions.

On one of Martin's tired days he appears unwilling to engage in exploratory thinking , or even to follow the guidelines by considering all definitions before making a hypothesis. He and Duc are trying hard to make 'reproduce' fit for the second part of "Heavy Summer Rain" (See Appendix B5, p. 235), even though they have not yet looked up the other two words (a). This results in some strange explanations, which I refuse to let them get away with.

D: Let's try 'propagated', OK? . . .
M: Oh, yeah, of course. Grasses reproduce and everything. . .(gives explanation mixed with nonsense words)
Me: What are you writing? Have you discussed anything?...And you both agree that it's that? And why?
M: 'Cause..uh...uh...
Me: First of all, sit up. You can't think like that.
M: Because um, um...um...the grasses and the animals and...they reproduce, actually...
Me: Is that what's going on here, the animals are reproducing? . . .
M: The grass is reproducing.
Me: Did you get any sleep since last night? You were tired the last time we did this. Are you still tired?
M: Mmmm....no, no. . . . [Martin tells me Duc chose it]

Me: What were your reasons for choosing that word? . . .
D: Animal sleep and...and then in the days he...uh they wake up. It's...similar to reproduce, propagated.
Me: Reproducing has to do with going to sleep and then waking up? . . .
M: Energy, energy. You get new...you reproduce your old energy to new. . . .
Me: Think, think. See if there's one that. . .makes a little more sense there.

In this excerpt from the same task, Reine and Kim are leaning strongly towards the correct answer, 'toppled', and are finding key words. They make the right connections with the first two, but see the third, "right itself", as fitting more with 'metamorphose' despite its stronger function as the direct *opposite* of 'toppled' (d). This error leads them back to the wrong choice.

R: And that one, "Everything blooming bows down in the rain." That's for...um 'toppled'.
K: Yeah.
R: And 'shattered', 'shatter' is a key word.
K: (ov) 'Shatter'?
R: It's "broken into small pieces". It could be...um..for 'toppled' too. And what else? "Right itself if the..." . . . Um... "right itself"....I don't knowww... It has two meaning. (slight laugh) . . .
K: You know that they have the same key words. . .
R: "Right itself" could be a...a key word for...um.. 'metamorphose", because "change shape or form." 'Cause, "put itself back in place."
K: Yeah, I know.
R: It's changing shape or form.
K: No, I think 'metamorphose' is better.
R: Yeah. . .

Here I have asked Reine's group what they think is going on between the two people in "Heavy Summer Rain." A question arises about the word 'sigh'; I demonstrate and relate it to the poem – somehow leading all of them to think I have given them the 'answer' (d):

F: Unconscious sights.
Me: OK, a sigh is like... (I demonstrate)

R: Oh, I thought 'sights'. . . .
Me: A *sigh* is like this: (I do a more exaggerated one)
F: Henry Adams send a letter, so they...the other person feel painfully, like with huge unconscious sigh... . . .
Me: So he was reading these letters, and he was feeling the sadness in the letters, and he was sighing (sighing sound).
F: So that's the answer.
K: Yeah, that's the answer.
R: OK, finishhhhhh.
F: We done.
Me: No, you're not done. So what's going on between these two people, and what does it have to do with...this word?.....

4.3.9.3 Negative Behaviors – Non-Contingent Speech

On the whole, the students in this second year of the study listened and responded to each other much more than those in the first year. However, though significant lapses in contingent speaking were not frequent, they did occur from time to time. They took the form of (a) not responding to another's hypothesis, (b) interrupting another's line of thought, (c) non-contingent questions or comments, and (d) not replying adequately to a question or request for help.

At the end of a session with "Heavy Summer Rain" (see Appendix B5, p. 235), Kim tells Reine twice that he wasn't able to understand the poem, but Reine doesn't offer to explain it to him (d).

K: I think we did...did good today, right?
R: Yeah.
K: I did not...did good (?).... Sometime you know, I read them. I understand the words, but I don't understand what the poem mean, you know?
R: Ummmm....OK.
K: I don't understand what the poem mean.
R: (reads low, unint.)
K: Time to go.

Here Mariam is trying to find out the meaning of 'elegant' from Yasmin, who certainly knows it, but the answer is not forthcoming. First Yasmin seems not to recognize the word from Mariam's pronunciation and goes off on a tangent; even after Mariam repeats it correctly, she never does get around to explaining it satisfactorily (d). At the end, curiously, Mariam says she knows it.

M: Yasmin, what is it, this word right here? . . .
Y : Oh, (?) (silence)
M: Would you help me...write...
Y: 'Toppled', and what, that?
M: Galligant.
Y: Because, because, because, because, because...
M: Because I don't know (laughs). . .just help me to explain it.
Y: OK, 'toppled' it mean forward and...
M: And galligant.
Y: Right...what you put...
M: . . .Can you find the meaning 'elegant'?
Y: 'Elegant'?
M: (ov) What is 'elegant', yeah, what is 'elegant'?
Y: What's that?
M: Hmm?
Y: Someone who just....(?)
M: I know what it is; don't understand your definition, that's all.
Y: Um. (silence)

4.3.9.4 Negative Behaviors – Other Communication Problems

Other types of failures in communication included: (a) not listening, to me or the group, (b) talking to me instead of to each other, (c) procedural misunderstandings, and (d) misinterpreting my input. An example of the last type (d) occurred early in "Heavy Summer Rain" (see Appendix B5, p. 235), after the group has agreed on the correct answer, 'toppled'. Instead of confirming that their answer was correct, I told them to see if it fit in with other key words. Felipe interpreted this to mean that they had the wrong

answer, thus leading them on a wild goose chase from which they were only to return much later, with a lot of help from me.

> R: I think it's 'toppled', because I. . .the grass in the field have...you know, when the grass fell down...
> Me: Um hmm.
> R: ...by weakness. You know why weakness? Becaue if the animal must have passed the night, it might, you know...
> K: And it sleep on them...and it slept on them...
> Me: Ask him if that's what he was thinking of.
> F: Yes, that's what I think. . . .
> Me: So now you have to...
> K: Explain them... . . .
> Me: See if it fits with the poem as a whole. See if there are other key words in other parts of the poem that it might fit with also. If that's the right word, then that should be the case.
> F: So it's not the right word.
> R: No, you don't know yet. See, look for other key words.
> F: No, she's like saying that it's not the right answer.
> K: No, that's the answer.
> R: Then who...what is it? 'Reproduce'?

4.3.9.5 Negative Behaviors – Proficiency-Related Errors

Although most of the participants were intelligent, thoughtful, and often fairly articulate, it was inevitable that their still-imperfect knowledge of English would present some stumbling blocks. Some types of mistakes that interfered somewhat with their progress were (a) inaccurate pronunciation, (b) reading errors, (c) confusing similar-sounding words, (d) errors in word sense, and (e) inaccurate use of a word or expression.

Anna often misread even fairly simple words (b), though she thought about the material well once she knew what it said. Helen was a better reader, but had her own limitations. Here it appears that her somewhat narrow understanding of the word 'secret' could be keeping her from seeing the fuller implications of a line from "Heavy Summer Rain" (d) (see Appendix B5, p. 235):

Me: And what in the *poem* tells us how she felt? . . .
H: "With their black and secret center lie shattered on the lawn?"
Me: OK now, what does that have to do with her? (A. laughs)
H: (low, discouraged sounding) Nothing...
Me: Nothing?
H: It does, something.
Me: OK, what does that tell us about how she was feeling?
H: She was holding the secret for a long time? . . .That he was doing this... . . .
Me: You mean he was like really abusing her, and beating her up, and she didn't want to call the police?
H: Yeah.

In this excerpt from "Heavy Summer Rain," Felipe is trying to tell me they 'broke up', but manages to convey quite a different meaning (e):

Me: What's going on between this man and this woman. . .and how is it related to this word and the key words? . . .
F: They broke.
Me: Hmmm?
F: They broke.
Me: They're *broke?*
F: Yeah.

During this exchange from "Heavy Summer Rain," Reine is confusing 'wild' with *'wide'* – a misunderstanding that keeps her from accepting 'blustering' for the second answer, even though it is obvious to her partners (c). This sent the group off onto such a long and unnecessary detour that I felt I had to intervene at one point; even so, the source of the confusion did not become apparent until much later.

F: Mmm...I think it 'blustering'.
K: Yeah. . . .
F: 'Cause it have to do with things *wild.* . . .
R: . . .What's the key word?
F: Wild.
R: Wildly? Something can be wild...but it doesn't mean that. . .it gotta be loud.
. . . [F. and K. continue trying to persuade her]
R: So yeah, I agree with 'blustering'...but I don't see why! . . . Something can be

um...wild, it doesn't have to be loud.
Me: So if something's....loud noises, defiant, that's *not* related to 'wild'?
F: It does.
K: It does. . . .
Me: 'In a wild way' might be loud, or noisy or defiant, right?
R: (ov) Yeah, but what about 'huge'?
K: (?)
F: Huge?

4.3.9.6 Negative Behaviors – Carelessness With Definitions

A great deal of the groups' success with the tasks hinged on their knowledge of word meanings. Over and over, I emphasized the importance of looking up not only the target words, but any others that could keep them from a complete understanding of the poem's overall meaning. Nevertheless, their diligence sometimes left something to be desired, with lapses taking the form of (a) not looking up, or asking about, a word one doesn't know, (b) guessing, or giving a wrong definition from memory, (c) trying too hard to make an incorrect word fit, (d) not considering all the meanings of a word, and (e) giving an incomplete answer or definition.

Early on, in "City Park" (see Appendix B4, p. 234), Ruth stated authoritatively that 'timidly' meant "like you have an attitude or something" (b). Her partners assumed she knew what she was talking about, and proceeded to dismiss that word as one of the possibilities. As a result, they ran around in circles for the rest of the period, on a task that most of the other groups got fairly easily. At one point, Yasmin looked it up and read out the correct definition, but was not listened to because they thought she had it confused with another word.

Martin, in his tired state, provided more than one example of (c), trying to make an incorrect word fit. This one followed soon after the misguided defense of 'propagate' which was cited earlier:

M: Look. Right here it says, "The grass in the field have jet...jetson"...how you say it?
Me: Jettisoned.
M: Jettison. It makes sense. It cast off, it threw off, it came off, or something.

Shades of meaning presented their own problems. A source of confusion in "Wondering" (see Appendix B3, p. 233) was the tendency to take into consideration only the 'noise' aspect of 'bustled', ignoring the sense that has to do with *movement* (c). Here, although Helen and Anna have correctly chosen 'bustles' and are trying hard to explain why, their limited focus is keeping them from seeing – more than momentarily, at least -- the clear connection to the network of words that includes 'squabble', 'flap', 'whirls', and 'sweeping gust':

H: OK. I got it. Like, why we chose the answer is....I got what you mean. In the jungle there is a lot of noise.
A: Yes.
H: Yes. And she's saying, "I feel an angry sweeping gust whirl." What was the meaning of 'gust'? Air, right?
A: Yeah, the air. The air is moving fast.
H: Air moving fast, right? Gust means air, right? Whirl means moving fast. . . You know, when they noise, you know how the grass give you noise and stuff?
A: Yeah, I don't know what to write.
H: We choose the answer because...the...the...
A: The jungle's like a lot of noise...because the jungle gives us the answers...
H: Why?
A: Why, because a jungle have a lot of trees that's passing...on the way to the jungle (?)...
H: Yeah, the jungle....(writing) make a lot of noise, like.....tree and grass. They all make a lot of noise.

4.3.10 Teacher Behaviors

As mentioned, my own role became a central focus as I realized the extent to which just about everything was affected by my planning, my interventions, the changes I made, and the nature of my day-to-day interaction with both groups and individuals. Of course,

being caught up in the process myself did not always allow for objective analysis – but the constant "in and out" movement brought its own unique kinds of understandings ,and assessments of what may or may not have been of value.

4.3.10.1 Teacher Behaviors – Promoting Exploratory Thinking

One of my primary goals and fondest hopes was that the students would begin to think "outside the box" – i.e., that they would feel comfortable taking some real chances and going out on a limb from time to time. I wanted them to get a sense that each word could be an adventure, full of possibilities and shades of meaning which could only be arrived at through genuine and untiring exploration. In the following excerpt, which came immediately after the last one in the preceding section, I was holding Ruth up as an example of persistence beyond easy answers:

> Me: . . .And you've been doing pretty well, actually. I've been listening to some of the tapes, and uh...above all, you are persistent. *You don't give up; you don't take the easiest answer*...and say, "OK, we got it now; we don't have to think anymore. (R. chuckles) And Ruth, you're *very* good at this. I was listening to one of the tapes yesterday. There was a point where they just wanted to take the first thing they came up with, and you were probing and said, "No, I don't think that's right. I don't..." You kept looking further. So that's very good. That's what I like to see.

Very early on, in "Fickle Wind," (see Appendix B1, p. 231), I am supporting Ruth's attempts to get her group to continue to listen to her continued attempts to refine her thinking. It is apparent that the other two prefer to stop where they are – first Yasmin so that she can talk about other things, and later Mariam when she just doesn't feel like pursuing the matter further. After they talked some more, the group did finally come up with a better answer.

> R: OK. I said the key word is 'leave' (Y. is interrupting). When the wind blows it takes the leave with it. You know, I don't think you all listening.
> M: I'm listening. You said it before, and I agree with it.

Y: Uh-huh (lightly).
Me: Well, don't assume that she's saying the same thing, just because she said it before. She might have a different slant on it this time. Give her a chance to...
M: But she wrote it down.
Me: All right, but even so, maybe she has something to add to that. OK?
R: Um-hmm. . . .
Y: I don't care. (They discuss money, parents, allowance)
M: We're done, Ms. Schulte
Y: I get mine on Saturdays.
R: Wait, wait! Right? Just read it, just read it and see if. . .Read it.
M: I'm reading it.
R: Read. . . .
M: We're done.
R: Wait.
M: How many times you gonna say...
R: Mariam, wait.
Me: Mariam, you have to give people time to think! Sometimes additional ideas occur to people. Everything's not either "I have it" or "I don't", OK? You should be encouraging her to think other things, not...
M: She said 'wait' five times, Ms. Schulte.
Me: That's all right.
R: Because, it sound weird.
Me: That's all right, that's all right. It'll help her.

In the next example ("Heavy Summer Rain," see Appendix B5, p. 235), Reine's group has switched from the correct answer, 'toppled', to 'metamorphosed'. I attempt to get them to realize their error without actually telling them their answer is incorrect – tricky waters to navigate, but they did keep thinking and reconsidering for some time after that.

Me: OK, so there are those two words that *could* be related. All right now, which...
R: It's 'toppled'.
Me: All right now...
R: I think.
Me: Of those two words, which one is *most* related to those key words that you have there?
R: (ov) I think 'toppled'.

Me: Which one is more closely related? You know, don't just take that because I said something.
R: No...
Me: I just said it because I know that you had mentioned that at the beginning . . .then you kind of forgot about it.
K: But 'metamorphose' have more key words.
Me: Yeah, that's the thing. Which one is closely related to *more* key words? . . . I'm not saying one is right and one is wrong. But keep considering both of them.

4.3.10.2 Teacher Behaviors – Promoting Communication

There was a small amount of preliminary work on communication strategies intended mainly to ensure that the students would listen carefully to one another, consider each other's viewpoints, and ask for clarification when needed. Although they tried to follow these guidelines for the most part, they occasionally needed to be helped or reminded – especially Duc, of course, who needed to be prodded into just about any type of communication.

Here, on one of Martin's tired days, I have asked him and Duc to try to explain an image that is being carried throughout "Heavy Summer Rain" (see Appendix B5, p. 235).

M: (reads poem) Ms. Schulte, it's like...wait, I'll tell him. It's like...uh...
Me: Yeah?
M: Now feeling...down...it's like somebody's feeling down because somebody died or something. 'Cause look, right here it makes sense..um...
Me: Well, talk to him.
M: I am talking to him.
Me: (to Duc) Have you discussed this thoroughly with Martin? And what do you think? Do you agree with what he says? Do you have any different ideas? Here, say what you think.
D: I agree.
Me: Hold the mike. Hold it near your mouth, and say what you think.
M: (ov) Say "I agree" for the first one.
D: I agree.
Me: OK, do you have anything to add to his explanation? 'Cause it's not

completely right. So do you have any... I mean, he's on the right track, right? He's thinking, he's finally thinking. Good; sit up.

Here, after introducing "Heavy Summer Rain" for the first time, I attempt to encourage good communication by reminding Ruth's group about some of the things we had talked about:

Me: ...and when we have a disagreement, we're going to try our best to work it out. If we don't understand something someone says, we're going to say it in a polite, courteous, helpful way: "Excuse me, could you please repeat that; I didn't get the last part."
R: It's recording.
Me: "...I didn't quite understand you; could you say it in a different way? *And we don't let anything get by that we don't understand.* Someone says something you don't understand, you don't just let it be; you say something, because you *really need to know what each other are saying.* And again, you are *listening to each other;* you're not just thinking of the next thing you want to say. Everybody get that?
M: Oui.
Y: Mm..hmm.
R: Oui.

4.3.10.3 Teacher Behaviors – Helping Make Connections

The tasks were designed to help students see interconnections between meanings. When dealing with poems, where the nuances of meaning are perhaps at their most subtle, seeing patterns and connections can be both more difficult and more revealing. Here, at the very end of "Heavy Summer Rain" (see Appendix B5, p. 235), I was trying to get Reine's group to see how the two answer words are connected, and how this connection works together with the various images to paint a larger picture of what is going on between the two people.

Me: So just the word 'blustering' itself – how could that be related to 'toppled'?
F: Maybe they..they used to fight, so she feel um...weakness...
Me: Um hmm..
F: ...fell forward...

Me: Um hm..
F: So she comfort it...herself with...being down, with being lonely...
Me: Um hmm. and what else could...could his being that way have made her feel like? . . .
R: Empty threats, like...being...blustering, loud noises.
Me: OK, and how could that have made her feel?
R: Like...feel...sad...
Me: What images in here....could have made her feel like what?
R: What image?
Me: Um hmm. Somebody acting in a blustering, loud way could make her feel like...what image?
F: The hay, like the hay? . . .
Me: OK, like the hay lying down, OK.
R: Like the...the...
Me: The blooming flowers bow down...
R: (ov) The blooming flowers in the rain.
Me: Um hmm, and what else?
R: (ov) They like...lie shattered on the lawn.
Me: Right, and the flowers lying shattered on the lawn, right. So it could just be...ways that he actually acted when they were married...
R: Yes.
Me: ...that could also be related. You don't know for sure. You know, this is open to interpretation, but it's a possibility, OK? All right, good.
. . .
Me: (summing up) OK, so you have a *feeling* created throughout this whole poem of things being toppled, knocked down, bowing down, being shattered... Now she's describing nature, and in describing things in nature she's showing us how she feels. All right? This is one thing that poets do. They show us how they feel not just by saying, "Oh, I feel so lonely, and I feel so tired, and I feel like everybody..." (R. chuckles) You know, they don't just say that. Sometimes they tell us in a very subtle way. They'll describe things that are happening in nature, and we know, just from how they're projecting their feelings outside into nature, how they're feeling. And it's a much more *interesting* way of saying how you feel, all right?

4.3.10.4 Teacher Behaviors – Scaffolding

Many of my verbal interactions with the students could be seen as scaffolding. These types of intervention often helped the students to see over their conceptual horizons

into different types of thinking, some of which they were occasionally able to carry over into their interactions with group members. The following examples are among those which seemed to be among the most effective. For the most part, those that worked best seemed to do so by prodding the students to refine their thinking, by giving them just enough of a clue to help them without telling them too much, or by supplying something outside their ZPD that would enable them to take the next step themselves. These strategies included (a) giving mild hints, (b) providing written scaffolding, (c) co-constructing answers, and (d) supplying answers directly.

Here, in "Thel" (see Appendix B4, p. 234), I am offering hints (a) to help Reine's group to find the word ('attic') that is the key to the correct answer, 'repository'. Making use of my help, Felipe succeeds in finding first the answer, then the related word, and later on in the discussion, the specific image that conveys the connection.

> Me: So which word in the *first half of the poem*...See, I'm giving you a big hint here. I'm telling you that the key word for understanding, that's related to one of these four choices...
> K: Uh, the songs...
> Me: ...is in the first half of the poem. . .There's an image here, there's a metaphor here, there's a comparison going on. What is it?
> K: Songs.
> Me: Think, think, think. What *about* songs? It's all about songs. What about those songs? The relationship of what and what is the comparison here?
> F: I think it's B. [correct answer]
> Me: Explain, tell them why you think so.
> F: 'Cause she got like music in her head, you know. . . .
> Me: OK, now he's going to explain why he thinks so.
> F: Yeah. 'Cause she's like humming, like you know...like a story, like she's remembered something. . .broken promises.
> Me: (ov) All right. So what is a repository?
> F: Likes um...like an attic.
> Me: Like an attic...
> F: Where you store something. . . .
> (I ask them to find the central metaphor of the poem. They discuss two minor

ones, then Reine mentions 'attic'and its connection to 'repository'.)
Me: OK. Now, does that form an *image?* Does that form a metaphor?
R: Mmmmm...
Me: Is there a comparison going on here?
F: Yes.
Me: OK, what language tells you that there's a comparison being made here?
K: The old language...
Me: Mmm? Which words tell you...
R: I don't think there' a comparison, 'cause...
F: Old songs. . . .
Me: 'Repository of old songs'. All right, but where, which words are actually *making the comparison?* What's being compared...
K: Music...
F: "Attic of a woman."
Me: Right, exactly!. . .Those are the words that are actually making the comparison. . .OK, you have your answer; now explain it on the paper.

In the next example, Yasmin and Mariam are trying to find images in "Heavy Summer Rain" (see Appendix B5, p. 235) that are related to the first answer, 'toppled'. In addition to orally trying to point them toward the images (a), I have provided written scaffolding in the form of ready definitions for this final task (b). Mariam's somewhat belated use of these definitions helps her find one of the answers.

Me: So there are other things with that same kind of movement, OK? When something does that [topples], what does it do? It falls down, right?
Y: It was falling down.
Me: So is there anything else in here related to things falling down?
Y: The doors.
M: Like when the hill... "the hay will right itself if it turn dry?"
Me: All right. . .That's a key phrase. . . .And then there's something else towards the end of the poem. . .Well no, two, two,...either words or phrases.
M: (ov) What does this word mean? What does this word mean?
Me: You have it right *there!*. . .
M: Oh, "broke into small pieces"...Yeah, that's it!
Y: Something has been...definitely been broken. . . .
M: Put it down. . . "Lie shattered on the lawn."

Another form of scaffolding involves co-constructing meaning with the students (c). Here, at the very end of "Heavy Summer Rain," I am trying to help Helen become aware of how the author's feelings are reflected in the images. While her grasp of the matter is tenuous at best (and she may not know the meaning of 'shattered'), my providing a portion of the answers myself – and asking leading questions -- may help her get the idea at least partially.

Me: So she's the grass that was trampled, and she's what else?
H: She's the...blooming bow...now she's, you know, rising up and blooming...bow down in the rain, like uh..blooming...
Me: (ov) OK, so she's comparing herself to grass that's being trampled, and she's also comparing herself to...what?
H: The flowers that are...
Me: (ov) Flowers that are being...
H: Blooming...
Me: ...that are blooming, and then what happens to them?
H: Then the...black and...lie shattered on the lawn?
Me: Then somebody *shatters* them...
H: OK.
Me: ...these beautiful flowers, just...
H: (ov) Somebody took them?
Me: ...tears them into pieces, OK?
H: Yes.
Me: Do you get a feeling now of the kind of marriage they must have had?
H & A: Yeah.

Finally, there were a few occasions on which I simply supplied an answer (d). Once or twice I sensed the ZPD had been extended to its limit and wanted to avoid undue confusion and frustration. Other times I just wanted to give them a little help to push things along, as in the following excerpt from the end of "Heavy Summer Rain" in which Reine's group is discussing the connection between the two answers, 'toppled' and 'blustering'. They have been working well and are close to being finished; possibly inadvertently, I provide Reine with an answer she may even have been thinking of already.

Me: Somebody acting in a blustering, loud way could make her feel like...what image?
F: The hay, like the hay? . . .
Me: OK, like the hay lying down, OK.
R: Like the...the...
Me: The blooming flowers bow down...
R: (ov) The blooming flowers in the rain.
Me: Um-hmm, and what else?
R: (ov) They like...lie shattered on the lawn.

4.3.10.5 Teacher Behaviors – Clarifying Thinking

When I was in a position to notice errors in reading, interpreting, or thinking, I usually offered some assistance in order to prevent the discussion from going off in a fruitless direction – and, of course, to help the students learn from their mistakes. At other times, their misconceptions were not apparent until I questioned them about something. Two of them came up when I was working with Reine's group toward the end of "Heavy Summer Rain" (see Appendix B5, p. 235):

Me: What's going on with her and this man? . . .
K: She feeling down, you know.
Me: Um-hmm.
K: Because like she was sad...with something. . . .
R: Like from weakness...
Me: OK.
R: That can be a weakness, and... 'cause somebody die, you feel weak.
Me: All right. Who died?
R: Um...
K: Clover.
R: Like, Clover died.
Me: (sounding impatient) No, she has nothing...
F: That's the story.
Me: She doesn't know Clover. Clover's from like the...
F: She is reading.
Me: ...1900's. She has no relationship to Clover.
F: She's reading the book and she's feeling (?).
K: (ov) It look like...it look like her family, someone in her...

Me: Is *she* reading the book?
R: Yes.
R: Um, no.
Me: Is *she* reading the book?
R: No.
Me: Who's reading the book?....Come on, read it carefully.
F: "When you read something sad"...
Me: See what's going on here.
R: (ov) She just comparing um...her...
Me: She's talking to *him.*

Earlier, in "A City Park" (see Appendix B4, p. 234), the group hypothesized 'relentlessly' instead of the correct answer, 'timidly', which better fits with trees that are "tamed with captivity." Again the error arose from a misunderstanding about who is doing what to whom, and this time I used the occasion to make a point about grammar as well as logic.

R: Persistent. Yes, 'relentlessly'; I think the answer is 'relentlessly', because you see, when you look at "tamed with captivity". . .
Me: So, who is being relentless?
F: No one.
Me: Who is being relentless against whom?
K: The trees?
Me: The trees are being relentless...
K: Yeah, it look like some big tree and some small tree, you know, they...
Me: So the big trees are beating up on the small trees?
K: No, they not beating up, but you know. . .they take some...(?)
Me: Where does it show that in the...(laughter). Who is being relentless to whom? Who or *what* is being relentless, doing something relentlessly, to who or what? (silence) Remember, this adverb refers to which verb? *What* is being done relentlessly, or...
R: What is being done...
K: Timidly. . . .
Me: They do *what* relentlessly? What verb is it modifying?
K: Spreads.
Me: Spread, right. Now, are they spreading their branches relentlessly, towards the sky?

F: No.
Me: Does that fit in with the rest of the meaning?
F: (ov) They can't, no. They're behind the fence, trying to grow...
K: Uh, timidly.
F: ...and spread.
Me: Well, try that; see if that works.
K: Timidly, that...
Me: Explain why you think it might be that, and they'll tell you what they think.
(He does not explain; Reine makes a third hypothesis.)

4.3.10.6 Teacher Behaviors – My Errors

There were times when the students were thinking, but not in the specific ways that I was looking for. It was a humbling experience when I found several offerings in the transcripts that were quite valid in their own way – but which I had discounted without really considering, in my hurry to get to "the real point." Here, for instance, is Martin at one of his more involved and enthusiastic moments, offering two quite plausible answers ("Heavy Summer Rain", see Appendix B5, p. 235). One I don't listen to at all, thinking he should save it for group discussion; the other I first discount and later acknowledge, but only slightly.

Me: What was this marriage like? Do you see something about the kind of person he was...
M: He's an animal...
Me: From...shhhh. I'm not asking for answers out loud right now. This is not a class discussion. I'm just telling you what to think about... . . .All right, think about, what did he do? . . .What does it show us about what kind of person he was? How do you think that made *her* feel? And is there evidence *in the poem* for how she feels? Is she comparing herself to something in the poem? Is she showing us how she feels with the kinds of *images* that are in the poem?
M: She's comparing...Ms. Schulte, would you come here?....(to Duc) She's comparing herself to Henry Adams!
D: (unint.)
M: Ms. Schulte, I got it!.....I might lose it, Ms. Schulte.
Me: (to the other group) Forget Henry Adams...
M: I might lose it.

Me: (still in background) Forget Henry Adams; he's the least important thing in this poem.
M: See, I lost what I was trying to say, man! What did I say?....That she...she...she feel like Henry Adams when he lost his wife.
Me: Forget Henry Adams...
M: (ov) I know; I said she's giving a metaphor or something like that.
Me: (ov) OK, all right, that could be one thing. That's like, it may be after he left. But while they were still together, all right? What kind of marriage is this? How did she feel? How did he make her feel?
M: I..it..it doesn't say!

Later in the same discussion, Martin shows me through his speech – thoughtful and almost private in nature -- that he is beginning to understand what I have been trying to explain about how metaphorical images work. I minimize the importance of this unfolding understanding.

Me: And how do words in the poem show what she's feeling? What do...
M: What do you mean?
Me: . . .Sometimes a person can write about nature, and what's happening outside them, in a way that shows what they're feeling inside. And that's what she's done here. All right? So which words in the poem show what she's feeling inside, and what this relationship is like with this man?
M: Uh...(reads the first few words low).....It's like..it's like she's saying she'll feel better if he's gonna come back, you know, "The hay will right itself if the day turns damp." That means it's...right itself means put itself...put itself back in place, so she's...her feeling is...she's feeling better, or something like that. (reads again) She is trying...trying to feel...better because...um....she say.....Ms. Schulte, she used a metaphor on there!
Me: Yeah, yeah. The whole thing is metaphorical; the whole way she's talking about what's happening in nature is a metaphor for what's happening with her, right. And that's what I want you to explain, OK?

Toward the end of the same task I have involved both groups in a discussion of how the two answer words are related. Martin, trying hard to involve Duc, has "tuned in" to a connection his partner is trying to make – dubious though it is -- and attempts to give it the words Duc is having trouble finding. Instead of appreciating this wonderful instance

of intersubjective co-construction of meaning, I silence Martin so Duc can continue talking.

> Me: Right now we're talking about the connection between the two words themselves, 'blustering' and 'toppled'.
> M: Ummm. Duc...he knows, if he raised his hand; he just raised his hand.
> Me: OK, Duc, how would you say these two words are related?
> D: 'Cause when you...fell forward you make (?)
> M: What?
> D: And..fell forward like you...
> M: You cry, yeah!
> Me: Shhh...let him talk, please. When you fall forward, what?
> D: Make...noises, uh...
> Me: So the noises...what about the noises? They can *make* someone fall forward?
> D: No, when you fall forward you make a noise.
> Me: Oh, when you fall forward you make a noise!
> M: Yeah, you cry! That's what you think so?
> Me: (ov) All right. All right; does everyone agree with that? Are there any other ways that we could speak of these two words being related?

4.3.10.7 Teacher Behaviors – Focus on Words

From the beginning, I tried to keep emphasizing the importance of really knowing what all of the words mean. To illustrate my point, as Reine's group was getting started on "Thel" (see Appendix B4, p. 234) I told them about what Ruth had done (also related in my project journal; see p. 201):

> Me: Make sure you know all the definitions of the choices. . .Make sure you look them up in the dictionary; don't just take someone's word for it. Because in one of the other classes, a group that otherwise did very good work got this one all wrong, completely wrong, went totally off on the wrong track because somebody in the group said, "Oh, this word means such and such" (R. giggles), and it didn't! So they eliminated it as a choice. Actually it was "City Park." They totally eliminated that word as a choice when it was the right one, right? So even if someone thinks they know what the four choices mean, *look them up anyway,* because you may have a misunderstanding about it, OK?

Occasionally there was something about a particular word that offered a good opportunity for a useful lesson, sometimes involving grammar. In the example cited earlier from "City Park" (see Appendix B4, p. 234), thinking about what word 'relentlessly' modified may have helped the students to see why it was not the appropriate answer. Here (also from "City Park"), Reine's group is trying to figure out the meaning of 'sapless':

> Me: Did you just say a word that you didn't understand?
> R: 'Sapless'.
> Me: 'Sapless', without sap. Now what is sap?
> K: It look like a candle...
> Me: Look it up. . . .
> F: I got it...like juicy, right? Whatever is in the branches...have to be a liquid.
> K: "To weaken or destroy" or... "a water."
> Me: "To weaken or destroy" is a verb. Now if we say "-less", it means without something. Some *thing* . Some thing has to be what part of speech?
> K: Noun.
> Me: Noun, right. So you can't take "to weaken or destroy;" that's a verb definition.
> K: "They are thin and sapless." That means like they don't have water. . .
> Me: Yeah, it's like water in a plant or a tree; it's like the blood of a tree. If it's a maple tree, the maple syrup is the sap of the maple tree.

4.4 Student Perspectives: Questionnaire and Related Data

The questionnaire given to the subjects at the end of the study was completely anonymous and confidential. The papers were returned in identical sealed envelopes,then placed in a box where they were mixed in with the other envelopes.

The 22 questions were answered on a scale ranging from 1 (not at all) to 5 (extremely). Each question had a possible maximum score of 50, a rating of 5 from each of the ten subjects. Total scores ranged from 18 to 48. (See Appendix F, p. 240).

What follows is a discussion of (a) the eight highest-scoring positive-response questions, those ranging from 45 to 48, (b) the three highest-scoring negative-response questions (i.e., in which a negative response is actually favorable), as shown in a score of 30 or lower, and (c) middle-ranging positive-response items scoring between 40 and 45. It seemed significant to me that the highest-scoring questions reflected many of the areas the students also seemed to feel most strongly about in their interviews and learning journals, despite the fact that each of those sources was based on different questions. To illustrate this relationship, I have included excerpts from those sources in the first two sections below, which reflect the strongest of those concerns. (See Appendixes G and H, pp. 241 and 242), for interview questions and journal guidelines.)

4.4.1 Highest Scoring Items (Positive Response)

#4 (Score 48) In general, working in the group was an enjoyable experience.

Everybody reported enjoying at least some aspects of the experience, with most being quite enthusiastic. Here are some of the specifics of what they liked:

> We had fun working together – making jokes, laughing, not putting all our mind to the work. Sometimes you have to be relaxed to do the work. So, we worked very well. (Reine, interview, 6/11/98)

> I like working in a group because you have a chance to hear other people's opinion about something, and because it help you get along with each other better. (Reine, learning journal, 5/29/98)

> I hope we'll keep working in groups so we can exchange ideas and make better work. (Felipe, learning journal, 4/30/98)

> Helping someone who don't understand is a good feeling. (Helen, learning journal, 4/29/98)

In addition, Duc reported in his interview that what he found most enjoyable were the challenge of having to solve the problems, and the arguments he had with Martin over the picture tasks, which we did later and were not part of the study. Yasmin told me she liked hearing other peoples' opinions, even when they were wrong.

#2 (Score 48) The words we studied are, or will be, useful to me.

Most of the students reported using at least a few of the words they had learned outside of class – or at least recognizing them. This was gratifying to me because it indicated that at least in some cases, all the deep processing, extensive interaction, and detailed consideration of the wider context had had a successful outcome – i.e., genuine acquisition. For the students, too, it seemed to bring a sense of enjoyment and/or accomplishment.

> I use big words at home, like when I talk to my brothers I go like, "Today I was *drowsy* at school, I was very tired, I was very stressed out" [tired voice]. Yeah, I do that. And they say, "What does drowsy mean?" I go down like this and everything, and they go, "Oh, like that? OK." I do that for real, and they like to play with me. . . We fight on the bed; I show them how to defend themself. And sometimes I say, "I'm drowsy, I'm tired," and they jump on my back, and I say, "I mean it – I'm drowwwwsy." . . .
>
> Also, when I teach them how to fight, I say, "When you do something you gotta do it step by step, *gradually*. . .I say, "defend yourself." I hit them. And they want to do something fast, like they seen in wrestling, and I said, "Do it slowly before you do it...slowly, gradually." (Martin, interview, 6/11/98.)

> I remember using 'indifferent', 'paradox', 'melancholy', 'obnoxious', and 'distinguished'. . . With 'melancholy' I was talking about a melancholy person. Like in my journal [for another class] I was writing about a girl, she has a melancholy personality. . .And about 'obnoxious', usually when I use that word I write...it's about somebody who's obnoxious and very irritating (Reine, interview, 6/11/98.)

Felipe spoke positively about recognizing some of the words on television, and wrote in his learning journal:

> I really like this kind of tasks. It enrich your vocabulary which to me is what I need to improve my English. I been thinking about how since this tasks began my vocabulary has enhance. (Felipe, interview, 6/12/98)

#16 (Score 48) On the whole, I felt the members of my group tried hard to overcome difficulties and misunderstandings.

The students probably had more to say on this topic than on any other, and many really seemed to enjoy writing relatively specific accounts of how they worked through various types of problems, both communicative and cognitive. For example:

Solving these problems were very hard, and if we didn't put our heads together we wouldn't solve them, but we did put our heads together and solve them. . .[Today] instead of just finding the answer, we all looked at the words definition first and keep all of them in mind. (Ruth, learning journal, 5/20/98)

The problem was easy. We know that is not the right answer but she said to me this is the answer. I told her to explain, like back it up, give a little figure speech. Then we solve our problem like that. (Helen, learning journal, 5/26/98)

The poem was kind of a little hard to understand. . .What we did was read the poem over and over, and look up words we didn't understand. (Mariam, learning journal, 5/18/98)

I had a problem understanding Mariam sometime. It's like I didn't know what she was saying. . .The problem was solved when Ruth finally understood what Mariam was saying. Mariam was saying the reason for the answer, and I thought she was asking what the answer was. (Yasmin, learning journal, 5/27/98)

At first I couldn't understand Mariam's accent, but I got used to it. Ruth helped me out. Also, I asked Mariam to tell me where she was, so I could read the part she was talking about. (Yasmin, interview, 6/12/98.)

When they didn't understand me I had to repeat again, say it clearly, explain to them. It was difficult when I read a poem and I don't understand a word; I look at the key words, and I put it in there and I read it over again, and I try to understand them. I got better at doing it.

. . . .

It was hard when we didn't understand how the dictionary explained a word. We took a word and tried to put together what it meant. We always tried to figure it out together, and we asked you one or two times. (Kim, interview, 6/12/98.)

We have a problem on communication, understanding each other, but we stop arguing and listen to each other and we became more and more understanding each other. That's how we both solve the problem. (Helen, learning journal, 5/10/98)

#6 (Score 47) From working in the group I learned some skills that will help me get along better with others socially.

Most of the students seemed to feel that they had learned some genuinely useful social skills, and many of the testimonials on this subject were quite moving. Here are some examples:

Me: What do you remember most?
R: Just working with the group. It was good because you would get

somebody else's ideas, and if it was wrong you wouldn't be so rude about it, and you would just work it out with them.
Me: You mean you'd learn how to not be rude.
R: Exactly. And be *patient.*
Me: That was important to you?
R: Yes. (Ruth, interview, 6/15/98)
One thing I felt like I did for myself was just being patient, because I talk fast and clear, and they talk not like me. (Ruth, learning journal, 5/20/98)

It was like this. She understood what the poem was talking about, let say almost, and I can't say "No" or "You're wrong" – that would be rude. So I told her, "does she think so" and she was like "if you have other opinion about it I will be glad to hear it." I told her my thoughts and she was like "thank you for not being nasty even though my answers was [off the wall]". That is how we solve our problem. I am glad she is my partner as well as my friend. (Helen, learning journal, 5/28/98)

The best thing was talking to her, explaining, understanding her problems, and saying nice disagreeing things. (Helen, interview, 6/11/98.)

Me: Did you learn anything you can use outside of school?
Y: I learned to say things like "What are you saying?" because it fit with what the group was doing; I couldn't use words from outside. (Yasmin, interview, 6/12/98.)

Me: Did you learn anything that will help you in future English classes?
R: The way we did the task. Like I don't like talking about stuff just open, openness with people, and what you're thinking. I think that's going to help me a lot, 'cause I don't like talking in class a lot.
Me: So you got practice in saying what you were thinking, expressing your ideas in words?
R: Right. (Ruth, interview, 6/15/98)

#1 (Score 46) The tasks we did in the groups were interesting.

Even though it appeared throughout the process that the students were genuinely interested in what they were doing, it was gratifying to find out at the end that they thought highly of the tasks. I had been somewhat concerned that they might have been put off by their difficulty, and in fact I did find some negative feedback in the learning journals concerning frustration with a particular word or task – though in most cases these feelings quickly changed once they came to understand it. Several students said they wished the words were both easier and harder, at different times. In the end, just about everyone seemed to think the challenge had been a good thing.

I think doing this task is good because every time when I go to that class it was boring, and changing her teaching to this task is fun for everyone. (Helen, learning journal, 5/10/98)

I really like the task. If you could, give us a little more challenge with the words. (Ruth, learning journal, 5/1/98)

It's better with unfamiliar words. You have something to talk about. (Yasmin, interview, 6/12/98)

Me: What was the hardest thing about working in the group?
D: The words.
Me: Understanding the words, how they fit in, the meaning?
D: Yes.
Me: What was the best thing?
D: We enjoyed solving the problems.
Me: So you liked the challenge of having to solve the problems?
D: Yes. (Duc, interview, 6/12/98)

M: When it's harder, it's easier for me. When it's easier, it's harder for me.
Me: So you think better when you're challenged a lot?
M: Yes. . .
Me: As time went on I was giving you less help, and you liked that better?
M: Yes.
Me: Do you think you would have been able to work as well on some of the harder poetry tasks if I hadn't helped you a lot?
M: Yes. I like challenges. I don't like easy work. When you gave us that, I didn't know what to do, he didn't know what to do. I just guessed, and he said, "No, not like that." He said, "It gotta be this, it can't be that."
Me: So you liked it a lot better when you were forced to help each other, when I wasn't there?
M: Yeah. (Martin, interview, 6/11/98)

I found it interesting that three of the students had a special fascination for the word 'attic':

I really liked the task "Thel", because it talks about a woman who has music in her, and because it compare the woman to an attic. (Reine, learning journal, 5/21/98)

I really did like the task because the way they said, "sweet attic of a woman." I really love that part. And I don't think the task could improve more. (Ruth, learning journal, 5/20/98)

I like the second task because I could relate to it. When my parents use to fight all the time I use to go in the attic and turn on the radio. (Yasmin, learning journal, 5/19/98)

Learning about poetry from the tasks seemed to be yet another source of satisfaction. Yasmin wrote and spoke about coming to understand figurative language, and Felipe about learning to "get the idea" of a poem:

> Something I learned was that people could use figurative language to say something without using the actual word. (Yasmin, learning journal, 5/19/98)

> Me: What was a problem that you had, that you overcame, you personally?
> Y: Sometimes I had a problem understanding what the poem was talking about, 'cause they was using nature words, and some other words that wasn't making sense to me. Then I started getting it.
> Me: So your main problem was that some of the poems were a little difficult?
> Y: They weren't difficult, but the words they used in there, like they used animals where a person...
> Me: Oh, I see, like images and personification, and that kind of thing... metaphors.
> Y: Um-hmm. That was like the first time I read about it.
> (Yasmin, interview, 6/12/98)

> I found it hard at first, then it got easier, getting the idea of the poem. Sometimes you think you have the idea, but you don't. I got better at finding the idea; just by doing several poems helped out with that. (Felipe, interview, 6/15/98)

4.4.2 Highest-Scoring Items (Negative Response)

The following statements received a score of less than 30, which was equivalent to either "not at all" or "slightly". As can be seen from their wording, however, this actually constituted a favorable response, with the most positive feelings reflected by the lowest score.

#14 (Score 18) I feel I could have learned as much or more if I had worked by myself.

> My partner helped me understand what the poem was talking about, like when the poem says "doors swinging wildly" it didn't make any sense to me, but she told me when he enters the door every time the "door swing back and forth." (Helen, learning journal for "Heavy Summer Rain", 5/28/98)

> Me: Tell me about something you remember figuring out with your partner's help.
> H: We had a lot, but one is this one, "Wedding Day." That one was kind

> of hard, and I wasn't interested in the poem, and I just picked one, like "sunny day." And she was like, "No, it's not sunny day. . .She read it to me, and she went like, it gotta be 'perfect', "but love is what made it a *perfect* day."
> Me: So you needed her input.
> H: Her help, yeah, because I wasn't interested in the poem whatsoever -- this one, I mean.
> Me: So she made you read it more carefully.
>
> H: Yeah, yeah, in understanding the word 'shone'. I didn't know it was the past tense of 'shine', and she knew that. (Helen, interview, 6/11/98)

> M: It was harder when I did it alone, because I couldn't get help from him.
> Me: So you think that even with all your problems communicating, you did better working as a team than individually?
> M: Yes, I liked it when we were a team. I couldn't do it, I couldn't understand it. (Martin, interview, 6/11/98)

What makes these excerpts particularly interesting is that both Helen and her brother Martin were the stronger members of their dyads, and appeared most of the time to be helping their partners rather than the other way around. Kim, too,surprised me by offering a helpful illustration. Though I was unsure how well he understood figurative language, here Reine seems to feel that he helped her understand visual imagery:

> My partner Kim talked about food, to make me understand something. For example, he talked about shrimp, which he likes a lot. He said, "Imagine that you have a bowl of shrimp. . .". The reason why he said that was to make me understand that the writer used sense of seeing, because when you're imagining something, you're seeing it. (Reine, learning journal, 5/11/98)

#17 (Score 23) My teacher did too much of the talking.

A major concern of mine throughout the process was how to structure both the tasks and my input so that the students would be getting just enough help -- while still keeping things difficult enough that they would have depend on each other. Here is an excerpt from my project journal:

> I'm wondering – is there any awareness that's carrying over from one task to another? Are some things getting any easier? How am I going to assess this – will it be evident from a careful analysis of the transcripts? I have to

be alert for ways to make it easier, help them learn what I want from each task – e.g., the network practice, along with other types of scaffolding.

And speaking of scaffolding, am I talking to them too much, giving too many hints? I'm trying to help them just enough so they can get the idea, and we can move on. I think that's OK to do for now. As we move along, hopefully I'll be able to give them less and less verbal support, although the tasks will also be a little harder, so it's likely I'll still have to provide considerable scaffolding. (project journal, 5/7/98)

As it turned out, I did keep up a high level of scaffolding throughout, and even intensified it with some of the groups towards the end, as I tried to get them to see the wider meanings and connections in "Heavy Summer Rain" (see Appendix B5, p. 235). On the whole, however, the students seemed to feel that my input was valuable, and not excessive; Kim even indicated an awareness and appreciation of the scaffolding process. Many of the students also thought it was very helpful when I put definitions into my own words; I occasionally did this orally, and gave them some written definitions for the individual tasks and "Heavy Summer Rain."

Me: Is there anything you heard me saying that you later used yourself?
K: When you tried to explain us, and we listen, and we try to take it from you and try to explain each other if we don't understand.
Me: So you think ways I had of explaining things might have carried over into how you explained things to your group?
K: Yes. (Kim, interview, 6/12/98)

Me: Were the words too easy or too hard?
H: It was good to have challenging words. When they were too hard we came to you; you had better definitions. (Helen, interview, 6/11/98)

We both have a problem solving and understanding particular words, like when we have to find the key word that led us to the answer, and understand a kind of word that we can't pronounce or don't have no idea what it means. But there is always our teacher. Whenever you need her for a moment she will get mad at you like you should have look that up in the dictionary when you start reading the poem. But no matter what, she will make sure that we understand it very carefully. (Helen, learning journal, 5/28/98)

#13 (Score 27) I feel I could have solved the tasks just as well or better by myself.

This statement is similar to #14 above. Interestingly, the stronger score on the latter seems to indicate that even those who felt they could have solved the task as well or better by themselves nevertheless believed that they would not have learned as much in doing so. This appears consistent with the frequently-expressed belief that they were learning valuable social and communication skills.

4.4.3 Other High-Scoring Items (Positive Response)

In addition to those mentioned above, the following items on the questionnaire received a score of 40 or above, which is equivalent to an average ranking of "quite a bit":

#22 (Score 46) After doing these tasks, I feel I am better able to use dictionary definitions to help me understand what I read and hear.

#2Heavy Summer Rain (Score 45) After doing these tasks, I am more interested in learning new words.

#21 (Score 45) After doing these tasks, I will probably think more carefully about word meanings in the future.

#5 (Score 44) While working on the group tasks, I felt I was learning vocabulary more effectively than with most other kinds of vocabulary activities.

#1Heavy Summer Rain (Score 43) Working in the group helped me to work more effectively with other people.

#15 (Score 43) On the whole, I felt the members of my group were effective in helping each other learn.

#12 (Score 43) I like some of my classmates more now that I have worked with them.

#19 (Score 43) Writing learning journals has helped me become a better learner.

#18 (Score 42) Writing learning journals has helped me become more aware of how I learn.

#8 (Score 42) Working in the group helped me learn to communicate better in English.

#9 (Score 40) Working in the group helped me to think better in English.

4.4.4 Middle Items (Positive Response)

Finally, there were three items that scored between 39 (one point short of "quite a bit"), and 30 (an average score of "somewhat"). They are:

#7 (Score 39) Working in the group helped me improve the correctness of my English.

#11 (Score 39) From working on the group tasks, I feel I learned some skills that will make it easier for me to learn new words in the future.

#3 (Score 30) I still remember most of the words used in the tasks.

Further implications of these findings will be discussed in the following section.

CHAPTER 5
DISCUSSION

5.1 Research Question #1: How Can Vocabulary be Taught in Ways That Enhance Conceptual Development?

Most of the participants came to the study having had little or no experience with considering words in context. Especially after the first year, it became clear that if the subjects were to do the kind of thinking called for in the tasks – i.e., expanding their understanding to networks, connections and patterns of meaning – they would have to start with *a grasp of contextual meaning at the sentence level.* The practice we did with "key words" and basic logical approaches to figuring out meanings was indispensable for this purpose, and appeared to have tangible effects. A number of students commented on the value of this work in the interviews and learning journals.

Another very important factor in enabling them to eventually "scale the mountain," also missing from the first study, was *the incremental nature of the tasks.* Not only were the first ones easier, but a few of them also involved question sheets which broke things down into simpler steps, and allowed me to give early feedback on their thinking processes. Once they "caught on" and started thinking in terms of networks, it also proved helpful to give them extra practice with finding connections in additional poems – an activity which was actually suggested by a non-subject in her learning journal.

For additional support, I constructed a *graphic organizer* which summarized the three main types of poetry tasks and the kinds of thinking they called for: completing a metaphorical image, three different types of context clues, and identifying the overall feeling or type of movement in a poem (See Appendix D, pp. 237-238). Although at the time I presented it I wasn't sure how much they were getting out of it, quite a few of the subjects said in their final anonymous questionnaires that they thought it had been very helpful.

All of these factors undoubtedly contributed to the early successes which helped set a positive tone. Knowing they had the basics down seemed to inspire the students with a confidence which carried over even to those whose footing was less sure, creating an atmosphere of *willingness to experiment, take chances, and think in new ways.* I believe that this *esprit de corps,* their "we can do it" attitude, contributed a great deal to the high level of interaction, exploration, and distributed thinking that took place in the groups, and as such was a critical factor in stimulating conceptual development. It also appears to have been what was most noticeably lacking in the group work in the first study, which was characterized by avoidance, digressions, frustration, unwillingness to take chances, and an overall lack of enthusiasm. Here, in a learning journal, Helen expresses her frustration with the difficulty of the tasks along with her determination to keep going, and an apparent faith that she will ultimately succeed as long as she can get the needed help:

> These poems are giving me a problem. The more we do the more we understand, that is what they say. But it is not easy; you have to read and read the poem so many times then look up the words that you or your partner don't understand. Anyway every time it gets harder and harder but as long as my teacher is around I'm not going to give up that easy. (Helen, learning journal, 5/18/98)

The challenging nature of the tasks probably encouraged conceptual growth simply by making the students think harder about meanings and connections, but it may have stimulated thinking in other ways as well. The built-in ambiguity of most of the answers, as well as the length of time needed to solve the tasks, made it necessary for the groups to *interact with the words over extended periods of time*, entertaining a wide spectrum of subtleties, shades of meaning, and connections. In addition to the excerpts presented in Section 4, here is another interesting example of real thinking taking place over a fairly long period of time, resulting in some good connections being made between words. It is probably the only such example from the original study, and involves the group that was specially chosen from former students. The poem is "To The Lecturer"

(see Appendix A1, p. 227). The students need to make the connection between the key word 'surfaces' which I have just helped them find, and 'cadences', which is the correct answer. Thanh is able to arrive at the answer after first making a connection to the idea of 'sound', and becomes very excited by his discovery, though he never manages to convey his understanding to Sam. (The excerpt is condensed):

T: Don't put A. It's not A.
S: Um-hmm.
L: "Drowning in surfact acts...'
T: "Drowning in surface...in surface..."
L: Yeah, I picked A.
T: (reading definition). . .A sound, argument.... Yeah, yeah, yeah! (excited)
S: What? . . .
T: D, it's D!. . . [the correct answer, 'cadences']
L: D, you picked D?
T: Yeah. "A musical phrase..."
L: Musical phrase
T: "...of you speaking."
S: (not understanding) So it's not related to 'surface'? . . .
L: "The outside of an object."
T: Outside of an object.
S: So this 'cadences', it deals with sound, right? (reads def.)
T: Oh man, I got it now! . . . 'Cause D like...a musical sound...
S: OK.
T: ...like somebody singing a song...
S: OK, in what way is it related with 'surface'?
. . .
T: Like she had to tape something...someone who's singing...
L: When you hear a tape, right, you hear a sound...
T: At first, you know, you don't understand it, so like you kind of don't like it; it's not interesting. But after years you know what it mean.
S: Yeah?
T: It sound different to you.
S: OK, you saying. . .cadence has to do with the sound and stuff?
T: If the musical sound is coming...see it?
S: I see it, but I don't see how it's related. . .
T: Everything in there. All the meaning in there!

It should also be mentioned that *the distributed nature of thinking* within a group context was important in itself. Unlike the students in the earlier study, the later subjects – largely because their interaction was more carefully prepared and guided, and allowed to develop over a longer time frame – were more "tuned in" to each other. This meant that they were much more aware of their need to explain themselves clearly, listen to one

another, argue effectively, get one another to participate, help each other understand, etc. One effect of this was that on the whole, the students came to take it for granted that learning and understanding were to be done not only for oneself, but also out of a sense of resonsibility toward one's group. Here is something Helen wrote in response to the question, "Can you remember anything you did by yourself that helped you learn?":

> Yes, when we get our paper back she have wrote a comment on it but my partner didn't understand so I make myself understand and make her understand. (Helen, learning journal, 5/11/98)

Finally, I believe the element of *metacognition* – having to reflect on what words one was learning, and how -- played at least some role in stimulating thinking. It is possible, anyway, that Helen's comment here, while a modest beginning, could signal a lasting shift in how she thought about learning new words:

> I learned a lot of word too, that I have never seen before and some I did but don't have no idea of it. Like the word Obnoxious – very annoying – I have heard of it also I think I have used it in a sentence once or twice but didn't pay any attention to put it in my Brain. I have to start doing that!!!. (Helen, learning journal, 5/26/98)

Obviously, there is no clear-cut way of measuring the extent of cognitive development arising out of a study such as this. Nevertheless, there were a number of indications that important types of learning had taken place, not the least of which was appropriate use of many of the words on later occasions. In addition, much of the above, along with other observations and feedback from students, suggests that the students' interaction with the demands of the tasks probably resulted the successful formation of some 'true' concepts as defined by Vygotsky. Both of his criteria were met. First, the concepts involved were *systematic* in that they involved networked, interdependent meanings -- which the students became increasingly successful at dealing with. In their interviews and learning journals many told of how difficult it was to understand and find key words, but also expressed satisfaction at having finally found the connections.

Secondly, the concepts were *consciously taught and learned* from carefully designed tasks arranged in a deliberate sequence, some of which involved questions to promote step-by-step thinking. Students were further guided in the problem-solving process by scaffolding from the teacher which was calculated to provide just the right input at the right time – and seems to have succeeded in its intention to a considerable extent.

5.2 Research Question #2: What Sociocognitive, Group and Social/Affective Behaviors – Both Positive and Negative – Do Students Engage in While Collaboratively Solving Challenging Vocabulary Tasks?

Chapter 4 presents a representative sampling of the positive sociocognitive, group, and social/affective behaviors which I was able to identify from the transcripts from the final study (see pp. 102-139). On the whole, the frequency of these positive behaviors far outweighed that of the negative ones, and contrasted sharply with the preponderance of detrimental behaviors in the pilot. This section will (a) describe some of the negative behaviors from the pilot study, and (b) analyze the positive behaviors in the second study to isolate the factors most helpful in enabling the students to solve the tasks successfully – and hopefully, in the process, to learn effective ways of thinking about words they will encounter in the future.

5.2.1 Common Features of Negative Behaviors (Pilot Study)

In the early days of the pilot study I wrote:

> I asked them to try to explain their answers. In yesterday's task on the poem they were saying things like, "I think it's this," "No, I think it's this," "Okay, let's write that," without actually getting into the reasons why they thought so. I'll tell them explicitly that I want them to *think aloud!* (project journal, 5/20/97)

Reflecting on the pilot study several months before starting the final one, I added:

> There were just too many fatal mistakes that impeded further progress – including *looking up the wrong word!* The extent to which they listened to each other left a lot to be desired; often (if not usually) it seemed like several simultaneous monologues, with little attempt to understand each

> other's point of view, or to express disagreements articulately. More often than not, when one student came up with a hypothesis and started to talk about it, it would be ignored by the group. Someone else would change the subject or break in with their own idea. (project journal, 1/1/98)

In planning the final study, I included the above observations in the following summary of major problems based on a detailed analysis of the first year's transcripts:

1. Giving a hypothesis without explaining it.
2. Not listening to another before giving one's own idea.
3. Cutting someone off, interrupting another's explanation.
4. Ignoring someone's reasons or explanation and continuing on with one's own.
5. Rejecting someone's hypothesis without giving reasons.
6. Vague or inadequate explanation.
7. Concluding without getting consensus, writing down answers prematurely.
8. Pushing for closure too soon.
9. Not looking up all new words.
10. Misleading group members with a wrong idea about a word.
11. Being too timid – i.e., not persistent or aggressive enough with a hypothesis
12. Being afraid to explore or take chances; sticking to safe and predictable answers.
13. Personal attacks and disagreements.
14. Being off-task due to playing, kidding around, etc.
15. Giving up and refusing to do more work.

Inevitably, there were still some negative behaviors to be found in the final study (see Section 4.3.9, p. 139), though their frequency was far less.

5.2.2 Common Features of Positive Behaviors (Final Study)

A complete taxonomy of positive behaviors taken from the transcripts from the final study is found in Sections 4.3.5 through 4.3.8 (see pp. 102-139). This section will

attempt to isolate out the recurrent factors among those behaviors, on the cognitive, group, and social/affective levels, which appeared to be the *most* positive – i.e., most responsible for both successful group problem-solving and individual learning. While all such judgments are largely subjective in nature, it was generally quite apparent when the students were making progress, and taking significant "leaps" in important areas.

5.2.2.1 Sociocognitive Level

Perhaps the element that marked the most significant departure from typical classroom cognitive behavior was *exploratory thinking*, or the willingness to take chances and think "outside the box." This was one of the features that I had found lacking in the first study and was able to successfully improve on in the final one -- by specifically encouraging brainstorming and tentative answers, and through other means discussed in Section 5.1 (p. 173). Among the illustrations given in section 4.3.5.3 of the taxonomy was Yasmin's creative explanation about flowers bowing down in order to get rain (pp. 107-108). In addition, some of the most creative thinking came from trying to make the wrong word fit -- as when Martin chose 'propagate' for "Heavy Summer Rain", then tried to relate it to the idea of animals reproducing their old energy into new energy while they slept.

Part of exploratory thinking was the willingness to challenge attempts at premature closure and push beyond easy answers. Felipe and Ruth were especially good at this. On pp. 109-110, Felipe refuses to accept Kim's quick selection of 'gallant' for the second part of "Heavy Summer Rain" (see Appendix B5, p. 235), and insists on carefully considering the definitions for the other choices. Ruth, too, tended to probe beyond the answers her partners came up with and prod them to look further.

Equally significant, and also far more present throughout the second study, were *contingent speech* and *intersubjectivity* (see section 4.3.8, p. 133), which contingent

speech helps to make possible. Having been quite disturbed by the students' failure to *listen to* each other in the original study, I had designed the communication strategies – e.g., offering a hypothesis, disagreeing, etc. – mainly to address that problem. Many of the subjects mentioned having found the strategies helpful. It seems quite likely that trying to practice them, along with other factors such as enjoyment and motivation, resulted in their listening to each other more closely – and thus to their thinking together more effectively. The process became one of genuine *distributed thinking,* in which students' individual contributions contributed to an end product which none of them would have been capable of on their own.

Another important sociocognitive behavior was their willingness to *challenge each other* by disagreeing, asking for more complete explanations, and demanding evidence (see Section 4.3.5.1, p. 102). A good example was when Kim attempted to explain their choice of key words by saying simply that they were related to 'timidly' ("City Park," see Appendix B4, p. 234), and Felipe held out for an answer that explained *why*, eventually provided by Reine (p. 103).

Equally significant was their determination to *keep going in the face of difficulty* – for without this many of their cognitive breakthroughs would not have been possible. It was evident when Reine kept her group going after a new challenge had caused them to become somewhat negative (p. 104). Helen often wrote in her learning journal about such things as her frustrations, ways in which she and Anna overcame problems, her determination to keep going, and how my help made it possible to keep on (see comments from her and others on pp. 164-170).

Some other types of sociocognitive behavior deserve mention as well. One is the way in which Anna, in particular, used questioning to explain something that was not getting across – something she had probably picked up from me as well as other teachers

(see p. 106). Also important were both openness to learning to think in figurative language, which was given explicit mention by Yasmin, and the ability to explain it to others. Kim's illustration to Reine regarding visual imagery (see p. 169) is a notable example of the kinds of explanations through which the students appear to have helped each other learn. Finally, some of the subjects displayed a particular ability to consider complexities, fine points, and subtle shades of meaning (see p. 114).

5.2.2.2 Group Level

Possibly the most important factor to successful group problem-solving was the students' willingness to *consciously work on communication,* since this laid the groundwork for much of the other work. Prime examples here were Martin's energetic attempts to prod, encourage, and help the reticent Duc contribute to the discussion (see pp. 120-121). Also valuable were the many successful attempts to explain ideas a partner was having difficulty with, as evidenced by numerous comments in the questionnaire and interviews (see especially Question #14, p. 168). It was also extremely significant that, as mentioned in the previous section, the students *listened* and responded well to one another, providing an abundance of the contingent speech so noticeably lacking in the original study. A particularly gratifying example was when Helen made sure Anna was listening to her before going on with her explanation (see pp. 121-122).

The second factor was the willingness of some of the students to be thorough and cover all the bases. Though a few were content with faster and simpler solutions, Ruth and Felipe in particular tended to call their partners on answers they felt were sloppy or inadequate, or to stop to look up unfamiliar words. One example, (pp. 108-109), is cited in the previous section. Another is the excerpt on p. 103, in which Felipe challenges Kim's rationale of "'cause they're related" for choosing their key words.

The efforts of several of the students to keep the group on track and on task were also extremely important. Noteworthy here are Ruth's many interventions to keep her group focused (e.g. p. 118), Mariam's persistence in the face of Yasmin's wisecracking (pp. 118-119), and Reine's success in getting her partners to overcome their resistance to a difficult part of the task (p. 104).

Finally, I believe it is significant that the students were occasionally able to step back and look metacognitively at the process itself. Ruth was able to reflect on a mistake she had made, noting: "Mariam she said the right answer, but because I wasn't listening very hard I cut her off and I apologize for that." Additional examples are on pages 121 to 123).

5.2.2.3 Social/Affective Level

Positive behaviors on the social/affective level fell into three basic categories. (The negative ones, described on pages 139 to 148, were mainly variations of those from the pilot study which are described on pages 177 and 178.)

First are the positive attitudes toward the process as a whole which seemed to characterize the groups more often than not. These could be described variously as: pride, confidence, interest, enthusiasm, motivation, and determination. For example, there is Helen and Anna's excited pride over having gotten both answers to "Heavy Summer Rain" while Helen's brother Martin and his partner were still struggling with it (see p. 124). Anna noted with satisfaction in her journal, "My group did excellent job because we didn't use no dictionary; by just asking each other we try to do our best" (5/18/98). In his journal, Felipe wrote that his vocabulary was being enriched and that he was starting to understand how poems work, while Yasmin spoke with obvious pleasure about having come to understand figurative language. In terms of motivation, Helen, who along with Anna had a harder time than most of the others, expressed confidence on several occasions

that she would be able surmount the difficulties with the teacher's help. Other positive statements relating to the tasks, working with a group, improving communication, learning social skills, etc. are found in Section 4.4.1 (pp. 163-168).

Secondly, the extent to which the students felt *interdependent and connected with one another,* and the extent to which this interrelatedness was reflected in their work, deserve mention by themselves. Some of these sentiments are shown in the responses to Questionnaire item #14, "I feel I could have learned as much or more if I had worked by myself" (p. 168). Here is another, from Reine's interview:

> R: The only problem I couldn't overcome were the tasks where we had to work individually. I would have understood it better if I'd been able to work with a group. Not because of a particular person, but we think better as a group – we discuss things. I might think it's the answer and it's not the right one. If I'm working by myself and I think it's that, I'll go right ahead and write it, but if I'm working in a group I think it's the answer but I ask everybody for their opinion. And then we discuss it in a group, which one is good, because which one we have more key words for, and which one in fact is the best answer.
> Me: So the truth is more likely to come out in a group?
> R: Yes. (6/11/98)

Occasionally the comments would take the form of appreciation for one another. In one instance, Ruth wrote of Yasmin that "she acts like she is always sick but she try and she work also." Here, in answering two of the Guidelines questions (see Appendix H, p. 242), she appreciates her own patience as well as that of her partners:

> The one thing I felt I did was that I had to repeat myself again and again so I felt I learn how to be patient.
>
> Me and my partners worked very hard and we solve most of the task because they were also patient. (Ruth, learning journal, 5/20/98)

Ruth also expressed appreciation for the example Mariam set in looking up all the words, as well as for the help she felt she gave her. Here are two more answers to questions from the Guidelines:

> Well Mariam, she looked up anything that she didn't understand and that's something she did and something I learned from her.

I couldn't understand the whole task but Mariam helped me a lot.
(Ruth, learning journal, 5/5/98)

In a sense, the students' sense of connection could be seen as the affective dimension of intersubjectivity, contingent speech and distributed thinking, which are mentioned earlier in this chapter, in Section 5.2.2.1 on positive sociocognitive behaviors (see pp. 179-181). From this perspective, many of the statements could be taken as reflecting both cognitive and affective phenomena.

Finally, the element of *humor* must be mentioned because it was so noticeable throughout nearly the entire process – whether it was Helen and Anna's lighthearted banter, Yasmin's clever irrelevancies and put-downs, or Martin's frantic releases of tension. Spontaneous humor seemed to characterize nearly all of the proceedings, something I took as reflecting the strength, resilience, and positive outlook with which most of the students had been raised.

5.3 Research Question #3: How Can Spoken Group Collaboration be Conducted so That it Leads to More Effective Thinking and Learning?

To start, it would seem appropriate to clarify just how one might know if thinking or learning was taking place. There is, of course, no simple answer to this question; even the most carefully constructed and 'objective' tests only measure certain aspects of each one – and these are not always those we set out to measure. What I will attempt to do here is to identify the types of thinking and learning I was particularly interested in fostering, and look for evidence of these in the available data.

It was not difficult to see that there was a great deal more thinking taking place in the final study than in the first, in which most of the activity seemed to consist of personal quibbling and otherwise finding ways to avoid the task. On the whole, in the later study the students carefully considered the poems and words in the tasks, made relevant

responses to each other's input, showed evidence of thinking in networks and patterns, experimented with a variety of possibilities, often in highly creative ways, and – perhaps most persuasively – succeeded in finding the right answers most of the time. When their thinking was less than par, it was usually because they failed to make sure they understood the necessary vocabulary. Another problem, of course, was that a few of the students were too ready to accept the first answer that made any sense at all.

According to my criteria, there was also considerable evidence of learning. Although what I had been most interested in fostering was a process in which all three factors worked together in synergy, when considered separately the three types of learning that mainly concerned me were: (a) *learning how to think* – especially on an interpsychic level, in an exploratory and creative manner, in interconnected concepts, and with an understanding of figurative language; (b) *learning how to learn* – e.g., making the transition from definition to context; considering new vocabulary in the light of context, subtleties, and networks of meaning; and becoming familiar with how words and images create meanings in poetry; and (c) *learning to communicate* – hearing and building on the contributions of others; articulating one's own ideas and helping others understand them; overcoming misunderstandings and disagreements; and generally becoming familiar with discourse and group-level strategies that facilitate group problem-solving. Examples of most of these can be found throughout the Data Analysis chapter, in both the transcripts and the student reports.

The specific features of spoken group collaboration that seem to have contributed most to the apparent effectiveness of the students' thinking and learning are as follows:

1) *The challenging nature of the tasks.* The fact that the tasks were designed to be somewhat difficult was, I believe, not only responsible for stimulating thinking but also for making it necessary for the students to cooperate with one another. Despite the fact that

challenging tasks were also used in the pilot study, both outcomes were much more present in the final one – no doubt due to a more gradual build-up in the level of difficulty, as well as other types of support and scaffolding (see 3 and 4 below).

2) *The ambiguous nature of the tasks.* With most of the poems, it was possible for more than one answer to make sense on some level. Although many of the students found this maddening and frustrating, it also meant that they had to pay close attention not only to the subtleties and ambiguities of word meanings, but also to the patterns and networks they formed. Even more so in retrospect, it seemed to me that vocabulary – especially in combination with poetry -- was an ideal vehicle for such built-in ambiguity.

3) *Communication strategies.* At the time I presented them, I was unsure to what extent the students would actually utilize the strategies I gave them for introducing ideas, disagreeing, requesting evidence, asking for input, asking for clarification or explanation, etc. In the earlier study I had taught a few simple strategies, such as requests for repetition and clarification, which had seemed to have little effect. However, I discovered at the end of the final study, particularly in the interviews, that many of the students believed that the strategies they learned had been valuable in group communication; a few felt they had been of help socially as well.

4) *Teacher scaffolding.* It was necessary for me as the teacher to walk a fine line: I continually had to judge when my intervention would provide needed assistance and when it would make things too easy by preventing the students from confronting difficult problems on their own. Written scaffolding was less of a problem; I knew it would be helpful to give simple questions in one or two of the earlier tasks, to construct a chart of the different types of meaning relationships in the poems, and to provide definitions for some later, more difficult poems ("Heavy Summer Rain" and the individual tasks) in order to save time and enable the students to focus more on patterns of meaning. The

main challenge lay in knowing whether to intervene if someone was clearly on the wrong track, having trouble with a definition, or perhaps unable to understand an image. Despite a considerable number of mistakes and missed opportunities on my part, the process got easier in time as I found I was making such decisions more or less intuitively. Some interventions I found to be particularly helpful were: correcting faulty reasoning through questioning, providing hints to steer students away from an unproductive line of thought, keeping Martin on track when he was restless and acting out, and finally, in each of the groups, trying to get the students to see how the images in "Heavy Summer Rain" reflected the poet's state of mind and the relationship she was describing. Even with fairly extensive scaffolding, there were still some who never quite grasped this – though it seemed to be a valuable experience for those who did. The area of scaffolding will be discussed more thoroughly in the following section.

5.4 Research Question #4: How Do Teacher Scaffolding and Other Interventions Affect the Process?

Although it was not originally intended to be so, my own role became a pivotal factor in how the process eventually unfolded. Reflecting on the results of the first study made me aware of interventions that needed to take place on many levels, since the tasks were not only challenging but unlike anything any of the students had done before. As it turned out, the steps I took had far-reaching effects which made the final study vastly different from the first. What follows is a discussion of the major forms my intervention took, along with excerpts from my project journal which illustrate some of the reflective processes that led to their implementation. Also included are examples from the transcripts, and student feedback where it seems to indicate that an intervention had some impact on the outcome of the study.

5.4.1 Preparation for Doing the Tasks

5.4.1.1 Communicative Preparation

In the original project, it seemed that only one of the groups, the three specially selected former students, were able to do any real thinking. The other groups contained a few thoughtful, motivated students who tried to bring their partners along -- but for the most part they were unable to break through what appeared to be resistance, lack of confidence, and probably just plain ignorance about how to communicate effectively in this strange, new situation. Several months before implementing the second year's tasks I wrote:

> From studying the original tasks it seems that where they need the most help is in simply *listening to* each other, paying attention when someone is offering a hypothesis, and giving a response of their own – whether to draw the person out further, restate what they think they heard, disagree, ask for clarification, or whatever. If they can't do this, then very little collaboration is going to take place -- as in fact it didn't in most of the tasks.
>
> Also, when offering a hypothesis, they've got to be able to *elaborate* enough so that the others know what they're thinking and why. Too often they'd stop after having suggested an answer, never bothering to explain it – and in the picture task, their partners were all to ready to write it down unquestioned. Hopefully, more practice with metacognitive "learning journals" might make a dent in this. (project journal, 1/15/98)

Such realizations led me to implement the more extensive communicative strategies in the final study. Especially at the beginning, I also made a point of regularly reminding the students to listen to one another, explain their ideas thoroughly, and make sure any misunderstandings were clarified. As for the learning journals, regular personal journal writing from the beginning had prepared them for having to express written reactions to the group work; it was my hope that these learning journals, in addition to being valuable in their own right, would aid their ability to express ideas orally.

There were some very positive responses to the communication strategies, especially those that dealt with expressing and resolving disagreement (see pp. 168-169).

Some reactions to the learning journals were as follows; I have included five because each one reflects something different that was gotten from the experience.

> Sometimes you learn something but you don't know how you learned it; but you do when you do learning journals. (Reine, interview, 6/11/98)
>
> You learn how to organize what you're thinking, making us sort it by a certain way. (Felipe, interview, 6/15/98)
>
> When you asked, "How well do you think you worked?" you would probably think back, like in your group, if you had done this maybe you would have done better or something. (Ruth, interview, 6/15/98)
>
> You get to say stuff you wouldn't say in front of the group, express your feelings towards others. I don't like to write; it helped with my writing. (Yasmin, interview, 6/12/98)
>
> It was helpful but not fun. You have to think about *everything;* this will help me in life. . .It's easier when you do the learning journal – it opens your mind, it lets you understand it. (Martin, interview, 6/11/98)

A final aspect of preparation that deserves mention is, of course, the process of selecting the groups themselves. This is discussed in Section 3.6.2, p. 71.

5.4.1.2 Cognitive Preparation

In the original study, we had spent a good part of the year on *parts of speech* because I believed this would be a critical factor in helping the students know how to work with definitions and understand how the words were being used. I later came to believe I had spent much more time on this than was warranted by what they actually learned, and did less with it in the final study. Still, there were a few appreciative comments from those who felt they had benefited from the instruction:

> Me: Was anything too hard for you?
> K: Sometimes they had too many definitions and we didn't understand them, when we tried to understand the poem. . .It helped to study nouns, verbs and adjectives.
> Me: So you had some sense of when you needed a noun, etc.?
> K: Yes. (Kim, interview, 6/12/98)
>
> . . . . .
>
> Me: Did it help to study parts of speech?
> R: Yeah, yeah, that helped like *a lot.* 'Cause like, some of the words they would have two meanings and stuff? And we would have looked at this

one but it wouldn't match with what we're saying, so, yeah.
(Reine, interview, 6/11/98)

What I decided to mainly focus on prior to the tasks was *context clues*, mostly on the sentence level, including a lot of practice in locating 'key words'. My intention was for the students to understand how words are connected in patterns and networks – something I felt they needed not just for the tasks at hand, but in general. From my own observations as well as from student responses, this did actually seem to happen; Felipe, who felt the work was helping him to fulfill his strong desire to expand his vocabulary, even told me in his interview that he liked these exercises better than the poems. Yasmin had this to say in hers:

Me: Did you learn anything you think will help you in the future?
Y: Using key words to see what fits – this really helped me out. It was new; I'd always just used definitions before. (Yasmin, interview, 6/12/98)

It seemed highly possible, too, that Yasmin's interest in networks and key words could have helped lay the groundwork for her coming to understand and appreciate figurative language.

5.4.2 Task Design, Support, and Modification

Much thought and planning went into designing the tasks themselves and providing various kinds of written support. My main consideration was to gradually build up the level of difficulty to allow the students to gain competence as well as confidence in their ability to carry them out; I was aware by now that failure to do this the previous year had undoubtedly contributed to the meager results. After the first two simple introductory poems, I made up a sheet of questions on the following four, designed to get the students thinking about how the answers fit in with the rest of the poem (see Appendix C, p. 236). This was a totally new type of activity for them and yielded only very sketchy results, although their answers were slightly improved by written feedback I gave them to focus

their thinking. At this point, in response to a suggestion from a non-subject student, I also gave them a homework assignment (see Appendix E, p. 239):

> In her learning journal, S. had an interesting suggestion for improving the tasks. She said it might be good to teach more about the networks of words. I've been asking them to see how different words in the poem ("Wondering") are related, but they really haven't had that much experience thinking about this sort of thing. Maybe I can spend some time on it in class, then give them some networks to do for homework. We should do this before they go on to "City Park", which contains many networked meanings. (project journal, 5/7/98)

After the first six short tasks, it occurred to me that it might be helpful to construct a graphic organizer (see Appendix D, pp. 237-238) to help them understand this relatively complex new material:

> They need to be clear about the different types of poems I'm giving them, which call for different approaches to finding a solution – e.g., words that fit into networks, key words for individual lines, words that complete an image or metaphor, or words with opposite senses, like in the context clue exercises we did. It might be useful to construct a chart of these different types. (project journal, 5/7/98)

Helen and Martin both felt the chart had helped them a lot. Martin said he had tried to use this method with the later poems, although he had been unable to and just found key words instead. Felipe and Kim both thought the chart would have been more useful if I had given it to them before they started the tasks; I pointed out to Felipe that it would have had less meaning for them if I had.

Next, I used some of the poems from the first study as extra practice, to be done individually. These were moderately difficult – maddening for some, but a welcome challenge for others – and I wrote some definitions on the board for extra support. Reine, who had to miss class the day I gave them out, came to me to get a copy, took them home, and spent considerable time trying to solve them, though with only limited success. I found it interesting that Reine found it noticeably harder to work without her group while

Mariam -- whom I considered less skilled verbally -- surprised me by being the only one to find, and understand, two of the more difficult answers on her own.

The final form of written support was a sheet of definitions I provided for "Heavy Summer Rain" (see Appendix B5, p. 235) in order to save time and allow the students to focus more on the meaning relationships; the poem also called for two answers, and contained imagery which I thought might take longer to understand. Several students remarked later that they liked my definitions much better than those in the dictionary. Kim told me, "That's your idea, and we understand it easier," adding that he felt I should have given them all the definitions beforehand so they "could just think about the words" (interview, 6/12/98).

In addition to the reflective notes which helped me see the need for additional written scaffolding for the tasks, there were a few in which I pondered changes to the tasks themselves (which in the first example below included the addition of written scaffolding) or to related activities such as learning journals:

> I re-typed the final task, "Heavy Summer Rain," changing one of the word choices from the version I made up last year. I thought 'gyrating' was too obviously an incorrect choice for his 'blustering' entrances and exits, and replaced it with 'subtle', which has a sort of opposite sense. I'm also going to give them a sheet with defintions, to shorten the time, and to enable them to focus only on thinking about the relationships between the meanings.
>
> Dictionaries have been a bit of a problem anyway. The ESOL dictionaries don't have all the words, and I wasn't satisfied with one of the definitions – 'attic', which didn't mention that it's used for storage, a sense that was crucial for solving the task. So we've wound up using a variety of different dictionaries, which of course isn't necessarily a bad thing. Still, when I work with this type of task again in the future, I may just give them glosses for all the tasks, at least to start off.
>
> . . . . .
>
> Some of the learning journals are maddeningly short and meaningless, like the one Martin gave me today. Maybe I'll have to stop them a little early and have them jot down notes, just like I do for this project journal. It'll be hard, since I'm always trying to have them work right up to the end, to get as much done on the tasks as possible. (project journal, 5/23/98)

Although doing this did result in my getting slightly more (and longer) learning journals than I would have otherwise, I went back to relying mostly on their cooperation in doing them at home, with varied results.

5.4.3 Oral Interaction

5.4.3.1 Class Level

After giving introductory explanations and procedural guidelines, I needed to remind the class of the things I most wanted them to stay aware of throughout the process. One thing I emphasized was maintaining good communication by working out disagreements and being sure to ask about anything that might not have been understood (see p. 149).

Another time I lectured the class on the need for looking up all unfamiliar words, citing the experience of Ruth's group (see p. 161). Here, from the different perspective my project journal, is the fuller story of what brought me to do so:

> I told the first period about the tape I listened to of "City Park" [see Appendix B4, p. 234], where Ruth stated authoratatively that 'timidly' means "like you have an attitude or something." Everyone assumed she knew what she was talking about, and they proceeded to dismiss it as one of the possibilities. Yasmin finally did look it up and read out the correct definition, but at that point nobody listened to her because they thought she had it confused with the word they were discussing then; they never stopped to think about what she was saying and why, and so lost their opportunity to correct the wrong definition. The rest of their session was spent running around in circles, trying to make square pegs fit into round holes! And the task wasn't all that hard; almost everyone else got it. I'm sure they wouldn't have had any trouble with it if it hadn't been for that careless mistake.
>
> I told them from now on, they can't just take someone's word from it. They have to look up *all* the target words, whether or not they think they know them. (project journal, 5/20/98)

The only other major occasion for addressing the whole class was when we were discussing the extra tasks done on an individual level. I explained some of the new vocabulary, adding written definitions in my own words, and we discussed various answers after the tasks. I was surprised to find how valuable Martin found this part of the

process; he told me in his interview that he felt he would remember the words we discussed in detail after two months. Even though we had also had a class discussion of some other words from a task not part of this study, he thought he would remember these better because they required more thinking and understanding.

5.4.3.2 Group Level

One thing I wished I had done more of with the groups was to give encouragement. Helen and Anna seemed to need it the most, and I agonized on more than one occasion in my project journal over whether I was providing them with enough (see p. 98):

By way of giving personal recognition as well as encouraging good thinking, just before beginning "Heavy Summer Rain" I validated Ruth's readiness to probe beyond easy answers when her partners were content to accept a quick but questionable solution (see p. 149). In an earlier task, cited in the same section, I defended Ruth against her partners' impatience when she wanted to wait, explore further, and resolve lingering doubts before deciding on their answer.

While I occasionally fell into the trap of not recognizing exploratory thinking when I heard it (see pp. 159-160), a surprising amount of creative thinking actually did take place (including 'creative rationalization' arising from insufficient understanding of some of the words). Although I cannot be certain how much of it was due to my influence, I had been aware of the need to promote it from the beginning:

> Do I need to be more accepting of divergent answers? Yes, there's one answer that actually was the word from the poem, and yes, it does fit in better than the other choices – but some real thought and imagination could still have gone into coming up with the 'wrong' choice. I need to be more sensitive to this. (project journal, 5/6/98)

Here, in "Heavy Summer Rain" (see Appendix B5, p. 235), I am trying to get the students to take chances and keep their possibilities open. Many did so, though no one

took my tentative suggestion to actually brainstorm:

> Me: Write down your reasons, and if you change your mind later, that's fine. You know, just keep thinking on paper. Keep coming up with guesses, finding key words that go with it, and then if you decide it's not right, just keep going, try another guess, write key words for that...and your reasons, OK? Don't worry about making this your perfect answer. You can have another sheet to write the final things on if you want, but you don't even need to do that.

Another thing I needed to keep reminding the groups to do was to read through the *whole poem* for clues, rather than just looking at the words that were right next to the blank space. I also had to prod them to explain *connections,* especially when trying to get them to see how the two answers in "Heavy Summer Rain" were related, and to help them understand the poem's relatively complex imagery:

> Me: Once you find the other key words, explain how it's all related – what's the general feeling in this poem, what's going on, what are the connections? What's happening here? And what does it mean that she chose these words? And what's being compared to what? There's a lot more you can talk about here...but start by finding the other key words for this, 'cause that will get you on the right track. Remember, *it's not just the first line!*

Although the students did develop some ability to find connections, they tended to be satisfied with just a few key words when several more remained to be discovered. Something I often had to do was prod them to look for more:

> Me: OK, so there are other things with that same kind of movement, OK? When something [topples], what does it do? It falls down, right?
> Yasmin: It was falling down.
> Me: So is there anything else in here related to things falling down?
> Y: The doors.
> Mariam: Like when the hill...the hay will right itself if it turn dry?
> Me: All right. Do you have that? You should have that written down; that's a key phrase. . .And then there's something else towards the end of the poem. . .No, two...either words or phrases.
> M: (ov) What does this word mean? What does this word mean?
> Me: You have it right *there!*. . .
> M: Oh, broke into small pieces....Yeah, that's it!
> Y: Something has been...definitely broken. . . .
> M: Put it down, "lay shattered on the lawn."

I also found it necessary to intervene occasionally when I felt there was a breach in procedures that could seriously compromise the group's effectiveness. Here, Ruth was about to write down something she knew one of her partners did not understand, despite having been instructed otherwise:

> Me: Read me the key phrase that you were just thinking about.
> Yasmin: "Everything blooming bows down in the rain."
> Me: That's it -- that's the missing one. Good! Do you see the relationship between that and 'toppled'?
> Y: Um-hm.
> Ruth: Right.
> Mariam: What's the relationship? I don't see it.
> Me: Explain it to them.
> R: Wait, let me write it. . . "Everything...blooming..."
> Me: No, don't write it before you understand it!
> R: I'm just writing the thing she put on this...
> Me: No, no, no, no, no. You don't write anything down until everyone in the group understands it and knows why you're writing it down. You don't write it down just because she said it. OK? Whatever is written down here, the fact that it's written down *means* that the three of you have discussed it and everybody understands it. And that's why you're finally writing it down. OK? You're not here to take dictation from her, all right? You're here to think together.

Finally, there were times when the group had gone far afield and I felt I wanted to give them some extra scaffolding rather than continue to take up any more time with fruitless discussions. In this excerpt, Reine's group had initially gotten the right answer, 'topple', for the first part of "Heavy Summer Rain," then switched to 'metamorphose' when Felipe thought my questioning meant their answer was incorrect. I am trying to get them back on track without actually telling them the answer is wrong – but probably wound up giving it away after all:

> Me: OK, so what does 'metamorphose' have to do with bowing down, and shattering? . . .
> Felipe: "The hay will right..."
> Me: "The hay will right itself," OK. . .
> F: Like it come to be something else, or change.
> Reine: Yes, 'cause you know, change shape or form...
> Me: All right, change from having done what? The hay will right itself from what? What happened to it?
> F: I remember that something was sleeping on it, so it was like flat. And. . .

Me: So it fell down, right?
F: Uh huh.
Kim: And the next day it stand up.
F: And the next day...it would turn itself 'cause it was dry.
Me: OK, so is there another word there that might be more closely related to that idea of falling down?
F: Yeah, this one I guess...
R: 'Toppled', fell forward as from weakness. . .
Me: So that's a *possibility*, OK? I'm not saying that's the right word, but it does have something to do with falling down, and maybe...getting back up again.
R: Yes. . . .
K: But 'topple' and 'metamorphose' have...these key words right in them...you know, the same.
Me: Right. So they both have to do with things changing their shape; all right. Now think again: which one has the *most* key words related to it?
F: Toppled.
Me: Mmmmm...think about it, think about it.
(All 3): Toppled.

5.4.3.3 Individual Level

Although at times the distinction between the two levels was somewhat blurred because I often spoke for the benefit of the whole group, it was with individual students that I tended to be most aware of the effects of scaffolding and other interventions. One area that sometimes needed attention – though not as much as I had originally thought -- was the need to enforce guidelines and procedures. As mentioned, when Martin was tired and restless I had to make him stay focused so that he would stop clowning around and think more about what he was saying. With his reticent partner, Duc, my prodding took the form of attempts to improve communication, as illustrated on p. 151 and as described here in my project journal:

> It's hard to hear Duc, so I tried to get him to speak up, and to hold the microphone. Then he wouldn't make the connections between his hypothesis and words in the poem. When asked, he'd just read lines from it, with no attempt at an explanation. Martin was getting impatient too; he tries hard to explain things.
>
> I tried having them repeat each other's explanations, but this had only limited success because Duc wouldn't say anything that would bear repeating. (project journal, 5/11/98)

Trying to be sensitive to feelings and avoid pushing too hard, I sometimes had to walk a fine line when I felt I needed to mildly chastise someone for not looking up needed definitions:

> I got a little angry at Mariam. When asked, she didn't know the meaning of a word in the poem that was necessary for understanding it and solving the task. I had gone on endlessly about the importance of looking up any words they weren't sure of. I hope I haven't alienated her too much; I think she's pretty resilient, but you never know. (project journal, 5/8/98)

Nevertheless, I felt somewhat vindicated in pushing them when I read Helen's learning journal, giving me a student's perspective on the same matter:

> Sometimes we don't have no idea what a word means but there is always our teacher. Whenever you need her, for a moment she will get mad at you like you should have look that up in the dictionary when you start reading the poem, but no matter what, she will make sure that we understand it very carefully. (project journal, 5/28/98)

Many individual interventions were attempts to clarify illogical thinking (see pp. 157-159). Others were intended to help with a grammatical point necessary for an understanding why a particular word was the right choice. In addition to the example on p. 162 involving 'sapless', here is another from my journal:

> In "City Park" [see Appendix B4, p. 234], Duc kept trying to make 'relentlessly' fit. "Without pity" was the definition he'd found. He knew it had to do with the trees, but coudn't say who it was they didn't have pity for. I asked, are they doing something to themselves? Next he said he thought they were doing something to the sky, then to other trees, struggling to make it somehow fit. But when I pointed out how unlikely these connections were, he realized he was just taking stabs in the dark. (project journal, 5/11/98)

Interestingly, I had a similar exchange with Kim, the only other Vietnamese student, over the same misunderstanding, and wondered if something about their language had predisposed them to it.

Much of my assistance on the individual level took the form of scaffolding in order to help someone reach an understanding, similar to the group-level discussion in the

previous section. Several forms of it – giving mild hints, co-constructing answers, and supplying answers -- can be found on pages 153 to 157.

A great deal of this spoken intervention, including all of the examples in the section just cited, was aimed at trying to help the students understand networks, connections, and – perhaps hardest of all – poetic imagery. In this final example from the end of "Heavy Summer Rain," I am trying to get the group to see how the poet is reflecting her feelings through nature images:

> Me: So she's comparing herself to what?
> Felipe: Nature...land.
> Me: No, no. Be specific. What images is she using for herself, to show how she feels? What's she comparing herself to?
> F: Ummm...the hay.
> Me: All right, she's comparing herself to the hay that's been knocked down. . .What else? . . .
> Kim: Animal must have.... . . .
> Reine: "Everything blooming bows down in the rain."
> Me: Right. OK, so some kind of blooming flower that's bowing down in the rain. What else? . . .
> R: She's comparing herself like... "the flowers lie...lie shatter on the lawn."
> Me: Right! . . . So you see how the way you talk about the outside, talk about nature, can reflect how you feel inside?
> R: Yes.

In closing, it would seem that the process of stimulating conceptual development through the teaching of vocabulary is one that students find interesting and challenging provided they are given the necessary preparation, careful pacing, a supportive environment, and appropriate types of scaffolding. An important factor in providing the right environment for such learning -- stimulating interaction among peers -- can be nurtured and guided by the teacher in ways that encourage successful communication, social functioning, and problem-solving. Finally, the teacher must stay consciously aware of the impact his or her interventions are having on the process, and continually reconsider how to make them more effective on both the group and individual levels.

CHAPTER 6
RESULTS AND CONCLUSIONS

This section will first present results which I found to be either particularly surprising or particularly impressive, followed by some additional reflections on factors that might have contributed to positive outcomes. Next, I will examine what, in retrospect, I might have done differently, and go on to consider what new directions for the future might be suggested by the present research. A final discussion will consider implications of the findings for secondary education and the needs of adolescents, along with more general implications.

6.1 Unexpected Findings

Many of my most important observations could not have been predicted. I had known from the outset that the process would be a fluid, dynamic one in which phenomena would emerge according to their own nature and inner logic. There was no way I could have known how a number of things would influence the outcome, since they were only to become manifest later – i.e., the sides of my students' personalities that were revealed through interaction, their ways of communicating with one another, the qualities and character traits they would manifest, the particular types of difficulties they would encounter, how they would stand up to stress and frustration, what things would interest and excite them, what they would feel they had learned once it was over, and, of course, how my own input would influence various outcomes. This was a continuous process of discovery for me, rich with surprises and food for further reflection.

First were the stories that unfolded as the process went on: the narrative threads of events which, while interesting in their own right, also allowed me to see my students' personalities from some intriguing perspectives. There was Martin, who, already restless and frustrated over his ability to get Duc to participate and communicate, started to get low

on sleep from staying up late while his father was worked nights, became impossibly manic and nonsensical, then finally came around after Helen made me aware of the situation and I had her tell their father what was happening. A high drama occurred when, with tension between them already strong, Yasmin told Mariam something Mariam's cousin had supposedly said about her that she found insulting. Mariam, despite her serious, thoughtful and ambitious nature, also had a volatile temper -- and decided she was going to fight Yasmin. I was able to gather them all together and defuse the situation, but there was no hope of continuing group work after that; fortunately, it was right at the end of the year and the tasks for the present study had already been completed. It was almost certainly the loss of Ruth's harmonizing influence that had allowed the situation between her partners to develop; she had been unable to get to school during a transit strike right at the end of the school year.

I was also quite intrigued by the way in which each group worked according to its own, completely unique dynamic. There were Helen and Anna, helping each other through what was a difficult challenge for both of them by means of their determination, their easy communication, their humor, their consideration for each other, and occasionally the use of their common first language. Martin and Duc were the opposite situation – very different from one another, unable to communicate easily, often frustrated and unhappy about having to work as partners, yet managing to help each other in certain ways nonetheless. Reine, Felipe and Kim had their own, very positive dynamic: the enjoyment and stimulation they experienced in working together contributed much to their willingness to persevere despite their share of confusion, frustration, and inertia. Ruth, Yasmin and Mariam, on the other hand, seemed to shift back and forth from good minds functioning productively, often with wonderful humor and flights of fancy, to conflicting egos grating on one another's nerves and eventually almost coming to blows.

Highly significant too, and an unending source of delight for me, was the way in which difficult challenges and conditions frequently brought out some very fine and noble qualities in the students. One of the many challenges we faced was having to move our entire department upstairs in May, during the busiest part of the project. On the day of the actual move I made this notation about Martin:

> What a scene today third period, people moving heavy cabinets, shouting directions at each other, constant noise and confusion. And dear Martin, holding the microphone up to his mouth so he could still be heard over it all! (project journal, 5/18/98)

Also notable for her persistence was Mariam. Though initially intimidated by my annoyance when her group had failed to look up some necessary words, she later became the one who kept after them to do so. I strongly suspect that this also may have had something to do with her success in finding some of the more difficult answers on the individual tasks.

Helen, too, impressed me with her unending eagerness even in the face of tasks that were, on the face of it, much too hard for her and Anna. On several occasions, as seen, she expressed optimism that they could overcome anything as long as I was there to help them. As time went on, her learning journals became the most reflective and detailed in the entire group, helping fuel my growing realization that, in addition to learning persistence, she and others were growing in other important qualities as well.

Examples of these qualities are the empathy and helpfulness implied in her written comment, "working and helping someone who don't understand is a good feeling" (learning journal, 4/29/98). In her interview Helen stated that the best thing about the whole project was "talking to her, explaining, understanding her problems and saying nice disagreeing things" (6/11/98). Ruth expressed satisfaction over having learned to be patient, as a result of discussing other people's ideas that she felt were wrong – although she also mentioned frustration at frequently not getting them to pay attention to her ideas.

In addition, along with Helen and Reine, Ruth appreciated the fact that the discourse strategies for disagreeing made it easier to be polite.

As Yasmin got more and more interested in the tasks, particularly when she started grasping how figurative language worked, she undoubtedly got some needed practice in restraint – i.e., holding back her more abrasive, anti-social impulses in the interests of seeing the group's work progress. Martin demonstrated self-awareness when he acknowledged that more serious tactics worked better in getting Duc to talk than did teasing and hitting, which seemed to shut him down even more. Generally, he displayed a genuine desire to help Duc, at one point even achieving a kind of intersubjectivity by trying to anticipate and supply the words he needed to express an idea (see p. 134).

Finally, most of the students seemed to come away from the project with a feeling of interconnectedness, a sense that they were in a way better off – and had learned more – as a result of having had to depend on one another.

In terms of my own personal development, the lessons I came away with were many. Patience, of course, was key. I had to keep in mind that the mountain was a steep one for these novices; climbing it entailed taking many, many small steps and just as many errors and detours. I needed to develop my ability to see both the large picture and the details at once, adjusting my vision accordingly. Flexibility was also continually demanded of me -- through reflection and observation, being ready to abandon old beliefs, approaches, categories, even questions, and replace them with new ones. Finally, and in the long run probably most important, this was a challenge to my powers of empathy and intuition: I had placed myself in a situation which called for responding to the demands, often difficult to discern, of each individual moment as it presented itself. Like the students, I did not always meet these challenges as well as I might have – but like them too, I learned an enormous amount from having tried.

6.2 Helpful Factors: Further Considerations

Clearly, simply getting students to speak will not automatically get them to think, nor will it teach them much beyond increased oral fluency. A lot more is called for if collaborative work is to lead to more effective thinking and learning.

A good first step, I believe, is presenting *challenging tasks*. My experience would suggest that one should not be afraid to make the tasks *extremely* challenging – so much so that an individual student might express considerable frustration and even throw up her hands in despair! Wertsch (1979, p. 20) goes so far as to argue that "other-regulation by means of uninterpretable directives seems to be an important way of 'luring' the child further and further into the communication" (Parilla, 1995, p. 176). In the case of the present study, the difficulties seemed to act as a kind of pressure-cooker to force the students to rely on each other and build the skills they needed to communicate and solve problems effectively. It appeared that the students listened to each other, assimilated discourse strategies, learned to perceive networks and connections, considered the applicability of definitions, and otherwise expanded their repertoires of typical classroom behaviors mainly because they *had to* in order to meet the expectations presented by the tasks.

Helen, for instance, expressed satisfaction over how the need to work together caused her to try harder and learn more – i.e., when Anna made her look more closely at a poem she was not interested in initially (pp. 168-169), and in this answer to the Guidelines question, "Can you remember anything you did by yourself that helped you learn?" (see Appendix H, p. 242):

> Yes, when we get our paper back she have wrote a comment on it. My partner didn't understand so I make myself understand and make her understand. (Helen, learning journal, 5/11/98)

As mentioned, Martin, despite having initially thought the words should be easier, also wrote enthusiastically about enjoying the challenge. In his interview, he went so far as to say that he and Duc worked best when they were getting the least assistance and were forced to help each other. Anna, in one of her rare learning journals, expressed pride that on this particular occasion, she and Helen did excellent work without using the dictionary: "By just asking each other we try to do our best" (learning journal, 5/18/98).

In addition to pushing the limits of the ZPD in terms of achievement, the pressure-cooker situation also seemed to be effective in encouraging the development of many of the *personal qualities* described above, particularly helpfulness and empathy. As mentioned, Helen wrote of the pleasure she got from helping Anna learn (p. 163), and from discovering how to disagree without hurting her feelings (p. 166). I have come to believe that the value of empathy in general cannot be emphasized enough: one simply cannot underestimate the power of young minds that are "tuned in" to each other and motivated to succeed. Helen and Anna were probably the most dramatic example of this – close friends who listened to one another, were sensitive to each other's needs, and took the time to explain. With empathy, humor, and a positive attitude they created the conditions for success; through determination, persistence and scrupulous adherence to the guidelines, they overcame significant limitations to do high quality work. Similarly, Reine, Felipe and Kim took the time they needed to engage in laughter and small talk – all of which helped them build the solidarity necessary for functioning as an efficient, harmonious unit on what was usually a very high level.

It is unfortunate that high levels of challenge are often considered inappropriate for L2 students. While this view is well motivated in that it aims at reducing frustration and building motivation through success, I believe it also tends to place unneccessary limits on what is possible. As seen, if challenging tasks are given along with sufficient motivation,

careful management, adequate preparation, and enough assistance to push the limits of the ZPD without exceeding it, they can expand the boundaries of what we believe our students to be capable of – and as such, are entirely appropriate and relevant to vocabulary as well as other areas of L2 learning.

Another critical element of the study that contributed to positive outcomes – one that appears to be an essential element in good thinking whether on the individual or the group level -- is *freedom to explore.* I encouraged the students from the outset to take chances, and to keep trying new possibilities rather than settle for premature closure. Nevertheless, I am certain that my advice would never have taken them as far as it did had it not been for the fact that *the tasks themselves had risk-taking built into them.* Since they were at the extreme end of the students' ZPD, none of the answers – with the possible exception of one or two in the early poems – were clear-cut and simple to figure out. As a result, just about every hypothesis called for going out on a limb, and exploratory thinking – of a sort, at least -- became the norm. Of course, some of the students remained rather tentative in their explorations; they often tended to hurry toward the shelter of a quick answer, wreaking havoc with logic and common sense as they ran. Ruth almost never did this. Mariam and Yasmin did so from time to time. Kim, the most extreme example, had a strong attachment to certainty and usually seemed to feel uncomfortable trying out new hypotheses. I realize now that this may have been due to language limitations – i.e., being less able than his partners to give articulate explanations.

In addition, it appears that the *strategies* I taught prior to the final study had some effect on how well the students were able to think together. Those used in the earlier study, basic communication strategies such as requests for repetition and clarification, had had little impact on what proved to be the real problems – (a) that the students had their own agendas and were not really listening to each other, and (b) that they lacked the language to

offer, explain and respond to hypotheses, and (c) they had inadequate means for dealing with conflicting opinions. The second set of strategies addressed these problems fairly successfully; those dealing with tact and politeness, especially, were much appreciated by several of the students. The strategies may also have played a more general role in making them more conscious of how well they were listening and responding to each other, explaining their thoughts, etc.

The *learning journals* also may have helped at least some of the participants become more aware of what and how they were learning. Of course, this was only true for those who took the assignment seriously and did some real reflection, most notably Helen, Reine and Ruth, with occasional bits of insight from some of the others. The most thoughtful contributions tended to be about (a) particular words they learned and/or liked, (b) specific instances of overcoming difficulties in communication, (c) positive feelings regarding how they felt about working with their group and what they got out of it, (d) appreciation for what they themselves contributed, and (e) how they overcame difficult challenges, which usually involved either asking for my help or making sure to look up all the words. Hopefully this self-reflection will have positive effects on future learning, in both vocabulary study and group work.

Another very helpful ingredient was undoubtedly the *sequencing of tasks*. In the preliminary study, the students were thrown into a very challenging situation with virtually no experience with the types of group collaboration and thinking they were asked to do. After seeing my error, I tried to structure the final study so that the students would gain some success with fairly simple tasks before working up to others that were more complex. Although many of them found even the earlier ones problematic, this strategy appeared to be generally successful. By the time they started wrestling with the final task, which called for two answers and involved slightly more ambiguity than the earlier ones,

they were more used to following the guidelines, more aware of the importance of looking up all unfamiliar vocabulary, and more experienced with making "connections" between words. Providing clear definitions for the final task, so that the words would not have to be looked up, also helped to ease the transition.

The sequencing of tasks and provision of written definitions can be considered one form of *appropriate scaffolding* – i.e., just enough to keep the task from being too difficult, without reducing the challenge more than was necessary. The other involved my spoken input: occasionally giving defintions in simpler language, offering hints, prodding, keeping them open to new possibilities, and, as mentioned earlier, "giving the answer away" on on or two occasions early on when I thought it was called for. Knowing just how much to say can certainly be a tricky matter, much like walking a tightrope; it calls for being present and sensitive to the immediate situation, unbound by rules and preconceptions. Although I was not always up to the demands of the situation, and there were times when I fell off the tightrope and made mistakes, I feel that this impromptu, *ad-hoc* approach probably accounted for much of the most valuable learning that took place. While the matter of *choosing groups* provided much food for thought at the beginning, and for reflection at the end, the actual choice did not turn out to be a major concern in this case. As it happened, I needed to use only a few basic criteria in the final study. In addition to knowing I wanted to keep Helen and her brother Martin separate, I looked for non-seniors who I thought had the necessary skills and motivation. In three of the groups, there was no need to think about whether a less able student would get the necessary help, since all of them were basically competent. With Helen -- and especially Anna -- I knew help would be necessary, but they already had their own set-up well in place: in fact, their begging to be included as subjects almost certainly grew out of their confidence and delight in working together.

Despite the fact that I never used many of my original criteria, however, I did continue to think about what guidelines I would recommend, based on my experience, to facilitate the most effective combinations. My main conclusion was that there are no easy answers, and that it was probably best to have avoided specific guidelines. Even if one were to come up with an ideal formula for creating groups, there is no way to predict in advance how well they would work -- and those whose groups did not fit the mold would find ways to cope which could not have been forseen at the outset but might provide valuable insight. If I had had more options for grouping, I might have followed conventional wisdom by placing Helen and Anna in a more heterogeneous group with at least one more able student -- and yet, their particular chemistry allowed them to work past limitations of skill to surpass some of the others in many ways. Additionally, I might not have wanted a group who shared a common first language -- and yet their occasional exchanges in this language proved invaluable in helping them succeed. By contrast, the linguistic and other barriers that separated Martin and Duc might have been *too* strong (though Duc's unfounded privacy concerns may also have been a factor); despite some valuable interchanges between them, it appeared that Martin's most productive work was done in dialogue with me. In retrospect, they probably would have needed to work together for a much longer time in order to build up the trust and communication they needed for true intersubjectivity.

All in all, it appears that other considerations are more important than grouping according to formulaic guidelines. What seems to matter most is that students have confidence, the skills necessary for performing the tasks, encouragement where needed, motivation to succeed, familiarity with and trust in one another, communication skills including appropriate discourse strategies, and help from the teacher where needed. If all

of these conditions are present, it is my belief that most students will find creative ways around other difficulties.

While in my view the above factors are important for facilitating effective group problem-solving in a general sense, it might be useful to consider what further conditions are needed to go beyond smooth group functioning and help foster true *intersubjectivity* – that "meeting of minds" in which students give up their own agendas, focus on common goals, and think with one another in productive ways. My observations suggest that the following need to be present:

(1) *Focus.* Students must be goal-directed, determined to avoid playing and other digressions; they must be confident that perseverance will get them through. To make this possible, the students should have a sense of how they will benefit from the tasks, as well as sufficient preparation to warrant confidence.

(2) *General communication skills.* The students must be able to understand each other, and willing to ask for repetition or clarification when they do not. Practice with discourse strategies can be of use here, along with working on awareness of when something has not been understood.

(3) *Willingness to listen.* This not only involves listening without being distracted or planning what one is going to say next; it also includes consciously fitting in one's response with what has gone before, which creates the conditions for "contingent speech." Again, students need to be aware of when they are, and are not, listening and responding appropriately – and when their partners are behaving likewise toward them. Prior practice with tasks that draw on these particular skills could be helpful.

(4) *Preparation.* Participants must have a solid grasp of the material they are being asked to think about; the group must work together to uncover and fill any gaps in required information or definitions. Again, simpler types of tasks could help to build these skills.

(5) *Good will.* Personal conflicts and agendas must be put aside. Work with listening and resolving conflicts could be of use here.

6.3 In Retrospect: What Could Have Been Improved

There were a number of things which I realized might have brought about more positive outcomes if they had been done differently. For instance, it might have helped if the groups had had a chance to work together for a time prior to undertaking these particular tasks. The groups that made the most consistent progress were Helen and Anna, who were friends outside school and had a solid basis of friendship, trust and communication to build on; and Reine, Felipe and Kim, who, though they were not friends on the outside, took time out to just enjoy each other's company in a light and relaxed way. The other two groups experienced major difficulties, which might have been at least partially alleviated if rapport, trust and communication had been established earlier.

It also might have helped to start the learning journals earlier. Though some of the students took to them right away and seemed to enjoy thinking and reflecting on the learning process, a few avoided them and wrote little of any real value. Just as most students eventually come around and start to enjoy regular journals once they "get the point," it is possible that starting to practice metacognition earlier could have set a more rewarding and self-motivating process in motion for all concerned. Additionally, it almost certainly would have helped, once the study was under way, to allow more class time for writing the journals, or at least jotting down notes that would spur their memories at home. I only did this occasionally because as it was, there seemed to be too little time for everything I was trying to accomplish.

One difficulty appears to have been that since we had only read a little bit of poetry earlier, the students were trying to understand poetic imagery while also coping with the

other new demands of the tasks. A more thorough familiarity with figurative speech, possibly starting with metaphors found in everyday language, might have made it possible for them to make some types of connections earlier and on a higher level.

It also might have helped to provide more channels for feedback. While I felt that the journals for the most part reflected the students' honest thoughts and feelings, anonymous comments could have been even more candid and useful. If time had permitted, it also might have been valuable to allow the students to listen to themselves on tape, discuss each other's journals, etc.

I also felt I could have monitored the discussions more than I did. When I did listen in and intervene, I was often able to keep the students from "spinning their wheels" in unproductive discussion, point them in some more fruitful directions, prod them to go deeper, assist their communication, and otherwise provide needed and timely scaffolding. This could have been more systematic. I felt similarly about my project journal observations and reflections, which, although they were extremely valuable to me in emphathizing, understanding what was needed, and making helpful changes, were also a bit uneven and haphazard. Reflecting regularly on each group, or even each student, might have provided deeper, more detailed, and more consistent feedback. Undoubtedly, too, the value of such reflection could have been further enhanced with closer analysis of the tapes as they were recorded.

6.4 Possible Directions for Future Research

First, it is important to fully explore the implications of early research linking increased vocabulary learning to wider conceptual structures and broader domains of knowledge (see Drum and Konopak, 1987, and others, pp. 13-14). While poetry provides natural links and associations between words and concepts, more tasks could be developed

in other content areas involving relationships between words of varying degrees of abstraction, different hierarchical structures, and new kinds of networked meanings. Since it has been shown that processing words at greater cognitive depth increases retention and recall (Craik and Lockhart, 1972, see p. 19), these types of tasks – along with others specifically aimed at the in-depth pocessing of dictionary definitions and their application to context – could do much to significantly enhance acquisition.

At the same time, future research must look beyond the simple processing of new vocabulary and address the larger question of conceptual development. Vygotsky (1978) understood that what was really important was to look at the learner's *emerging functions and capabilities* – for at the moment something is learned, the developmental process, rather than being completed, has only just begun to be set in motion (pp. 90-91). Here ethnographic methodology holds great promise for the study of L2 vocabulary, as it allows the researcher to closely consider the multitude of factors that can influence development: the external situation, the roles of both teacher and students, subjective as well as objective perspectives, the expected along with the unexpected, and the process of change in and of itself. More longitudinal studies, in particular, would allow for the observation and identification of subtle but significant factors in development as it unfolds over time.

There is also great need for a more complete understanding of what goes into the making of a concept. As Pavlenko (1999) points out, the older view that concepts are mainly based on features, exemplars, and typicality is being replaced by the realization that "the organization of concepts is *theory-* or *knowledge-based* rather than feature-based and is driven by intuitive theories about the world" (p. 214). This makes the process of studying their formation and representation much more problematic, but also much more interesting. It would also be valuable to investigate various varieties of concepts, which differ in structure across types: artifacts, nominal kinds, social concepts, prototype- or

exemplar-based, dimensional, etc. (Pavlenko, 1999). Useful too would be a study of the spectrum of conceptual origins in phenomena such as "imagery, schemas, motor programs, and auditory, tactile and somatosensory representations" (Pavlenko, 1999, p. 212). These kinds of approaches could involve consciously developing diverse types of tasks targeted at particular modalities.

In an approach to vocabulary which distinguishes between concepts and word meanings, ways must be found to differentiate between knowledge *of* a concept and knowledge *about* it (Pavlenko, 1999). If it is true that new concepts acquired contextually, interactively and experientially are available for both and recognition and recall (ibid.), it should be possible to demonstrate this by assessing the degree to which concepts learned by various means have been assimilated. Hopefully, it would also be possible to detect the presence of distortions from L1 concepts.

Following the lead of the research presented by Pavlenko, pedagogical means of addressing conceptual representation directly could include having students discuss how the same L2 concept differs in their various native languages. This might be a promising means of getting them to restructure an already existing concept. They could also be asked to identify concepts from their culture, or their childhood, that can be learned only declaratively and not experientially by "outsiders."

Additionally, future studies could look at tasks similar to those found here in more diverse settings, involving students with lower motivation and skills, in order to assess whether their ZPD could be expanded in a similar way or if other approaches were needed. Possible variations on the tasks might include having students use what they have learned to later design tasks for each other, choosing their own poems and target words.

6.5 General Implications for L2 Vocabulary Teaching and the Secondary Classroom

It is no longer possible to think of the study of vocabulary as the accumulation of large number of words in memory. Words need be learned in ways that enable them to be used effectively and appropriately, with an understanding of how they relate dynamically with other words and with contexts. Approaches to vocabulary must also take into account the fact that words are tools for thought. In particular, we need to consider what we already know about how concepts of various types are formed, in order to assist the building of new concepts as well as the more accurate representation of both new and old ones in the L2. To a large extent, such an approach to teaching will call for incorporating a variety of new, richer contexts into vocabulary tasks, in which somatic and experiential factors will be represented along with more logical and rational ones.

It is also important to understand that developmentally, adolescence is a time of unique needs, challenges, and pedagogical opportunities. As described earlier (see pp. 25-26), the adolescent is not only receiving an onslaught of new emotions and perceptions, but is learning to think conceptually for the first time. Vygotsky's writings offer important clues as to how to view the interrelationship between these processes and harness their power pedagogically for the development of higher concepts.

Again, it is necessary to think holistically -- even holographically -- if we hope to see the implications of such ideas for adolescent development. It is possible, but not simple, for effective language pedagogy to nurture consciousness that is both capable of the highest abstractions and informed by rich sensory experience, undistorted by stale and outmoded conceptions. It involves seeing, as Vygotsky never failed to do, the growth of consciousness from all sides: the emergence of thought through the tool of language, the formation of words and concepts from the rich, dynamic soil of motives and emotions, the constant interplay between concepts and their application to the concrete world, the role of

rich visual experience in laying the groundwork for higher thinking, the importance of imagination in freeing us from the confines of the concrete – and finally, an appreciation for the importance of the *social dimension* in which it all takes place. To see the development of thought through language without closely considering its distributed and dialogical nature, and the larger social forces which affect its unfolding, would be to distort the true nature of the process. For one thing, it would show us a body of language disassociated from the living, breathing, interacting human being who gave rise to it. Certainly, too, it would keep us from fully appreciating the marvelous complexity of what can happen when minds intentionally converge on a problem: the articulate sharing of perspectives and possibilities, the emergence of new insights out of disagreement, the construction of higher levels of understanding through pooling collective knowledge. In the affective sphere, we would fail to notice how the creative tension of problem solving stimulates empathy, sensitivity, patience, and the resolution of conflicts on a variety of levels.

In a way, at least from this corner, it boils down to *seeing:* looking at the complex, emerging individuals before us in all of their uniqueness and connectedness, their quirky emotionality and supreme capacity for reason. It involves watching carefully and perceiving the whole picture -- while also being awake to the shape of the present moment, and willing to adjust our perceptions to the demands of the next changing moment. And perhaps most of all, it involves preparing our students for this complex new century by helping *them* learn to see – and to communicate, understand, grow, and become their highest and truest selves.

REFERENCES CITED

Ahsen, A. (1984). ISM: The triple code model for imagery and psychophysiology. *Journal of Mental Imagery, 8(4),* 15-42.

Aljaafreh, A., & Lantolf, J. (1994). Negative feedback as regulation and second languge learning in the zone of proximal development. *The Modern Language Journal, 78(iv),* 37-62.

Anderson, R., & Nagy, W. (1989). *Word meanings.* University of Illinois at Urbana-Champaign, Technical Report No. 483. (ERIC Document ED313672).

Anton, M., & DiCamilla, F. (1999). *The discursive features of the collaborative interaction of language learners: A sociocultural perspective.* American Association for Applied Linguistics conference, 1999.

Appel, G. (1986). *L1 and L2 narrative and expository discourse production: A Vygotskian analysis.* Unpublished doctoral dissertation, University of Delaware, Newark.

Bakhtin, M. (1981). *The dialogic imagination: Four essays by M .M. Bakhtin* (M. Holquist, Ed.; C. Emerson & M. Holquist, Trans.). Austin: University of Texas Press.

Barnes, D. (1976). *From communication to curriculum* (2nd Ed.). Portsmouth, NH: Boynton Cook/Heinemann.

Barnes, D., Britton, J., & Torbe, M. (1990). *Language, the learner and the school* (4th Ed.). Portsmouth, NH: Heinemann.

Barnes, D., & Todd, F. (1995). *Communication and learning revisited: Making meaning through talk.* Portsmouth, NH: Boynton Cook/Heinemann.

Beck, I., Perfetti, C., & McKeown, M. (1982). The effects of long-term vocabulary instruction on lexical access and reading comprehension. *Journal of Educational Psychology, 74,* 506-521.

Britton, J. (1990). Talking to learn. In D. Barnes, J. Britton and M. Torbe, *Language, the learner and the school, 4th Ed.* (pp. 91-130). Portsmouth, NH: Heinemann.

Brooks, F., & Donato, R. (1994). Vygotskian approaches to understanding foreign language learner discourse during communicative tasks. *Hispania, 77,* 262-274.

Bruner, J. (1966). *Toward a theory of instruction.* Belknap Press, Harvard.

Bugelski, B. (1982). Learning and imagery. *Journal of Mental Imagery, 6(2),* 1-92.

Carter, R., & Long, M. (1987). *The Web of Words: Exploring literature through language.* Cambridge: Cambridge University Press.

Chaudron, C. (1988). *Second language classrooms: Research on teaching and learning.* Cambridge: Cambridge University Press.

Clifton, L. (1993) *The book of light.* Port Townsend, WA: Copper Canyon Press.

Cochran-Smith, M., & Lytle, S. (1993). *Inside/outside: Teacher research and knowledge.* New York: Teachers College Press.

Collie, J., & Slater, S. (1987). *Literature in the language classroom: A resource book of ideas and activities.* Cambridge: Cambridge University Press.

Coughlin, P., & Duff, P. (1994). Same task, different activities: Analysis of a SLA task from an activity theory perspective. In J. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 173-194). Norwood, NJ: Ablex.

Craik, F., & Lockhart, R. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior, 11,* 671-684.

Davydov, V. (1969). The problem of generalization in the works of L. S. Vygotsky. *Soviet Psychology (3),* 44-55.

Davydov, V. (1988). The concept of theoretical generalization and problems of educational psychology. *Studies in Soviet Thought 36,* 169-202.

DeGuerrero, M. (1994). Form and functions of inner speech in adult second language learning. In J. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 83-116). Norwood, NJ: Ablex.

Donato, R. (1994). Collective scaffolding in second language learning. In J. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 33-56). Norwood, NJ: Ablex.

Doughty, C., & Pica, T. (1986). 'Information gap' tasks: Do they facilitate second language acquisition? *TESOL Quarterly, 20,* 305-25.

Drum, P., & Konopak, B. (1987). Learning words in context. In M. McKeown & M. Curtis (Eds.) *The nature of vocabulary acquisition* (pp. 73-87). Hillsdale, NJ: Lawrence Erlbaum Associates.

Dunning, S., Lueders, E. & Smith, H. (1966). *Reflections on a gift of watermelon pickle. . and other modern verse.* New York: Scholastic Book Services.

Edge, J. & Richards, K. (1998). May I see your warrant, please? Justifying outcomes in qualitative research. *Applied Linguistics, 19(3),* 334-356.

Eishout-Mohr, M., & van Daalen-Kapeijns, M. (1987). Cognitive processes in learning word meanings. In M. McKeown and M. Curtis (Eds.), (pp. 53-72), *The nature of vocbulary acquisition.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Ellis, R. (1985). Teacher-pupil interaction in second language development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 69-85). Rowley, MA: Newbury House.

Ellis, R. (1994). *The study of second language acquisition.* Oxford: Oxford University Press.

Ellis, R. (1995). Modified oral input and the acquisition of word meanings. *Applied Linguistics, 16(4),* 409-441.

Ely, M. with Anzul, M., Friedman, T., Garner, D., & Steinmetz, A. (1991). *Doing qualitative research: Circles within circles.* London: Falmer Press.

Ely, M., Vinz, R., Downing, M., & Anzul, M. (1997). *On writing qualitative research: Living by words.* London: Falmer Press.

Erickson, F. (1986). Qualitative methods in research on teaching. In M. Wittrock (Ed.), *Handbook of research on teaching,* (3rd ed.), (pp. 119-161). AERA/Macmillan, 1986.

Forman, E., & Cazden, C. (1985). Exploring Vygotskian perspectives in eduation: The cognitive value of peer interation. In J. Wertsch (Ed.), *Culture, communication, and cognition: Vygotskian perspectives* (pp. 323-347). Cambridge: Cambridge University Press.

Fraser, C. A. (1999). Lexical processing strategy use and vocabulary learning through reading. *Studies in Second Language Acquisition (21),* 225-241.

Frawley, W. & Lantolf, J. (1984). Speaking and self-order: A critique of orthodox L2 research. *Studies in Second Language Acquisition, 6,* 143-159.

Frawley, W. & Lantolf, J. (1985). Second language discourse: A Vygotskian perspective. *Applied Linguistics, 6,* 19-44.

Gagne, R., & Smith, E. (1962). A study of the effects of verbalization on problem-solving. *Journal of Experimental Psychology, 63,* 12-18.

Gallimore, R., & Tharp, R. (1990). Teaching mind in society: Teaching, schooling, and literate discourse. In L. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 175-205). Cambridge: Cambridge University Press.

Geertz, C. (1988). *Works and lives: The anthropologist as author.* Cambridge, UK: Polity Press.

Gombert, J. (1992). *Metalinguistic development.* New York: Harvester Wheatsheaf.

Greenfield, E. (1988). *Under the Sunday tree.* New York: Harper Collins.

Grilikhes, A. (1972). *Isabel Rawsthorne standing in a street in Soho.* New York: Folder Editions.

Gu, Y. & Johnson, R. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning, 46,* 643-679.

Haastrup, K. (1987). Using thinking aloud and retrospection to uncover learners' lexical inferencing procedures. In C. Faerch & G. Kasper (Eds.), *Introspection in second language research* (pp. 197-212). Clevedon, UK: Multilingual Matters.

Haastrup, K. (1990). Developing learners' procedural knowledge in comprehension. In R. Phillipson, E. Kellerman, L. Selinker, M. Sharwood Smith, & M. Swain (Eds.), *Foreign/second language pedagogy research* (pp. 120-133). Clevedon, UK: Multilingual Matters.

Hall, J. K. (1995). "Aw, man, where you goin'?": Classroom interaction and the development of L2 interactional competence. *Issues in Applied Linguistics, 6(2),* 37-62.

Hanfmann, E., & Kasanin, J. (1937) A method for the study of concept formation. *Journal of Psychology, 3,* 521-540.

Hatch, E. (1978). Discourse analysis and second language acquisition. In E. Hatch (Ed.), *Second language acquisition* (pp. 401-435). Rowley, MA: Newbury House.

Hazenberg, S. & Hulstijn, J. H. (1996). Defining a minimal receptive second-language vocabulary for non-native university students: An empirical investigation. *Applied Linguistics, 17,* 145-163.

Henrikson, B. (1999). Three dimensions of vocabulary development. *Studies in Second Language Acquisition, 21,* 303-317.

Huckin, T. & Coady, J. (1999) Incidental vocabulary acquisition in a second language. *Studies in Second Language Acquisition (21),* 181-193.

Hulstijn, J. H., Hollander, M., & Greidanus, T. (1996). Incidental vocabulary learning by advanced foreign language students: The influence of marginal glosses, dictionary use, and reoccurrence of unknown words. *Modern Language Journal, 80,* 327-339.

Jaensch, E. R. (1923). Uber den aufbau der wahrnehmungsvelt und ihre struktur im jugendalter. Leipzig: Barth.

Jiang, N. (2000). Lexical representation and development in a second language. *Applied Linguistics, 21(1),* 47-77.

Johnson, D., & Johnson, R. (1972, repr. 1981). *Reaching out: Interpersonal effectiveness and self-actualization.* Englewood Cliffs, NJ: Prentice-Hall

Johnson, D., & Johnson, R. (1987) *Learning together and alone.* Englewood Cliffs, NJ: Prentice-Hall.

Johnson-Laird (1988). Personal communication, cited in Summers, D.

Kagan, S. (1989). *Cooperative learning resources for teachers.* San Juan Capistrano, CA: Resources for Teachers.

Karpov, Y. (1995). L. S. Vygotsky as the founder of a new approach to instruction. *School Psychology International, 16 (2),* 131-142.

Keil, F. (1989). *Concepts, kinds, and cognitive development.* Cambridge, MA: MIT Press.

Kenyon, J. (1990). *Let evening come: Poems by Jane Kenyon.* St. Paul: Graywolf Press.

Kessler, C. (Ed.). (1992). *Cooperative language learning: A teacher's resource book.* Englewood Cliffs, NJ: Prentice Hall Regents.

Knight, S. (1994). Dictionary, the tool of last resort effects on comprehension and vocabulary acquisition for students of different verbal abilities. *Modern Language Journal, 78,* 285-298.

Kozulin, A. (1995). The learning process: Vygotsky's theory in the mirror of its interpretations. *School Psychology International, 16 (2),* 117-30.

Kozulin, A. (1998). *Psychological tools: A sociocultural approach to education.* Cambridge, MA: Harvard University Press.

Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *Modern Language Journal, 73,* 440-464.

Krashen, S. (1990). Reading, writing, form and content. In *Georgetown University round table on languages and linguistics 1990 (*pp. 364-376). Washington, D.C.: Georgetown University Press.

Lantolf, J. (forthcoming). Rethinking the relevance of experimental research for second language classrooms. In S. Salaberri (Ed.), *Linguistica aplicada a la ensenanza de lenguas extranjeras.* University of Almeria Press.

Lantolf, J., & Ahmed, M. (1989). Psycholinguistic perspectives on interlanguage variation: A Vygotskian analysis. In S. Gass, C. Madden, D. Preston, & L. Selinker (Eds.), *Variation in second language acquisition Vol. II: Psycholinguistic issues* (pp. 93-108) Clevedon: Multilingual Matters Ltd.

Lantolf, J., & Appel, G. (Eds.). (1994). *Vygotskian approaches to second language research.* Norwood, NJ: Ablex.

Larrick, N. (Ed.) (1968) *On city streets: An anthology of poetry.* New York: Bantam.

Laufer, B. (1997). The lexical plight in second language reading: Words you don't know, words you think you know, and words you can't guess. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition: A rationale for pedagogy* (pp. 20-34). New York: Cambridge University Press.

Lawson, M. & Hogben, D. (1996). The vocabulary-learning strategies of foreign-language students. *Language Learning, 46,* 101-135.

LeCompte, M. & Goetz, J. (1982). Problems of reliability and validity in ethnographic research. *Review of educational research, 52(1).*

Legutke, M., & Thomas, H. (1991). *Process and experience in the language classroom.* London: Longman.

Levertov, D. (1990) *Evening train.* New York: New Directions.

Lewis, R. (Ed.). (1966). *Miracles: Poems by children of the English-speaking world.* New York: Bantam Books.

Lincoln, Y. & Guba, E. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Long, M. (1981). Input, interaction and second language acquisition. In Winitz, H. (Ed.) *Native language and foreign acquisition.* Annals of the NY Academy of Sciences, 379.

Long, M., & Porter, P. (1985). Group work, interlanguage talk, and second language acquisition. *TESOL Quarterly, 19,* 207-28.

Lucy, J. (1992). *Language diversity and thought: A reformulation of the linguistic relativity hypothesis.* Cambridge, UK: Cambridge University Press.

Luppescu, S. & Day, R. (1993). Reading dictionaries and vocabulary learning. *Language Learning, 43,* 263-287.

Maley, A., & Duff, A. (1989). *The inward ear: Poetry in the language classroom.* Cambridge: Cambridge University Press.

Markee, N. (1994). Toward an ethnomethodological respecification of second-language acquisition studies. In E. Tarone, S. Gass & A. Cohen (Eds.), *Research methodology in second language acquisition* (pp. 89-116). Hillsdale, NJ: Erlbaum.

Markova, A. K. (1979) *The teaching and mastery of language.* (B. B. Szekely, Ed.; M. Vale, Trans.). White Plains, NY: M. E. Sharpe, Inc.

Martin, J. (1993). Episodic memory: A neglected phenomenon in the psychology of education. *Educational Psychologist 28(2),* 169-183.

Mead, G. H. (1934). *Mind, self and society.* University of Chicago Press.

McCafferty, S. (1994a). The use of private speech by adult ESL learners at different levels of proficiency. In Lantolf, J. and Appel, G. (Eds.), *Vygotskian approaches to second language research* (pp. 83-116). Norwood, NJ: Ablex.

McCafferty, S. (1994b). Adult second languge learners' use of private speech: A review of studies. *The Modern Language Journal, 78, iv,* 421-436.

McCafferty, S. (1998). Nonverbal expression and L2 private speech. *Applied Linguistics 19(1),* 73-96.

McGroarty, M. (1998). Constructive and constructivist challenges for applied linguistics. *Language Learning, 48* (4), 591-622.

McKeown, M., Beck, I., Omanson, R., & Perfetti, C. (1983). The effects of long-term vocabulary instruction on lexical access and reading comprehension: A replication. *Journal of Reading Behavior, 15,* 3-18.

McKeown, M., & Curtis, M. (Eds.) (1987). *The nature of vocabulary acquisition.* Hillsdale, NJ: Lawrence Erlbaum Associates.

McNeill, D., McCullough, K. E., & Tyrone, M. (1994) Nonverbal factors in the interpsychic to intrapsychic internalization of objects. In V. John-Steiner, & C. P. Panofsky (Eds.), *Sociocultural approaches to language and literacy: An interactionist perspective* (pp. 147-169). New York: Cambridge University Press.

Moffett, J. (1968). *Teaching the universe of discourse.* Boston: Houghton Mifflin.

Moll, L. (Ed.) (1990). *Vygotsky and education: Instructional implications and applications of sociohistorical psychology.* Cambridge: Cambridge University Press.

Morrison, L. (1996) Talking about words: A study of French as a Second Language learners' lexical inferencing procedures. *The Canadian Modern Language Review, 53(1),* 41-75.

Nagy, W., & Herman, P. (1987). Breadth and depth of vocabulary knowledge: Implications for acquisition and instruction. In McKeown, M. and Curtis, M. (Eds.), *Vocabulary and language teaching* (pp. 20-37). London: Longman.

Nagy, W., Herman, P., & Anderson, R. (1985). Learning words from context. *Reading Research Quarterly, 20(2),* 233-253.

Nation, I.S.P. (1990). *Teaching and learning vocabulary.* New York: Newbury House.

Nattinger, J. (1988). Some current trends in vocabulary teaching. In R. Carter & M. McCarthy (Eds.), *Vocabulary and language teaching* (pp. 63-82). London: Longman.

Nesi, H., & Meara, P. (1994). Patterns of misinterpretation in the productive use of EFL dictionary definitions. *System, 22 (1),* 1-15.

Ohta, A. (1995). Applying sociocultural theory to an analysis of learner discourse: Learner-learner collaborative interaction in the zone of proximal development. *Issues in Applied Linguistics, 6(2),* 93-121.

Ohta, A. (1997). *Re-thinking interaction in SLA: A Vygotskian analysis of the role of collaborative classroom interaction in the acquisition of L2 grammar.* American Association of Applied Linguistics conference, 1997.

Oxford, R., & Scarcella, R. (1994). Second language vocabulary learning among adults: State of the art in vocabulary instruction. *System 22(2),* 231-243.

Paivio, A. (1971). *Imagery and verbal processes.* New York: Holt, Rinehart & Winston.

Paribakht, T. S., & Wesche, M. (1999). Reading and "incidental" L2 vocabulary acquisition, *Studies in Second Language Acquisition (21),* 195-224.

Parilla, R. (1995). Vygotskian views on language and planning in children. *School Psychology International, 16(2),* 167-184.

Parry, K. (1993). Too many words: Learning the vocabulary of an academic subject. In T. Huckin, M. Haynes, & J. Coady (Eds.), *Second language reading and vocabulary learning* (pp. 109-129). Norwood, NJ: Ablex.

Parry, K. (1997). Vocabulary and comprehension: Two portraits. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition: A rationale for pedagogy* (pp. 55-68). Cambridge: Cambridge University Press.

Pavlenko, A. (1997). *Bilingualism and cognition.* Unpublished Ph.D. dissertation, Cornell University.

Pavlenko, A. (1999). New approaches to concepts in bilingual memory. *Bilingualism: Language and cognition, Vol. 2(3),* 209-230.

Pavlenko, A. & Lantolf, J. (2000). Voices from the margins: Reconstructing a self in a second language. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning and teaching* (pp. 155-177). New York: Oxford University Press.

Rational exuberance: Greenspan shares bullishness on education. (2000, July 17). *The Philadelphia Inquirer,* p. A08.

Read, J. (1993) The development of a new measure of L2 vocabulary knowledge. *Language Testing, 10,* 355-371.

Riffaterre, M. (1978). *Semiotics of poetry.* Bloomington: Indiana University Press.

Rodger, A. (1983). Language for literature. In C. Brumfit (Ed.), *Teaching literature overseas: Language-based approaches* (pp. 37-53). ELT Documents 115, Pergamon Press.

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context.* New York: Oxford University Press.

Rommetveit, R. (1979). Deep structure of sentence versus message structure: Some critical remarks on current paradigms, and suggestions for an alternative approach. In R. Rommetveit & R. Blakar (Eds.), *Studies of language, thought and verbal communication.* London: Academic Press.

Rott, S. (1999). The effect of exposure frequency on intermediate language learners' incidental vocabulary acquisition and retention through reading. *Studies in Second Language Acquisition, 21,* 589-619.

Siguan, M. (1991) The bilingual child. In G. Appel & H. W. Dechert (Eds.), *A case for psycholinguistic cases* (pp. 91-110). Philadelphia: John Benjamins Publishing Company.

Slavin, R., S. Sharan, S. Kagan, R. Hertz-Lazarowitz, & R. Schmuck (Eds.) (1985). *Learning to cooperate, cooperating to learn.* New York: Plenum Press.

Slobin, D. (1971). *Psycholinguistics.* Glenview, IL: Scott, Foresman.

Slobin, D. (1996). From "thought to language" to "thinking for speaking." In Gumperz and Levinson (Eds.), *Rethinking linguistic relativity* (pp. 70-96). Cambridge: Cambridge University Press.

Stevick, E. (1976). *Memory, meaning and method: Some psychological perspectives on language teaching.* Rowley, MA: Newbury House.

Summers, D. (1988). The role of dictionaries in language learning. In R. Carter and M. McCarthy (Eds.), *Vocabulary and language teaching* (pp. 111-125). London: Longman.

Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. M. Gass & C. G. Madden (Eds.), *Input in Second Language Acquisition* (pp. 235-253). Cambridge, MA: Newbury House.

Talbot, M. (1991). *The holographic universe.* New York: Harper Collins.

Talbot, M. (1993). *Mysticism and the new physics* (Rev. ed.). London: Penguin Books.

Talyzina, N. (1981). *The psychology of learning: Theories of learning and programmed instruction.* Moscow, Progress Press.

Tarone, E. (1977). Conscious communication strategies in interlanguage: A progress report. In H. Brown, C. Yorio & R. Crymes (Eds.). *On TESOL '77.* Washington D.C.: TESOL.

Tarone, E., Gass, S., & Cohen, A. (Eds.). (1994). *Research methodology in second language acquisition.* Hillsdale, NJ: Erlbaum.

Tolstoy, L. (1903). *Pedagogicheskie statli [Pedagogical writings],* Moscow: Kushnerev.

Tulving, E. (1972). Episodic and semantic memory. In E. Tulving & W. Donaldson (Eds.), *Organization of memory* (pp. 381-403). New York: Academic Press.

Van Lier, L. (1988). *The classroom and the language learner.* London: Longman.

Van Lier, L. (1996). *Interaction in the language curriculum: Awareness, autonomy & authenticity.* London: Longman.

Verhallen, M., & Schoonen, R. (1993). Lexical knowledge of monolingual and bilingual children. *Applied Linguistics, 14,* 344-363.

Voloshinov, V. (1973). *Marxism and the philosophy of language* (L. Matejka & I. R. Titunik, Trans.). New York: Seminar Press. (Original work published 1929)

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard Univ. Press.

Vygotsky, L. S. (1979). Consciousness as a problem of psychology of behavior. *Soviet Psychology, 17(1),* 5-35.

Vygotsky, L. S. (1986). *Thought and language*. (A. Kozulin, Ed.) Cambridge, MA: MIT Press. (Original work published 1934)

Vygotsky, L. S. (1987). Imagination and its development in childhood. In W. Rieber & A. Carton (Eds.), *The collected works of L. S. Vygotsky, Vol. 1* (pp. 339-350). New York: Plenum Press.

Vygotsky, L. S. (1994a). Imagination and creativity of the adolescent. In R. Van der Veer & J. Valsiner (Eds.), *The Vygotsky reader* (pp. 266-288). Oxford: Blackwell.

Vygotsky, L. S. (1994b). The development of thinking and concept formation in adolescence. In R. Van der Veer & J. Valsiner (Eds.), *The Vygotsky reader* (pp. 185-265). Oxford: Blackwell.

Wertsch, J. (1979). From social interaction to higher psychological processes. *Human Development 22,* 1-22.

Wertsch, J. (1985). *Vygotsky and the social formation of mind.* Cambridge, MA: Harvard University Press.

Wertsch, J. (1991). *Voices of the mind: A sociocultural approach to mediated action.* Cambridge, MA: Harvard University Press.

Wertsch, J. (1992). A dialogue on message structure: Rommetveit and Bakhtin. In A. H. Wold (Ed.), *The dialogical alternative: Towards a theory of language and mind* (pp. 65-76). Oslo: Scandinavian University Press.

Wheeler, J. A. (1968). Superspace and the nature of quantum geometrodynamics. In C. deWitt & J. A. Wheeler, *Battelle econtres, 1967 lectures in mathematics and physics*. New York: W. A. Benjamin.

White, L. (1987). Against comprehensible input: The input hypothesis and the development of second language competence. *Applied Linguistics, 8,* 95-110.

Whorf, B. L. (1956). *Language, thought and reality.* Cambridge, MA: MIT Press.

Widdowson, H. G. (1978). *Teaching language as communication.* Oxford: Oxford University Press.

Widdowson, H. G. (1984). *Explorations in Applied Linguistics 2.* Oxford: Oxford University Press.

Widdowson, H. G. (1990). *Aspects of language teaching.* Oxford: Oxford University Press.

Wittgenstein, L. (1953). *Philosophical investigations.* New York: Macmillan.

APPENDIX A
POETRY TASKS FOR PILOT STUDY (AND INDIVIDUAL PRACTICE IN FINAL STUDY)

A1 – Pilot Task 1

Directions: Read the poem and choose the word that best fits in the blank space. You will need to consider the meaning of the poem as a whole. On the bottom of the page, write the definition of the chosen word which best fits how it is used in the poem. Also write down any other words in the poem that your group needed to look up.

TO THE LECTURER

having had this tape of you speaking
each time all I heard
your warm
_____, arguments
drowning in surface
acts, now
years later,
I'm awake to your meanings you
even sound different your
meanings not half so interesting
as when I didn't understand them.

Alexandra Grilikhes

a. cacophonies
b. missives
c. orations
d. cadences

A2 – Pilot Task 2

Directions: Read the poem and choose the word that best fits in the blank space. You will need to consider the meaning of the poem as a whole. On the bottom of the page, write the definition of the chosen word which best fits how it is used in the poem. Also write down any other words in the poem that your group needed to look up.

DARK MORNING: SNOW

It falls on the vole, nosing somewhere
through weeds, and on the open
eye of the pond. It makes the mail
come late.

The nuthatch spirals head first
down the tree.

I'm sleepy and _____ in the dark.
There's nothing I want. . . .

Jane Kenyon

a. benign
b. porous
c. solicitous
d. indefatigable

A3 – Pilot Task 3

Directions: Read the poem and choose the word that best fits in the blank space. You will need to consider the meaning of the poem as a whole. On the bottom of the page, write the definition of the chosen word which best fits how it is used in the poem. Also write down any other words in the poem that your group needed to look up.

WHISPER

Today the white mist that is weather
is mixed with the_____ tint
of the mist that is smog.
And from it, through it, breathes
a vast whisper:
the mountain.

Denise Levertov

a. sallow
b. diaphonous
c. pristine
d. inviolate

A4 – Task 4

Directions: Read the poem and choose the word that best fits in the blank space. You will need to consider the meaning of the poem as a whole. On the bottom of the page, write the definition of the chosen word which best fits how it is used in the poem. Also write down any other words in the poem that your group needed to look up.

THE ANSWERS

It happens sometimes
you're reading a book
tht has too much in it
for you to bear
so you never finish it

every so often
seeing it on the shelf
you're reminded of the
tough _____ that half
terrified you

awed you with its primitive

mastered you
low tones made you stop
reading so you could go on
feeling the seeds twist, ripen.

Alexandra Grilikhes

a. reiterations
b. menaces
c. implosions
d. paradoxes

APPENDIX B
POETRY TASKS FOR FINAL STUDY

B1 – Task 1

THE FICKLE WIND

The _____ wind
Whispers a sleepy tune.
The _____ wind
Charms the enchanted leaves.
The _____ wind
Roars a violent storm.
The _____ wind
Bleats -- lonely and forlorn.

a. weeping
b. drowsy
c. savage
d. whistling

Cindy Schonhaut
Age 8
United States

FIRE

Flickering flames of gold and red
Creeping forward like a cautious thief
_____ greedily the old, dry twigs;
Wisps of light gray smoke
Floating higher and higher
In the damp air of the dawn.

a. straddling
b. caressing
c. chastising
d. devouring

Jill Craik
Age 11
Australia

B2 – Task 2

TALL CITY

Here houses rise so straight and tall
That I am not surprised at all
To see them simply walk away
Into the clouds -- this _____ day.

a. sweltering
b. misty
c. rainy
d. lovely

Susan Nichols Pulsifer

WEDDING DAY

The sun shone too hot
the veil wouldn't stay
the pianist never
came to play
but love is what made it
a _____ day

a. miserable
b. sunny
c. momentous
d. perfect

Eloise Greenfield

B4 – Task 4

A CITY PARK

_____
Against a background of brick tenements
Some trees spread their branches
Skyward.
They are thin and sapless,
They are bent and weary --
Tamed with captivity;
And they huddle behind the fence
Swaying helplessly before the wind,
Forward and backward
Like a group of panicky deer
Caught in a cage.

a. silently
b. relentlessly
c. suddenly
d. timidly

Alter Brody

THEL

was my first landscape,
red brown as the clay
of her georgia.
sweet attic of a woman,
_____ of old songs.
there was such music in her;
she would sit, shy as a wren
humming alone and lonely
amid broken promises,
amid the sweet broken bodies
of birds.

a. balladeer
b. repository
c. purveyor
d. devotee

B5 – Task 5

Directions: Read the poem and choose the word that best fits in the blank space. You will need to consider the meaning of the poem as a whole. On the bottom of the page, write the definition of the chosen word which best fits how it is used in the poem. Also write down any other words in the poem that your group needed to look up.

HEAVY SUMMER RAIN

The grasses in the field have _____,
and in places it seems tht a large, now
absent, animal must have passed the night.
The hay will right itself if the day

turns dry. I miss you steadily, painfully.
None of your _____ entrances
or exits, doors swinging wildly
on their hinges, or your huge unconscious
sighs when you read something sad,
like Henry Adams' letters from Japan,
where he travelled after Clover died.

Everything blooming bows down in the rain:
white irises, red peonies; and the poppies
with their black and secret centers
lie shattered on the lawn.

Jane Kenyon

1. a. **metamorphosed**
   b. **jettisoned**
   c. **toppled**
   d. **propagated**

2. a. **obnoxious**
   b. **gallant**
   c. **blustering**
   d. **subtle**

APPENDIX C
QUESTIONS FOR EARLY TASKS

A. "Visit"

1. What two key words are related to the answer?

B. "Wondering"

1. What key words led you to the answer?

2. How could you describe the general feeling or impression of the poem?
   Use a word or words that are not found in the text.

C. "A City Park"

1. Choose a word for the first line, to describe how the trees spread their branches.

   Which key words helped you find it?

   List as many other words as you can that are related to it.

D. "Thel"

1. According to what is specifically said in the poem, what is the relationship of the woman
   to the songs:

   Does she **teach** them?

   Does she **like** them?

   Does she **sing** them?

   Does she **keep** them?

2. Which word in the first half of the poem is related to one of these?

3. Which of the four choices has a similar meaning to this word?

APPENDIX D
CHART OF MEANING RELATIONSHIPS IN POEMS
(WITH KEY WORDS)

A. COMPLETING A METAPHORICAL IMAGE

1. **"Fire"** – greedily, thief
2. **"Tall City"** – walk away in the clouds
3. **"Thel"** – attic, such music in her

B. CONTEXT CLUES

<u>Agency</u> (what someone or something would do):

1. **"The Fickle Wind"**

weeping	lonely, forlorn (roars)
drowsy	sleepy
savage	violent, roars
whistling	charms, enchanted, leaves, (tune)

music

2. **"The Answers"** – terrified; the seeds twist, ripen

<u>Logical relationship – e.g., opposition or comparison:</u>

3. **"Wedding Day"**

Not perfect – things that went wrong		Perfect
hot sun veil pianist	but	love

4. **"To the Lecturer"** – surface, years later, different

Earlier	Later
interesting didn't understand heard sounds, rhythms (surface)	not interesting understood heard words, meanings

<u>Different members of the same class being compared:</u>

5. **"Whisper" (colors)** – white, tint

C. OVERALL FEELING OR TYPE OF MOVEMENT

1. **"Wondering" (movement)** – angry, sweeping, crawl like wild animals, flap, squabble, greedily

2. **"Visit" (feeling)** – silently, mystery, dark

3. **"City Park" (feeling)** – thin, sapless, bent, weary, tamed, captivity, huddle, helplessly, panicky deer, caught in a cage

4. **"Dark Morning: Snow" (feeling)** – there's nothing I want

APPENDIX E
POEMS FOR EXTRA PRACTICE WITH NETWORKS OF MEANING

Sonic Boom

I'm sitting in the living room
When, up above, the Thump of Doom
Resounds. Relax. It's sonic boom.

The ceiling shudders at the clap,
The mirrors tilt, the rafters snap,
And Baby wakens from his nap.

"Hush, babe. Some pilot we equip,
Giving the speed of sound the slip,
Has cracked the air like a penny whip."

Our world is far from frightening; I
No longer strain to read the sky
Where moving fingers (jet planes) fly
Our world seems much too tame to die.

And if it does, with one more pop,
I shan't look up to see it drop.

John Updike

Sunning

Old Dog lay in the summer sun
Much too lazy to rise and run.
He flapped an ear
At a buzzing fly.
He winked a half opened
Sleepy eye.
He scratched himself
On an itching spot,
As he dozed on the porch
Where the sun was hot.
He whimpered a bit
From force of habit
While he lazily dreamed
Of chasing a rabbit.
But Old Dog happily lay in the sun
Much too lazy to rise and run.

James S. Tippett

Fueled

Fueled
by a million
man-made
wings of fire --
the rocket tore a tunnel
through the sky --
and everybody cheered.
Fueled
only by a thought from God --
the seedling
urged its way
through the thicknesses of black --
and as it pierced
the heavy ceiling of soil --
and launched itself
up into outer space --
no
one
even
clapped.

Marcie Hans

(From *Reflections on a gift of watermelon pickle. . .and other modern verse,* S. Dunning, E. Leuders, & H. Smith, Eds.)

APPENDIX F
QUESTIONNAIRE

This questionnaire is anonymous and confidential. It will be put into a sealed envelope, then placed in a box with 9 other identical envelopes before being read. Your answers will be most helpful if you are *completely honest.*

Please answer these questions according to the following rating scale:

1 - not at all **3 - somewhat** **5 - extremely**
2 - slightly **4- quite a bit**

____1. The tasks we did in the groups were interesting.
____2. The words we studied are, or will be, useful to me.
____3. I still remember most of the words used in the tasks.
____4. In general, working in the group was an enjoyable experience.
____5. While working on the group tasks, I felt I was learning vocabulary more effectively than with most other kinds of vocabulary activities.
____6. From working in the group I learned some skills that will help me get along better with others socially.
____7. Working in the group helped me improve the correctness of my English.
____8. Working in the group helped me learn to communicate better in English.
____9. Working in the group helped me to think better in English.
___10. Working in the group helped me to work more effectively with other people.
___11. From working on the group tasks, I feel I learned some skills that will make it easier for me to learn new words in the future.
___12. I like some of my classmates more now that I have worked with them.
___13. I feel I could have solved the tasks just as well or better by myself.
___14. I feel I could have learned as much or more if I had worked by myself.
___15. On the whole, I felt the members of my group were effective in helping each other learn.
___16. On the whole, I felt the members of my group tried hard to overcome difficulties and misunderstandings.
___17. My teacher did too much of the talking.
___18. Writing learning journals has helped me become more aware of how I learn.
___19. Writing learning journals has helped me become a better learner.
___20. After doing these tasks, I am more interested in learning new words.
___21. After doing these tasks, I will probably think more carefully about word meanings in the future.
___22. After doing these tasks, I feel I am better able to use dictionary definitions to help me understand what I read and hear.

APPENDIX G
INTERVIEW QUESTIONS

1. What experiences stand out in your memory?
2. Tell me about something you remember figuring out by yourself.
3. Tell me about something you remember figuring out with your partners' help.
4. What was a difficult thinking problem your group overcame?
5. What was a difficult communication problem your group overcame?
6. What was a problem *you* had that you overcame?
7. What was a problem your group was not able to overcome? What do you think was the reason?
8. What was a problem *you* were not able to overcome? Why do you think you couldn't?
9. How well did your group communicate overall?
10. What were some things you did when you couldn't communicate well?
11. Looking back, what could you have done that you didn't do, to make things go better?
12. What was the hardest thing about working in the group?
13. What was the best thing about working in the group?
14. Do you remember using any of the strategies that we learned ahead of time (agreeing or disagreeing, making a hypothesis, etc.)? Tell which ones.
15. Were the words too hard? Too easy?
16. Do you think you had enough time to do the tasks well?
17. Did you learn anything that will help you in future ESOL or English classes? Explain.
18. Did you learn anything that will help you in other classes, or outside of school? Explain.
19. How do you think these types of tasks could be made more interesting or more effective?
20. Have you used any of the words we learned outside of class?
21. Do you think the work we did on context clues earlier in the year helped you do the tasks?
22. Do you think the work we did on parts of speech helped you do the tasks?
23. Was the poetry chart helpful?
24. Do you remember a time when you heard me or a group member say something, then used the same word or phrase in your own speaking?
25. Do you think it was helpful to keep a learning journal?

Other comments:

APPENDIX H
GUIDELINES FOR LEARNING JOURNALS

These are *suggestions* for writing about how you and your group are doing. Try to answer as many of the questions as you can (use question *numbers*), but you may skip some and write about other things instead.

A. 1. How well do you think your group worked today?

2. How well do you think *you* worked?

3. What was something you contributed to your group?

B. 4. Are there any words you feel you learned today? Did you learn anything else?

5. Can you remember anything you did by yourself that helped you learn?

6. Can you remember anything *your partner(s)* did that helped you learn or understand something?

C. 7. What problems did you have in

(a) solving particular tasks or understanding particular words?
(b) relating to each other personally?
(c) understanding and communicating with each other?

8. If any of these problems were solved, describe how.

D. 9. Did you like the task? How do you feel it could be improved?

10. (Optional): Do you remember repeating any words or phrases you heard someone else say, so that you could better (a) express something you wanted to say, (b) communicate with your partners, or (c) solve the problem?