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FROM THE INSIDE OUT: ADOLESCENTS WITH LEARNING DISABILITIES
THINK AND TALK ABOUT WRITING

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FROM THE INSIDE OUT: ADOLESCENTS WITH LEARNING DISABILITIES
THINK AND TALK ABOUT WRITING

VOLUME I

By

Mark J. Hallenbeck

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ABSTRACT

FROM THE INSIDE OUT: ADOLESCENTS WITH LEARNING DISABILITIES THINK AND TALK ABOUT WRITING

By

Mark J. Hallenbeck

Expository writing poses a daunting challenge to many students with learning disabilities (LD), and by junior high many adolescents with LD have developed a special aversion to writing. Instructional models have been developed that make expository writing more accessible to these students. Few studies, however, have sought a broader understanding of how adolescents with learning disabilities (LD) perceive the task of expository writing and how their perceptions develop alongside their writing skills.

In recent years my secondary students with LD have achieved remarkable gains through Cognitive Strategy Instruction in Writing (CSIW), which entails a holistic enterprise involving planning, organizing, writing, editing, and revising expository texts. Through collaborative dialogues the teacher engages students in a writing apprenticeship by modeling the thinking of a skilled writer and by scaffolding students' use of specific writing strategies. By engaging four seventh graders in a year-long collaborative writing project centered on CSIW, this dissertation study explores how adolescents with LD think about writing and how that thinking is mediated by collaborative talk.

Audiotaped dialogues collected throughout the school year provided a window into the students' thinking about expository writing. Data analysis revealed that the adolescents appropriated the writing discourse modeled by the teacher to regulate their own writing performance and scaffolded one another's writing development. Students' view of writing changed from a preoccupation with "mechanics" to an

expanded focus on the communication of ideas to an audience. Reading-writing connections enhanced performance as students incorporated reading and Internet research into their writing tasks.

Discourse analysis also illuminated the teacher's role in scaffolding student thinking and facilitating collaborative problem-solving. Analysis suggested that the teacher played an important role in facilitating the development of the students' thinking about writing. The teacher's modeling emphasized demonstrating, thinking aloud, anticipating future student difficulties, and involving students. His scaffolding comprised a balance of comments and questions that emphasized the concepts of text structure and reader sensitivity. The teacher both overtly and covertly fostered a spirit of collaboration both with and among the students.

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To all the teachers who dedicate themselves to improving the future for students with learning difficulties, and to their students who never stop believing in themselves.

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CHAPTER 1

INTRODUCTION: TALKING AND WRITING

*Learning is finding out
what you already know.*

*Doing is demonstrating
that you know it.*

*Teaching is reminding
others that they know it
just as well as you.*

*You are all learners,
doers, teachers.*

*- Richard Bach
(in Canfield & Hansen, 1993, p. 121)*

Talk about Writing: Introduction

Anyone who has spent at least 10 minutes inside a school on any weekday between September and May knows the importance of talk to young people. Kids seize every possible opportunity to talk about every topic imaginable, from the trivial to the sublime. They learn a great deal through this talk; it is through talk that they share their thoughts, hopes, and fears.

Yet collaborative talk is an underrepresented area of academic research, perhaps because it is so rare in traditional classrooms. I must admit that, like most teachers, I often get nervous when student conversations threaten to derail the instructional agenda, and I too seldom seek ways to incorporate student collaboration within my lesson plans. Nevertheless, I recognize that collaborative talk is the best vehicle through which I can examine a topic in which I have a keen interest - the perceptions and thoughts of my students about writing, an area in which they generally have great difficulty.

I have taught writing to secondary students for twenty years, both as a high school English teacher and most recently as a junior-senior high resource teacher. In both capacities I have seen first-hand how

terribly difficult writing is for many young people. In recent years, however, I have been fortunate to witness remarkable success among my secondary students with learning disabilities (LD) through Cognitive Strategy Instruction in Writing (CSIW). CSIW is a discursive strategy that engages students in writing apprenticeships and collaborations, providing think-sheets to support them at each step of the writing process. I have seen many students who have struggled to write a single paragraph in September end the school year writing well-organized multiple-paragraph essays that incorporate elements of reader sensitivity and author voice.

Throughout the process of teaching CSIW, I wondered why the strategy was so successful, and I marveled at how some of my students generalized it to new contexts and new tasks. Of course, I had developed suspicions about the effects of the strategy's structural elements and the focused modeling I used to present them; I had even asked students to comment on such things fairly regularly. But I had not been able to get inside the students' heads, and I remained intensely curious about how their thinking about writing developed as they learned to use CSIW. I hoped through this study to satisfy some of that curiosity.

Talk about Writing: Problem and Purpose

Learning disabilities and students with LD have been the subject of innumerable books, articles, films and videos over the past 30 or so years. Observations and assessments have gleaned a wealth of information about the kinds of difficulties students with LD experience and how these difficulties affect their functioning both in and out of school. Many programs, including CSIW, have been developed and evaluated to determine their effectiveness in mediating the learning difficulties of students with LD. Important efforts have been made to understand better how students and adults with LD perceive and adjust to

their disability. Seldom, however, have investigators engaged in systematic, long-term study to understand these students' perceptions and thoughts about important academic tasks and interventions. As a resource room teacher, I was ideally situated to undertake such an investigation.

Expository writing represents one of the most daunting of all the academic tasks demanded of students with learning disabilities (Graham, Harris, MacArthur, & Schwartz, 1991; Englert, 1990b). The visible nature of written products makes writing a tangible threat to children with language processing problems. By junior high, many adolescents with LD have developed a special aversion to writing, which is compounded by the more complex writing tasks demanded of students at the secondary level. Increasingly, these students are receiving instruction in regular education and are expected to perform accordingly. The complexity of secondary-level writing tasks and the lifelong need of adults to compose coherent written text make this an important area of investigation for researchers in special education.

By engaging students in a year-long collaborative writing project, this study hoped to generate a broader understanding of how adolescents with learning disabilities perceive the task of expository writing and how their perceptions develop alongside their writing skills. Central to the study was the dialogue that emerged as students worked collaboratively on expository writing tasks. Although data analysis emerged inductively, the following research questions guided the study at the outset:

Teacher factors

I. What is the nature of the teacher's talk during collaborative discourse about writing?

A. In what ways does the teacher scaffold and support students as they develop their knowledge about expository writing during collaborative talk?

- B. What roles and norms develop for the teacher's participation in discussions about expository writing? How do these roles and norms help/hinder collaboration?

Student factors

- II. What is the nature of students' collaborative talk about writing?
- A. What does the students' talk reveal about the development of their thinking about expository writing?
- B. In what ways do students scaffold and support one another as they develop their knowledge about expository writing during collaborative talk? To what extent are adolescents with LD able to take on previously modeled teacher-like roles (e.g., interacting within each other's zones of proximal development)?
- C. What participation structure (roles and group norms) develops as students collaborate and write expository reports? How do these roles and norms help/hinder collaboration?
- D. What contextual factors facilitate/hinder oral discourse among adolescents with LD?

Context of the Study

Site and Participants

The study took place in my secondary resource room, which was situated in a rural consolidated school in the upper Midwest. Participants included myself, 4 seventh-grade students (2 boys and 2 girls) with whom I had not worked previously, the students' parents/guardians, and the students' content-area teachers. Data were collected throughout the 1995-96 school year.

Overview of the Study

In conjunction with extensive teacher modeling of CSIW during the first several weeks of the school year, students formed two partnership pairs and collaboratively wrote an expository paper. Each student served as primary author of one paper and secondary co-author of one

other paper. Once the first paper was completed, students wrote a second paper collaboratively, this one involving research. The study examined the collaborations of the students and the participation of the teacher in an effort to gain a clearer understanding of how the students' thinking about expository writing developed and how the teacher's participation helped and/or hindered the development of their thinking.

Data collected during the investigation centered on observations and interviews conducted in the resource room during the course of the school year. Other data included student writings, archival data, interviews with parents/guardians and content-area teachers, and reflections of the investigator. Data were analyzed qualitatively, with categories emerging inductively.

The investigation is organized as a case study of the interactions among the teacher and students. The theory that emerged was grounded in the data gathered from those interactions and triangulated with data from the other sources listed above.

Relevant Literature

The research questions and methodology arose from a review of several literatures. Since the investigation focused on the socially mediated meanings created by the students, social constructivism (Vygotsky, 1978, 1986; Bakhtin, 1981; Wertsch, 1991; Zebroski, 1994) served as the theoretical framework.

Collaborative Discourse

The literature on collaborative discourse in classrooms focused on the work of Courtney Cazden (1986, 1988, 1992), Douglas Barnes (Barnes & Todd, 1995; Barnes, 1990, 1976), and Nicholas Burbules (1993). I have drawn heavily from the work of Carol Sue Englert and her colleagues (Englert, 1990b; Englert, 1992; Englert & Mariage, 1991; Englert & Raphael, 1988; Englert & Raphael, 1989; Englert, Raphael, Anderson,

Anthony, & Stevens, 1991; Englert, Raphael, Fear, & Anderson, 1988; Englert, Raphael, Anderson, Anthony, Fear, & Gregg, 1988; Englert, Raphael, & Mariage, 1994; Englert & Palincsar, 1991; Raphael & Englert, 1990) for material on Cognitive Strategy Instruction in Writing (CSIW) and literacy learning communities in special education.

Qualitative Teacher-Research

Since the investigation is a naturalistic study, Yvonna Lincoln and Egon Guba's Naturalistic Inquiry (1985) was extremely useful. Other helpful texts on qualitative research included those by John Creswell (1994) and David Krathwohl (1993). While numerous authors provided background on the issues and methods of teacher research, Peter Woods (1986) was particularly useful. Finally, overviews of interactive sociolinguistics (Cook-Gumperz & Gumperz, 1990; Green, Dixon, Floriani, & Bradley, 1992) helped me to conceptualize the unit of analysis for the study.

Collaborative Writing

As a study incorporating collaborative writing, this investigation has elements in common with recent work of Colette Daiute (Daiute, 1986; Daiute & Dalton, 1993) and Helen Dale (1994). In the earlier study of collaborative writing among fourth-graders, Daiute found that co-authors were able to learn about elements of the writing process from one another. For example, case study analysis of the pretest and posttest papers of one writing pair indicated that one student made gains in length, overall syntactic complexity, use of dialogue, and punctuation. The other student's posttest paper was longer than his pretest, and he used a different story structure and an alliterative naming convention that he had used earlier with his partner. Daiute also gained insights into the thinking process of inexperienced writers in a way not possible through other means of observation or analysis, most notably in the areas of planning, plot development, editing, rhetorical structure, and inner dialoguing. Daiute recommended continued exploration of

collaborative writing, suggesting that the technique should yield more knowledge about the complexities of collaboration and its potential as an effective writing intervention.

Daiute and Dalton (1993) examined the impact of collaboration on the story writing of low-achieving third-graders. They found that novice writers can serve as masters by contributing their individual strengths to the collaborations, with the role of expert shifting throughout the collaborations, and by taking on teacher-like modeling roles. The children engaged in highly interactive and responsive composing, instruction, and evaluation. The authors note, however, that "the teacher's expertise may be required when children's expertises with a specific kind of task or in a specific domain are exhausted or when the potential for exchange is limited" (Daiute & Dalton, p. 327).

In outlining the framework of her study, Dale (1994) noted that increasing interest in collaborative writing has not yet yielded many investigations of how these groups function. She noted the need for further research in coauthoring interactions, particularly at the secondary level. Dale studied the discourse of three ninth-grade coauthoring triads - a model group, a typical group, and a problem group - in an effort to discern the factors that affected the relative success of their collaborations on three essays. She found that the model group took more conversational turns, engaging in active expression of their ideas, elaboration of their inner speech, and modification of their thinking. The problem group spent a disproportionate amount of time criticizing one another, leading to counterproductive marginalization; however, the amount of productive cognitive conflict was related to the richness of the interactions and ultimately to the success of the collaborations.

Rationale

By exploring the role of collaborative discourse in writing instruction, the current study seeks to contribute to the special education literature in a number of ways. Following a review of ten years of academic intervention research, Lessen, Dudzinski, Karsh, and Van Acker (1989) noted the need for more research involving adolescents, social validation of interventions, and teaching implications. Included among their list of five unresearched and underresearched areas are academic interventions for adolescents with LD, for content areas other than early reading skills, and for "teaching new skills based on specified student need rather than attempting to reteach skills to heterogeneous groups of students with learning disabilities who may or may not need to learn these skills" (Lessen, et al., p. 120). The current study addresses each of these research needs identified by Lessen, et al.

In outlining future directions for special education research, Mertens and McLaughlin (1995) note several research areas incorporated in the current study. Substantive issues include cooperative learning approaches and instruction focused on instructional objectives rather than student disability. Methodological issues include critical examination of the theory and assumptions underlying special education interventions; use of qualitative approaches to depict the complexity of the intervention program, the contextual factors, and the participants; and strengthening collaborative relationships among researchers, special educators, and persons with disabilities and their parents.

The current study strives to contribute a better understanding of the thought processes and dynamics of knowledge construction among adolescents with learning disabilities. In addition, it explores the role of the teacher in knowledge construction among this population of students. Moreover, its emphasis on collaboration facilitates preparing students for a world that increasingly calls for collaborators and

community builders (MacGregor, 1990; Barnes & Todd, 1995). By taking an interpretivist research stance, the study promises to "stretch our field's imagination and knowledge base" (Ferguson, 1993, p. 42).

This study extends previous investigations of collaborative writing to adolescents with learning disabilities. It is hoped that the study will shed light on the decision-making and supportive interactions that evolved as two pairs of such students collaboratively planned, organized, composed, and revised expository text. The study also examines the role of the teacher in facilitating writing development through modeling, scaffolding, and collaboration. As such, it explores the value of establishing learning communities that capitalize on the expertise of both teacher and student in a way seldom attempted in secondary special education classrooms.

CHAPTER 2

LITERATURE ON DISCOURSE: CREATING MEANING THROUGH TALK

*For millions of years mankind lived just like the animals
Then something happened which unleashed the power
of our imagination
We learned to talk*

*- Pink Floyd, "Keep Talking," from The Division Bell
(Sony Music Entertainment, Inc., 1994)*

American schools, particularly secondary schools, have a longstanding instructional tradition that sees writing as an individual activity (Zebroski, 1994). Such has been dramatically the case in the field of special education, with its penchant for diagnostic-prescriptive intervention models that has led to a preoccupation with workbooks and worksheets focusing on writing subskills such as sentence and paragraph structure, punctuation, and capitalization. These emphases represent artifacts of special education's traditional embrace of behaviorist and information-processing views of learning.

Symbolized by its emphasis on behavioral objectives, special education's adherence to the behaviorist model of learning focuses not so much on how one comes to understand as on how one can be instructed to act in a certain way. Behaviorism focuses on observable data: hence, special education's traditional emphasis on assessment of behavioral objectives and standardized measurement.

The information-processing model of learning has been particularly prevalent within the field of learning disabilities. Information processing theories emphasize how one stores, encodes, and decodes information. While the focus is on internal processes rather than on observable behaviors, thinking is generally seen as a computational rather than a generative function.

Traditional thinking in special education places little emphasis on how students generate meanings and develop understandings. In contrast, this study focuses on the efforts of several students to gain

a clearer understanding of an academic area in which they experienced great difficulty. It follows 4 adolescents with learning disabilities as they worked to expand their own knowledge of expository writing. In contrast to traditional diagnostic-prescriptive approaches to instruction, this study engaged students holistically in a dialogic process more in keeping with the writing experiences of accomplished writers.

The study seeks to generate a clearer understanding of how adolescents with LD think about expository writing and how their thinking is mediated by collaborative dialogue with each other and with the teacher. When exploring how students create meaning and develop their own understandings, neither behavioral theory nor information-processing theory is particularly helpful; the theoretical framework that supports such an inquiry is social constructivism.

Language and Thinking: The Russian Theorists

Social constructivism is predicated on the assumption that people come to know and understand the world through social interaction. Learners construct meaning through the cyclical integration of prior knowledge with new socially mediated knowledge. Social constructivism was championed by Lev Vygotsky, who asserted that knowledge accrues on both the intrapsychological plane within the individual and the interpsychological plane through social interaction. As such, social constructivism undergirds this study as it seeks to examine both the development of the thoughts and perceptions of students (intrapsychological plane) and the role of the teacher and peers in mediating those thoughts and perceptions through dialogue (interpsychological plane).

Vygotsky (1978) posited that language and thought are interdependent. The language of social interaction (especially speech) "goes underground" (Vygotsky, 1986, p. 33) and turns into the inner

speech that becomes thought. Zebroski (1994) notes that the modes of writing may be related to these internalized social relations.

If the modes have their origins in the patterns of group activity that are subsequently internalized by the individual, then one of the important tasks for writing research and instruction would be to trace out such categories of cultural activity. (Zebroski, 1994, p. 159)

Vygotsky also emphasized that through interaction with an adult or more capable peer, a child's performance can exceed his or her actual development. Within the context of schooling, this means that students can perform elements of holistic tasks in advance of actual competence. This study examines how the teacher's modeling and scaffolding, combined with ongoing peer collaborations, enabled students to refine their understanding of effective expository writing.

Central to the application of social constructivism to writing is the importance of presenting instruction within students' zones of proximal development (ZPD's), "the distance between the actual developmental level as determined by independent problem solving and the level of potential development through problem solving under adult guidance or collaboration with more capable peers" (Vygotsky, 1978, p. 86).

Learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers. Once these processes are internalized, they become part of the child's developmental achievement. (Vygotsky, 1978, p. 90)

In the case of writing development, the teacher supports young authors by engaging them in a writing apprenticeship centered on modeling and scaffolding. Gee (1992) argues that "all real learning is a form of apprenticeship, and apprenticeships are always apprenticeships into Discourses" (p. 125). Therefore, if students are to gain access to the discourse of writing, it is crucial for the writing teacher to involve them in holistic activities in advance of their development. As explained by Vygotsky (1978), "What is in the zone of proximal

development today will be the actual developmental level tomorrow - that is, what a child can do with assistance today she will be able to do by herself tomorrow" (p. 87).

Vygotsky's contemporary, M.M. Bakhtin, asserted that dialogue is intrinsic to the human condition and that language is fundamentally dialogical (Bakhtin, 1981). Bakhtin saw language, whether spoken or written, as an "unending dialogic web of utterances and responses" (Hunt, 1994, p. 214). Since language is "a fabric of new and old" (Burbules, 1993, p. 11), understanding comes from differing perspectives - a mix of voices, both past and present, that Bakhtin called *heteroglossia*. For Bakhtin, "voices always exist in a social milieu; there is no such thing as a voice that exists in total isolation from other voices" (Wertsch, 1991, pp. 51-52).

Zebroski (1994) surmises that the writer must accept the mix of voices as the starting point of her or his work.

It may be that real coherence in a text comes about less because the many voices have been suppressed and silenced, than because they have become dialogic, speaking with, even at times yelling at, each other and the "writer" who is made up of this community of voices. (Zebroski, p. 189)

An Integrated View of Literacy

The framework upon which this study is built recognizes the natural reciprocity of the language arts. One aspect of this reciprocity serves as the primary focus of this study: the mix of voices, both past and present, that informs a writer's understanding of her/his craft. The study also examines indications of the natural relationship between reading and writing.

Intertextuality

As we have noted, this study explores the development of students' thinking about writing. Both Vygotsky and Bakhtin wrote widely on the issue of thinking development in learners. Both theorists saw the individual's mental functioning as growing from communication with

others (Wertsch, 1991). For Vygotsky, higher mental functioning develops from interactions between the learner and a more capable Other within the zone of proximal development. Likewise, Gee (1992) reasons that the human mind forms and is formed by both the physical and the social world; therefore, to study the development of the mind is to study social practices.

For Bakhtin, the social encounters that unfold during human communication evoke both *social languages* (Wertsch, 1991) and *speech genres*. Social language is a type of discourse particular to a specific social group, such as groups with a similar social dialect, professional groups, and members of specific generations or age groups (Bakhtin, 1981). A speaker's utterance is always shaped by the operative social language (Wertsch, 1991). Each utterance is shaped in response to previous utterances and in anticipation of a responding utterance (Hunt, 1994).

Speech genres represent specific types of utterances typically employed in certain situations, such as greetings, farewells, and table conversations (Wertsch, 1991). Bakhtin distinguishes between the "primary" genres of daily communication (e.g., greetings, informal talk) and "secondary" genres, which appear in more complex formal contexts such as scholarly pursuits or written organizational communication (Berkenkotter & Huckin, 1993, p. 482). Berkenkotter & Huckin note that primary genres are "embedded in the milieu in which they occur" (p. 483), while secondary genres represent "forms of organized cultural communication" (p. 484). This distinction provides a useful framework for investigating the mix of students' out-of-school voices with their developing expository writing genre in the classroom.

The term "genre" is applied here within a sociocultural context. Whereas the term traditionally has focused on textual regularities within literary "types" (e.g., sonnet, tragedy, drama), a more recent conceptualization connects a recognition of textual regularities in

discourse types with "a broader social and cultural understanding of language in use" (Freedman & Medway, 1994, p. 1). Genres are seen as social actions that "serve as keys to understanding how to participate in the actions of a community" (Miller, 1994, p. 39). Such a conceptualization recognizes the "multiple invisible participants" involved in the production of familiar school genres (Freedman & Medway, 1994, p. 2). In effective writing, symbolic meaning accrues from a "fusion of substance and form" (Miller, 1994, p. 32) wherein the writer's message is framed within a structure familiar to the reader.

Bakhtin posits that meaning occurs only when two or more voices interact; his concept of "voice" applies to both oral and written communication (Wertsch, 1991). Writing genres always involve at least two texts "in some sort of dialogical relation" (Freadman, 1994, p. 48) between writer and reader. However, Bakhtin extends the scope of this "mix of voices" beyond the immediate circumstance to encompass the social language and speech genres employed during the interaction. As such, "because utterances inevitably invoke a speech genre, it is no longer possible to view dialogue in terms of two localized voices" (Wertsch, 1991, p. 144). Therefore, for Bakhtin all oral and written communication is by nature dialogical (Berkenkotter & Huckin, 1993).

This principle that all speech and writing "- indeed, all signs - arise from a single network" (Porter, 1986, p. 34) is known as *intertextuality*. Intertextuality involves a "dialogue (that) can occur between texts produced through writing, reading, speaking, watching, listening, etc." (Cairney, 1989, p. 2). This study examines how the voices of 4 students and their teacher mixed with traditional conventions of the expository writing genre to generate for each a clearer understanding of effective written expression.

Reading-Writing Connections

Focusing as it does on the role of oral discourse in developing students' thinking about writing, this study examines connections

between oral and written texts. Nevertheless, it also looks at the influence of students' reading on their written texts, particularly during the editing and revising stages and during preparation of the research paper. Numerous writers have noted the natural unity of the language arts (see Raphael & Englert, 1990; Roehler, Foley, Lud, & Power, 1990; Bruffee, 1984; Michaels & O'Connor, 1990; Moore, 1996; Gleason, 1995; Essex & Chao, 1996). The incorporation of co-authorship and collaborative research within the current study recognizes this natural unity.

While adults generally see reading and writing as individual activities, the same is not true of children (Cazden, 1992). Young people naturally want to work and talk with one another, creating a logical unity among the various forms of literacy (i.e., reading, writing, speaking, and listening). In addition to its primary focus on the role of oral discourse in developing students' thinking about writing, this study also examines connections that emerge between students' readings and their written texts.

Nature of Classroom Dialogue

This study focuses on the central role of students' talk as a window through which to understand their thinking about writing. Genuine dialogue, however, involves much more than simple talk. Dialogue is social communication characterized by an effort to discover new understandings and to relate new knowledge to old (Cazden, 1988; Burbules, 1993).

Purposes of Dialogue in Schooling

As a natural and necessary element in human communication, classroom dialogue represents a potentially significant feature of contemporary schooling. Dialogue allows students and teachers to make interpersonal connections unattainable through other means. Burbules (1993) elaborates on numerous foundational purposes served by dialogue

in schools:

- *Pedagogical*, directed toward discovery and understanding;
- *Communicative*, central to human life, with elements in (1) the nature of language, connecting students to past, present and future others; (2) the focus of reason and problem-solving, sustained by the community; (3) morality and ethics, born of respect and concern for discussion partners; and (4) social organization, linking students to political ideals such as democracy and the unification of diverse ideas and cultures; and
- *Relational*, depending on a "spirit of interaction that (the parties) do not entirely control as individuals" (p. 14), but which depends on the attitudes and expectations of the parties.

This study's examination of conversations from throughout the school year illustrates each of Burbules' purposes of dialogue. Pedagogical interactions expanded the understanding of both students and teacher. The students enthusiastically supported one another's efforts; their collaborations fostered deeper understandings as they helped one another wrestle with the nuances of effective writing. As such, this investigation revealed that what we often consider mental tasks (e.g., meaning, believing, knowing) are actually social practices (Gee, 1992). The study supports the contention that "oral discourse during the composing process is a necessary, effective, and theoretically justifiable means of transforming experienced speakers into experienced writers" (Hunter, 1989, p. 110).

Collaborative Moves

Barnes and Todd (1995) and Burbules (1993) devote considerable attention to the "moves" that occur during a classroom dialogue. Familiarity with these moves helps identify strategies useful to participants in making a discussion effective.

Numerous moves emerged from Barnes and Todd's study of classroom discussions among normally achieving thirteen-year-olds, a group similar

in age and ability to the participants in the current study. The authors group these moves into four broad categories:

- *Initiating*: A group member often will set up a frame of reference from which the discussion can begin. Such moves often begin with phrases such as "I think" or "I don't think."
- *Eliciting*: Group members sustain their conversation by inviting one another to contribute in one of four ways: (1) requesting someone to continue what they are saying, (2) requesting a group member to expand on a previous remark, (3) requesting support for the speaker's opinion, and (4) requesting information.
- *Extending*: Groups often collaborate to carry out a strategy that appears to be valuable in pursuing a specific group task. In doing so, one group member takes up where another left off and extends the strategy.
- *Qualifying*: Extending shades into a move whereby a group member notes complexities not mentioned in a previous statement.

In examining collaborative moves during discussions, Burbules frames what he calls the "dialogue game" (pp. 50-54). He used this extended metaphor to emphasize the to-and-fro of a game. The play draws participants in fully, captivating them and causing them to lose track of time and to forget the score or the last or next game. The relation between players causes them to abandon self as they are absorbed in the game. And, like a game, dialogue involves some degree of "contention or resistance" (p. 54).

Playing the dialogue game can be fun and deeply satisfying. There is a sense of real joy in a successful dialogue, and an emotional bond that expresses something basic about our humanity. (p. 65)

Like any game, the dialogue game has rules that provide organization, predictability, and continuity. From a developmental learning viewpoint,

we need some explicit rules to govern our conduct as a stepping-stone toward the development of a more mature moral sensibility

that comes to see rules as approximations of good conduct, but with exceptions in many cases. (p. 70)

Burbules further identifies the moves in the dialogue game, although he cautions that the "game" is not to be won or lost, and a "move" does not involve manipulation or deception. Emphasizing the central role played by questions, the moves include:

- *Questions*, which may be for information, to probe for understanding, to pose a challenge or criticism, or to question a questioner;
- *Responses* immediately following a question to satisfy an inquiry or to generate speculation, sometimes in the form of another question;
- *Building statements and redirecting statements*, which follow upon responses to either maintain the continuity of a discussion or send it in another direction; and
- *Regulatory statements* directed not toward the content of the discussion, but rather toward the process. These are designed to maintain the quality and spirit of the dialogue and include agreement, praise, reassurance, commentary on the communication process, and emotional assessments.

At times it becomes necessary to negotiate choices and courses of action publicly in order to keep a discussion on track. Barnes and Todd (1995) identify four means by which such choices are publicly negotiated:

- *Controlling progress through the tasks*: The group determines the boundaries of the task that it considers relevant and moves through the task accordingly.
- *Allocating activities*: When materials must be manipulated, groups often allocate specific tasks to individuals; it is important, however, that this procedure does not take precedence over the overall objectives of the inquiry.
- *Dealing with competition and conflict*: Group members must come to

view differences of opinion as contributions to the group's common thinking, not personal rejections. Conciliatory moves often become necessary in order to maintain group cohesiveness.

- *Supportive behavior:* Group members can support one another's efforts through (1) formal expressions of agreement, (2) referring to individuals by name, (3) referring back to previous comments, (4) offering explicit praise, and (5) expressing shared feeling.

Cognition and Affect

Genuine dialogue includes an interrelation of cognitive factors, directed toward the pursuit of knowledge and understanding, and affective factors, expressing concern and commitment to the process and participants (Burbules, 1993). While cognitive factors conform more readily to instructional objectives, the importance of affect in sustaining classroom discourse should not be underestimated. Expressions of affect are basic to human life and play a key role in the blending of what Cazden (1988) calls teacher and student registers, the conventionalized ways of speaking ascribed to specific roles.

Expressions of affect are crucial in developing the communicative virtues of tolerance, patience, openness to give and receive criticism, admissions of error, desire to reinterpret and translate one's concerns in a comprehensible manner, self-restraint during turn-taking, and willingness to listen thoughtfully and attentively (Burbules, 1993).

As a process, dialogue requires a willingness to re-examine our own presuppositions and to compare them with those of others; to become less dogmatic about the belief that the way the world appears to us is necessarily the way the world is. (Burbules, p. 42)

Tannen (1989, cited in Burbules, 1993, p. 47) identifies several involvement strategies that cut across both the cognitive and affective domains of collaborative discourse: (1) restating what has just been said, (2) internal cross-referencing (e.g., "similar to what you said earlier..."), (3) analogies that connect with the other's experience, (4) vivid imagery, (5) humor, and (6) volunteering significant new

information.

Classroom Roles and Sources of Knowledge

We have defined dialogue as much more than mere talk. Rather than simply establishing a classroom communication system, dialogue has at its core the development of new understanding among all participants, thereby blurring the distinction between student and teacher (Burbules, 1993). In a very fundamental way, therefore, dialogue changes what counts as knowledge in the classroom. It mediates the traditional asymmetry of the teacher-student relationship (Cazden, 1986; Barnes & Todd, 1995) and introduces a new dimension of authority based upon egalitarian relations (Burbules, 1993; MacGregor, 1990; Hunter, 1989). Students not only find their own ideas validated, but they also come to view each other as legitimate sources of knowledge.

As a pedagogical device, dialogue does not simply represent the same old stuff in a new package; rather, it generates a different kind of learning altogether. Students become "active agents in constructing their own understanding" (Barnes & Todd, 1995, p. 82); learners are changed by virtue of the way they learn. Dialogue enables students to "chew on" ideas and to use them as the foundation for new understandings.

What is required is the opportunity for pupils to try out their new understandings, to talk, make diagrams, write, calculate, so that the new modifies the old while at the same time the old plays its essential part in understanding the new. (Barnes, 1990, p. 28)

For dialogue to flourish within a classroom, it is essential that a sense of community develops among the participants. Of course, the key element in creating collaborative classroom communities is talk. Henson (1993) identifies three kinds of talk that should be part of any effort to build a classroom community:

- **Conversation:** The most familiar form of talk, conversation differs from discussion in that any topic (within reason, we must assume) is fair game, and there is no structured effort to examine

arguments and consider ideas.

- *Story*: Storytelling is part of the fabric of everyday life and an important avenue by which people make sense of their lives. Stories help connect people to one another.
- *Dialogue*: As we have seen, dialogue enables teachers and students to "explain their own interpretation of events, and by combining their points of view, discover new solutions to old problems" (p. 51).

Participants in this study engaged in all three of these kinds of talk throughout the year. We shall examine *conversations* and *stories* inasmuch as they helped to establish a sense of community; *dialogue*, as we have noted, will serve as a window into the students' thinking about writing.

A social community (in the current case, a community of apprentice writers) provides experiences that enable it to carry out its social practices and to apprentice newcomers (Gee, 1992). Each "discourse" is "owned" and "operated" by a socioculturally defined group of people who are "accepted as 'members' of the Discourse and play various 'roles,' give 'performances,' within it" (Gee, 1992, p. 107). Learning the "socially preferred discourse structures" (Coe, 1994, p. 182) is a key aspect of entry into a discourse community, and it is important for members to internalize the "habits of discourse" (Hunt, 1994, p. 215) of the community. Each discourse community develops a language of its own comprised of both technical terms and cryptic language based on shared experiences (Barnes, 1990). Moreover, Barnes (1990) distinguishes between *socio-cultural* talk, which serves to indicate the speaker's role and group membership (e.g., "the sort of thing my physics teacher says," p. 56), and *conceptual* talk, which relates to the subject-matter at hand. A single utterance generally serves both functions.

Barnes (1990) notes that gaining access to the means of learning includes the opportunity for exploratory talk and writing. Moreover, he

distinguishes between two uses of language. *Exploratory language* is tentative and hypothetical and requires the support of other members of the group. *Presentational language* includes students' responses to teacher questions and is designed to get correct answers or meet the teacher's criteria. Not surprisingly, Barnes emphasizes the importance of exploratory talk in fostering understanding. Moreover, Barnes (1976, cited in Cazden, 1986, p. 454) relates oral language and writing in what could be viewed as an argument for "classroom discourse as process":

The distinction between exploratory and final draft is essentially a distinction between different ways in which speech can function in the rehearsing of knowledge. In exploratory talk and writing, the learner himself takes responsibility for the adequacy of his thinking; final-draft talk and writing looks towards external criteria and distant, unknown audiences. Both uses of language have their place in education.

In the current case, teacher-student and student-student dialogues offered students the chance to try out emerging understandings. During shared "exploratory talk," students' conceptions about expository writing underwent continuous refinement throughout the year. As the students' thinking developed through dialogue, they also developed a heightened appreciation of the "final-draft talk" inherent in the revision of their writing.

The social nature of writing (Bruffee, 1984; Hunter, 1989; Porter, 1986) underlies the building of a classroom community of writers. Students become "reacculturated" into the larger community of writers by sharing in its "common property, its knowledge" (Bruffee, 1995, p. 15). Englert and Palincsar (1991) note that students' written texts are

historically situated and informed by the larger literacy community. Effective instructional methods should foster opportunities for students to participate in a classroom discourse about texts (e.g., author's chair, public sharing of books, peer conferencing, collaborative writing, dialogue journals), and experimental methods also must account for and document the sociohistorical contexts in which children write (e.g., case study analysis, single subject research, ethnographic research). (p. 226)

Writing communities within special education settings provide

students with common literacy "registers" or understandings as well as necessary feedback through which to assess the meanings conveyed by their writing (Englert & Mariage, 1991). Effective programs incorporate meaningful reading and writing tasks within a classroom culture that supports collaborative discourse (Palincsar & Klenk, 1992). During the course of the current study, participants developed ways of addressing issues of both writing and collaborating that helped to generate a group identity and to validate the students as legitimate sources of knowledge.

Student Role

Students in traditional classroom settings often see their role as that of passively receiving information imparted by the teacher. Classroom collaboration, however, requires significant changes in the role of the student. MacGregor (1990, pp. 25-26), though writing about collaborative college settings, notes the following shifts in role with which all students must grapple:

- from listener, observer, and note taker to active problem solver, contributor, and discussant;
- from a private presence in the classroom to a public one;
- from competition with peers to collaborative work with them;
- from responsibilities and self-definition associated with learning independently to those associated with learning interdependently; and
- from seeing teachers and texts as the sole sources of authority and knowledge to seeing peers, oneself, and the thinking of the community as additional and important sources of authority and knowledge.

To the extent that their collaborations were effective, the students in this study demonstrated each of these shifts away from the traditional student role to a more active, generative one.

For students, an important factor in dialogue is the opportunity

to interact with peers. Human life is inherently social, and learning is profoundly affected by the social context in which it occurs. Moreover, at times students gain considerably more from discussions with their peers than with their teachers (Barnes & Todd, 1995): "To depend upon the teacher's presentation alone is to expect the learners to arrive without having traveled" (p. 17). Nevertheless, "such interactions (with peers), focused on academic tasks and part of the discourse acceptable in official air time, are rare" (Cazden, 1988, p. 124).

As mentioned previously, peer interactions mediate the asymmetry inherent in the teacher-dominated classroom.

Children never give directions to teachers, and rarely ask questions except for procedures and permissions. The only context in which they can reverse interactional roles with the same intellectual content, giving directions as well as following them, and asking questions as well as answering them, is with their peers. (Cazden, 1986, p. 449)

As educators, we tend to distinguish too cleanly between "school" and "outside" language or experience. Students, of course, more naturally engage in the latter and generally do so with greater enthusiasm. Britton (1990) sees capitalizing on that enthusiasm as a key challenge and opportunity for secondary-school teachers:

We should notice here that for the adolescents who make up the secondary-school population, this network of peers, mutually supportive on the basis of shared values, will be the seed-bed of a "counter-culture" wherever such comes into being. Dare we hope that (new) teacher understandings...might contribute towards harnessing the energy of such a movement for positive ends? Part of the answer will certainly lie in the teachers' attempts to make in-school learning more like out-of-school. (p. 106)

Teacher Role

This study examines the role of the teacher in facilitating a collaborative spirit within the classroom. Just as the student's role changes from a passive recipient to an active learner and generator of knowledge, so too does the teacher's role change in collaborative

classrooms. As the teacher gives up some control of public events in the classroom, he/she takes on the roles of a resource and facilitator (Barnes & Todd, 1995). For such a transition to be effective, it is important for the teacher to prepare students for participation in class discussion with rules such as the following (Barnes & Todd, 1995, p. 101, citing Slavin, 1990, who quotes Smith, Johnson, & Johnson, 1981) and to model their application:

- Be critical of ideas not people.
- Remember that we are all in this together.
- Encourage everyone to participate.
- Listen to everyone's ideas, even if you don't agree with them.
- Restate what someone said if it is not clear.
- Try to understand both sides of an issue.
- First bring out all the ideas, then put them together.

Cazden (1988) notes that the teacher takes on the role of a model, serving as "an important link between interactions with an expert (teacher) and interactions among peers" (p. 148). A second role is that of occasional participant in the class discussions. These teacher roles differ widely from that of "transmitter of knowledge" in the traditional *teacher initiation - student response - teacher evaluation* (IRE) or *initiative - response - feedback* (IRF) models often criticized in the education literature (see Watson & Young, 1986; Cazden, 1988).

It would be naive to assume that as a participant the teacher sacrifices all of her/his authority; our historical ties to traditional schooling practice are too strong for that. Moreover, Burbules (1993) notes that dialogue does not depend on equality per se. Two characteristics, however, are important: (1) reciprocity that binds the partners in a mutual concern, and (2) a genuine opportunity for all to contribute to the discussion.

Dialogue is not fundamentally a specific communicative form of question and response, but at heart a kind of social relation that engages its participants. A successful dialogue involves

a willing partnership and cooperation in the face of likely disagreements, confusions, failures, and misunderstandings. Persisting in this process requires a relation of mutual respect, trust, and concern - and part of the dialogical interchange often must relate to the establishment and maintenance of these bonds. (Burbules, 1993, pp. 19-20, emphasis in original)

Burbules adds that authority is not necessarily a threat to egalitarian relations.

We often seek out information from an experienced mentor, insight from a friend who knows us well, direction from a group facilitator, and so on. These are all instances of authority. While it is essential that credible authority not be taken for granted but be periodically scrutinized and re-established, this scrutiny cannot take place continuously, and at particular moments such authority will be an unstated element in an ongoing dialogical relation. (p. 32)

Roles in a dialogical relation shift back and forth over time. Teaching and learning moments cannot be clearly demarcated, and authority is ascribed by others within an ongoing relation. As such, an important aspect of the current study is examining the extent to which students were able to take on teacher-like roles such as scaffolding and providing supportive encouragement.

Britton (1990) emphasizes that a teacher's mere willingness to accept what he terms "expressive talk" (p. 125) does not guarantee that it will occur. Mutual trust between teacher and students is a necessary prerequisite, and this trust must be earned. Burbules (1993) lists several emotional factors that play a crucial role in the development of classroom dialogue: concern, trust, respect, appreciation, affection, and hope (the "possibility of new insights and understandings") (p. 40).

Questioning. Questioning is the heart of the dialogical process (Gadamer, 1982, cited in Burbules, 1993, p. 96); most typically, however, classroom questioning takes the form of the familiar teacher initiation, student response, teacher evaluation (IRE) pattern (Cazden, 1986; Cazden, 1988; Burbules, 1993). IRE questioning assumes that the student's task is to determine the answer the teacher has in her/his

head (the "right" answer); the ensuing evaluation is predicated upon that assumption. Burbules (1993) calls such questions "pseudo-questions."

These "pseudo-questions" manifest a very narrow conception of knowledge and a lack of commitment to truly open-ended and explanatory dialogue. They serve to maintain the crude appearance of a "discussion"-oriented classroom, while maintaining the teacher's desire for actual control. (pp. 153-154)

Barnes and Todd (1995) distinguish between closed and open questions. The former require only a yes-no answer, while the latter represent the open-ended *why* and other *wh* questions. Of course, the dichotomy is not complete. In some instances, yes-no questions do not necessarily close down allowable replies. On the other hand, *wh* questions may be phrased in such a way that they do not really require an open-ended reply. Open-ended discussion can be promoted by questions such as the following (Bridges, 1988, cited in Burbules, 1993, p. 99):

Asking why someone holds a particular opinion.

Asking how one point follows another.

Asking what is the relevance of some point to the issue at hand.

Calling for more clarification, explanation, illustration, precision, conciseness, reasons, evidence, or argument.

Seeking a more systematic pooling of information, a more sympathetic hearing of divergent opinions, a more imaginative and open-ended conjecture, a more vigorous critical attack, a more ready and tolerant adjustment of one's own opinion to other people's.

Encouraging orderliness, reasonableness, and respect for different points of view.

Teacher questions can serve the purposes of maintaining lesson continuity, helping students learn an academic task, or enabling the teacher to assess student learning (Cazden, 1986). More specifically, questions can serve any one of several beneficial goals. They can (1) set a purpose by identifying the focus of inquiry, (2) guide cognitive processing by providing cues to the kind of thought called for, (3) activate prior knowledge by linking the inquiry to the familiar, (4) focus attention by pointing out important aspects of the problem, or (5)

promote cognitive monitoring by encouraging reflection on participants' understanding or thought processes (Armbruster, 1990, cited in Burbules, 1993, p. 99).

Another key objective of effective questioning should be to build in students the capacity to use questions more effectively in their own talk. This is an educational objective "that dialogue is uniquely qualified to promote" (Burbules, 1993, p. 100).

Scaffolding. Classroom dialogue involving students and teacher often finds the teacher engaged in *scaffolding*, wherein the teacher temporarily controls elements of the task that are beyond the capacity of the student; ultimately, this initial support may enable the student to complete the task more competently than would have been possible without assistance (Wood, Bruner, & Ross, 1976; Gee, 1992; Palincsar & Brown, 1984). Scaffolding allows students "to participate in the mature task from the very beginning" (Cazden, 1988, p. 107), while the teacher gives over more and more responsibility to the learner (Freedman, 1994, 1993; Palincsar & Brown, 1984). Moreover, dialogue offers the teacher valuable opportunities to provide students with scaffolded instruction (Palincsar, 1986). Scaffolding is central to Vygotsky's concept of the *zone of proximal development*, wherein the novice is able to perform tasks beyond his/her independent problem solving under the guidance of an adult or more capable peers.

Scaffolding during writing instruction allows the teacher to model for students the writing strategies and thought processes of accomplished writers (Englert, 1992; Englert, Raphael, Anderson, Anthony, & Stevens, 1991; Englert, 1990b). While demonstrating the various elements of the writing process (i.e., planning, organizing, writing, editing, and revising), the teacher makes mental acts explicit by incorporating "think-alouds" (Hunter, 1989; Duffy & Roehler, 1987; Raphael & Englert, 1990; Englert & Raphael, 1989; Englert, 1990b; Englert, Raphael, Anderson, Anthony, & Stevens, 1991) throughout the

demonstration. The classroom environment thus nurtures communication that enables students to become active participants in their own learning (Watson & Young, 1986).

Scaffolding is especially critical for students with learning disabilities, who typically have difficulty generating ideas (Graham, Harris, MacArthur, & Schwartz, 1991a; Englert & Raphael, 1988; Englert, Raphael, Anderson, Anthony, Fear, & Gregg, 1988; Graham, MacArthur, Schwartz, & Page-Voth, 1992; MacArthur, Schwartz, & Graham, 1991) and organizing text (Englert & Raphael, 1988; MacArthur, Schwartz, & Graham, 1991; Graham, Harris, MacArthur, & Schwartz, 1991b) and who possess limited metacognitive knowledge about the writing process (Englert & Raphael, 1988). As I modeled the CSIW strategy and assisted the students with their own writing tasks, I tried to be attentive to instances in which students required temporary supports or "nudges" in order to continue their work. My own vision of scaffolding centered on pushing the students' thinking and, whenever possible, leading them to their own solutions rather than suggesting my own.

The importance of expectations. The kind of classroom that features regular dialogue among teacher and students stands in stark contrast to the monolithic, teacher-dominated classroom of American tradition. While traditional classrooms generally feature regular verbal exchanges involving teachers and students, these exchanges most typically would not fall under the rubric we have identified as *dialogue*.

Courtney Cazden (1988) identifies student and teacher expectations and perceptions of one another as key influences on the direction of classroom discourse. Moreover, Cazden (1986) explains that every classroom contains two interpenetrating worlds: "the official world of the teacher's agenda, and the unofficial world of the peer culture" (p. 451).

One can categorize the relationship between the official and unofficial worlds in three ways: Separate but equal, with

children monitoring both and time-sharing between them; integrated, where for some period of time the two coincide; and in conflict." (p. 451)

Of course, a truly collaborative classroom environment seeks to maximize the extent to which these official and unofficial worlds coincide.

Instructional Conversations and Learning Conversations

Realigned roles for both students and teachers have been incorporated in the development of "instructional conversations" (ICs), described by Tharp and Gallimore (1991) and Goldenberg (1991, 1992), which focus on an idea or concept that has both educational value and meaning and relevance for students.

The teacher encourages expression of students' own ideas, builds upon information students provide and experiences they have had, and guides students to increasingly sophisticated levels of understanding. In contrast to more directive forms of instruction, which assume that what is to be learned by the students is already in the head of the teachers, ICs assume that students themselves play an important role in constructing new knowledge and in acquiring new understandings about the world. (Goldenberg, 1991, "Overview")

This instructional strategy is based upon the recognition that parents with no official training conduct instructional conversations with their children (Tharp & Gallimore, 1991). As such, its implementation in school settings seeks to narrow the gap that exists between home and school learning. Central to the strategy is providing instructional assistance within students' zones of proximal development (Tharp & Gallimore, 1991, Goldenberg, 1992).

Goldenberg (1992, p. 319) outlined the key elements of the instructional conversation:

- Instructional elements

1. *Thematic focus.* The teacher selects a theme and general plan for how the theme will unfold.
2. *Activation and use of background and relevant schemata.* The teacher either "hooks into" or provides necessary background knowledge, which is then woven into the discussion.

3. *Direct teaching.* When necessary, the teacher directly teaches a skill or concept.
4. *Promotion of more complex language and expression.* The teacher uses invitations, questions, restatements, and pauses to elicit more extended student contributions.
5. *Elicitation of bases for statements or positions.* The teacher urges students to provide support for their arguments or positions.

● **Conversational elements**

6. *Fewer "known-answer" questions.* The discussion centers on questions for which there is more than one correct answer.
7. *Responsivity to student contributions.* While ensuring that the discussion maintains its focus and coherence, the teacher also responds to students' statements and the opportunities they provide.
8. *Connected discourse.* The discussion centers on connected turns in which comments build on previous ones.
9. *A challenging, but nonthreatening atmosphere.* As a collaborator, the teacher creates an atmosphere which is both challenging and affectively positive, within which the students negotiate and construct meaning.
10. *General participation, including self-selected turns.* Students are encouraged to volunteer comments; turn-taking is not determined exclusively by the teacher.

"Learning conversations" (Roehler, Hallenbeck, McLellan, & Svoboda, 1996) resemble instructional conversations in many ways, but they go one step further. During learning conversations, teachers both teach and learn by co-constructing knowledge along with the students.

As a result, students increase their ability to analyze, their critical thinking ability, the quality of their reflections, and their abilities to interact and work together. Teachers learn to create learning opportunities in which they can participate as learners and sharers of information. These conversations are

embedded within activities such as the generation of questions, brainstorming, the generation of comments that activated background knowledge and the creation of maps that connect information. (Roehler, et al., p. 195)

The learning conversation strategy was developed within the context of an English as a Second Language (E.S.L.) classroom as a lead-in to written drafts that are shared in subsequent conversations; however, the concept has wide applicability across instructional settings. During writing instruction, learning conversations offer the teacher a unique opportunity to participate as a legitimate collaborator with students more knowledgeable about the topic than the teacher. By modeling this role, teachers can introduce students to powerful collaborative techniques they can use when working together on writing projects of their own.

Importance of Discourse in Schools

Linguistic Focus of Schooling

Since school achieves its purposes primarily in linguistic ways, communication plays a central role in schooling. Several features of schooling reinforce the importance of discourse: (1) teaching and assessment of student learning occur primarily through the medium of spoken language; (2) unlike other discursive environments, control of the talk in classrooms derives from one individual - the teacher; and (3) the school serves as the first large institution outside the home in which a child is expected to participate publicly, linking spoken language to the child's emerging identity (Cazden, 1988).

Engaging in classroom dialogue helps prepare students for their real-life participation in textual communities and literate activities (Hunter, 1989). Perhaps even more importantly, active participation in spoken and written discourse is essential if students are to discover the possibilities of what they can say and write.

Here lies the importance of pupil participation. It is when the pupil is required to use language to grapple with new experience

or to order old experience in a new way that he is most likely to find it necessary to use language differently. (Barnes, 1990, p. 58)

Cognitive Benefits of Classroom Dialogue

Classroom dialogue accomplishes much more than simply allowing students to talk in school. Cazden (1988) identifies four potential cognitive benefits of discourse among peers:

- *Discourse as catalyst:* Students benefit from exposure to alternative perspectives.
- *Discourse as the enactment of complimentary roles:* Over time, students adopt complimentary roles during problem-solving that enable them to perform tasks together that they would be unable to perform individually. In some instances they can provide the same scaffolding generally attributed to teachers and other adults.
- *Discourse as relationship with audience:* Immediate feedback helps students assume the orientation of the Other, a key ingredient in effective writing.
- *Discourse as exploratory talk:* The exploratory talk endemic to learning without prescribed meanings (Barnes & Todd, 1995) is more likely to occur in discussions, even when the teacher is a participant.

Numerous research studies have demonstrated that constructive classroom dialogue pushes student learning in ways not attainable through traditional instructional methodology. Techniques through which dialogue has demonstrated promising cognitive effects include *instructional conversations, reciprocal teaching, and Cognitive Strategy Instruction in Writing.*

Instructional Conversations

Instructional conversations, discussed on pp. 31-32 of this volume, have been shown to promote "more sophisticated understandings of significant concepts, without sacrificing literal comprehension" (Goldenberg, 1991, p. 13). In a controlled experiment examining reading

comprehension outcomes, the same teacher presented two fourth-grade reading lessons within an instructional conversation (IC) format and two more traditional "basal-like" lessons. The traditional lessons emphasized comprehension and recall within a conventional recitation format; during the IC lessons, the teacher checked story comprehension within the context of a thematic discussion about friendship. While students in both conditions achieved comparable results on comprehension tests (75-80%), those participating in the instructional conversations wrote essays that demonstrated "a more complex and sophisticated conceptualization of friendship" (Goldenberg, 1991, p. 13).

Another study indicated that instructional conversations may provide rich sources of learning opportunities for culturally diverse students with learning disabilities (Echevarria, 1995). In a school district serving primarily Hispanic children, a bilingual teacher in a self-contained special education classroom taught five traditional basal reading lessons and five IC lessons, presented in random order, to 5 second- and third-grade students with learning disabilities. No significant differences between conditions emerged in literal recall or postlesson student-constructed narratives; however, concept development was enhanced during the IC condition, and students' use of academic discourse was significantly greater during IC lessons. The study indicated that, although IC did not ensure increased student achievement, "students with learning disabilities used higher levels of discourse when given the opportunity to do so, and...instructional conversations enhanced thematic concept development" (Echevarria, 1995, p. 551).

Reciprocal Teaching

Reciprocal teaching (Palincsar & Brown, 1984; Palincsar, 1986, 1987; Palincsar & Klenk, 1992) is a collaborative text comprehension procedure in which the teacher participates as both leader and respondent. The technique centers on the flexible application of four

critical comprehension strategies: questioning, summarizing, clarifying, and predicting. As a text is read and discussed in segments, the role of discussion leader rotates between the teacher and members of the class.

The effectiveness of reciprocal teaching with students at risk of academic difficulty has been demonstrated in laboratory experiments, in the classroom, and on standardized tests (see review by Brown & Palincsar, 1985). Reciprocal teaching studies have verified the effectiveness of the collaborative technique in improving the reading comprehension of low-achieving middle-school students (Palincsar & Brown, 1984; Palincsar, 1985, 1987; Brown & Palincsar, 1986) and the listening comprehension (Brown & Palincsar, 1986) and reading comprehension (Palincsar and Klenk, 1992) of first-graders.

Critical to reciprocal teaching is the theory that "expert-led social interactions have a prominent role to play in learning and can provide a major impetus to cognitive growth" (Palincsar, 1987, p. 2). Case studies of individual students revealed that improvement in these teacher-student dialogues were closely related to their reading improvement and skills transfer (Palincsar & Brown, 1984).

Although they differed in terms of starting competence, and responded to the instruction at different rates, in all cases their individual progress began with a gradual adoption and refinement in the dialogues of the procedures modeled by the teacher. (Palincsar & Brown, p. 153)

Moreover, the teachers of students trained in reciprocal teaching have reported improvement in the students' thinking skills, including such important study skills as locating important information and organizing their ideas (Palincsar & Brown).

The research on reciprocal teaching techniques has been extended to special education settings. Preliminary work (Palincsar & Klenk, 1992) with students in special education classrooms serving children from ages 7 to 10 employed many of the techniques of reciprocal teaching, including interactive learning, higher-level thinking

strategies, and collaboration among students and teacher. Special emphasis was placed on developing an integrated concept of early literacy instruction focused on "using literacy to make sense of the world" (Palincsar & Klenk, p. 221). Field notes and children's writings indicated

a shift from procedural to epistemic questioning, an increase in the children's willingness to take risks with the content, a more intense interest in learning to read - particularly from self-generated text - the use of unsolicited writing for personal expression, and an interest in sharing and displaying knowledge. (Palincsar & Klenk, p. 221)

Students produced more writing, and they became more attentive to writing complete thoughts and to incorporating writing conventions such as spaces between words.

Klingner and Vaughn (1996) investigated the use of reciprocal teaching with seventh- and eighth-graders with learning disabilities who used English as a second language. Following reciprocal teaching training, half of the students implemented reading comprehension strategies within cooperative learning groups of three to five students; the other half tutored younger students in the comprehension strategies. The objective was to determine how students apply teacher-facilitated reciprocal teaching strategies among themselves with the teacher not present.

This investigation produced several interesting results. Reading comprehension of both groups improved steadily during the reciprocal teaching phase of the study; reading improvement continued during the cooperative learning/tutoring phase, although it did flatten out halfway through the second phase. Individual students who demonstrated the most reading growth included those who either started with adequate decoding skills but low comprehension and those who started with low decoding skills but significantly higher comprehension.

Cognitive Strategy Instruction in Writing

Cognitive Strategy Instruction in Writing (CSIW) served as the instructional focus of the current study and the framework within which the student dialogues occurred. CSIW (see Englert, 1992) is a discursive process that emphasizes the holistic nature of writing. The strategy involves students in writing apprenticeships in which the teacher models the thinking of a skilled writer and employs ongoing teacher-student and student-student dialogues to scaffold students' use of specific writing strategies. CSIW provides students with structural support at each stage of the writing process (planning, organizing, writing, editing, and revising) through a series of think-sheets (see samples, Appendices A-E).

(CSIW) was not just a curriculum for teaching expository writing. CSIW involved the construction of an entire teaching-learning context in which writing strategies were made visible to students during the process of writing papers, teachers and students talked about writing strategies and problems, self-talk related to the writing process was made apparent through the procedural facilitation format of the think-sheets and teacher think-alouds, and students collaborated with each other within a community of writers rather than writing in isolation. (Englert, Raphael, Anderson, Anthony, & Stevens, 1991, p. 364)

In a study of 183 fourth- and fifth-grade students (Englert, et al., 1991), both students with learning disabilities and non-LD students demonstrated dramatic writing improvement as a result of dialogue-based CSIW instruction. One hundred and twenty-eight students from regular education classrooms, both low achievers and high achievers, and 55 students with LD receiving special education services participated in the study. Students assigned to the experimental condition received CSIW instruction from October through April; those assigned to the control condition received the regular curriculum and routines of the school district's process writing program.

Teachers in the experimental condition used CSIW to teach two text structures - explanation and comparison/contrast. Instruction in each text structure occurred in four phases: text analysis, modeling the

writing process, guided practice, and independent use of strategies. Throughout the modeling and guided practice phases, teachers fostered student dialogue and collaboration in two ways. First, students shared their ideas and strategies throughout the process during conferences with their peers. Second, teachers placed examples of students' strategy use or problems on overhead transparencies to guide class discussions of students' writing decisions, problems, and alternative strategies.

This helped foster students' internalization of writing strategies and writing dialogue, while making strategies for the prevention and solution of writing problems more visible to themselves and other students. To further enhance students' internalization of strategies, teachers continually emphasized that think-sheets were simply note-taking tools with prompts to remind students of the thinking strategies that good writers used. (Englert, et al., 1991, p. 352)

Analysis of pretest and posttest metacognitive interviews indicated that CSIW students demonstrated significantly greater knowledge of the writing process and text-composing strategies than control students. This enhanced knowledge translated into demonstrably improved written text. On pretest and posttest writing measures, CSIW students achieved significantly higher gains in holistic ratings, primary text traits, and reader sensitivity, "suggesting that students in the CSIW treatment showed increasing mastery of the structures underlying text as well as growing sensitivity to their audience and purposes of writing" (Englert, et al., 1991, p. 356). Analysis of a near transfer measure of an untaught text structure (expert writing) indicated that CSIW students were able to generalize their knowledge to their own text structures; control students, on the other hand, actually showed a slightly decreased ability on this transfer measure.

Furthermore, CSIW instruction appeared to help narrow the performance gap between students with learning disabilities and their non-LD peers. When the pretest and posttest performance of LD students in the CSIW condition and a combined group of low-achieving and high-

achieving non-LD students from the control condition were compared, the LD students "gained at an accelerated rate" (Englert, et al., 1991, p. 362). Despite large differences on the writing performance pretests, posttest performance between the LD and non-LD students was not significantly different on any of the writing variables.

Thus, LD students who received CSIW instruction in pull-out programs in special education may be expected to catch up with their non-LD counterparts who received traditional writing instruction in the general education classroom. (Englert, et al., p. 367)

These studies demonstrate the power of classroom dialogue in pushing cognitive growth. Diverse groups of students have achieved significant improvement in several language domains as a result of instructional models that center on teacher-student and student-student dialogues.

Cautions

Challenges and Disagreements

Genuine dialogue quite naturally involves exploring areas of disagreement. While such is a crucial aspect of the enterprise, it also presents potential difficulty for participants if not handled effectively. Britton (1990) offers useful insight in this regard:

Clearly there must be the opportunity...to explore differences: it cannot be true that people can discuss usefully only matters on which they think alike. I wish to make two observations here. First, teachers need to find - somewhere in a larger context - an area of agreement within which their pupils can discuss differences. Failing that, they are space walking and that doesn't get them anywhere. It will follow that there must be some matters that cannot profitably be discussed between some people. Second, I want to refer to a form of discussion described by the American psychologist, Carl Rogers, and christened, therefore, "Rogerian debate". Roughly described, this is a process in which 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. B is there to assist him and "check his position"; when he is satisfied that his view has been adequately stated by A, he listens while A tries to say what he finds in common between his own and B's points of view. (p. 120, emphasis in original)

Once again, an attitude of concern and respect is crucial for disagreements to become positive, not negative, aspects of classroom dialogue. "Dialogue without challenges or disagreements is impoverished, but challenges or disagreements without an underlying relation of personal commitment will break down the communicative process very quickly" (Burbules, 1993, p. 46).

Marginalization

The pursuit of classroom dialogue carries with it the danger that individuals will become marginalized by the process. It is very possible that a small number of students will both offer and receive unsolicited information from their classmates, whereas most will be left out of the exchanges (Cazden, 1988; Cooper, Marquis, & Ayers-Lopez, 1982, cited in Cazden, 1986, p. 449). Avoidance of marginalization must become a group enterprise.

Part of the effectiveness of group discussions arises from the need to interrelate and reconcile different perspectives, so it is important for all members of a group that a wide range of opinions is expressed and none excluded through an oppressive consensus. All students in a group should take the responsibility of seeing to it that all the others take a full part and gain as much from the discussion as they do. (Barnes & Todd, 1995, p. 94)

For the teacher interested in better understanding his/her students' thoughts about writing, these challenges present bumps in the road but not roadblocks. Awareness of these challenges is the necessary first step to overcoming them in the interest of facilitating student development.

The best teaching has always strengthened the learner's own attempts to understand and participate in life, partly by validating and refining his or her existing ways of thinking, and partly by offering alternative "tools" for understanding. At a time when education as we have known it is under severe threat, it is essential to reaffirm these values, and to show again what they can mean for that local but important conversation that goes on in classrooms. (Barnes, 1990, p. 85)

The relative rarity of genuine classroom dialogue implies the

difficulty with which it is effectively implemented. Numerous challenges face teachers and students who undertake the complexities of classroom discourse. Perhaps the most pervasive inhibitor to classroom dialogue is the longstanding tradition of teacher-dominated interaction that ascribes to students the role of passive recipients of knowledge. Any class undertaking the task of establishing a genuine dialogue must first overcome this system of inequitable roles and responsibilities (Cazden, 1988; Barnes & Todd, 1995).

Teachers and researchers have demonstrated the potential of classroom dialogue for pushing academic achievement. Students with academic difficulties have achieved significant cognitive growth as a result of instructional models built around teacher-student and student-student dialogues. The current study extends the research on classroom dialogue to include secondary students with learning disabilities struggling to master one of the most complex and challenging of academic tasks - expository writing.

This study breaks new ground in the special education literature. It seeks to gain a better understanding of students' thinking and their ability to collaboratively generate better understandings of a complex academic task. It explores the extent to which adolescents with learning disabilities can take charge of their own learning and support one another's efforts to do so. The study avoids the traditional emphasis on student products as measures of learning, instead examining writing products as only one indicator of student thinking. Finally, this investigation affords the teacher the opportunity to step out of the traditional "sage on the stage" role and to join with students in developing a community of writers within the secondary special education classroom.

CHAPTER 3

METHODOLOGY: WATCHING AND LISTENING

Introduction

One of the great ironies of the teaching profession is the limited extent to which classroom practitioners and university educators acknowledge and understand each other's work. It often seems as if the two camps operate in complete isolation from one another, while nevertheless professing a common objective of improving educational outcomes for young people. The polarity of the two roles continues to result in a disturbing gap between research findings and classroom implementation.

It is not surprising that teachers and professors would find one another inaccessible. The reality of the teaching environment does not encourage teachers to read research literature (Atkinson & Jackson, 1992); reflection is discouraged in most schools as they are presently organized (Woods, 1986). Moreover, research will not be translated into practice if it is not "understood, used intelligently, and refined in the context of local experience" (Atkinson & Jackson, 1992, p. 20). Yet an orientation to research is problematic for teachers because of their need to be decisive and to act swiftly, which compromises a research mentality that incorporates doubt and uncertainty (Woods, 1986). Teachers see much of educational research as being too theoretical and too far removed from practice; they have little to do with the conception of the research, and research issues rarely recognize the complexities of the teacher's task (Woods, 1986).

Teachers accuse researchers of not explaining themselves clearly, and researchers reply that only teachers can interpret research findings in a way that is relevant to an actual situation (Woods, 1986). However, research findings often are passed along to teachers informally, which is risky because the practitioner may have no understanding of the theoretical context of the research and may have

difficulty resolving conflicting research claims (Biddle & Anderson, 1991). Increased emphasis on research in academic institutions has widened the separation between theory, considered the domain of the researcher, and practice, considered the domain of the teacher (Gitlin, et al., 1992).

The current study attempts to navigate the terrain of both the teacher and the researcher. By conducting a systematic investigation in my own classroom, I hoped not only to satisfy a teacher's need for local relevance, but also to incorporate a researcher's demand for rigorous inquiry. In so doing, I discovered in large measure both the exhilaration and the exhaustion of teacher research.

Action Research

Efforts to integrate the roles of teacher and researcher find their roots in action research. The concept of action research was developed by Kurt Lewin and his associates in the 1940's and 1950's as a collaborative problem-solving scheme for organizational improvement (Calhoun, 1993; Bargal, Gold, & Lewin, 1992). More specifically,

the term action research captured the notion of disciplined inquiry (research) in the context of focused efforts to improve the quality of an organization and its performance (action). Today, action research remains a powerful tool for simultaneously improving the practice and the health of an organization. (Calhoun, p. 62)

Lewin distinguished between traditional quantitative research and observation-based qualitative research (McFarland & Stansell, 1993). Bargal, Gold, and Lewin (1992) note that Lewin's concept of *life space* was based on the idea that human behavior could be neither understood nor predicted without trying to learn how people "perceive and conceptualize their world (i.e., without studying their life space)" (pp. 4-5, emphasis in original).

Feldman (1994) explains that Stephen Corey of Teachers College, Columbia University, championed action research in U.S. schools of

education in the 1950's. However, teachers appeared unwilling to implement action research once they left the university, and the concept nearly disappeared in the U.S. during the 1960's and 1970's. Action research experienced a rebirth in the U.S. in the mid-1980's as a problem-solving process that relies on step-by-step data collection and analysis. The genesis of this resurgence of interest was Lawrence Stenhouse's research on teacher-based curriculum innovation in Britain in the late 1960's.

A Research Voice for Teachers

Abraham Shumsky wrote in 1958 that "an action research project is often an attempt to desert an old way of teaching and try a new ideology in practice" (p. 169). He added that curriculum revisions have value only if they accompany an underlying theoretical understanding. Their adoption must be based on a change in the professional knowledge of those who will use them. This link between theory and practice remains a central construct of classroom-based action research. Current efforts hearken to W.D. Wall's comments in 1968 (cited in Tyler, 1976):

Indeed the great hope of real advance lies in making the present barriers between professional practice and professional research really permeable, so that it becomes normal for a career in teaching to include a period of full-time research. (p. 180)

Wall added that much of the future of educational research would lie in the use of action studies in the fields of curriculum, pedagogy, deployment of school staff, and organizational change. He felt that to examine the central questions about learning and learning environments, studies must be conducted in schools. As such, researchers must have classroom experience, and teachers must have an orientation to research.

Action research offers classroom teachers a scheme within which to systematically study aspects of their practice that they find problematical or especially interesting. My own interest in written expression arose not from professional reading or a theoretical question, but rather from twenty years of working with students who have

difficulty writing. An earlier study of Cognitive Strategy Instruction in Writing (CSIW) with secondary students (Hallenbeck, 1996) had demonstrated excellent results. For my doctoral dissertation, I wished not only to gain a better understanding of how adolescents with learning disabilities approach the writing task, but also to explore ways in which teachers can help students develop their expository writing skills. As such, the current study examines my students' thinking and collaborative talk about expository writing, as well as my role in facilitating writing development through modeling, scaffolding, and collaborative talk.

Rigorous Inquiry

Teachers doing action research engage in an ongoing cycle of data collection, problem diagnosis, search for solutions, action implementation, and assessment of results; moreover, these teachers model the process of systematic problem-solving for their students (Calhoun, 1993). Such rigorous inquiry is not for the frail or the uncertain. Watts (1987) cautions that although new teachers and teacher trainees should be encouraged to reflect on their work, the bulk of their energies must be focused on gaining a foothold in the profession. Action research is for those, like myself, already familiar with the realities of teaching and wishing to improve or better understand a specific aspect of their practice.

Cautions notwithstanding, classroom teachers continue to expand their professional horizons by embarking upon action research projects. Three approaches predominate: (1) individual teacher research, carried out by a teacher alone; (2) collaborative research, carried out by a volunteer group of teachers in collaboration with a university professor or staff developer; and (3) schoolwide action research involving an entire school faculty (Calhoun, 1993). While action research generally involves some sort of collaborative effort, much can be accomplished by individual teachers researching their own practice (Powell, 1987); such

was the case with my own dissertation work.

Qualitative Research Approach

Issues of who conducts and interprets research relate to the broader questions of what constitutes valid knowledge and who can validly construct it. Traditional positivist views of research, which emanate from the natural sciences, hold that knowledge is generated by quantitative measurement, deductive reasoning, and causal relations among variables (Biddle & Anderson, 1991). Such knowledge, traditional wisdom holds, is more easily generalized across settings. The generalizability of research in the social sciences, however, is often challenged because social behavior generally differs from one context to another, with some social effects more context-bound than others (Biddle & Anderson, 1991). Many social science researchers have come to rely on the close observation and rich description of qualitative research to help them understand the dynamics of social contexts.

Axioms

Lincoln and Guba (1985) characterize the world view of qualitative research as the "naturalistic" paradigm (p. 7), noting that under the naturalistic umbrella fall such aliases as *postpositivistic*, *ethnographic*, *phenomenological*, *subjective*, *case study*, *hermeneutic*, and *humanistic*. The authors identify five axioms that undergird the naturalistic paradigm:

- **Ontology (nature of reality):** People socially construct multiple realities that can be studied only holistically.

Individual realities often overlap one another, simply because many of them are an effort to deal with the same putative phenomenon, but they differ in the meanings that are attached to the phenomenon and in the sense making in which each actor engages in order to keep his or her world whole and seamless.
(p. 82)

- **Epistemology (relationship of knower to known):** The inquirer and the "object" of the inquiry interact and influence one another:

"knower and known are inseparable" (p. 94).

- Possibility of generalization: Rather than truth statements, the aim of naturalistic inquiry is to develop "working hypotheses" that describe the individual case under study.
- Possibility of causal linkages: Cause/effect relationships cannot be discerned because entities are always engaged in "mutual simultaneous shaping" in which "everything influences everything else, in the here and now" (p. 151).
- Axiology (role of values): Inquiry is value-bound in terms of (1) the researcher's choice of problem; (2) the choice of paradigm that guides the research; (3) the choice of substantive theory that guides the data collection, analysis, and interpretation; (4) the values inherent in the context; and (5) the degree to which the research problem, paradigm, theory, and context exhibit the congruence that makes the results meaningful.

These axioms guided both the conception and implementation of my dissertation study. I examined the meanings about writing that my students brought to the collaborative writing effort and how new meanings were socially constructed, or "mutually shaped," by the group. As a teacher-researcher, I participated in the construction of the meanings that evolved over the course of the school year.

Characteristics and Assumptions of Qualitative Studies

The axioms of the naturalistic paradigm yield numerous interdependent assumptions characteristic of qualitative research. The qualitative researcher does not manipulate the context in order to measure predetermined outcomes (Lincoln & Guba, 1985). Rather, the researcher conducts an open-ended, open-minded inquiry in order to gain a better understanding of the problem under study. I was not looking for causal links between instruction or collaboration and any particular outcome, but rather was seeking a better understanding by "imposing a purposive structure that emerges from the interaction between the

investigator and the phenomenon's presentational aspect" (Lincoln & Guba, 1985, p. 152, emphasis in original). In keeping with the naturalistic view of instructional intervention (Lincoln & Guba, 1985, pp. 150-158), I focused my attention on the mutual simultaneous shaping that took place among all participants, including myself. Categories emerged from informants, "rather than (being) identified *a priori* by the researcher" (Creswell, 1994, emphasis in original).

As a teacher-researcher, I was part of the informants' world; my purpose was to seek their meanings (Marshall & Rossman, 1995; Merriam, 1988; Krathwohl, 1993; Lincoln & Guba, 1985) and to understanding phenomena and events (Krathwohl, 1993; Creswell, 1994). My investigation focused on the processes by which students' thinking about writing developed, not on products (Merriam, 1988), although students' writing products were used as one means of analyzing the development of their thinking.

Sampling in qualitative research is purposive, not random or representative. Lincoln and Guba (1985, pp. 200-201) identify six types of samples useful for purposes other than the generalization sought by traditional research: sampling extreme or deviant cases, sampling typical cases, maximum variation sampling, sampling critical cases, sampling politically important or sensitive cases, and convenience sampling.

The students who participated in this study did so because they were the only four students to whom I would be introducing CSIW for the first time during the 1995-96 school year. I concentrated on maximum variation sampling (including as much information as possible in order to document unique variations) by audiotaping all writing-related interactions among the participants throughout the school year. However, I focused the core of my analysis on four sets of transcripts from key points in time during the writing process. I also looked for opportunities to sample extreme or deviant cases, typical cases, and

critical cases. For example, as we shall see, a particularly detailed analysis arose from a May 7 conversation because of its considerable depth and breadth.

Context is crucial in qualitative research (Creswell, 1994; Krathwohl, 1993). Lincoln and Guba (1985) assert that "it is difficult to imagine a human activity that is context-free" (p. 114). Later, they emphasize that

the naturalistic investigator cannot confine his or her attention to a few variables of interest, ignoring the setting because it has been so carefully controlled; he or she must take account of all factors and influences in that context. If anything may make a difference, then everything must be monitored. (p. 191, emphasis in original)

Because context is so important, my reporting is descriptive (Merriam, 1988) and ideographic (in terms of the particulars of the case) (Lincoln & Guba, 1985). Because of the amount of description involved, I have used case study reporting (Lincoln & Guba, 1985; Stake, 1994; Lincoln & Guba, 1985; Krathwohl, 1993; Merriam, 1988). I have tried to keep in mind that rich description is essential if I am to adequately portray the unique features of the context, and my findings can be applied only tentatively on that basis (Lincoln & Guba, 1985).

I was the primary instrument of data collection and analysis (Merriam, 1988; Lincoln & Guba, 1985), which required "frequent, continuing, and meaningful interactions between the investigator and the respondents or other objects of investigation" (Lincoln & Guba, 1985, p. 107). As a teacher-researcher, I was ideally situated for this prolonged involvement (Mohr, 1987).

This study relied on inductive inquiry and data analysis (Creswell, 1994; Merriam, 1988; Lincoln & Guba, 1985). Central to this effort was "making sense of field data" (Lincoln & Guba, 1985, p. 202). Rather than searching for data to confirm or disconfirm a priori theory, the theory that developed was grounded in the data that emerged during the course of the school year (Creswell, 1994, Lincoln & Guba, 1985).

In keeping with the constructivist theoretical perspective, I employed my own participation in the lives of my students to learn what they could teach me about their thinking and their development as writers.

While my review of the literature on classroom discourse led me to several initial research questions, these questions served only as points of departure for the inquiry. Despite numerous assumptions about the likely results, I took pains to ensure that the data collection and analysis were as inductive as I could make them.

Study Characteristics

Research Setting

The setting for this study is a rural consolidated school in the upper Midwest. Situated 25 miles from a large metropolitan city, the school district serves students from four small towns and the surrounding farms. All district classes are housed within one building, with elementary and secondary classes located in separate wings. Nearly all the 900+ students in the district are white. Most families in the district earn middle-level incomes, although there are families of extreme wealth and extreme poverty.

The school district prides itself on the high achievement of its students on standardized tests. While attendance and behavior generally are quite good, teachers and administrators have expressed increasing concern in recent years over the rising number of students experiencing academic difficulty and/or exhibiting disruptive behavior.

While students with severe disabilities are served in nearby communities through an educational cooperative, resource room students attend classes locally. The resource room program is divided into elementary (K-6) and secondary (7-12) classrooms, with services provided at the K-3, 4-6, and 7-12 levels. The program model includes options for direct instruction in basic academic skill areas (i.e., reading, math, and written language) and supplementary assistance in all academic

areas. Secondary students may receive as much as two class periods of direct instruction and one study hall per day, or as little as one study hall per day. Another locally housed program option, the self-contained class with integration (SCI), offers special education assistance to students who require more than 2-3 periods per day. SCI services are provided at the K-6 and 7-12 levels. The school day is divided into eight periods of 46 minutes each.

The secondary resource program occupies one large classroom that is divided in half by a 6-foot-high fabric divider. I worked in one half of the room and another resource teacher worked in the other half. While our students generally worked in their respective halves of the room, students sometimes moved back and forth (e.g., to form a study group for a test, or to capitalize on the specific academic expertise of one or the other resource teacher).

Participants

Participants in the study included 4 seventh-grade students (2 boys and 2 girls) with whom I had not worked prior to the 1995-96 school year, their parents/guardians, and their content-area teachers. All students qualified by state and local criteria for special education placement and all experienced extreme difficulty with expository writing. All students participating in the study were scheduled into my room during the same class period, and they were the only students assigned during that period. Mike, Cindy, and Andy (pseudonyms) were assigned for direct instruction in English. Kris (pseudonym) attended regular English class, but the upper-elementary resource room teacher felt that her writing skills were very weak and that she would benefit from Cognitive Strategy Instruction in Writing (CSIW). Mike, Cindy, and Kris were enrolled in the resource program. Andy was enrolled in the SCI program; he was one of several students "shared" by the SCI and resource room teachers in an effort to maximize individualization in their Individual Educational Plans (IEP's).

The students were all 12 or 13 years of age (as of August 1995). Their most recent scores on the Wechsler Intelligence Scale for Children (Wechsler, 1974) and their most recent broad written language scores on the Woodcock-Johnson Psycho-Educational Battery (Woodcock & Johnson, 1989) are listed in Table 1.

TABLE 1

I.Q. and Achievement Test Scores of Student Participants

	Wechsler Intelligence Scale for Children			Woodcock-Johnson Psycho-Educational Battery (Broad Written Language)	
	Verbal I.Q.	Performance I.Q.	Full Scale I.Q.	Grade-level Score	Standard Score
Andy	96	111	102	2.9	70
Kris	86	91	87	6.8	96
Cindy	105	123	114	5.2	88
Mike	94	87	89	4.5	83

Mike

Mike was a friendly, cooperative student who throughout the school year demonstrated a keen commitment to performing well in school. He lived on a farm with his father, stepmother, two older brothers, and one younger brother. Mike was very conscientious about completing his school work and tried hard to do his best work. His efforts received school-wide commendation when the junior high faculty named him 7th grade Student of the Month in May. He was very interested in sports, competing in football and track, and was perhaps the world's most rabid San Francisco 49'ers fan. Since my team was the Detroit Lions, he and I shared numerous gibes and prognostications leading up to the Lions-49'ers game; fortunately, our relationship endured after the Lions won.

Mike's cumulative folder revealed that he was retained in first grade. He received hospital/homebound services for two weeks during his second first grade year while recovering from a fractured femur.

Preschool screening comments included aggression, restlessness, short interest span, and problems with concentration. In later years his teachers complimented him for his effort despite the fact that school work was difficult for him; nevertheless, one of his upper-elementary teachers mentioned occasional talking and goofing around.

Mike's scores on the annually administered Iowa Tests of Basic Skills revealed total language composite scores decreasing from the 69th percentile nationally in grades 1 (repeated year) and 2 to the 19th percentile in grade 5 and the 27th percentile in the sixth grade. Mike received Chapter 1 reading assistance in elementary school and was first enrolled in the resource room program in third grade. Initial staffing concerns included decoding and spelling. Mike tended to speak very quickly at times, which often posed a challenge during audiotape transcription.

The teacher checklist in Mike's writing portfolio indicated that in the fall of sixth grade he (1) attempted topic development but demonstrated weak organization, (2) satisfactorily developed ideas through the use of supporting material, (3) showed some sentence sense but little sentence variety, (4) occasionally used inappropriate or incorrect usage, and (5) made mechanical errors which interfered with communication. By spring, he had improved in the areas of organization, sentence variety, language usage, and mechanics. Interestingly, the spring writing submission for his portfolio was a fictional story set in Australia; he would choose Australian animals as the topic for his research paper topic during the current study. His sixth grade teacher indicated that he had considerable difficulty with grammar and spelling and that the teacher helped him with his editing.

Cindy

Cindy was a pleasant, quiet girl who was very interested in horses. She lived on a farm with her parents and one sister who is one year older than she. She, like Mike, was very conscientious about

completing her schoolwork and adjusted quite well to seventh-grade work. Cindy seemed eager to talk to me about her horses, in one instance showing me a fascinating series of photographs of the recent birth of a colt.

Although Cindy performed quite well in her classwork during her seventh-grade year, her attendance became very erratic. While only missing four days through the end of November, in early December she began missing school regularly 2 to 4 days at a time. Between December 5 and April 15, she missed 28 days of school; needless to say, this pattern of absence presented numerous difficulties in the progress of the study.

Cindy's cumulative folder revealed that her teachers complimented her effort, although an occasional comment implied that more effort might be helpful. Late assignments were mentioned occasionally. Percentile scores on the Iowa Tests of Basic Skills revealed language totals in the high 60's on national norms. These scores decreased, however, in mid-elementary school; her language total scores in fifth and sixth grades on national norms were the 46th and 47th percentiles respectively. Cindy received Chapter 1 reading services in elementary school and was initially staffed into the resource room program in second grade. Initial staffing concerns included reversals, poor handwriting, perception of print, organizational skills, and frustration.

The teacher checklist in Cindy's writing portfolio revealed that in the fall of sixth grade she (1) attempted topic development but demonstrated weak organization, (2) demonstrated weak idea development with little use of support materials, (3) used some sentence variety, (4) occasionally used inappropriate or incorrect language, and (5) made mechanical errors that interfered with communication. By spring, she had improved in all areas except mechanics and sentence variety.

Andy

Andy was a very interesting student. He was friendly and imaginative, with a twinkle in his eye and a keen interest in anything mechanical. Nevertheless, he had a great deal of difficulty in school due to frequently poor task completion, and his writing skills were very weak. He comes from a large family, is the youngest child, and lived on a farm with his parents.

Andy, like Mike, was retained in first grade. His cumulative folder included mention of late assignments. His national percentile rankings in language total score on the Iowa Tests of Basic Skills revealed that he scored at the 38th percentile in first grade and jumped to the 91st percentile the year he repeated first grade. From then on, his scores consistently declined, from the 44th percentile in second grade eventually to the 3rd percentile in fifth grade; no score was available for sixth grade.

Andy received Chapter 1 reading assistance in elementary school and was initially placed in the resource room in kindergarten. Initial staffing concerns included reading, math, study skills, and work habits. By first grade, his teacher had noted short attention span, need for frequent reminders to complete work, and a habit of playing with things. By second grade, spelling and sentence-writing difficulties had surfaced; problems with attention and distractibility continued. Because these difficulties intensified, Andy's special education placement was changed in fifth grade from the resource room program to the self-contained classroom with integration (SCI).

The teacher checklist in Andy's writing portfolio revealed that in the fall of sixth grade he (1) developed the assigned topic and used acceptable organization, (2) satisfactorily developed ideas through the use of adequate supporting material, (3) used some sentence variety, (4) used appropriate language, and (5) made mechanical errors that did not interfere with communication. These ratings remained the same in the

spring of sixth grade. Interestingly, the paper submitted to the portfolio in the fall of sixth grade was about steer riding, which became the topic of his first paper in the current study. Andy's sixth grade teacher recalled problems with penmanship, spacing between words, spelling, usage, and paragraphing, as well as a tendency to write simple sentences. The teacher noted that Andy was personable and could verbalize his ideas, but he had trouble translating his ideas into written text: "To get him to write was probably the most difficult. He just didn't think he had to turn in anything." His special education teachers recalled that he had great difficulty with task completion. In the words of one, his attitude often was, "if I get it done, fine; if I don't, that's fine, too."

Kris

Kris was an enthusiastic girl, at times quiet but often exuberant. She was very cooperative and did quite well in her seventh-grade schoolwork. She was interested in sports, especially wrestling. Her older brother was a high school wrestler, and her father had coached wrestling for many years. She also served as a junior high cheerleader. Kris lived in a small town with her parents and brother.

A review of Kris's cumulative folder found that teachers throughout the grades praised her work ethic and positive attitude. Her language total scores on the Iowa Tests of Basic Skills started in the range of the 60th percentile on national norms and decreased by third grade to the 10th percentile. The scores remained below the 15th percentile until sixth grade, when her score rose to the 32nd percentile. Kris was placed in the resource room in kindergarten; initial staffing concerns included reading, math, written language, study skills, and successful performance on daily assignments. She received speech and language services from kindergarten through part of fifth grade.

The teacher checklist in Kris's writing portfolio revealed that in

the fall of sixth grade she (1) developed a logical plan, demonstrated well-organized writing, and used coherent, creative ideas; (2) satisfactorily developed ideas through the use of adequate support materials; (3) used some sentence variety; (4) used appropriate language; and (5) made mechanical errors which did not interfere with communication. Her ratings in the spring of sixth grade indicated a slight drop in logical presentation/organization; all other ratings remained the same. Kris's sixth grade teacher recalled that Kris made good progress during the year, became more confident, and enjoyed working with others on writing tasks.

Kris's seventh grade English teacher indicated in mid-year that her writing was "progressing wonderfully." She noted that Kris appeared to be comfortable with writing, even when she read one of her stories aloud to the class. The teacher noted at the end of the school year that Kris's attitude toward writing had been "fantastic." She said that Kris never seemed to lack for a topic. Although at first Kris's writing was all one paragraph, she started using paragraph structure toward the end of the first quarter. Kris's weaknesses included punctuation, spelling (although she was very careful to get help in making spelling revisions), sentence and paragraph structure, and word usage. Kris was very attentive in English class, and her confidence with writing increased during the year. In May the English teacher said, "I think at the beginning of the year she was apprehensive because she knew this could be a problem area for her. I saw her confidence grow during the year. Just the other day she got a paper back and said, 'Oh, I'm so proud of myself!'"

Research Design

I employed a case study design to conduct this investigation. The case study is ideal in this instance because the investigation is bounded (Merriam, 1988) in time by the length of the school year and in space by the assembly of 1 teacher and 4 students working to develop a

better understanding of effective expository writing. The case study also affords a framework for the rich description of contextual data that the investigation generated (Merriam, 1988; Lincoln & Guba, 1985).

The unit of analysis was the classroom conversation. I chose to conduct a detailed analysis of conversations occurring during four key points in time - early teacher modeling, organizing the first paper, revising the first paper, and writing the second paper. In two instances (organizing by both student pairs and one pair revising), these conversations carried over beyond a single class period. Analyzing conversations best illuminated the characteristics of dialogue that informed my research questions. This type of analysis allowed the meanings, purposes, and roles of the participants to emerge as they discussed aspects of expository writing. Categories that emerged from the analysis of classroom conversations were triangulated with data gathered through interviews with students, parents/guardians, and content-area teachers; observations within the resource room and in other contexts; and written documents in the form of archival data (e.g., students' cumulative folders and Individual Educational Plans) and student writings.

Data Collection

Much of the methodology of ethnography is quite familiar to classroom teachers, although most would hesitate to call what they do "research." Teachers routinely observe their students and their work, record evaluative responses to their observations, and make strategic instructional decisions based on their observations. Due to the intense demands on a teacher's time and energy, however, these tasks generally are carried out intuitively, not systematically; it is against this reality that a teacher develops into a teacher-researcher. Woods (1986) points out that the ethnographer's methodology should attend both to rigorous data collection, validity, and ethics, and also to open-minded,

creative thinking in the direction of theory production.

Essential Preliminaries

Problem or Issue of Study

Systematic thinking begins with the earliest stage of inquiry - identifying the problem or issue to be studied. Keeping in mind that research adds an additional dimension to the teacher's already complex array of tasks, Shumsky's (1958) advice in this regard remains helpful:

Whenever teachers are confronted with a task which calls for a great investment of emotional and intellectual energy; whenever they have to investigate one single problem systematically and comprehensively, they should be encouraged to look carefully at their own needs as people and educators, and to select a problem which is meaningful to them. (p. 78)

My own interest in this study evolved from my many years as a high school English teacher and a junior/senior high special education resource teacher. Over the years I have noted the extreme difficulty that many of my students, in both regular and special education, have experienced with expository writing. The importance of exposition in the secondary curriculum and in the "real world" makes this an area of inquiry well worth a considerable investment of time and energy. As I do more professional writing, I find myself engaged in many of the same struggles that my students face; I welcomed the chance to engage with them in a systematic inquiry designed to enhance our understanding (both theirs and mine) about writing.

The Research Question

Classroom-based research begins with such basic questions as "What is going on here?" and "What are people doing to each other?" and then moves into gathering participants' accounts in the effort to interpret (Woods, 1986). The teacher's specific concern, informed by related work of other researchers, should lead to the research question(s) that will drive the study.

Hubbard and Power (1993) note that qualitative research questions arise from real-world observations and concerns. For teachers, research

questions focus on concerns about aspects of their teaching through which they seek to expand their vision of themselves and their students. The research question moves a teacher's thinking from a source of tension in the classroom to an attempt to better understand learning and teaching.

The initial research questions that guided this study arose from my interest in learning more about my students' thinking about expository writing. They were open-ended, and I realized that they might change once the study got underway. They did, nevertheless, serve as useful points of departure for the inquiry:

Teacher factors

- I. What is the nature of the teacher's talk during collaborative discourse about writing?
 - A. In what ways does the teacher scaffold and support students as they develop their knowledge about expository writing during collaborative talk?
 - B. What roles and norms develop for the teacher's participation in discussions about expository writing? How do these roles and norms help/hinder collaboration?

Student factors

- II. What is the nature of students' collaborative talk about writing?
 - A. What does the students' talk reveal about the development of their thinking about expository writing?
 - B. In what ways do students scaffold and support one another as they develop their knowledge about expository writing during collaborative talk? To what extent are adolescents with LD able to take on previously modeled teacher-like roles (e.g., interacting within each other's zones of proximal development)?
 - C. What participation structure (roles and group norms) develops as students collaborate and write expository reports? How do these roles and norms help/hinder collaboration?

D. What contextual factors facilitate/hinder oral discourse among adolescents with LD?

I wanted the study to be driven by the data and, as such, the data analysis to be as inductive as possible. Therefore, after studying the data during the early stages of analysis, I generated a set of analytical assertions that I felt the data would support. As we shall see, these assertions mapped very closely onto the original research questions.

Fieldwork and Data Collection

Early Dialogue

This study took place throughout the entire 1995-96 school year. During the first several weeks of the year, I engaged the students in a number of activities designed to reinforce the importance of dialogue in the learning process. For example, using a jigsaw technique, students each learned an important aspect of the Macintosh computer and word processing software they would be using for their writing; each student in turn then explained the technique that he or she had learned to the others.

Pretest/Posttest Papers

Administration. In September the students wrote pretest expository papers; posttest papers were written in late May. The pretest and posttest papers would provide triangulation evidence of whether the students' thinking about expository writing changed during the year and whether their revised thinking actually translated into improved writing. The students were asked to write an "expert" essay on a topic about which they were very knowledgeable to a reader less knowledgeable than they. They also wrote a pretest explanation paper, which I hoped would help indicate whether knowledge about one text structure (essay) would transfer to another structure (explanation) without explicit instruction.

Scoring procedures. Pretest and posttest papers were scored using a rating scheme developed by Englert and her colleagues (Englert, 1988, 1990a; see Appendix F). Scoring criteria focused on key elements of each of the two text structures. Papers received ratings for the following elements:

1. A holistic rating of overall quality.
2. A primary trait score that represented (a) for explanation papers, a total of scores for introduction, steps in the explanation, use of key words, and organization; and (b) for "expert" papers, a total of scores for introduction, definition of categories, development within categories (depth), development across categories (breadth), use of key words, and organization.
3. Number of words.
4. A reader sensitivity score representing a total of scores for drawing in the reader in the introduction, clearly expressing the purpose of the paper, targeting the audience, and establishing an author voice.

Each structural characteristic received from 0-3 points depending on the degree to which it met predetermined criteria (see Appendix F). For example, the following represents the holistic scoring criteria for "expert" papers: (a) 3 points are for having an introduction, 2-3 categories or steps, categories or steps labeled, keywords, a logically organized presentation, no irrelevant information, and an interesting presentation; (b) 2 points are for what is obviously an expert paper but missing one of the above criteria, a paper that could be a "3" with one revision, or an explanation but without categories; (c) 1 point is for a paper that is not obviously an expert paper, that needs a lot of work (e.g., disorganized with irrelevant information, weak undefined categories), has a sense of the author being an expert and a clear topic; (d) 0 points is for a paper that is not an expert paper.

Reliability. Interrater reliability between two raters was calculated on 25% of the papers. Reliability was calculated on primary trait and reader sensitivity scores by dividing the number of agreements by the sum of agreements plus disagreements. Reliability for the explanation papers was 85.71% for pretest primary trait score, 100% for pretest reader sensitivity score, 100% for posttest primary trait score, and 100% for posttest reader sensitivity score. Reliability for the expert papers was 100% for pretest primary trait score, 80% for pretest reader sensitivity score, 93.75% for posttest primary trait score, and 90% for posttest reader sensitivity score.

Baseline Interviews and Consent Procedures

During September I conducted baseline interviews with all 4 students in order to gain an understanding of their definitions of and attitudes toward writing. I also completed revisions to my University Committee on Research Involving Human Subjects (UCRIHS) human subjects proposal and received approval in early October. Immediately upon approval I implemented the consent procedures, gaining verbal assent from the students and sending consent forms home to their parents. Although all parents had expressed enthusiasm for the project, it was nearly a month before all consent forms were returned. I secured written consent from each of the students' current teachers and several of their previous elementary teachers.

Instruction

Description and Narration

While I awaited return of the signed parent consent forms, I conducted several weeks of instruction on descriptive and narrative writing. I had felt in previous years that I had given students little guidance in these important techniques for making writing more interesting; I wanted to be sure to provide such instruction to these 4 seventh-graders, and it was convenient to do so while I awaited the return of the parent consent forms.

Cognitive Strategy Instruction in Writing

By the first of November, the last of the signed parent consent forms had been returned. In mid-November I began modeling the Cognitive Strategy Instruction in Writing (CSIW) "expert" essay text structure by using the entire process to write a paper of my own, emphasizing through think-alouds the thought processes of an experienced writer. I chose a topic with which the students were somewhat familiar; I wrote about the inception of an ongoing concession stand fundraising project that we ran with our resource and SCI students. After I modeled each step in the writing process (planning, organizing, writing, editing, and revising), the students completed that same step with papers of their own on topics of their choice.

Cognitive Strategy Instruction in Writing provided the instructional model around which the collaborative structure of this study was built. CSIW is a discursive process that, as described by Englert (1992), embodies three guiding principles for expository composition. First, effective writing is a holistic enterprise in which writers engage in the processes and strategies related to planning, organizing, writing, editing, and revising. Second, immature writers benefit from writing apprenticeships in which the teacher models the thinking and inner talk that underlies effective writing. The teacher scaffolds students' use of specific writing strategies through ongoing teacher-student and student-student dialogues. Third, students learn to appreciate the social nature of the writing experience by writing for authentic purposes and real audiences and by collaborating with each other throughout the writing process.

Student thinking is supported by a series of think-sheets (see samples, Appendices A-E) that provide students with structure at each stage of the expository writing process. The pre-writing stage employs two think-sheets. The *plan* think-sheet assists students in identifying the purpose and audience of their composition and in brainstorming ideas

for the paper. The organization think-sheet provides a structure for grouping the brainstormed ideas into categories. I have added an intermediate step that employs color-coding ideas in the brainstorm that "belong together" as a means of facilitating category grouping on the organization think-sheet. Once the ideas have been organized, students write the first draft of their papers.

The editing stage provides students with an opportunity not only to scrutinize their own first drafts, but also to submit this draft to peer editors for their review and suggestions. This stage employs the edit think-sheet, which is completed by the author, and the editor think-sheet, which is completed by the peer editor.

Finally, the revise think-sheet helps student authors to synthesize suggestions generated on their own edit think-sheets and those received from peers on editor think-sheets. Once authors have completed their revise think-sheets, they are ready to make their revisions.

Student Collaborations

The students wrote two papers during the course of the year; both were collaborative efforts. They were asked to form two pairs; each student would be the primary author of one paper and the secondary author of another. The primary author would take the lead in topic selection and would have final say in all matters, but the secondary author would be expected to contribute extensively. Co-authors would collaborate at all stages of the writing process; much of my data collection during the year centered on the interactions that emerged during those collaborations. Kris and Cindy chose to work together, as did Mike and Andy.

The first paper was an essay on a topic with which the student was very familiar; its purpose was to inform a reader less familiar with the topic. Cindy wrote about her horses, Andy wrote about bullriding, Kris wrote about a recent family trip to California, and Mike wrote about

rodeo roping. The second paper added a research dimension to the writing process; students were to choose a topic in which they were interested and in which they wanted to learn more. Cindy wrote about the figure skater Scott Hamilton, and Kris wrote about Olympic wrestling. Andy and Mike chose to write a paper together on Australian animals.

During January, February, and March, the students and I continued composing the first paper; the schedule was slowed considerably by school cancellations due to inclement weather and by Cindy's frequent absenteeism. The first paper was not completed until the first week of April.

I originally had planned to use an interlude between the two papers for exploring additional vehicles for writing collaborations (e.g., electronic mail, a letter to parents). However, the considerable delays we experienced forced us to launch right into the second paper - the research paper - in mid-April amidst great concern over whether we would be able to complete the paper by the end of the school year. Kris and Cindy decided to continue working together for the second paper. While reviewing their social studies textbook earlier, Andy and Mike had realized that their social studies teachers probably would not make it to the end of the book, which included a chapter on Australia. Since they both were interested in Australia, they asked and received permission to do a single research paper together on the animals of Australia.

My classroom was outfitted with a Macintosh computer with CD-ROM capability, and the entire school went online with the Internet during Christmas vacation. Students used this technology and the CSIW strategy to prepare their research papers. Incorporating research added an investigational dimension to the students' work and served to reinforce the natural integration of reading and writing. Work on the research papers continued literally until the very end of the school year - May

29.

Since the school's Internet connection frequently broke down, we scheduled an Internet research session on Saturday, April 13, at my home. At the end of the session, there were a few minutes remaining until the students were to be picked up and taken home, so I suggested that they write a brief e-mail message to the members of my dissertation committee. Their message spawned occasional exchanges of greeting and writing samples for the rest of the school year; the students welcomed each message from my professors and enjoyed sharing their writing with them.

Observations

Participant-observation, which relies on the researcher personally experiencing the situation under study, is the backbone of ethnography, and teachers are ideally situated to function as participant-observers (Woods, 1986). Direct observation, however, is problematic for teacher-researchers, whose energies are directed at teaching and who often find it difficult to achieve the distance of the researcher (Altrichter & Somekh, 1993). Nevertheless, individual teachers conducting research in their own classrooms are ideally situated for participant-observation because they already play a role in the institution whose members they wish to study (Woods, 1986). Teacher-researcher Nancie Atwell (1987) points out that teachers can carefully and regularly observe and describe the students they know better than any professional researcher could.

In carrying out participatory observation, teachers face two challenges, one theoretical and the other technical: (1) choosing what to observe and (2) devising an efficient strategy for recording the observations. Martyn Hammersely, who early in his career was over-reliant on transcribed audiotapes, learned that he could not possibly record all lessons in which he was interested due to the transcription load. So he had a sampling problem. He decided to focus his recording

on oral lessons, despite the fact that the teachers he was observing considered written work more important. This, of course, called into question the representativeness of his data (Hammersely, 1984). The moral of the story is to first decide which observations will best help to address the research question(s) and then to use whatever means are feasible to record the observations.

In order to address my research questions, I tape recorded all instructional sequences and writing-related student conversations during the year and documented my observations and reflections regarding the instruction and the students' response. As we shall see, close analysis of instructional sequences and student conversations focused on four key points in time during the school year; these points in time were chosen because of their important junctures in the school year and in the course of instruction. In order to help avoid sampling bias, the points in time were chosen prior to analysis of the corresponding transcripts.

Protocols. My observations focused on the classroom context and on the reactions of my students to instruction and to one another. I used a hard-bound notebook with numbered pages and a red line down the middle of each page to record my observations (left half) and reflections (right half). The observed event(s) (e.g., "collaborative brainstorming," "peer editing," "spontaneous assistance") and date were written at the top of each entry. Reflections included inferences, interpretations, evaluations, and questions. Planned observations were designed to inform one or more of the research questions or emerging hypotheses. It was difficult to find the time to code the observations in great detail, so I ended up relying on the headings at the top of each page for future reference.

I had scheduled my preparation period for the class period immediately following the period with the study participants, planning to use part of each preparation period to record my field notes and reflections. This, however, proved to be easier said than done. Other

commitments frequently arose during that class period, and other students often came in (generally unannounced) for help or to take tests. Realizing that I needed to jot down quick, spontaneous notes as soon as possible (Woods, 1996), I often utilized the backs of blank attendance slips; I placed these in my field notebook until I had a chance later in the day to flesh out the notes into the notebook. I tried to be as descriptive as possible within the time available (Isakson & Boody, 1993).

I had planned to use videotaping selectively during the study, recording events that I anticipated would inform specific research questions (e.g., collaborative planning, peer editing, events involving critical cases). However, it soon became clear that the students, particularly Mike and Andy, were highly distracted by the presence of the video camera; this preoccupation was heightened by the small size of our classroom. As such, I discontinued videotaping on March 28 and thereafter relied exclusively on audiotaping. Since my fieldnotes reflected little potential value in the few videotapes I was able to secure, I did not incorporate them into my analysis.

Establishing distance. As researchers of their own practice, the challenge of establishing emotional and professional distance from the objects of study (generally the students) can be especially problematical for teachers. Their instructional responsibilities and inherent concern for their students must direct their thinking activity in the classroom; yet, as researchers, they must be able to step back and examine what they think and do with a critical eye. Marian Mohr and Marion MacLean (1987) point out that the work of teacher-researchers differs from that of both ethnographers and experimental researchers in that "outside" researchers enter the scene from a distance. While the teacher-researcher must deal with the same tension of the participant-observer, he or she starts with participation rather than with observation. Whereas the challenge for the ethnographer is to gain

participation, the teacher-researcher's challenge is to gain a measure of distance.

Woods (1986) notes that the participant-observer must become involved with the group while remaining detached enough to avoid relating to the informants rather than studying them. Due to the close relationship that often develops between teacher and students, this can be very difficult for the teacher-researcher, especially with a full teaching load. The teacher must be able to set aside her or his experiences in order to make the group being studied "anthropologically strange" (Woods, p. 34). Otherwise, Woods cautions, there is the danger of "going native" and coming to empathize with the informants to a degree that the researcher-perspective is lost. Empathy can be shown without "going native" by only temporarily participating in the life of the informants and through "appropriate nods, shakes of the head, smiles, gasps of astonishment or knowing grunts, interjectory expressions" (Woods, p. 77).

In my dissertation study it was important that I achieve the distance of the researcher while maintaining the close relationship I generally enjoy with my students. I had discovered in an earlier study (Hallenbeck, 1996) that carefully explaining the purpose and structure of the study to the students at the outset helped them to understand my role in the research. Thus it was easier for them to accept that I might be "behaving" somewhat differently from usual while engaging in activities specifically related to the research study. I explained the roles of all participants (myself, the students, their parents/guardians, and their content-area teachers) at the outset of the current study; I found that throughout the year the students quite regularly made comments and asked questions about the study and about my use of the materials I was gathering.

Interviews

Teacher-researchers use interviews, both formal and informal, in their efforts to gain a better understanding of their students' perspectives. As with all other aspects of research, effective interviewing is built on trust; it was extremely important for me to exhibit a genuine interest in the participants and in their views, not just in the research project (Altrichter & Somekh, 1993; Woods, 1986).

It was very important that students in this study understood why they were being interviewed and tape recorded (Altrichter & Somekh, 1993; Mohr & MacLean, 1987). Altrichter and Somekh point out that the interviewee should feel that the interview will yield benefits to him or her, and students must understand that the teacher wants to know things that he or she does not already know, such as (in the case of this study) students' personal perceptions. As such, I made it clear that information gathered from the interviews would help increase my understanding of the students' learning and, hopefully, improve my teaching.

Students often feel freer to volunteer information while in the company of friends, which sometimes generates interesting conversations between students that do not directly involve the researcher (Woods, 1986). While group interviews are more natural to students, individual interviews are less susceptible to social pressure; the research question should dictate the type of interview used (Altrichter & Somekh, 1993). I incorporated both group and individual interviews and tried to avoid the formality of the term "interview," although I often ended up using that term anyway through force of habit.

My research included both formal and informal interviews with students, parent/guardians, and content-area teachers at strategic points in the study. For example, I interviewed students at the beginning of the school year to get an idea of their perceptions about writing before we undertook our work together; I also interviewed them

as we worked through the stages of learning the CSIW strategy. I made it clear to the students how their comments during the interviews/conversations would help me to understand their perceptions of their own writing development. I also tried to be attentive to informal comments students made to me or to each other that might relate to my research questions.

Due to financial constraints, I used school tape recorders equipped with external microphones for recording class sessions and interviews. Although this equipment turned out to be quite adequate, a difficulty arose in late April when one of the tape recorders was used to record student greetings for a fellow student who was hospitalized following a serious auto accident. The tape recorder and microphone ended up at the hospital, and I did not feel comfortable asking for its immediate return due to the severity of the student's injuries and the possibility that the hospitalized student might want to record a message for friends back at school. I ended up trying several second-tier tape recorders to replace the one at the hospital, but none of them duplicated its sound quality. As a result, I often ended up with a good-quality recording of one of the student pairs and a fair-to-poor-quality recording of the other pair.

I had planned to replay parts of particularly interesting tapes to the students (Krathwohl, 1993). This would allow me to ask for their impressions and to check hypotheses that seemed to be emerging. Due to the time constraints that we ended up facing, however, we did this only once (on November 10 and 11). I had transcribed a recent conversation involving all four students discussing their descriptive writing brainstorm and made a copy of the transcript for each student. They were very attentive as they listened to the taped conversation and followed along on the transcript. We focused our subsequent discussion on productive exchanges and on times when the taped discussion got off track. I felt that this was a very useful exercise; the students and I

would have welcomed further opportunities to discuss previous conversations if time had allowed it.

The issue of tape transcription weighs heavily on teacher-researchers. Without secretarial help, it is probably best to transcribe only selected short excerpts (Altrichter & Somekh, 1993). Woods (1986) notes the dilemma of time-consuming transcription vs. the need for "quick turn-around to sustain momentum" (p. 82). I certainly found transcription to be a daunting task. I spent most of my free time after school and on weekends transcribing tapes and actually kept up quite well until the spring, when the crush of family events forced the transcribing to be put aside. I resumed transcribing in June and continued even through the early stages of data analysis.

While I tried to summarize sections of tapes and to transcribe verbatim only selectively, I found it difficult to determine which portions of the conversation might ultimately be of most value. As a result, I ended up with very detailed transcriptions. Although extremely time consuming, I found this quite helpful when it came time to analyze the transcripts.

Protocols. For recorded interviews, I prepared a list of key questions (including research questions) and probes (see Appendix G) in order to make the best possible use of the time and situation. As soon after the interview as possible, I recorded my reflections into fieldnotes.

Audiotapes of interviews and dialogues were labeled with the date and the nature of the recorded event. Each tape transcription identified the nature of the event and the names of the participants, with wide left margins for category codes. I created an audiotape index for keeping track of the contents of each tape and a running record of whether or not each tape had been transcribed.

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Written Documents

A wide variety of written documents can complement other types of data and provide the teacher-researcher with valuable information relevant to her/his research questions. Woods (1986, pp. 90, 95) includes such documents as communications with parents, timetables, minutes of meetings, lesson plans and notes, documents on students, school handbooks, newspapers, journals, school records, files and statistics, exhibitions, textbooks, examinations, blackboard work, and photographs. Other potentially valuable documents include teacher's guides and, especially important for my study, instructional materials and student papers. If student work is an important focus of the research, as it was in mine, any student writing that sheds light on the questions under study can be extremely helpful.

I gathered a variety of students' papers, journals, and other written work in my effort to better understand their thinking about writing. I also solicited writings from the students' content-area teachers but found that extended writing activities were rare in most of their regular classrooms. Kris's English teacher, however, provided me with a wealth of writing samples throughout the school year. Other documents that I examined included students' cumulative records and Individual Educational Plans (IEP's).

Protocol. I made photocopies of all documents and student writings that might shed light on my research questions. Documents were stored in a sectioned three-ringed binder for inclusion in ongoing analysis (see "Data Management" section).

Reflections and Memos

The reflective journal, or diary, is an important supplement to fieldnotes in any ethnographic research project. By honestly monitoring the researcher's involvement in the research, "warts and all" (Woods, 1986, p. 113), the journal builds valuable continuity into the research and documents the development of the researcher's thinking (Altrichter &

Somekh, 1993). More specifically, the journal might include

how the research was initially conceived; how, perhaps it is related to one's own personal development; attempts to get the research launched; the problems involved in the negotiating process; failures and blunders, as well as triumphs; changes of mind, doubts, fears, and worries; how the research relates to the rest of one's life and so on. (Woods, 1986, p. 113)

Powell (1987) emphasizes that the teacher's data, including regular reflections on classroom events, should be brought to bear on his/her teaching.

In her journal, teacher-researcher Marne Isakson becomes a learner by trying to bring her unconscious assumptions to the surface and to evaluate their role in her decision-making. She analyzes her decisions by asking herself, "Why did I do that? What was I thinking?...Why am I leaning toward this teaching strategy instead of that activity? Why do I think it's important to teach this?" (Isakson & Boody, 1993, p. 30). Reflexivity should be built into the account in order to demonstrate recognition of the researcher's impact on the research setting, the selectivity within which the data were collected, and the values and interests the researcher brings to the project (Hammersley, 1984).

Altrichter and Somekh (1993, pp. 19-25) suggest that the journal include several kinds of entries:

- Memos: recollections of events. Due to time limitations, this is the most frequent kind of entry for teacher-researchers. Memos should include both (1) *descriptive sequences* - detailed accounts of activities, events, dialogues, settings, and people; and (2) *interpretive sequences* - interpretations, feelings and speculations written both when writing descriptions and during later rereading (hence the need for a wide margin).
- In-depth reflections: Detailed reflections on a broad range of experiences, not just a single event, such as problems or recurring situations that the researcher does not yet understand. Writing these reflections serves as an aid to understanding the situation in

question.

I wrote my reflections on the right side of my field notebook. In order to help keep the study on track and to periodically take a "long view" of the emerging data, I wrote three extended memos to the members of my dissertation committee (on November 14, February 11, and April 23). Since I conducted the research from long distance, these memos helped keep my committee informed of the progress of the investigation and also forced me to engage in ongoing reflection and analysis.

Boomer (1987) urges that teachers include students in all aspects of inquiry: problem clarification, observation, forming and testing hypotheses, and reflection on results. As such, students' reflections on their own learning represent a valuable source of data (Powell, 1987; Mohr & MacLean, 1987; Stumpf Jongsma, 1993). Teacher Cindy Myers notes the importance of writing down things that students say that help inform the study but that might otherwise be passed off more lightly (Goswami & Stillman, 1987).

I am reminded of the comment of one particular ninth-grade student several years ago as he left my classroom at the end of the class period. We had been working hard for several weeks on the CSIW writing strategy, and Jim was seeing signs of progress in his writing. As a potential school dropout since the early grades, for Jim to demonstrate genuine interest in any kind of English instruction was a rare thing indeed. As he walked out the door one morning, he said that he didn't believe it, but writing was becoming fun. In a later written reflection on the week's work, he wrote, "English is OK, doing OK. I think writing is getting sort of fun. I used to hate it." Had I not been gathering data for a study on the writing strategy, I might not have thought to write down those comments.

In addition to documenting spontaneous student comments that related to my research, I solicited weekly written student reflections (something I had included in my instructional agenda for many years) to

complement my observations and interviews. Teacher-researchers Marian Mohr and Marion MacLean caution that some students may be disingenuous by trying to please the teacher, or the opposite. As their teacher, however, I had the necessary time with the students to follow up on their comments and to assess their candor (Mohr & MacLean, 1987).

Parent Interviews

In order to broaden my data collection, I arranged three meetings with the students' parents at strategic points during the year. The first was held on December 11, with others to follow on April 3 and May 29. These meetings enabled us to get acquainted and to discuss the objectives and progress of the inquiry. I urged the parents to share insights on their children's perceptions about writing, previous experiences with writing tasks, and progress with writing based on a review of the writings generated during the study. The parent meetings took place outside school, at the home of one of the participant students. Interviews with parents were collaborative and followed guidelines for focus-group interviewing (Krueger, 1994; Marshall & Rossman, 1995).

Recording, Managing, and Analyzing Data

Recording

The section above outlines the ways in which I employed various data collection strategies and the protocols that I used to record the data. My hard-bound research notebook allowed me to record observational notes and reflections. Audiotapes were labeled with identifying information that also appeared at the top of each typed transcript.

Data Management

Miles and Huberman (1994) note that effective data management should ensure (a) high-quality, accessible data; (b) documentation of

just what analyses have been carried out; and (c) retention of data and associated analyses after the study is complete. The authors suggest that the data to be "managed" in a qualitative study include the following:

- raw material such as fieldnotes, tapes, and written documents,
- partially processed data such as transcripts and write-up versions,
- coded data,
- the successive iterations of the coding scheme,
- the researcher's memos and reflections,
- records of the researcher's searches through data and retrievals,
- data displays,
- documentation of analysis episodes,
- successive drafts of the report text,
- a chronological log of data collection and analysis work, and
- an index of all of the above material.

I organized material generated from word processing and document gathering that pertained to ongoing analysis (e.g., transcripts, fieldnotes, memos, student writings) in divided three-ring binders (sectioned for each type of data) to facilitate easy addition and retrieval. Printed material not related to ongoing data analysis (e.g., report drafts, logs) was stored in file folders. All printed and recorded material generated during the study was stored in a cabinet in my home. All computer-generated material was double-saved on diskettes and also stored on the computer's hard disk for safety.

I used a calendar with large boxes to help keep the inquiry on track and to serve as a record of study-related events. This helped me to assess the pace of the research and to plan ahead accordingly; it also was helpful in reconstructing the sequence of events for this report.

Analysis

Classroom ethnography involves an ongoing cycle of data collection, hypothesis testing, and interpretation. Making sense of data of varying sorts that continuously enter the cycle and potentially alter the direction of the study presents the teacher-researcher with a major challenge.

Analytical Influences

Data analysis drew heavily upon an interactional sociolinguistic perspective (Gumperz, 1986; Cook-Gumperz & Gumperz, 1990; Green, Dixon, Lin, Floriani, & Bradley, 1992), classroom discourse analysis (Cazden, 1988; Barnes & Todd, 1995), and discourse theory (Burbules, 1993). My analysis was informed to a greater or lesser degree by each of the following:

- sequences of dialogue (Burbules, 1993),
- questioning (teacher/student) (Burbules, 1993),
- collaborative moves (Barnes & Todd, 1995; Ramirez, 1988; Burbules, 1993),
- involvement strategies (Tannen, 1989),
- management of social tasks (Barnes & Todd, 1995),
- reflexivity (Barnes & Todd, 1995),
- teacher/student roles in discourse (Cazden, 1988; Barnes & Todd, 1995),
- cognitive benefits of discourse (Cazden, 1988),
- elements of teacher and student registers (Cazden, 1988),
- how talk takes place (Shuy, 1988),
- lesson construction and student participation (Green, Weade, & Graham, 1988),
- evidence of collaborative learning about writing (Daiute, 1986; Daiute & Dalton, 1993; Dale, 1994),
- reading/writing integration (Raphael & Englert, 1990; Roehler, Foley, Lud, & Power, 1990; Bruffee, 1984; Michaels & O'Connor,

1990; Moore, 1996; Essex & Chao, 1996; Herrmann, 1995; Gleason, 1995), and

- intertextuality (Bakhtin, 1981; Cairney, 1989; Porter, 1986).

Structuring the Analysis

Mohr and MacLean (1987) point out that, although analysis is ongoing, data collection often occupies the first half of the year and data analysis and writing the second half. The half-way point, they emphasize, is an important place to begin to see the work as a whole. Rather than identifying the half-way point, I used the three extended memos as a vehicle for pausing and analyzing the insights emerging from the study.

I employed an analysis scheme suggested by Altrichter and Somekh (1993), within which the data can be analyzed in two stages. The constructive stage develops as follows:

- "Read" the data. Data are "read" (closely scrutinised) in order to recall the events and experiences that they represent: What was done? What was said? What really happened?
- *Selecting data.* Important factors are separated from unimportant ones; similar factors are grouped; complex details are sorted and (where possible) simplified.
- *Presenting data.* The selected data are presented in a form that is easy to take in at a glance. This can be in the form of a written outline or a diagram.
- *Interpreting data and drawing conclusions.* Relationships are explained and a practical theory (or model) is constructed to fit the situation which has been researched. This theory or model should relate to the research focus. (Altrichter & Somekh, p. 122)

The critical stage of analysis consists of two aspects: (1) testing the reliability (termed "dependability" by Lincoln and Guba, as we shall see) of data that substantiates a finding, and (2) looking for disconfirming evidence. Reliability testing takes place on an ongoing basis. The authors suggest it is time for the researcher to stop when he/she concludes that gathering additional data would yield nothing new of either positive or negative value, which is called saturation. For the research to be useful in practice, action must be taken before the point of saturation. The critical process continues as the teacher

translates ideas into actions.

Within their two-stage process, Altrichter and Somekh suggest the following methods helpful to a teacher-researcher analyzing data: (1) Make data summaries. This makes data more accessible and generates an overview of their relevance to the research question. (2) Develop categories and code the data. Categories can be chosen deductively from the researcher's theoretical knowledge or inductively as a derivative of the data. The analysis proceeded according to the following outline:

I. Constructive stage

A. Review data

1. Field notes
2. Writing products
3. Interviews
4. Transcripts

B. Select data

1. Select transcripts from beginning, middle, and end of school year and transcript of teacher modeling and instruction for close analysis
2. Code individual comments (five iterations; see Appendix H)
3. List and code analytical assertions thought to be supported by the data
4. Compare assertions with research questions
5. Code most recent iteration of individual comment codes with relevant assertion codes
6. Review transcripts in light of assertions; cut and group segments of transcript that illuminate specific assertions
7. Identify assertions most useful in telling story
8. Tally individual comment codes at assertion level where useful
9. Make detailed notes of assertion evidence at each of the four key points in time

C. Present data as an outline of concepts to be developed in the story

D. Interpret data and draw conclusions

II. Critical stage

A. Test credibility/internal validity through triangulation and negative case analysis

1. Parent/student interviews
2. Review of transcripts from throughout school year
3. Student writing products and archival data

B. Thick description for external validity/transferability

C. Ongoing reliability/dependability testing

Close Analysis: Four Key Points in Time

As noted above, I chose to focus my close analysis on four key points in time during the school year (see Table 2). These points were chosen because they represented not only different times in the school year but also key junctures in the writing process. Since my research questions called for an examination of the teacher's talk during instruction, I began my analysis with the January 9 class session in which I modeled the process of color-coding a brainstorm in order to begin forming categories of ideas.

Next, I chose the three class sessions of January 30 - February 1 in which the students worked on brainstorming descriptive/narrative paragraphs and organizing the main sections of their first papers. This set of transcripts revealed the students employing the crucial prewriting skills of brainstorming ideas and organizing categories of ideas.

TABLE 2

Four Key Points in Time for Close Analysis

Date(s)	Event(s)
January 9	Teacher modeling of color-coding brainstormed ideas into categories
January 30-February 1	Student brainstorming of descriptive/narrative paragraphs, organizing main sections of first paper
March 28-29	Collaborative revision of first paper
May 7	Writing first draft of second paper (research paper)

Thirdly, I chose to examine closely transcripts of the March 28 and 29 class sessions, during which the students worked on revising their first papers. These sessions centered on collaborative student interactions intended to improve the quality of their papers.

Finally, I chose the May 7 class session in which the students worked on writing the first drafts of their second papers, the research papers. This session would reveal the extent to which the students had internalized the collaboration and writing concepts that had developed over the course of the year. The session also would reveal whether and how Mike and Andy, who had chosen to write their research paper together, would collaborate during the composing task.

Coding

To ensure that my analysis would be driven by the data and would be as inductive as possible, I began by coding individual student and teacher comments. Data coding, the process through which information was reduced to categories and themes, formed the basis for the emerging story and theory (Creswell, 1994). During the coding process data were first unitized (defined into individually interpretable units), then categorized (organized into descriptive or inferential "look-alike" categories) (Lincoln & Guba, 1985).

In this study, conversations formed the unit of analysis, but unitizing occurred at the individual comment level. Five iterations of the coding scheme (see Appendix H for final iteration) emerged from transcripts of the four key points in time and other transcripts from throughout the school year. Participant comments were coded to represent the intent of the comment; intent was inferred from the content of the comment, the context within which it was made, and/or the reaction of other participants.

Comments were coded only if their intent was evident from content, context, and/or reaction(s). The codes themselves highlighted how a specific comment (a) related to the progress of the writing task at hand, (b) served as a window to a student's thinking about the writing task at hand, and/or (c) served as an indicator of a participant's collaborative role. In some cases a single comment generated more than one code. For instance, in the following excerpt, Andy and Mike are

writing the first draft of their co-authored research paper on Australian animals (NOTE: transcribed comments in quotes represent ideas a student wanted typed verbatim into the text of the paper; a bracket ([]) represents overlapping talk; codes are represented in italics in the text below):

Mike: "When the koalas have fun, they climb."

Andy: Hmm.

[

Mike: "When the koalas have fun, they," let's see, "climb trees."

Typing sounds.

Mike: O.K., and then they have sharp claws, and, how could we use that?

Andy: "They have sharp claws to climb the trees."

Mike: "And they are very skillful climbers."

Mike's initial comment ("When the koalas have fun, they climb") was coded as an *initiating idea* because it signaled a change in writing topic. Andy's brief "Hmm" was coded as a *confirmation of message* received. Mike's second comment ("When the koalas have fun, they climb trees") was coded as an effort to *elaborate on (his) own idea* because it added the concept of "trees." Mike's next comment ("O.K., and then they have sharp claws, and, how could we use that?") generated multiple codes. It was coded as an *initiating idea* because it introduced a new topic (sharp claws), as well as another effort to *elaborate on (his) own idea*. It also established equity through use of the pronoun "we" and demonstrated an effort to *seek clarification* by asking how the idea could be used in the text of the paper. Andy's comment ("They have sharp claws to climb the trees") represented an *uptake*, or extension of an initiated writing-related idea; it also was coded as an *elaboration of another's idea*. Finally, Mike offers a comment that *elaborate(s) on (his) own idea* ("And they are skillful climbers") because it adds the element of "skill" to his original comment about climbing.

Comments were coded as complete thoughts. In other words, if a

comment was interrupted by another participant's utterance, the initial comment was coded as a single entity, even though it was completed after the interruption. For example, in the following excerpt, Kris and Cindy are working on organizing ideas for Kris's paper on her trip to California:

Kris: Can you help me come up with a name for, um, Fisherman's Wharf, the wax museum, a boat museum,

Cindy: "Museums?"

Kris: um, sourdough bread, sea lions,

Cindy: "Sights?"

Kris: O.K., hey! Good idea, jeez!

Kris's initial comment, which continues after Cindy's interruptive suggestion ("Museums?"), was coded as both *seeking an idea from a peer* and as a *comment/question indicating awareness of a structural issue* (in this case, the structural issue being the need for an accurate category title). Each of Cindy's two comments was coded as both *offering help with an idea* and a *comment/question indicating awareness of a structural issue* (in this case, the structural issue being reasonable category titles). Kris's final comment was coded as *expressing interest by thanking*.

Categories emerged from interactions between participants and took the form of analytical assertions that I felt the data would support. Eight assertions emerged from the coded transcripts; these assertions were compared with the original research questions and found to be quite similar. The analytical assertions then became the focus of the ensuing analysis.

Analytical Assertions

The coding process led to the generation of what Erickson (1986) called "empirical assertions" (p. 145):

One basic task of data analysis is to generate these assertions, largely through induction. This is done by searching the data corpus - reviewing the full set of field notes, interview notes

or audiotapes, site documents, and audiovisual recordings. Another basic task is to establish an evidentiary warrant for the assertions one wishes to make. This is done by reviewing the data corpus repeatedly to test the validity of the assertions that were generated, seeking disconfirming evidence as well as confirming evidence. (p. 146)

Assertions are made tentatively at first but "with greater confidence as new observations are made and old observations confirmed" (Stake, 1995, p. 20).

Once the assertions were written, I found that they mapped quite cleanly onto my original research questions. Each of the eight analytical assertions is written below in italics immediately following the original research question to which it most closely related:

Teacher factors

- I. What is the nature of the teacher's talk during collaborative discourse about writing?
 - A. In what ways does the teacher scaffold and support students as they develop their knowledge about expository writing during collaborative talk?
 - *The teacher's modeling emphasized anticipating future student difficulties, thinking aloud, framing instruction, involving students, demonstrating, and reviewing.*
 - *The teacher's scaffolding comprised a balance of comments and questions that emphasized the concepts of text structure and reader sensitivity.*
 - B. What roles and norms develop for the teacher's participation in discussions about expository writing? How do these roles and norms help/hinder collaboration?
 - *The teacher both overtly and covertly fostered a spirit of collaboration both with and among the students.*

Student factors

- II. What is the nature of students' collaborative talk about writing?
 - A. What does the students' talk reveal about the development of

their thinking about expository writing?

● *Students' conversations revealed a change in their view of writing from a preoccupation with "mechanics" (e.g., spelling, punctuation) and quantity (i.e., length) to an increased awareness of the "big picture" (i.e., communication of ideas to an audience); this awareness focused on the importance of text structure and reader sensitivity.*

B. In what ways do students scaffold and support one another as they develop their knowledge about expository writing during collaborative talk? To what extent are adolescents with LD able to take on previously modeled teacher-like roles (e.g., interacting within each other's zones of proximal development)?

● *Students accepted transfer of responsibility for their writing from the teacher to themselves and demonstrated the ability to scaffold one another's writing development.*

C. What participation structure (roles and group norms) develops as students collaborate and write expository reports? How do these roles and norms help/hinder collaboration?

● *Students developed individual ways of contributing to their conversations, both in pairs and within the larger group.*

F. What contextual factors facilitate/hinder oral discourse among adolescents with LD?

● *Students took advantage of the collaborative structure to push their knowledge of writing and to improve their writing skills, in the process enjoying the chance to work together and developing a collaborative spirit.*

One additional assertion, not reflected in the original research questions, emerged from the study data:

● *Reading-writing connections emerged and developed as students incorporated reading into their writing tasks.*

Sections of transcript that supported the various assertions were

cut and stapled onto large index cards for further analysis. Notes containing data summaries and comments were written on legal pad paper during the cutting and stapling process; these notes were used later to help in the writing of the report.

The role of theory

What distinguishes the teacher from the teacher-researcher is the degree to which the work of teaching is done systematically, reflectively, and rigorously. Whether taking the form of journals, essays, oral inquiry processes, or classroom studies such as mine, teacher research is by definition a "systematic intentional inquiry by teachers about their own school and classroom work" (Lytle & Cochran-Smith, 1990, p. 84). Patterson and Shannon (1993) note, nevertheless, that traditional concepts of experimental rigor do not apply in teacher research:

Rigor in teacher research comes instead from an explicit and well developed philosophical point of view that guides reflection, creativity and responsiveness in gathering information and refining inquiry, and the quality of the action taken. (p. 10)

It is theory, then, that attempts to create a framework that explains phenomena (Woods, 1986). Moreover, Ann Berthoff (1987) explains that theory provides necessary perspective.

Just as it allows us to determine sequences, it saves us from too much particularity. Teachers have to be pragmatic; they have to be down to earth, but being down to earth without knowing the theoretical coordinates of the landscape is a good way to lose your sense of direction. (p. 32)

The contextual nature and multiple realities that are axiomatic of qualitative research require that "theory follows from data rather than preceding them" (Lincoln & Guba, 1985, p. 204). Therefore, the theory that emerged from this study, embodied in the analytical assertions listed above, is grounded in the data. A priori theory, as found in conventional research, can only be tested by the inquiry; grounded theory, however, is a requirement of the emergent design endemic to

qualitative research.

Verification

Qualitative studies are verified differently from the concepts of reliability and validity traditionally applied to quantitative research. While there is no consensus among qualitative researchers on addressing these issues (Creswell, 1994), Lincoln and Guba's (1985) concept of "trustworthiness" is very useful in helping to ensure a measure of fairness and "objectivity" in qualitative studies. Various authors list the following techniques for establishing trustworthiness that I have incorporated into my study:

- *Member checks*: data, analytic categories, interpretations, and conclusions are tested with representative participants from whom the data were collected. I periodically shared the emerging interpretations and conclusions with students, parents, and teachers for their evaluation.
- *Triangulation*: using a variety of sources to verify data gathered in the field. Krathwohl (1993) lists triangulation of data, investigator, and method as three options. As the sole investigator, I relied on data and method triangulation. I looked, for example, at the level of consistency in comments within and between students (data triangulation) and the level of congruence between observations and interview comments (method triangulation).
- *Prolonged engagement and persistent observation*: spending enough time at the research site to learn the culture and test for salience of data and possible distortions. As a teacher-researcher, this was a feature of my regular routine.
- *Thick description*: a detailed description that "must specify everything that a reader may need to know in order to understand the findings" (Lincoln & Guba, 1985, p. 125). Thick description, a crucial feature of my recording and analysis, allows readers to "try the examples on for size" (Krathwohl, 1993, p. 349).

- *Reflexive journals*: a record of the researcher's struggles to establish viable categories, conclusions, and interpretations. I used my field notebook to record my in-depth reflections of fieldwork, drawing from a wide range of activities and experiences to gain a broader understanding of what was happening in the case. My reflections throughout the study are synthesized in Appendix I.

- *Negative case analysis*: continuously revisiting and refining hypotheses in order to account for "all known cases without exception" (Lincoln & Guba, 1985, p. 309). Throughout both data collection and analysis, I sought out evidence that might disconfirm my emerging hypotheses in order to maintain an inductive stance and assess the strength of my conclusions.

- *Independent audit*: submitting the inquiry to an extensive audit from an outside observer. Halpern (1983, cited in Lincoln & Guba, 1985, pp. 319-320) identified six audit trail categories: raw data, data reduction and analysis products, data reconstruction and synthesis products, process notes, materials related to intentions and dispositions, and instrument development information. I have managed data and analysis documentation in such a way that an external auditor would be able to track the progress of the investigation with maximum clarity (see "Data Management" section above).

Lincoln and Guba (1985) replace traditional terminology with terms more appropriate to the axioms that undergird naturalistic inquiry and identify verification techniques most appropriate to each: internal validity becomes "credibility" (through prolonged engagement and persistent observation, triangulation, peer debriefing, negative case analysis, member checking); external validity is recast as "transferability" (through thick description); reliability becomes "dependability" (through auditing); and objectivity is recast as "confirmability" (through auditing).

As mentioned above, I relied primarily on member checks, triangulation, prolonged engagement, thick description, persistent observation, in-depth reflection, and negative case analysis to establish the trustworthiness of my study. I also have maintained an audit trail to facilitate the accomplishment of an external audit.

Ethical Considerations

This research study was reviewed by the University Committee on Research Involving Human Subjects (UCRIHS) at Michigan State University. Parents were assured in the consent forms that their participation and that of their children was completely voluntary, that they could withdraw their participation at any time, and that withholding their permission would result in no penalty for the students. Data gathered during the investigation were held in the strictest confidence and examined by no one other than myself, the other participants, and my dissertation committee.

Parents were assured that pseudonyms would be used in any writing that resulted from this study and that, although complete anonymity could not be assured, every effort would be made to mask the identities of all participants. Teachers were provided with a voluntary consent form that included the same confidentiality and anonymity assurances.

Parents were provided with a checklist of data collection categories (e.g., observation, audiotape, videotape) and asked to indicate for which categories they were willing to grant permission for both themselves and their children. All parents granted consent for all data collection categories.

Managing Time and Resources

A major challenge for the teacher-researcher is finding the time to carry out a systematic study while maintaining a full teaching schedule. Marne Isakson offers solace by noting that the teaching and the research become one and the same; the questions she asks as a teacher become her research questions (Isakson & Boody, 1993). She adds

that she does most of her writing and library research during the summer, although she does literature reading related to her research question throughout the year. While I included a substantial literature review in the dissertation proposal, I continued reading through the revision stage; I was particularly attentive to readings that might inform either my research questions or the theoretical foundation upon which the study was built.

As noted earlier, I scheduled my preparation period immediately following the class period during which I worked with the participating students in order to help manage the inevitable time crunch. This allowed me to record observations and to write reflections and fieldnotes while events were still fresh in my mind. As discussed earlier, I maintained a detailed calendar of events to help keep the study on track. I also wrote extended memos to my dissertation committee and maintained regular contact with committee members through electronic mail. I am indeed fortunate to have a supportive family, which helped see me through the valleys.

Reporting the Findings

The approach chosen for reporting ethnographic findings should reflect the goals and the focus of the study. Ethnographic writing often differs from traditional research reports, which typically include a literature review, a methodology section, the findings, and a section on conclusions and implications (Winter, 1989). Nevertheless, as I worked through the data analysis, I decided on a fairly traditional reporting scheme to include chapters highlighting introductory concepts, a review of the classroom discourse literature, methodology, findings, discussion, and interpretation. It made sense for the findings and discussion chapters to include sections on individual students, student pairs, and all four students. Portions of the report are framed in narrative form, including multiple voices of the researcher and the

participants (Winter, 1989).

Like the vast majority of teacher-research case studies, mine is written in first person. In keeping with ethnographic tradition, I have made liberal use of direct quotes, transcriptions, and journal entries; some are quite lengthy. I have maintained traditional use of headings and subheadings, with strategic literature references for theoretical or technical support.

Limitations

As a qualitative case study, the findings of this investigation are applicable only within similar contexts. The presence of a single prime investigator limited opportunities for investigatorial collaboration. Moreover, time and logistical pressures inherent in teacher research placed necessary limitations on the scope of the investigation.

CHAPTER 4

FINDINGS: TEACHER FACTORS

Overview of Teacher and Student Findings: Analytical Assertions

Qualitative analysis of teacher input and student learning centered on four transcripts of conversations at strategic points in the school year; triangulated data were gathered from transcripts of other class sessions from throughout the year, from interview transcripts, and from student writings and other written documents. The four key points in time selected for close analysis included the following:

- (1) the January 9 class session in which the teacher modeled the color-coding of brainstormed ideas into categories for the first paper,
- (2) the January 30–February 1 sessions during which students brainstormed descriptive/narrative paragraphs and organized the main sections of the first paper,
- (3) the March 28–29 sessions that involved collaborative revision of the first paper, and
- (4) the May 7 session in which students worked on writing the first draft of their second paper (the research paper).

After coding the audiotape transcripts, as discussed in Chapter 3, I put the data aside temporarily and reflected on the data. Then, as also discussed in Chapter 3, I generated a list of assertions that I thought the data would support and that also would inform my research questions. After combining several assertions to minimize redundancy and mapping them onto the original research questions, the following list of assertions involving teacher and student factors emerged. In each case, the associated research question is indicated in parentheses:

Assertions Involving Teacher Factors

1. The teacher's modeling emphasized anticipating future student difficulties, thinking aloud, framing instruction, involving students, demonstrating, and reviewing. (*In what ways does the teacher scaffold*

and support students as they develop their knowledge about expository writing during collaborative talk?)

2. The teacher's scaffolding comprised a balance of comments and questions that emphasized the concepts of text structure and reader sensitivity. *(In what ways does the teacher scaffold and support students as they develop their knowledge about expository writing during collaborative talk?)*

3. The teacher both overtly and covertly fostered a spirit of collaboration both with and among the students. *(What roles and norms develop for the teacher's participation in discussions about expository writing? How do these roles and norms help/hinder collaboration?)*

Assertions Involving Student Factors

4. Students developed individual ways of contributing to their conversations, both in pairs and within the larger group. *(What participation structure (roles and group norms) develops as students collaborate and write expository reports? How do these roles and norms help/hinder collaboration?)*

5. Students accepted transfer of responsibility for their writing from the teacher to themselves and demonstrated the ability to scaffold one another's writing development. *(In what ways do students scaffold and support one another as they develop their knowledge about expository writing during collaborative talk? To what extent are adolescents with LD able to take on previously modeled teacher-like roles (e.g., interacting within each other's zones of proximal development)?)*

6. Students took advantage of the collaborative structure to push their knowledge of writing and to improve their writing skills, in the process enjoying the chance to work together and developing a collaborative spirit. *(What contextual factors facilitate/hinder oral discourse among adolescents with LD?)*

7. Students' conversations revealed a change in their view of writing from a preoccupation with "mechanics" (e.g., spelling,

punctuation) and quantity (i.e., length) to an increased awareness of the "big picture" (i.e., communication of ideas to an audience); this awareness focused on the importance of text structure and reader sensitivity. (*What does the students' talk reveal about the development of their thinking about expository writing?*)

8. Reading-writing connections emerged and developed as students incorporated reading into their writing tasks. (*Not reflected in the original research questions.*)

I contend that data from the four key points in time, triangulated with conversations from throughout the school year and with other data sources, support each of these assertions. This chapter and the two that follow will incorporate data to tell the story of interactions that occurred across the school year within the two student pairs and within the larger group of four students and teacher.

Numerical tabulations (e.g., see Table 3 below) of all codes were made by reviewing the full transcript and recording totals for each code with hash marks; separate tabulations were made for the students and the teacher. Specific codes were studied and identified as informing specific assertions. Examination of the tabulation totals provided an overview of key codes for each of the analytical assertions at each of the key points of time. Further illumination arose from the analysis of interactions that occurred within the conversations.

The findings that emerged from this analysis have been divided into three chapters. The current chapter examines the teacher's role in modeling, scaffolding, and fostering a collaborative spirit within the classroom writing community. Chapter 5 examines the four analytical assertions dealing with student transfer of responsibility, individual student contributions, student collaboration, and reading-writing connections that emerged during the study. Chapter 6 examines the development of the students' thinking about writing over the course of the school year. Each assertion will be discussed through an

examination of data supporting it from the four key points in time and from throughout the school year.

Teacher Modeling

My expressed purpose was to use my own paper and the thinking that accompanied its preparation as models for the students. By providing extensive modeling of CSIW throughout the preparation of the first paper, I hoped to foster writing independence among the students as quickly as possible. Only one of the four key points in time (the January 9 session) focused on structured teacher modeling. As such, the various techniques employed in modeling occurred almost exclusively during the first of the four key points in time, as reflected in the coding tabulations in Table 3.

TABLE 3

Teacher Modeling Across Four Key Points in Time (Key Code Tabulations)

	MODEL COLOR-CODING	ORGANIZING		REVISING		WRITING	
		FIRST PAPER		FIRST PAPER		SECOND PAPER	
		Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy
Modeling	19	1	0	0	0	1	0
Anticipate Writing							
Difficulty	10	0	0	0	0	0	0
Anticipate Procedural							
Difficulty	9	0	0	0	0	0	0
Thinking Aloud	12	0	0	0	0	1	0
Framing Lesson or							
Discussion	2	0	0	0	0	0	0

Prior to January 9, I had chosen a topic for my demonstration paper and had modeled the brainstorming of ideas related to that topic; the students then had chosen and brainstormed their own topics. The January 9 class session focused on my modeling of the color-coding of these brainstormed ideas. Color-coding involved using felt-tip markers

to place dots of the same color in front of all ideas on the brainstorm list that seemed to belong together. Color-coding represented the first step in organizing the paper.

Modeling Color-Coding (January 9)

Cindy was absent from the January 9 class session. Because her attendance had become very erratic and in order to keep the project moving, I decided to go ahead without her and to catch her up during her study hall. The students had completed the brainstorms for their first paper, and it was time to begin organizing their ideas. I modeled the process of color-coding my own brainstormed ideas as a transitional step between the brainstorm (see sample, Appendix A) and the organization think-sheets (see sample, Appendix B), which we came to call the "web," a term popularized by Mike.

Each of the students (Kris, Andy, and Mike) was given a photocopy of my brainstorm with which to follow along. I began by noting the first idea on my list and placing a colored dot in front of it. Then I read through the entire list and placed a dot of the same color in front of all ideas that seemed to go with the first idea. Next, I returned to the top of the list and placed a dot of a different color in front of the first idea not yet color-coded; I then repeated the search for related ideas and placed a dot of the same color in front of each. This procedure continued until each entry in the brainstorm was identified with a colored dot.

The three students were very attentive throughout the class session. They (Andy especially) occasionally offered suggestions as I modeled the color-coding process. After the modeling was completed, they had a few minutes to start color-coding their own brainstormed ideas. At one point Mike asked Andy for a suggestion of what group to put an idea into; Andy gave him a suggestion, and they moved on.

In an effort to reinforce the concept of learning community, I tried to establish "equity" among all participants. In other words,

each of us - students and teacher - shared responsibility for approaching a task and possessed expertise that could be brought to bear on the task. I attempted to establish equity on 15 separate occasions during the lesson (see Table 4 below), primarily by using the word "we." The following excerpt includes anticipation of possible future student difficulties (i.e., concern over the order of ideas in the brainstorm, obliterating ideas by crossing them out) and efforts to establish equity through liberal use of the pronoun "we." (NOTE: In the transcriptions that follow, overlapping talk is identified by a left-hand bracket connecting the overlapping comments.)

T: O.K., what I'm gonna do is I'm gonna take, I've got four pages worth of ideas here, and I'm gonna start grouping them. I'm gonna start putting them in some groups of ideas that seem to belong together. Now, you remember that when we did these brainstorms, we just added ideas whenever we, they came to our minds, right? We weren't doin' it in any particular order. So what we're gonna start doing now is to start putting these ideas in some kind of order, grouping things together that seem to belong together, O.K.?...And I'm gonna take a colored marker - it doesn't make any difference what color - I'll take this blue one, and I'm gonna put a blue dot next to it, alright?

Kris:

[
Oh, you don't

hafta go through it?

T: No, I don't want you to cross it out. No, I'm just gonna put a blue dot next to it, and I'm gonna want you to do this with your paper.

The students appeared to pick up on the "equity" concept. Seven of the ten student comments that reflected equity (see Table 4) included the word "we": for example, "We only can do that with this, looking at these words?" (Kris); "I thought we were gonna try like one little thing" (Mike); "We'll make a lot more money there" (Andy).

Analysis of the January 9 class session revealed 19 instances in which I modeled specific elements of the color-coding procedure (see Table 4). Within these instances I attempted to make my thinking visible through think-alouds on 12 occasions. I wanted my modeling to serve not only as a demonstration of how to go about color-coding

related ideas, but also as a glimpse of the kind of thinking that goes into this organizational task. As such, I emphasized the think-alouds in order to make my thinking visible to the students. For example, early in the lesson I located the first idea in my brainstorm, identified it with a blue dot, and employed think-alouds in my search through the list for related ideas (NOTE: ideas included within quotes represent entries read directly off the brainstorm):

T: I'm lookin' for things that have to do with the kinds of students involved (in the concession stand fundraising project). O.K., "officers." I, I think I'll make that a blue dot. That has to do with the students. Uh, "monster cookies, popcorn balls, puppy chow," no, "juice, fruit, popcorn, how we involve students in events." No, that's something that's for the teachers. Well, that might go; I'll go blue with that. "How we involve the students in the events," yeah. "Field trips, charitable donations, fun, list places that we've gone," no, "approval, benefits and skills," no, "money, advertising, posters, signs, P.A. announcements, purpose of the project, nachos," nothin' about students here. "Working groups," that has to do with students...

TABLE 4

Modeling Color-Coding (Key Code Tabulations)

<u>Teacher</u>					
Writing Support	5	Anticipate Writing	Equity	15	
Check Understanding	14	Difficulty	10	Instruction	5
Directing Attention	9	Thinking Aloud	12	Respond to Student	10
Modeling	19	Review	5	Confirmation	4
<u>Students</u>					
Seek Clarification	10	Equity	10	Confirmation	10
Offer Clarification	2	Elaborate other	6	Complete thought	2
Support Writing	2	In-Context		Out-of-Context	
		Interruption	4	Interruption	2

I made it a point to periodically check for understanding as I proceeded with the modeling. Since so much of my instructional focus rested on the modeling, I wanted to make absolutely sure that the students were following me. I had chosen a topic for my demonstration

paper with which the students were familiar (our concession stand fundraising project), and I regularly solicited their participation. Many of their comments and questions resulted from my comprehension checks or anticipation of potential future student difficulties, as in the following excerpt:

- T: ...Uh, "we decided at the beginning" - think I should put that in there? - "to make it junior high events only"? O.K., Now, one thing, I may change some of these later. I may decide later that one of these ideas should go in a different group, but right for now
[
Kris: Then what do you do?
- T: Just to get me started, this is the way I'm gonna kinda work it.
[
Andy: Then you're
just workin' with the other color.

After I asked the students if I was putting an idea in the proper group and mentioned that I might make adjustments later, Kris asked for clarification ("Then what do you do?"); Andy then elaborated on my response ("Then you're workin' with another color.").

Even though my modeling served as the primary focus, the students participated quite freely throughout the lesson in a number of ways, as indicated in Table 4. Not surprisingly, the most frequent student comment involved seeking clarification (ten occurrences). For example, as we saw above, when I mentioned that sometimes you decide later to place an idea in a different group, Kris asked, "Then what do you do?" On another occasion, Mike asked, "What happens if you run out of colors?" The latter question prompted me to discuss the fact that most papers seem to end up including three to five major groups of ideas.

Students confirmed acknowledgement of someone else's comment or idea on ten occasions. These messages generally were quite simple: "O.K."; "Yeah"; "Mmm, hmmm"; "Yeah, I know what you mean." Short but sweet. On two occasions, a student completed someone else's thought; in the following example, I prompted this type of contribution with a strategically placed pause:

T: And this says, "near the gym and by the football field." So, this has to do with the actual (pause)

Andy: Location.

Kris: Yeah,

T: Location.

On six occasions, students offered elaborations of someone else's comment or idea. For example, in the following excerpt, Andy indicates that he thinks a specific detail (Ms. Jackson's participation in the concession stand project) should be included in the group of ideas dealing with the students. After I explain why I disagree, Andy elaborates on my thinking by proposing a group in which the detail would belong:

Andy: Ms. Jackson'd be in there.

T: Yeah, she was involved in it at the beginning. It says

Andy: [No, but
you could put her in there.

T: Not with the students. She'll go in a different group.

Andy: Oh, like "teachers" and stuff?

T: [Yeah. Exactly...

Andy's ability to correct his misconception and to create a category title into which "Ms. Jackson" would belong demonstrated his emerging understanding of the correct placement of ideas into groups.

Student contributions that occurred less frequently included offering support to another's writing-related comment (twice), offering clarification (twice), agreeing (once), disagreeing (three times), continuing someone else's thought (twice), giving or taking ownership of an idea (twice), initiating humor (once), humor uptaking (once), and expressing interest in the group's work (once). Not surprisingly, a large number of the students' comments were efforts to seek clarification of concepts or procedures with which they were not completely familiar. They also regularly confirmed having heard the

comments or questions of others, and on several occasions they elaborated on what someone else had said. The large number and variety of student contributions indicates an appreciation for the importance of their role in the learning process.

It was very important that the students were made to feel comfortable asking questions and offering comments if they were to establish successful collaborative relationships. Otherwise, important contributions might go unexpressed and serious misconceptions might go unchallenged. For example, during the following exchange, Mike's misconception about how an idea should be color-coded is addressed both by Andy and by me:

T: ...I'm just goin' down through all the ideas here. "Near the gym and the football field?" no, "make products?" no,

Mike: Yeah, they can, seventh and eighth graders can (inaudible).

T: [Yeah, they do
make products, but it doesn't have to do with the, the kinds of students

Andy: [The products
and stuff.

T: that are involved.

Mike: [Yeah, I know what you mean.

I was seeking ideas from my brainstormed list of ideas that related to the kinds of students who participated in the concession stand project. Mike thought the idea "make products" should be included; when I disagreed, Andy noted that the idea would more clearly fit in a section dealing with the products made for the concession stand. Mike's final comment signaled his agreement with this logic.

As in most lessons, not every student comment was productive. Out-of-context interruptions - digressions completely unrelated to the writing task at hand - occurred twice. For example, right after I had introduced the lesson and was about to begin modeling, Andy blurted out that he had jammed the family's computer printer the night before. A

short while later, when my attention was diverted briefly by a visiting student who had entered the room, the students struck up a conversation about the upcoming band concert. In-context interruptions - digressions related to the topic under discussion but not to the specific writing task at hand - occurred on four occasions. For example, in the midst of my color-coding demonstration, Mike asked if we would be selling candy at the next concession stand fundraiser. On another occasion, Mike interrupted by asking if we would be running any concession stands at wrestling meets.

Until I carefully examined the transcript, I had not realized how often I checked to make sure the students were following me and understanding the procedure I was modeling. These 14 "reality checks" sometimes took the form of a simple "O.K?" at the end of a comment. More specific questions included "Am I going too fast?" and "Do you see how this works?" On several other occasions, I sought to see if the students could suggest the next step in my modeling procedure with questions such as "Think I should put that in there?", "And then where do you 'spose I should go?", "Would that go in this group?", and "If I were to continue this, what would I do next?"

When instruction occurred (on five occasions), it was brief and incorporated within the context of the writing process and the current task. For example, my second comment in the excerpt below addresses the options faced by a writer who has identified a very small group of ideas:

T: O.K., down here on the bottom of the last page, the fourth page, I've got, "small area easy to supervise." Would that go in this group?

Kris: Yeah, I think so.

T: You want the concession stand to be a fairly small area so it's easy to watch what's goin' on. Would that fit with this? Yeah. So, this is a fairly small group. I've only got two, two ideas in the purple group. So I'll need to make some decisions later about whether I should combine that into another group or put, get some more ideas, 'cause that's a pretty small group. But I'm

not gonna worry about that now.

Andy: O.K.

Shortly after the exchange above, Kris launched into a think-aloud of her own as she began to apply my modeling to her own brainstorm. She quickly received a supportive comment from Andy:

Kris: Most of mine'll be at its own. Well, no. These two will go together.

T: Yeah. Try not to leave too many things all by themselves.

Andy: [Like, put (inaudible) and put them two together with the (inaudible).]

Kris: [Yeah. these two could go together 'cause they're on the bridge.]

T: O.K.

Kris: Oh, before the bridge (inaudible).

T: Try not to leave too many things all by themselves. Try to create groups. That's the idea.

Kris: 'Cause, like, "homeless" and "bus" go together 'cause there's homeless people on the bus.

Even though I had not yet demonstrated the consolidation of small groups of ideas into larger groupings, Andy and Kris appeared already to have applied my earlier comments to Kris's brainstorm. Interestingly, Andy's supportive comments about Kris's "bridge" ideas ("Like, put...and put them two together...") seemed to help her to recognize the connection between "homeless" and "bus." At this very early stage of our investigation, the students already were demonstrating the ability to collaborate effectively and to scaffold one another's efforts.

As we worked our way through the lesson, I took pains to avoid lingo that might confuse issues in the students' minds. I confined my terminology to useful, common terms that would serve to emphasize the *thinking skills* employed by effective writers (e.g., "group," "grouping," "seems to deal with," "seems to belong," "What do these have

in common?").

Description/Narration, Organizing First Paper (January 30-February 1)

Few examples of teacher modeling occurred during these two middle sessions. Rather, the students were expected to carry out the kinds of prewriting tasks that I had modeled with my own paper earlier. On one occasion I used the kind of prompting that I was encouraging the students to emulate in their conversations with one another:

Kris: I used "realistic" down here, too.

T: O.K., well, is there a, is there something else that you could say to describe Alcatraz? That's O.K., you don't need to cross it out, but what are some words

[
Kris: "Amazing."

T: you could use to help us visualize the place?

Kris: It's so big and

T: O.K., alright. "Big"? "Huge"? See, these are the kind of things I'd like you to be doing with each other. Try to pull out some terms here that

Cindy: O.K.

T: by talking back and forth. "Enormous." Is it "enormous," or is it just "huge," or, you know, how big is it? Think of, yeah, that's the kind of suggestion I'm looking for between you guys.

Collaborative Revising of First Paper (March 28-29)

Because the revision tasks placed a premium on students responding to the comments and suggestions of peer editors, my role was quite limited. My comments were mainly restricted to responding to student questions, directing them to specific resources, and occasionally responding to time management or behavior management issues. As such, these transcripts revealed no instances of teacher modeling.

Writing First Draft of Second Paper (May 7)

By the endpoint in the school year, the students had demonstrated enough confidence with the transfer of organized ideas to written text that no teacher modeling was necessary during this class period. I did,

however, model for Kris a procedure for inserting a memory marker within written text:

T: Just, why don't you put, what I usually do in a case like that is

Kris: Gosh! I forgot!

T: What I will usually do is, if I've got something like that that I've gotta look up, I just go (sound of several keyboard keys being pressed) like that, and that reminds me

Kris: O.K.

T: that I've got some information I need to add to (inaudible).

Kris: Then where do I start?

T: Just period, and then start another sentence.

Kris: Mmm, goodie!

By placing a marker in her typed text to which she could return when she had found the necessary information, I modeled a process for breaking the impasse in her thinking and allowing her work to continue. Her final comment indicated her satisfaction with the outcome.

Teacher Scaffolding

The purpose of my scaffolding was to guide a student who was having difficulty to an entry point that would allow the writing process to move forward as seamlessly as possible. Scaffolding generally was reserved for issues involving expository text structure (e.g., organizing categories, adequately developing categories) or reader sensitivity (e.g., making writing interesting, providing adequate explanations).

Table 5 reflects the various ways in which scaffolding occurred during the four key points in time. In addition to codes subsumed by the analytical assertion (i.e., scaffolding comments, scaffolding questions, structural issues), the table includes codes representing other utterances that played a role in guiding the students' thinking or

TABLE 5

Teacher Scaffolding (Key Code Tabulations)

	MODEL COLOR-CODING	ORGANIZING		REVISING		WRITING	
		FIRST PAPER		FIRST PAPER		SECOND PAPER	
		Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy
Scaffolding Question	0	11	17	0	0	1	11
Scaffolding Comment	0	16	19	0	0	1	14
Direct Thinking to Structural Issue	0	0	1	0	0	0	12
Direct Thinking to an Idea	0	0	0	0	0	0	3
Direct Thinking to a Resource	0	2	8	3	6	2	1
Direct Attention	9	2	5	0	0	3	6
Anticipate Writing Difficulty	10	0	0	0	0	0	0
Anticipate Procedural Difficulty	9	0	0	0	0	0	0
Instruction	5	0	0	2	1	0	5
Check on Things	2	5	5	0	0	1	3
Seek Clarification	1	2	2	0	1	0	15
Offer Clarification	2	0	0	0	0	0	1
Offer Help with an Idea	0	0	0	0	0	0	2
Offer Procedural Help	0	1	0	0	1	1	2
Elaborate	0	0	1	0	2	1	0
Question an Idea	0	0	0	0	0	1	0
Review	5	2	11	0	0	0	1
Repeat an Idea	0	2	1	0	0	0	0
Suggesting	0	0	2	0	0	1	0
Respond to Expressed Student Need/Question	10	3	8	3	9	3	10
Frame Lesson/Discussion	2	0	0	0	0	0	0

responding to perceived student needs.

During the January 9 modeling session, as we shall see, scaffolding primarily took the form of anticipating future difficulties. In subsequent class sessions, my scaffolding was evenly divided between questions and comments. I preferred to use scaffolding questions whenever possible because they required the student to do most of the cognitive work; I suspected that they would engender a greater feeling of ownership. Sometimes, however, time constraints or the level of a student's difficulty warranted the more direct approach of a scaffolding comment.

Review was most often incorporated into scaffolding early in the year during modeling sessions and prewriting activities. Additional scaffolding occurred sporadically in the form of directing students' thinking, seeking clarification, elaborating, and offering various forms of help. Of course, throughout the school year I responded to specific student needs or questions. As we shall see shortly, I made sure to frame my early modeling within the context of other prewriting activities to come. While I also framed subsequent lessons and discussions within a larger context, this tactic was not reflected in the organizing, revising, or writing transcripts examined closely here.

Modeling Color-Coding (January 9)

Scaffolding was woven throughout the modeling session on January 9, primarily in the form of anticipating possible future problems. The transcript revealed nine attempts to anticipate procedural questions or problems, such as reading my poor handwriting or failing to code the entire brainstorm, and ten attempts to anticipate possible writing-related problems, such as hurrying or creating too many one-item groups. On five occasions, I reviewed concepts or procedures that we had discussed earlier in the lesson or in previous class sessions.

Early in the class period, I framed the lesson within the larger context of our work with the writing process:

T: O.K. Um, the organizing of the paper takes place in two steps. The first step we'll do, work on today. That's what I call the color-coding. The second step will be to transfer the ideas from your brainstorm onto a sheet that looks like this. That'll be the final step in organizing, and we'll do that next week. Once that's done, you're ready to start writing. So, that's kinda where we're headed the next couple of weeks.

So, what I'm gonna do today is demonstrate this color-coding process, and I'd like to have you follow along with your copy of my brainstorm as I do this. I'm not gonna color-code the whole brainstorm. I'm gonna do just enough so that you get the idea of how it's done so that you can start working on your paper, O.K.?

Now, see, Mike, you look like you've got several pages of brainstorm. Why don't you paper-clip those together, yours, so they don't get lost. Do you have a paper clip for yours, Kris?

.
.
.

O.K., what I'm gonna do is I'm gonna take, I've got four pages worth of ideas here, and I'm gonna start grouping them. I'm gonna start putting them in some groups of ideas that seem to belong together. Now, you remember that when we did these brainstorms, we just added ideas whenever we, they came to our minds, right? We weren't doin' it in any particular order. So what we're gonna start doing now is to start putting these ideas in some kind of order, grouping things together that seem to belong together, O.K.?

The comments above include several attempts to anticipate possible future problems and to "head 'em off at the pass." I reminded the students to follow my demonstration closely on their copies of my brainstorm so as to minimize the necessity of stopping the flow of thought in order to redirect their attention. Since my brainstorm was several pages long, I wanted the students to understand that I would not be "beating this to death" by color-coding the whole thing. By asking Mike and Kris to paper clip their pages of brainstorm together, I anticipated the problems that would arise if a student were to misplace part of his or her own brainstorm. Reminding the students of the random way in which the brainstorms took shape reaffirmed the importance of the color-coding step. Finally, I checked for understanding before going on.

I occasionally found it necessary to direct the students' attention to a feature of the color-coding process that required further emphasis (e.g., "O.K., now I need to have you watch and, uh, and just

pay attention to what I'm doing..."; "So what I'm gonna do is I'm gonna take the first idea on my list..."; "O.K., down here on the bottom of the last page, the fourth page..."). On several occasions it became clear that instruction was necessary in order for the students to gain a full appreciation of the process of organization, so instruction was woven throughout the modeling; instructional sequences would continue when needed throughout the school year.

Description/Narration, Organizing First Paper (January 30-February 1)

Kris and Cindy

Twenty-seven instances of teacher scaffolding emerged from the transcript in which Kris and Cindy brainstormed their descriptive and narrative paragraphs and began organizing their first papers. Sixteen of these involved scaffolding comments and 11 involved scaffolding questions. In large part, I was helping Kris to resolve difficulties that were hindering her from moving forward with her work. Teacher scaffolding in the following excerpt, for example, relies on both questions (identified by "T(Q)") and comments (identified by "T(C)"), to help Kris recognize possible ways of handling single-item categories of information on her trip to California:

T: You know, when you have groups, you might see if there's a way to

Cindy: Group 'em all together?

Kris: How?

T(Q): Well, what are your really small groups? What's one?

Kris: "Alcatraz," "trolley car," there's, there's, ummm, "motel."

T(Q): O.K., do they, do they all have anything in common?

Kris: I suppose. I don't know.

T(Q): Are they, like, are they, are they all in San Francisco? No?

Kris: No.

T: O.K., that won't work. We can't use that then.

Kris: 'Cause, like, those are in San-, Sacramento, that's in Eureka.

T(C): No, I mean the small groups. The, the

Kris: That. Well, see

T: This and this.

Kris: Well, there's two motels. One's in Sacramento and one's in San Francisco. That's in San Francisco, and that, San Francisco, and that's just all the weather, I guess.

T(Q): O.K. So, how many groups do you have there?

Kris: One, two, three.

T(C): Six or seven? Well, what you might want to be

Kris: [Yeah.

T: thinking about is, for example, Alcatraz.

Kris: That was by Fisherman's Wharf.

T: [Can you, O.K.

Kris: Maybe put that there?

T(Q): Yeah, maybe, or can you, do you have enough to say about Alcatraz that it could be a whole section of your paper, or would it be better to include it in with something else? That's what you have to ask yourself.

Toward the end of the session, I tried to help Cindy expand on her idea about toys for her horses with both scaffolding questions and scaffolding comments:

T: How are you coming along?

Cindy: Oh, I'm kinda stumped.

T(Q): O.K., you're trying to describe the toys that the dogs, that the horses use?

Cindy: That they play with.

T(C): O.K., well, then, you, what you probably want to do, and, you know, maybe Kris can help you, is to try to, sometimes it helps even to just close your eyes and sort of get a picture in your mind of what they look like or how they're used.

Cindy: We have one toy already. A stall ball.

[
T(C): And try, try to come up with
specific words that would help capture the image.

Cindy: (Inaudible.)

T: O.K.

Cindy: It can be kicked around. Starlight (inaudible). She beats it up.

With that, I returned to working with Andy and Mike. A review of the transcript indicates that Cindy and her work received relatively little attention during this session. The reason probably centers on "squeaky wheel" syndrome. As we shall see shortly, Mike and Andy were having more difficulty concentrating on their work and mastering the writing tasks at hand. In addition, Kris took a more outgoing approach to her work; as a result, Cindy seemed to receive less interaction from the teacher and more interactions with her peer.

Mike and Andy

Mike and Andy took what might be called a "rollercoaster approach" to their prewriting tasks. Their interactions alternated between periods of very productive work and periods in which they found it difficult to manage the tasks at hand. For example, in the following excerpt during which they are color-coding their brainstorm, what begins as a series of useful think-alouds and exchanges of felt-tip markers degenerates into body poking and tape recorder probing:

Mike: (Hums.) O.K. The first one would be, let me see, "saddle," "blanket," "bridle," "halter," "rope," "tack." (Brief pause.) "Oats," "cowboy boots," "hay," (inaudible).

Andy: (Returns from drinking fountain.) (Inaudible) dry out all the good markers.

[
Mike: "Water," "wood chips," "bucket," (inaudible), "bell."

Andy: Here, Mike, hurry up, use this if you got to.

Mike: Yeah, but I'll have to wait. I'm right in the middle of one.

Andy: You better do it.

Mike: I'll get it. I'll spit on it.

[
Andy: You just got it nice and wet.

Mike: Awww!

Andy: (Chuckles.)

Mike: That hurt.

(Both chuckle.)

Andy: That hurt, that hurt.

Mike: O.K., um, "saddle," "saddle blanket."

Andy: Mike, I'm disappointed in you.

Mike: I don't (inaudible) rope.

Andy: Hey, is this recording? Yup.

[
Mike: You bet.

Andy: I like the one with the little meter right here. Beep, beep, beep.

In addition to sporadic trouble focusing their attention, Andy and Mike experienced considerable difficulty identifying ideas in their brainstorm suitable for description and narration. As a result, this transcript contains numerous instances of teacher scaffolding. The 37 instances are balanced between scaffolding comments (19) and scaffolding questions (18).

Most of the scaffolding (22 instances) occurred while the boys were trying to identify ideas suitable for description and narration; of these, 10 were in the form of comments and 12 were questions. As we have noted, my intention throughout the study had been to balance my scaffolding between comments and questions - perhaps emphasizing questioning - in order to help ensure that the students were doing the bulk of the cognitive work and in an attempt to help transfer responsibility to them. However, in light of the difficulty with which the boys were dealing with this task, it is possible that more scaffolding comments and fewer questions might have been more effective.

My questions often were greeted with frustration, resistance, or dismissal. In the following excerpt, for example, both boys are having trouble finding an idea that could be expanded into a short narrative:

T: Well, do any of 'em deal with something that you have to do?

Mike: No.

T: O.K., that you have to do, maybe, in a certain way?

Andy: Pickup, back up the truck.

Mike: [Well, yeah, you're not going to go head first and that.

T: You're looking for things that,

Andy: I've done it.

T: ideas that talk about something that has to be done, probably in in a certain way. And both of you have topics where I would think there'd be things that need to be done in a certain way, in a certain order.

Mike: [Well, but they know about all that.

T: Yeah, but remember, you're writing to somebody who *doesn't* know about that.

Mike: Well, they have to. Gee, it'd be just (brief pause). They would!

.
.
.

T: Andy, how about you?

Andy: What about me?

Mike: Did you find one yet?

T: [Find a place where you might be able to use, uh, tell a story

Andy: [Mmm.

T: or s-, order of events?

Andy: [How 'bout "ball"?
.
.
.

T: Well, what about "warming up"? Is there a certain series of things that you do to warm up?

Mike: Just probably anything that gets you warmed up.

T: Well, but, like what?

Andy: Stretch your body out.

T: O.K., particular kinds of stretches is what you do?

Andy: Whatever you want, like.

T: Is there a certain way that you generally do it?

Andy: Mmm, no.

Mike: No.

The boys were not being especially belligerent during these exchanges; I think they had just hit a wall and would perhaps have benefited from a more direct approach. It might have helped if I had chosen a sample idea from each of their brainstorm and begun generating appropriate narrative details in order to get the process started. Although I reviewed with them the definitions of description and narration throughout this session, I did not directly apply these definitions to the boys' own brainstorm, relying instead on my questions and leading comments (e.g., "You're looking for things that...") to lead the boys to those connections.

The one question from this section of transcript that was effective immediately followed a student question that implied an emerging understanding:

T: Well, maybe that's not one you want to use. Maybe there's something else.

.

Mike: ...Maybe, like, you need a partner or something? Partner?

T: Are there things that the partners have to do together?

Mike: Yeah.

T: O.K.

Mike: Like the, one of 'em has to get the head, and the other one

T: [Oh, O.K.

Mike: has to get the feet.

Mike's comment "Maybe, like, you need a partner or something?" implied that he had tentatively identified an idea suitable for narration. In this case, my follow-up question ("Are there things that the partners have to do together?") was effective in pushing his thinking. Without such a signal of emerging understanding, however, scaffolding questions appeared to have been much less effective.

A more productive scaffolding sequence occurred later in the class period, while the students were working on their *organization* think-sheets. In this case, a scaffolding comment led to a student response that indicated emerging understanding. Not surprisingly, the scaffolding question that followed was received positively:

T: Now, you may find that you have a group that's maybe bigger than you want it to be, and you may need to divide it into two smaller groups. You may decide that, well, I

Mike: [I only have one for the blue one.

T: O.K., then, do you have enough, do you have enough to say about that that you could write at least a paragraph about it?

Mike: Yeah.

Mike appeared to have recognized that the size of a group was important. Whereas I was talking about especially large groups, he noted the significance of a single-item group. The issue of group size was being addressed productively, albeit from Mike's perspective rather than mine.

Collaborative Revising of First Paper (March 28-29)

The revision tasks placed a premium on students responding to the comments and suggestions of peer editors. As such, my role was quite limited and no instances of teacher scaffolding emerged in the transcript of Mike and Andy. On one occasion, however, Cindy asked me for help in moving some of her ideas about her horses around:

Cindy: Let's see. I had all this stuff about Max here, and this is kinda the, not about him, well, it kinda is, but then it's about everybody else, too.

T: So you're wondering where that should go.

Cindy: Yeah, like, under all the Max stuff? What does it (inaudible).

T: Well, I don't know if that's the best place because then you've gone back to Max again, see? Look at this next paragraph.

Cindy: Yeah.

T: It seems to me like you were tryin' to keep all this stuff about Max

[
Cindy: Yeah.

T: together. Well, if you put this in here, it's gonna interrupt (inaudible).

Cindy: Yeah.

T: You might have a better place.

[
Cindy: I'm gonna have one, two, three
(inaudible) to put in here. I could put it down where Lady is.

T: Yeah, that's

Cindy: (Inaudible.)

T: probably a better place for it.

Cindy's comments demonstrated a good understanding of the organizational concepts I was teaching. My objective here was to support her thinking in a way that would enable her to determine for herself the best place for the idea in question.

Writing First Draft of Second Paper (May 7)

Kris and Cindy

The transcript reveals one instance each of a scaffolding comment and a scaffolding question. Both occurred during Kris's attempt to get help with the distinction between the Olympic events of freestyle and Greco-Roman wrestling:

Kris: I think I could have a problem because there is a difference between Greco-Roman and freestyle, but there's nothing to tell about it because I can't remember the difference, but

- T: Well, you have some, uh, research on that, don't you?
- Kris: The scoring and all that stuff is exactly the same. "Competition format and scoring rules and tie-breaking rules are all the same." That's what I have.
- T: Oh, but you don't have any kind of a description of the difference between the two
- [
- Kris: They don't have any. I know between regular wrestling and freestyle.
- [
- T: Well,
- Kris: and
- T: Well, what are you going to see? Are you going to see freestyle?
- Kris: Yeah.
- T: Well, maybe if, maybe, maybe you should just cover freestyle then.
- Kris: O.K.
- T: Unless you can find some more information, 'cause that might be an area where you might be lookin' for some more information. See, that happens when you do research. You get started writing a paper and you realize, "Whoa, I don't have enough on this particular topic," you know. Then you may have to go lookin' for some more, some more information.

Included in this scaffolding effort are a paraphrase ("Oh, but you don't have any kind of a description of the difference between the two."), an effort to seek clarification ("Well, what are you going to see? Are you going to see freestyle?"), and a direct response to the student's difficulty ("Well, maybe if, maybe, maybe you should just cover freestyle then."). This exchange illustrates the fine line between scaffolding, which in this case I had determined to be unsuccessful, and direct assistance, which I provided as a last resort.

Mike and Andy

Because of the volume of researched material that Mike and Andy wanted to include in their paper and the limited time left in the school year, I had volunteered to serve as their "secretary" and type up their

paper as they dictated it to me. Throughout this class session, as we shall see in more detail in Chapter 6, teacher scaffolding was woven intricately throughout the boys' collaborative decision-making.

Although I was seated at their computer for the expressed purpose of typing for them, I was readily available to intervene when necessary.

The coding tabulation for this class session reveals a balance between scaffolding questions (11) and scaffolding comments (14). I tried to scaffold Mike's and Andy's efforts only when it became clear that they were missing a key bit of knowledge or when they had hit a brick wall and their cognitive work was in danger of stalling. For example, on one occasion it became clear that the boys were struggling with the difference between a category label or title and a topic sentence. Their difficulty appeared to center on the issue of the verb (NOTE: Comments in quotes represent ideas the boys wanted typed verbatim into their paper):

Mike: "Koala's behavior."

T: O.K., now make it a sentence. That's just a phrase. You

Mike: [Yeah.

T: need a complete sentence...

Andy: "The koala's goofy behavior"?

.
.
.

Mike: "The koala's behavior." That's it.

[
Andy: (Inaudible.) "The koala's lives," no, "lifestyle behavior"?

T: O.K., that's still not a complete thought because you don't have a verb in there.

Andy: What's a verb?

T: Well, it's an action word

Mike: "The koala with their behaviors."

T: Still doesn't have a verb.

Mike: What's a verb?!

T: A verb is an action word or something that connects your subject with the

Mike: [(Inaudible.)

T: rest of the sentence.

.
.
.

Mike: How 'bout you just put somethin' down, I don't know. I can't think of one.

T: Well, try a linking verb like "is." See if you can get the word "is" in there. (Pause.) "The koala's" (pause)

Andy: "behavior"

[

Mike: "Koalas"

Andy: "is unusual."

T: O.K.

Successive attempts to tease out a sentence proved unsuccessful, as evidenced by Mike's frustrated comment, "How 'bout you just put somethin' down, I don't know. I can't think of one." I finally found it necessary to get the topic sentence started myself ("Well, try a linking verb like 'is.' See if you can get the word 'is' in there.").

On another occasion, the boys were having difficulty deciding how to divide some of their material into paragraphs:

T: Now, you guys have a lot of material here about koalas.

Mike: [Oh.

T: Is that too much for one paragraph?

Andy: Yeah.

Mike: Well, I was gonna say somethin' about their

[

Andy: Now, let's do about their stuff. body weight and

.
.
.

T: ...is that some stuff about behavior?

Mike: No, it's about how to get the food.

T: Oh, O.K. Well,

Mike: and their, like,

Andy: Yeah, behavior. They climb trees.

Mike: [(Inaudible) to get the food.

T: Do you have enough about behavior for one paragraph?

Mike: No.

Andy: No. Then, we could put

Mike: Well, would behavior

Andy: [their behavior

Mike: be about their young and stuff?

Andy: their behavior

T: Could be.

Andy: and their young?

T: Yeah, yeah, the, the way they rear their young. That would be behavior. I'm just thinking, you've got too much there for one paragraph.

Mike: Well, could we put,

T: You've got a lot of stuff.

Mike: "They, they are vegetarians" (brief pause) in that same thing?

T: No, yeah, where would you want that?

Mike: ['Cause then, 'cause then we wouldn't have to put any more in that. We could start a new paragraph.

This excerpt reveals a good deal of high-level collaborative thinking.

My scaffolding questions ("Is that too much for one paragraph?"; "...is that some stuff about behavior?"; "Do you have enough about behavior for one paragraph?"; "No, yeah, where would you want that?") and scaffolding comments ("Now, you guys have a lot of material here about koalas."; "I'm just thinking, you've got too much there for one paragraph."; "You've got a lot of stuff.") appeared to help Andy and Mike to identify

which material belonged together. However, I did not make this organizational decision; Mike did it himself, and Andy concurred.

Fostering a Collaborative Spirit

In my quest to help create a learning community within our group, and in order to become a partner rather than a director in the learning process, I felt that I should make both overt and covert efforts to foster a collaborative spirit among us all. After all, collaborative writing was quite new to the students and writing was not, to say the least, their favorite pastime. Overtly, as revealed in Table 6, I frequently urged the students to work together and reminded them to check with their peers before coming to me for assistance (e.g., "Maybe you can help each other with some words..."; "Maybe Kris can help you."; "Well, get some help from your partner here, too."). As the school year progressed and the students gained in confidence and in familiarity with the CSIW strategy, I found it less necessary to provide these overt reminders; the students seemed to fall more naturally into collaborative conversations as they became better writers. My main role became one of supporting the students in their writing endeavors in order to help them maintain their momentum. I was somewhat surprised to see how seldom I provided personal support, but the opportunity did not often present itself during these class sessions.

More covertly, two techniques primarily were used by the teacher to ensure that students felt their ideas had been heard. I frequently made confirmatory comments (e.g., "O.K."; "Yeah?"; "Oh, sure."; "Really?"; "Mmm, hmm."), preferring these to more extensive comments that might take over too much of the student's cognitive work or take up too much "air time." I also acknowledged students' personal comments, trying to allow these to enter the conversation naturally as long as they did not draw the focus away from the writing work. I tried to avoid "evaluating" student comments or ideas; evaluating would have cast

me in the traditional teacher role rather than the role of collaborator and would have modeled potentially counterproductive behavior to the students.

TABLE 6
Fostering Collaborative Spirit (Key Code Tabulations)

* Potentially Disconfirming							
	MODEL COLOR-CODING	ORGANIZING FIRST PAPER		REVISING FIRST PAPER		WRITING SECOND PAPER	
		Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy
Urge Working Together	3	9	9	0	1	0	2
Confirmation	4	10	18	1	5	0	16
Acknowledge Personal							
Question/Comment	2	1	4	0	0	1	3
Equity	15	6	3	0	0	0	11
Initiate Humor	3	0	2	0	0	0	4
Humor Uptake	0	0	0	0	0	0	0
Personal Support	0	0	0	0	0	0	4
Writing Support	5	3	7	1	3	0	4
Pat on the Back	2	0	0	0	1	0	6
* Evaluating	0	0	0	0	0	0	1

As noted earlier, I made conscious efforts to establish equity with the students, primarily through liberal use of the pronoun "we." It was my hope that if students could view my modeling and scaffolding as the efforts of a collaborator, they would see these as strategies that they, too, could emulate in their conversations with each other. As we shall see in the next chapter, my hopes were realized to a large degree.

Humor is widely recognized as an important component of a productive "workplace." By nature enjoying a good laugh, I encourage humor in my classroom (as long as it doesn't become the focus of activity). I was surprised, however, to see how seldom this occurred in these transcripts. I suspect that the pressure of the dissertation study and the demands of the time schedule caused me to be a bit "less

fun" than usual.

Modeling Color-Coding (January 9)

Although I did not detect liberal doses of either encouragement or humor in the transcript of the January 9 modeling session, examples of each did emerge. Early in the lesson, I tried to allay Mike's concerns about the length of our writing projects. Attempts at humor were restricted to the fact that I insisted on referring to two of our color-coding colors by the exotic names printed on the marker labels - "bittersweet" and "raspberry." On two occasions, "bittersweet" did manage to draw a reaction from the students:

T: Then what I'm gonna do is I'm gonna go on to another color, preferably a color that looks quite different. Try not to use dark blue and black because they look almost alike. Alright, so I'll go on to this nice bittersweet.

Mike: Bittersweet. (Chuckles.)

.
.
.

T: The third page, halfway down: "it was approved the year before we started." That should be a bittersweet.

(Somebody chuckles.)

Andy: Red.

Additional attempts to foster collaboration came in the form of establishing equity, which I incorporated on 15 occasions (see Table 6). Most often, as we noted earlier, this took the form of using the pronoun "we":

T: No, don't worry, no, that's what we're gonna s-, we're gonna start the next step now.

.
.
.

T: Well, we could. I mean, possibly.

.
.
.

T: So, now we're looking for ideas that have to do with the location of the concession stand, right?

On one occasion, I acknowledged that a student author had knowledge of

her topic that I did not:

T: Try not to leave too many things all by themselves. Try to create groups. That's the idea.

Kris: 'Cause, like, "homeless" and "bus" go together 'cause there's homeless people on the bus.

T: You're the one that has to decide that. You know the background

Kris: [I think so.

T: and I don't...

Acknowledging the students' expertise in their topics, and my lack of same, enabled me to take on the role of a naive reader. This facilitated my scaffolding by making the effort more collaborative and less teacher-directed.

Description/Narration, Organizing First Paper (January 30-February 1)

Cindy and Kris

Coding tabulations reveal that on nine occasions I overtly urged the girls to work together (e.g., "Check with Cindy, your partner."; "Maybe Kris can help you."). In some cases, I gave specific guidance for these collaborative interactions:

T: That's one thing you guys can maybe help each other with, is coming up with the titles. Just talking about what's in the group might help your partner suggest a title for that section.

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.
.

T: ...And maybe you can help each other with some words if you talk about these places and these situations, and maybe some words will come up. If you try to help, as you try to describe it to somebody else, sometimes the words that you've been trying to pull out of your mind will come when you talk to somebody else about it.

Mike and Andy

The transcript of these pre-writing sessions reveals several different approaches to helping foster collaboration with and between Andy and Mike. I realized that it was crucial for me to establish a positive relationship with the boys and to avoid antagonism whenever possible. I also realized that I was introducing more extensive freedom

to interact than the students were used to having. I found it necessary to stay calm and to recognize that Mike and Andy sometimes had difficulty meeting my curricular demands.

Furthermore, I came to realize that conversational digressions into areas of student interest are a natural and necessary part of community building. As such, I occasionally found it necessary to allow a digression to run its course, acknowledge the boys' comments, then redirect their attention back to the writing task at hand. In the following excerpt, for example, Mike is having difficulty generating a list of descriptive words:

T: You might even want to look back at the, uh, brainstorm you did about your dog when you wrote a description about your dog. You came up with these words that would help show what that dog is like: "speedy," uh, "crouch,"

Andy: (In high voice) Speedy Gonzalez!

T: um,

Andy: Woo-woo! (Screeching noise.)

T: ["space-"

Mike: "Spazz attack."

T: "Spazz attack," "spazz attack."

Mike: [Aw, she got her first squirrel last night.

T: "Spazz attack." Oh, really?

Mike: Yup. She got a bird, er, a mouse, and a squirrel so far.

T: It's hard enough on those poor animals in this weather without your dog after them.

Mike: [I know. My other dog has, like, fifty animals.

T: I remember when I did my brainstorm, I used, I tried

Mike: [So you, should I try to put those words in there?

My reference to one of Mike's earlier descriptive writings precipitated a brief but animated discussion of his dogs and their hunting conquests.

Rather than immediately quash the redirected conversation, I acknowledged it and gently guided it back to the business at hand. Mike's final comment above indicates that he seemed to make a smooth transition back to the writing work.

In several instances, I verbally supported the boys in their writing efforts (e.g., "Well, O.K. That's good."; "Good. You look like you've got a lot of ideas there."). On other occasions, I found it necessary to get firm and directive:

Mike: "Tack."

(Andy chuckles.)

Mike: Fine. Put "rosin" down. "Tack." If you find (inaudible).
(Chuckles.) O.K.

[
T: Come on, guys. I want you guys to (inaudible)

[
Mike: I'm just helping him.

T: to get going with the writing then. You've got some things

[
Mike: Fine.

T: to get done first.

.
.
.

T: Well, they're all pretty much the same. O.K., now, while you're doing this, feel free to, you know, talk to your partner if you think you,

Andy: Don't touch me, Mike.

T: you need some help. You won't need mine anymore; you can get that out of there. Andy, could you get your feet off this chair?

While Mike's and Andy's digressions and impulsivity sometimes frustrated me, I did appreciate much of their humor and occasionally interjected some of my own. In the following excerpt, the boys seem to appreciate it, and Mike uptakes my comment:

T: O.K. (Brief pause.) Maybe Andy can give you some (inaudible).

Mike: Andy, can I have some ideas?

T: He's busy wrestling with his pencil.

[
(Andy and Mike laugh.)

T: When you've finished wrestling with that pen, maybe you can give Mike some ideas.

Mike: Beatin' him up. (Makes snarling noises.) Hurry, fix it.

Collaborative Revising of First Paper (March 28-29)

Due to somewhat limited contact with the girls during these sessions, evidence of my attempts to foster a spirit of collaboration is limited to an instance of giving writing support to Kris:

T: Yes?

Kris: Um, O.K., would this be the right place to put what time we got there? Would it be the right place to put it there?

T: Yeah, I think it'd be alright.

Kris: O.K. So, um,

T: I mean, it would make sense.

[
Kris: (Typing sounds.) "We arrived," should I put, "We arrived at ten o'clock"?

T: Well, that's,

Kris: It only took us three hours.

T: You're the writer. Sometimes it helps to just write it down and then look it over later on and see if you like the way it sounds or not.

In my final comment above, I was attempting to validate the legitimacy of Kris's status as a writer. I also reminded her that she was writing a first draft that need not be her final effort, reinforcing the importance of collaborative revising. The following exchange reflects a similar effort to reinforce Mike's author status and the importance of collaboration:

Mike: Some of this stuff I don't want to do that they (his peer editors) said.

T: That's your choice. Or, if, if, you know, you think there might be a better way than what they suggested, you could ask somebody else.

During the revision sessions reflected in the boys' transcript, I attempted to foster collaboration once by reminding them to work together and on four occasions by supporting them in their efforts to incorporate revisions into their papers. In the following excerpt, I recognized Andy's very successful effort to replace the introduction that he had previously written but lost:

T: ...Have you been able to come up with anything for that introduction?

Andy: Yeah.

T: Did ya?

Andy: I'm done.

T: I still haven't seen that. Is that something different, or did you start remembering that one you had before?

Andy: I just put a little bit of somethin'.

(Typing sounds.)

T: Oh, (chuckles) I like that. That's good. (Brief pause.) That will definitely catch the reader's attention.

.
.
.

Andy: "Cowboy shish-kabob." Is that one or two words?

T: "Cowboy shish-kabob! Sounds like a good, uh, image.

Writing First Draft of Second Paper (May 7)

Cindy and Kris

My efforts at fostering a collaborate spirit during this writing session were somewhat limited, in large part because I spent most of the period serving as typing secretary for Mike and Andy in order to help expedite their first draft. On one occasion, I acknowledged Kris's personal comment:

Kris: Guess how many days 'til my birthday. Five.

T: Five, huh?

In another instance, I showed interest in one of Kris's ideas:

Kris: I'm proud of a sentence I did.

T: Are ya? Which one?

Finally, I demonstrated equity by asking the girls' permission to work with the Mike and Andy:

T: Have you two got underway, so is it alright if I type for these guys today?

Kris: Yeah.

[

Cindy: Yeah.

Mike and Andy

As noted earlier, we had made arrangements for me to serve as designated typist for this class period due to the fact that the school year was running out and Mike and Andy had considerable material to include in the first draft of their paper on Australian animals. My efforts to foster collaboration with Mike and Andy during this class session focused on encouragement, praise, and humor. For example, at the beginning of the class period, while Mike and I were arranging three chairs around the computer, I said, "Don't worry, you guys take the good chairs. I'll take this nasty, uncomfortable chair."

A few minutes later, while I was across the room working with Cindy and Kris, Mike and Andy carried on a conversation about junior high track. Although the season was nearing an end and it was too late for Andy to join the team, Mike diligently urged Andy to try the shot put. Since I was helping coach the junior high hurdlers at the time, the conversation continued when I returned from working with the girls. I joined Mike in encouraging Andy to consider the shot put, interjecting a somewhat weak attempt at humor:

Mike: How much, how far do they usually throw the shot put?

Andy: In junior high?

T: Oh, I don't know, thirty-eight feet, something like that, forty feet. That sound about

[

Mike:

He

T: right?

Mike: He could throw a, he's sayin' that he can throw a fifteen-pound

Andy: [Fifteen-pound

Mike: ball twenty, like, twenty feet.

T: Really?

Mike: So, if he'd get a eight-pound ball,

T: Well, how far can you throw your brother?

Andy: (Chuckles) I don't know.

.
.
.

Mike: Friday we're done.

T: Never too late.

(Mike briefly summarizes the remaining junior high track schedule.)

T: Is that the last meet? Oh, is it? Well, think about next year anyway. This summer, you know, you can work on throwin' your brother around, get yourself beefed up.

(Mike makes throwing and screaming sounds.)

On several occasions, I praised the boys for their excellent work in crafting their paper (e.g., "Oh, 'vegetarian fauna.' My word! Andy, I'm impressed with the language. That's good. Good."; "Good sentence! That's a world-class sentence, Andy."). Although events moved very quickly during the class period, I tried to seize opportunities to express interest in the ideas the boys were sharing in an attempt to validate their status as experts on Australian animals:

T: "Less than (typing sounds) half a kilogram"?

Mike: Yeah.

T: Boy, that's not much.

Mike: Well, the, well, it's still in its pouch, so it wouldn't matter.

T: Oh, yeah, yeah.

I tried to de-emphasize my role as teacher and to emphasize my

role as "secretary" in order to reinforce the boys' status as writers and transfer responsibility to them ("It's your paper. All I'm doing is, I'm doing the secretarial work."; "I'll just write what you guys just said."). In so doing, 11 of my comments and questions (see Table 6) reflected efforts to establish equity (e.g., "Well, we can put that down, and then you can look at it later."; "You see, we're going from one to the group, back to one.").

Summary

We have examined three teacher roles that developed during the course of this study: modeling, scaffolding, and fostering a collaborative spirit. Each role afforded the teacher important opportunities to influence the students' performance while allowing the students to retain primary responsibility for their own learning. Teacher modeling emphasized demonstrating the thinking that undergirds effective writing and anticipating future difficulties that the students might encounter. Scaffolding included both questions and comments designed to help keep the students' writing efforts moving along smoothly. By fostering a collaborative spirit throughout the school year, the teacher reinforced the notion that students could play an active role in their own and each other's learning.

The two chapters that follow will focus on student factors that emerged during the course of the study. Chapter 5 will examine evidence supporting four assertions regarding student participation in collaborative writing: accepting transfer of responsibility for their learning, making individual contributions to the collaborative work, enjoying and benefiting from the opportunity to work collaboratively, and incorporating reading into their writing tasks. Chapter 6 will examine how the students' thinking about writing developed over the course of the school year.

CHAPTER 5

FINDINGS: STUDENT FACTORS

This chapter will examine data supporting four of the five analytical assertions related to factors of student participation and learning. First, each of the four students made unique individual contributions to the collaborative writing work. Second, the students accepted transfer of the responsibility for their learning from the teacher to themselves and learned to scaffold each other's writing development. Third, the students took advantage of the collaborative structure to push their learning, in the process enjoying the chance to work together and developing a collaborative spirit. Fourth, reading-writing connections emerged and developed as students incorporated reading into their writing tasks. The fifth student factor, development of thinking about writing, will be examined in Chapter 6.

Early Impressions

As always happens at the beginning of a new school year, I received an initial impression of each of these four new students. While these impressions held fairly consistent over the course of the school year, each was expanded and modified during the course of events that followed.

Mike came across as courteous, responsible, and punctual. His interests included roping, team roping, sports, the San Francisco 49'ers, country music, and horses. He mentioned that his family would be moving to a new house on an acreage in the country. Andy appeared to be quiet, but an inquisitive twinkle gleamed in his eye; early in the year, he asked if he could transfer one of his study halls to my classroom, which I arranged. His interests included horses, bull riding, jumping his bike at the creek, visiting his brother and sister in California, and country music. He said he liked Italian food. Cindy seemed very patient through several class scheduling conflicts. She was

quiet the first few days of school, although she volunteered a story about her kitten awakening the family in the morning (which was fortunate since a thunderstorm had knocked out their electricity - including the alarm clocks). She said she liked horses, rock music, pizza, and visiting her cousins. Kris was quiet, cooperative, and punctual. She said she had few free-time activities, aside from being a cheerleader, and she liked Alfredo sauce and rock music.

As time passed, my initial perceptions of Cindy and Kris were fortified. Although they became more outgoing in my class, they remained very cooperative and eager to follow the instructional agenda. While they seemed somewhat remote from one another at first, they became more conversant as time passed and eventually could be seen whispering secrets to one another.

At first, Kris seemed very unsure of herself, an impression corroborated by her other teachers. In discussing writing topics, however, she often took the lead in expressing personal opinions and observations, and she entered into writing tasks with enthusiasm. She was almost immediately very perceptive and helpful when reviewing the first draft of Cindy's descriptive paragraph, one of our early writing assignments, making useful suggestions about word choice and sentence structure.

Cindy sought opportunities to talk to me between classes when there were no other students in the room. During class, however, she was very reserved. Although I suspected she had ideas to share and things to say, I generally found it necessary to "call on" her specifically during discussions. I hoped that over time she would find it easier to enter in spontaneously.

Mike and Andy were good friends and quickly demonstrated the "squirreliness" common among seventh-grade cronies. They generally cooperated in getting their work done (although Mike took more initiative in this regard than Andy), but they frequently lapsed into

giggles, poking, grabbing each other's pencils, etc. They liked to sit and work next to one another, and their working time was liberally punctuated with conversation and jibing.

Andy seemed to have a mind filled with ideas on wide-ranging topics, although he had considerable difficulty expressing these ideas in writing. For example, one of his mid-October reading journals consisted of a drawing. When a change of schedule resulted in the students doing another reading journal the following day, he asked me if instead of reading he could explain his drawing to me. I asked him to write a description, but he lobbied aggressively for an oral description, to which I finally assented. As it turned out, we had a really nice conversation, while the other students were reading, about the bike ramp/dam project that he and a couple of buddies had constructed the previous summer (as depicted in his drawing). I suggested that he might want to write about it sometime. Our conversation reminded me how precious are the rare opportunities we have to interact with students individually without distractions. What a shame that we can't do this often with every student; maybe then we would be able to truly tailor instruction to each student's interests and prior knowledge.

Of the four students, Mike probably expressed the most overt hostility to writing early in the year. As time passed, however, he seemed to warm up to the task. His reading journal comments were longer than almost anyone else's in my English classes, and he often made perceptive contributions to our discussions. I found it especially interesting when, after complaining about the descriptive paragraph assignment and the computer he ended up using, he spontaneously made multiple copies of his paragraph for the rest of us to read. Sometimes his mind seemed to go in several directions at once, leaving him a bit confused; at other times, he made very perceptive comments and observations. He and Andy were "all boy"; I looked forward to seeing

how well they would react to CSIW instruction and to what extent they would be able to work collaboratively on writing without degenerating into mischief and horseplay. I knew it would be a challenge to channel their energies without stifling them.

Individual Contributions

The students were given the opportunity to choose their own partners for collaborative writing of the first major paper; Kris and Cindy formed one student pair, and Mike and Andy formed the other. Each student would serve as primary author of her/his own paper and secondary author of her/his partner's paper.

As we shall see, each student contributed to the conversations that developed in his or her own unique ways. Kris contributed an effusive energy and enthusiasm to the writing effort. Andy, despite frequent difficulty staying on task, developed a facility for refining wording and analyzing paragraph structure. Mike and Cindy tended to take the lead in addressing computer-related issues and problems. Mike also took on the duties of "traffic cop," making sure that his and Andy's writing work moved forward despite frequent distractions. Cindy provided Kris with many useful suggestions regarding organization and wording.

Tabulations regarding initiation of writing-related topic changes and uptaking (extending) those initiated comments provide insights into turn-taking during the dialogues. Kris and Mike clearly took the lead in initiating writing-related ideas during the organizing sessions on January 30-February 1 (see Table 7). Not surprisingly, during those same sessions Cindy and Andy were more likely to uptake someone else's idea. As time wore on, however, the disparity between numbers of initiating comments narrowed considerably in both writing pairs; nevertheless, Cindy and Andy remained most likely to uptake their partner's idea.

When computer questions or offers of help did not occur at all during a class session, one generally can surmise a logical reason. Computers were not used during the organizing sessions. Mike and Andy did not generate comments or questions about the computer during the writing session because, as we shall see, I was handling the typing for them. Procedural help between writing partners was not evoked during the revising sessions because their efforts were focused on responding to written suggestions already provided by peer editors.

TABLE 7

Individual Contributions (Key Code Tabulations)

K = Kris M = Mike C = Cindy A = Andy							
		ORGANIZING		REVISING		WRITING	
		FIRST PAPER		FIRST PAPER		SECOND PAPER	
		Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy
Question about Computer		0	0	3	5	1	0
Offer Help with Computer		0	0	1	4	2	0
Offer Help with Procedure		1	7	0	0	2	5
Initiating Idea about Writing	K 27	M 23	K 5	M 11	K 7	M 18	
	C 4	A 9	C 4	A 9	C 3	A 8	
Uptake of Idea about Writing	K 1	M 3	K 1	M 0	K 1	M 1	
	C 3	A 6	C 0	A 0	C 4	A 6	

Modeling Color-Coding (January 9)

As we saw in Chapter 4, a good deal of student participation occurred during the January 9 modeling lesson. Cindy, as noted earlier, was absent from this class session. Andy and Kris made specific contributions that helped move things along. As we have seen, Kris quickly began emulating the thinking aloud that I had been modeling. She also demonstrated an awareness of audience sensitivity, a key element in successful writing. In the following excerpt, she raises the question of how the audience might react to a portion of the paper I was beginning to organize. We were discussing in which group to include a

detail about one of the teachers who initially had been involved in the concession stand fundraising project (NOTE: In the transcripts that follow, words or phrases in quotes represent ideas being read from a brainstorm or being proposed as additions to a brainstorm):

Kris: I have a question, though.

T: Yup.

Kris: W-, like, you have "Ms. Jackson at the beginning"?

T: Right.

Kris: Like, if it was somebody else's school, for somebody else's school, would you put that in there?

T: Well, I'll have to decide when I write this.

Andy: [You'd put, "Some teachers may drop out," or somethin' like that.

T: Yeah, yeah, you might.

Kris: Mmm, O.K.

T: Yeah, 'cause when I - that's a good question and that was a good suggestion - when I start to write this, I may not write it exactly the way I have it here. I'm, I would probably write it more like what Andy just said because, like you say, they're not gonna to know who Ms. Jackson is.

Andy's comment, "Some teachers may drop out," addressed Kris's question by suggesting wording that would be appropriate for an audience from another school. And, after all, I had made it clear that my paper would be directed at teachers from other schools who might be interested in starting up a concession stand project of their own.

Kris's insightful question led to a very helpful elaboration from Andy, in which he suggested wording that would address Kris's concern. Andy provided helpful clarifications and elaborations several times during the class period. Early in the lesson, for example, Kris asked another question that Andy answered much better than I did:

T: ...Now, one thing, I may change some of these later. I may decide later that one of these ideas should go in a different

group, but right for now,
 [Then what do you do?
 Kris:

T: Just to get me started, this is the way I'm gonna kinda work it.

Andy: [Then you're
 just
 workin' with the other color.

T: I'll show ya later what you do if you're gonna change one later.

Kris: O.K.

As mentioned in Chapter 4, Andy also helped clear up Mike's misconception about where the idea "make products" should be grouped:

T: ...I'm just goin' through the ideas here. "Near the gym and the football field"? no, "make products"? no,

Mike: Yeah, they can, seventh and eighth graders can (inaudible).

T: [Yeah, they do
 make
 products, but it doesn't have to do with the, the kinds of
 students

Andy: [The products and
 stuff.

T: that are involved.

These two excerpts feature a student naturally stepping into the discourse and helping me teach. At a very early stage in our investigation, students stepped beyond the traditional student role and became genuine collaborators.

Near the end of the lesson, Mike made a couple of comments that brought into question the depth of his understanding of the color-coding procedure. I had completed modeling the coding of one entire group of ideas (identified with blue dots) and wanted to see if the students would realize that now it was time to start a new group (using a different color):

T: O.K.? I don't see anything else in here that would go with that group. (Pause.) So, if I were to continue this, what would I do next?

Mike: Make a

Kris: Make a next color.

Mike: [Make a really nice dark blue dot.

T: Where?

Kris: And go to the first one,

Mike: (Inaudible.)

Kris: [on the first page and mark it,

T: [Right.

Kris: and then go (inaudible).

T: [Go back to the first page. The first idea that doesn't have a color would become a new color.

Kris: Yeah!

T: The important thing is always think about why are, what kind of ideas am I looking for here? What do, what do these ideas have in common? And then they become the same color. O.K.?

Mike: O.K.

T: So, do you think you'd be able to get started on this with your own paper now?

Kris: Yeah.

Mike: No. (Chuckles.) Yeah, I's just kiddin'.

Kris's comments ("Make a next color...And go to the first one,...on the first page and mark it.") indicated a solid understanding of the procedure. Although Mike attempted to minimize the comment that he was not ready to begin, it would appear from his "make a really nice dark blue dot" comment that perhaps his understanding was somewhat shallow. While comments from Mike are sprinkled throughout the January 9 transcript, they generally take the form of questions or confirmatory statements. He rarely provided a clarification or elaboration. Nevertheless, he was quite attentive, and on one occasion he was the first to locate a detail in the brainstorm that we all were looking for.

Description/Narration, Organizing First Paper (January 30-February 1)

Cindy and Kris

Analysis of initiating and uptake comments (see Table 7) reveals that Kris "controlled the floor" during these prewriting sessions; as we shall see, however, Cindy made substantial contributions throughout the conversation. Kris initiated 27 writing-related comments, compared to Cindy's 4. Not surprisingly, Cindy generated more uptake comments, but the total number was small - four for Cindy, compared with only one for Kris. These totals are probably skewed somewhat by the fact that the January 30 session was expressly focused on Kris's brainstorm, not Cindy's; as such, it would not be surprising for Kris to generate the majority of the comments and questions.

Throughout the January 30-February 1 transcripts, Cindy contributed ideas for Kris's paper, primarily when called upon to do so by Kris. In the following excerpt, for example, Cindy is instrumental in developing a name for one of Kris's categories:

Kris: Which is my t-, my, my topic? Oh, I know what I'll call it. Never mind.

Cindy: (Sighs.) Oh, boy.

Kris: What is "oh, boy?" Can you help me come up with a name for, um, Fisherman's Wharf, the wax museum, a boat museum,

Cindy: "Museums?"

Kris: um, sourdough bread, sea lions,

Cindy: Mmm, "sights?"

Kris: O.K., hey! Good idea, jeez!...

In another exchange, Cindy provides a suggestion that helps Kris to organize several details around the theme of "how they (people in San Francisco) get around town":

Kris: I bet I could do something: put "automobile." O.K., I made a

group. I can do about all the automobiles they have, like, we rented a car, and they have a trolley car to get around, and they have, and they have

Cindy: [The airplane. And that's kind of (inaudible.)

Kris: [Yeah, that's how we got, well, we didn't, like, fly the plane. We only flew there and back. (Note: Kris probably only mentions the idea of not actually flying the plane because her father is a private pilot.)

Cindy: Yeah.

Kris: You know. And, like, buses; that's how you get around the town, the city, or stuff. Maybe?

Cindy: Yeah.

Kris's and Cindy's conversations were characterized by lengthy, highly focused interactions. The following excerpt, for example, features Cindy suggesting numerous descriptive words for Kris to consider:

Kris: (Sighs.) I don't know what to do. O.K., I will, I won't (brief pause.) I can do something for this, O.K. For "sourdough bread," I could put, maybe, "wonderful bread" or something?

Cindy: "Delicious"?

Kris: Ah! Good word! How do you spell it?

(Tape runs out.)

Kris: O.K. Um, what does the word "wondrous" mean?

Cindy: "Wondrous"?

Kris: About, oh, "wonderful," "awesome."

Cindy: "Good"?

Kris: "Good."

Cindy: "Totally outrageous"?

?: Yeah.

Kris: O.K., descriptive for a lake? Um,

Cindy: "Calm"?

Kris: "Calm." Yes, it was! O.K., so I'm going to put "lake" and then put...

In the following excerpt, Cindy helps Kris generate words to effectively describe a wax museum:

Kris: "Sights" are, like, O.K., um, for my sights I have, like, a wax, O.K., just a second. Um, like, for the wax museum, like, "real," well, they weren't real people, but it seemed

Cindy: Like they were real?

Kris: Yeah. Like, if you came up, so, maybe, what kind of words should I use for that?

Cindy: "Eerie"?

Kris: What?

Cindy: Kinda "eerie"?

Kris: Oh, O.K. "Eerie," um,

Cindy: "Scary?"

Kris: Kinda. It wasn't that scary. (10-second pause.) (Sighs.) Maybe, hmm.

And, once again, Cindy helps Kris to clarify the focus of her description brainstorm about Alcatraz:

Kris: Uh-oh. (Sighs, whispers inaudibly.) (Brief pause.) O.K., I could describe the, just, just describe it, like what it was like. That's what I was thinking.

Cindy: [Like in the inside?

Kris: Yeah...

Although Cindy appeared to have contributed more tangibly to Kris's cognitive work during these organizing and brainstorming sessions, Kris made what may be a very important contribution to conversations involving a quiet girl like Cindy: Kris provided enthusiasm. She was effusive in her excitement for several of Cindy's suggestions:

Cindy: Mmm, "sights?"

Kris: O.K., hey! Good idea, jeez!...

.
.
.
Cindy: "Delicious"?

Kris: Ah! Good word! How do you spell it?

.
.
.
Kris: O.K., descriptive for a lake? Um,

Cindy: "Calm"?

Kris: "Calm." Yes, it was!...

Cindy's final comment in the following brief exchange appears to indicate that Kris's enthusiasm was somewhat infectious:

Kris: Here, I know what I'll do, I'll go thiiis, and it'll (inaudible). What's that make?

Cindy: You should have, like some brown or something in it.

Kris: Brown? Black. It's O.K., it makes black.

Cindy: Well, whatever works!

Andy and Mike

Contributory roles for Andy and Mike began to develop early in the process of writing their first papers. Throughout the school year, Andy's substantial contributions were interspersed with frequent lapses of attention and difficulty maintaining focus on his writing work. The tape recorder and some uncooperative pencil lead, for example, provided distractions during the brainstorming process:

Mike: O.K., um, "saddle," "saddle blanket."

Andy: Mike, I'm disappointed in you.

Mike: I don't (inaudible) rope.

Andy: Hey, is this recording? Yup.

Mike: [You bet.

Andy: I like the one with the little meter right here. Beep, beep, beep.

.
.
.
Andy: Here, let me see your pencil, or

[
Mike: Sit down, I'll show it to ya.

Andy: Let me see (inaudible).

Mike: Sit down, I'll show it to ya. I nee-, get some, say you want some White-Out.

Andy: Oh, here it is. You're lucky my pen point went (inaudible).

(Mike chuckles.)

Andy: It went

Mike: "Dusty."

Andy: Still, it was, it was like this, you know. And it went across my paper and went (inaudible). This thing makes me mad. It never goes in when I want, and, it doesn't come out.

Although frequently concealed by his difficulty staying on task, Andy's ability to synthesize and fine-tune ideas soon began to emerge. While that ability did not surface full-blown during this early lesson, the seeds started to germinate in the form of interjecting sometimes surprisingly insightful elaborations. For example, the rather sophisticated interjection at the end of the following excerpt occurred early in the lesson as Mike struggled to identify sites for his descriptive and narrative paragraphs:

Mike: I put "rodeo grounds."

T: O.K, you're going to d-, that'd be good.

Mike: For a description.

[
T: Yeah. Describe that. That'd be really good, yeah.

Mike: You mean I'd have to describe the rodeo grounds, like it's so, so big and

T: Yeah.

[
Andy: Like its texture?

Later, amid the end-of-class bustle and gathering of materials, Andy

could be heard thinking aloud and recording descriptive words about a bull ride:

T: You got, you're, you're all set, Mike?

Mike: Yup.

(Brief pause.)

T: O.K. Good.

Andy: "Confusion."

.
.
.

Andy: "Butterflies."

Although he, too, often fell prey to distractibility, at an early stage Mike took on the role of "traffic cop," trying to keep the writing process moving and to keep Andy on task. This task befell him four times during the January 30-February 1 sessions, and his efforts achieved varying degrees of success:

Andy: I wonder what the hell's after my jeans. Look at that.

Mike: Andy, it's not nice to say the "H" word.

Andy: Look at that. It just happened. It musta ripped or something.

Mike: You gotta find a word, O.K.? Um,

Andy: This, this bites.

Mike: (Inaudible.) O.K.,

Andy: (Sighs.) Mike, Mike, Mike.

Mike: Andrew, Andrew, Andrew.

(Word play with the names continues.)

Andy: What, what? (Chuckles.)

(Mike chuckles.)

Andy: Did you hear that, ladies and folks? "Ladies and folks"?

Mike: Andy, let's go. Gobble, gobble!

Andy: O.K.

Mike: O-kee, do-kee. I'm reading mine over.

.
.
.

Andy: What's that on when they go like that? What's that on when they do that? Isn't that a Roman thing or somem'? They do that.

Mike: Get to work.

.
.
.

Andy: How can you read that?

Mike: (Chuckles.) It's easy. "Noisy," "dusty," "D" for "director" or whatever that one is.

Andy: (Laughs.) "Director." "Description."

Mike: [Descr-, oh, thank you!

Andy: (Chuckles.) Don't touch.

Mike: (Chuckles.) Start writin' and get goin'.

.
.
.

Mike: (Referring to the tape recorder) What is that red light?

Andy: Want it off, or want it on?

Mike: [What is it?

Andy: P.A.

Mike: (Sighs.) Andy!

(Sounds of switches being changed on the tape recorder.)

Mike: Andy, let's get to work.

Mike's occasional lapses into verbal meanderings with Andy appeared to be a natural outgrowth of the boys' friendship and the writing partnership they were being encouraged to develop. Nevertheless, Mike seemed to sense even at this early stage that if the writing work were to bear fruit, it would fall primarily on his shoulders to keep it moving.

Collaborative Revising of First Paper (March 28-29)

Cindy and Kris

Analysis of initiating comments about writing-related topics (see Table 7) reveals that more parity existed during this class session than during the color-coding and prewriting sessions. Kris initiated five topic changes related to writing, and Cindy initiated four.

Cindy provided computer assistance to Kris when Kris was uncertain how to move text within her file. We have seen that Cindy continued to assist Kris with her writing tasks, as in the instance in which Cindy offered suggestions for Kris to consider in expanding her description of Alcatraz.

Kris continued to contribute enthusiasm. Some of this enthusiasm was directed, as in earlier class sessions, toward Cindy's assistance and support. We have noted, for example, her excited reaction to some of Cindy's descriptive word suggestions. Other examples:

Kris: How's this sound: "My trip to California was marvelous. Would you like to hear about it? Our time in San Francisco was fun. We went to the, we went to San Francisco. We flew. We arrived at the airport at 10 o'clock." That's what I added. "The airport was neat because we flew over the bay." Does that sound good? Oh, goodie!...

.
.
.

Kris: How do you spell "statue?" S-t-a-t-u-e? I don't know. Let me see. (Inaudible.) (Typing sounds.) How do you spell "statue"?

Cindy: Well, just guess, and then you can run it through spell check.

Kris: Huh, that's a good idea!

In this session, Cindy shared more of her work, and Kris once again reacted enthusiastically:

Cindy: I've still got to capitalize all their names. (Inaudible.) I changed it from "when his mom is in a bad mood" to "when Lady, Starlight, Katie, and Nappie are in a bad mood."

Kris: That's good!

Andy and Mile

Mike continued in his role as the conscience of the partnership, working away on his revisions despite Andy's preoccupation with his laptop computer. While Andy played with the alarm clock of his computer and practiced putting the computer to sleep, Mike announced, "I'm gonna do my story." Mike continued working on his revisions, despite the fact that Andy (unbeknownst to me) had started playing a computer game right next to him.

Mike also demonstrated his willingness to be helpful, especially so with the computer. While seeking an editing clarification from Andy, he helped Andy relocate part of his file, which Andy thought he had lost; in the process, Mike modeled the ability to get back to work once a digression had taken place:

Mike: O.K., no. Did you, on your thing you had, "Explain." O.K., "The first thing you need is a partner. A partner is important. If you don't have, you can't be a roper."

Andy: What? (Chuckles.) I just lost half my paper.

Mike: Well, push the thing down.

Andy: Now, oh. There, I got it back.

Mike: Andy, push this thing right here. I mean, O.K. Then, you put, like, "Explain why you need, need a partner," or something, where, where you don't have to have a partner or something.

Andy: Yeah, except

Mike: Yeah, but you can't compete then if you don't.

Andy: Well, you should explain that then.

Mike: Yeah, O.K.

For his part, Andy made significant contributions to his conversations with Mike throughout the year. As the excerpt above continues, for example, his suggestion to Mike reveals an emerging ability to identify and fill important gaps in a paper:

Mike: O.K., no. Did you, on your thing you had, "Explain." O.K., "The first thing you need is a partner. A partner is important. If

you don't have, you can't be a roper."

Mike: ...Then, you put, like, "Explain why you need, need a partner," or something, where, where you don't have to have a partner or something.

Andy: Yeah, except

Mike: Yeah, but you can't compete then if you don't.

Andy: Well, you should explain that then.

Mike: Yeah, O.K.

Andy: Like, "If you wanta compete professionally, you should have a full-time he-, heeler or header. And you, and the header ropes the head of the steer," 'cause didn't Cindy or Kris ask what that was?

Mike: Huh?

Andy: Didn't Kris or Cindy ask what a header or a heeler was? I thought so.

Mike: Yeah.

Andy acknowledged the validity of a classmate's revision suggestion ("... 'cause didn't Cindy or Kris ask what that was?"). His emerging ability to further develop ideas would continue to assert itself throughout the boys' work on their second paper.

Writing First Draft of Second Paper (May 7)

Cindy and Kris

Much of the audiotape of this class session is taken up with typing sounds, and a large proportion of the dialogue revolves around Kris's difficulties with two issues regarding Olympic wrestling. As such, Kris contributed seven writing-related topic changes, and Cindy contributed three. Cindy contributed four uptake comments to Kris's one.

Cindy continued to lend assistance with computer difficulties. In this case, Cindy helped Kris navigate through some of the vagaries of the laptop computers, including loading a disk and activating a file.

Kris continued to contribute enthusiasm to the enterprise, occasionally in small and unexpected ways such as adjusting the position of her computer: "Put the computer down here. (Brief pause.) I'll put it right there, and I'm happy!"

Mike and Andy

In the next chapter we will examine at length the supportive collaboration that developed between the boys during the May 7 writing session. During this session, Mike found it unnecessary to take on his role as "traffic cop." Rather, he made significant contributions of ideas and refinements; in this regard, he took on part of the "fine tuning" role previously dominated by Andy. For his part, Andy continued to provide ideas and suggestions for improved wording. It appeared that the intensity of the collaboration and the boys' commitment to the quality of their paper mediated Andy's trouble focusing and enabled him to make even more significant contributions.

Analysis of the initiating and uptake coding tabulations further illuminates the significant role played by both boys in this writing session. Mike initiated 18 writing-related topic changes, and Andy initiated eight. Andy contributed six uptaking comments or questions to Mike's one.

Development of Contributions During the Year

Andy

One of Andy's defining episodes occurred on February 9. Under pressure because we were so far behind schedule, Kris and Cindy got started writing right away; Mike and Andy, however, were delayed because they remembered a health assignment they needed to finish. After 20 minutes, the boys were ready to start writing. Almost immediately, however, a problem arose: Mike could not find his data disk. Something of a tumult ensued as we all combed the classroom for the disk. After several minutes of frantic searching, the mystery was solved:

Andy: Here's something (inaudible).

Mike: What (inaudible) under the keyboard! He had it under the keyboard!

Kris: Gosh!

Mike: (Inaudible) find it.

T: You know, you guys already

Cindy: (Chuckles.) Guys!

[
Mike: We forgot about it.

T: spent 20 minutes doing health, and now you're hiding each other's disks?

(Cindy chuckles.)

Needless to say, I was more than a little frustrated by this delay (despite the whimsical humor of it all). Fortunately, once the boys were able to get underway, Andy began to put his energies to more productive use. His facility with oral language emerged as I sat at his computer and helped him compose:

T: O.K., which of these three ideas do you think you might want to talk about first?

Andy: "Be physically fit."

T: Alright. "You should be," or "you have to be"? What did you say?

Andy: "You should be." (Teacher types.) "(Inaudible) determines on how well you (inaudible)"

T: Hmm?

Andy: "how well you want to ride." "That framework determines your willpower and how much you want to ride."

Andy's mischievous side emerged periodically during the year around the theme of the rodeo bucking chute, the enclosure from which a bullrider and his bull enter the rodeo ring. During an early brainstorming session, Mike inadvertently mispronounced it, "bunkershoot." Andy immediately seized on this and henceforth brought it up regularly. For example, during the January 30 organizing session: Mike: ...I'll put it right in the middle. (Sound of papers being moved

on the table.) How 'bout pickup chute? Bucking chute.

Andy: (Chuckles) Bunkershoot?

Mike: Buckersshoot. (Andy chuckles.) Whatever it is.

Andy: Bunkershoot?

On February 27, poor Mike slipped up again:

Andy: Wanna look at everything in the turquoise dots, you know?

Mike: Yeah. What's turquoise - that?

Andy: What?

Mike: What's turquoise - that? Oh, blue? (Inaudible.) Whatya mean, you have to put that in yet?

Andy: Yeah.

Mike: And you never put "bunking chute" in yet?

Andy: "Bucking chute," not "bunking chute."

Andy may have had writing problems, but memory was not among his difficulties. On March 27, a full month later, we witnessed the spontaneous regeneration of both "bunking chute" and its predecessor, "bunkershoot":

Andy: I got confused with these two paragraphs, and that isn't really true 'cause you can find (inaudible) and team rope, then you'd want a partner, but, like, if you're just gonna rope (inaudible),

Mike: [Oh, yeah, that's

(inaudible).

Andy: then you can get a partner there.

Mike: Yeah, I was thinkin' that.

Andy: Mmm, (brief pause), and

Mike: [So I guess you don't need

Andy: "bunking shoot"? (Chuckles.)

Mike: (Chuckles) Yeah.

Andy: "Bunkershoot."

Of course, all was not fun and games for someone with Andy's writing difficulties. As one of the early writing sessions began, he announced to Mike almost immediately, "I don't feel like typing today." I came over a few minutes later to check on things, and Andy told me, "I just don't feel like typing and writing and doing sentences." When I offered to type for him, he said, "But I can't think of any sentences, either...I can't think of any sentences." I began to realize that we were facing two separate, but interconnected, issues: translating brainstormed ideas into complete thoughts and transferring those complete thoughts onto the computer. I spent much of my time in the ensuing months helping Andy not only with his typing, but also with the struggle of fleshing ideas into complete thoughts.

As we have seen and will see again, Andy was able to rise above his difficulties to contribute significant ideas and refinements. In fact, I often was surprised by his spontaneous insights. On March 15, for example, he clarified a punctuation issue for Mike while the boys were involved in peer editing:

Mike: Put a question, yeah. "How do you know?" (Rereads the next section quickly aloud.) Uh, we got a apas-, apostrophe right there: "animal's." Put

Andy: But they don't own anything.

Andy's allusion to possessives showing ownership revealed a good conceptual understanding of one use of the apostrophe.

Kris

We have seen that Kris entered the writing enterprise with considerable enthusiasm, which continued unabated. On February 15, a week after the students started writing the first draft of their first paper, she expressed disappointment that she needed to work in the industrial arts room during her study hall period; she said she wanted to work on her paper.

I have surmised that Kris's enthusiasm was very helpful in engaging Cindy, a much quieter girl, in a very personal way. A vivid

example of both Cindy's contributions to Kris's writing and Kris's exuberant reaction occurred on February 9 as the girls worked on descriptive paragraphs for their first papers:

Kris: "Tourist." (Brief pause). It's gettin' to me. "Tourist spot."
(Brief pause.) O.K., thanks. "A major tourist spot." Uh, "A
wax museu-, the wax museum comes to life." Hey! I made a
sentence!

Cindy:

[
That's a good
one!

Kris: Thanks! O.K. "The"

Cindy: (Inaudible.) You got that one on your own.

Kris: "Wax" (brief pause) "museum." Ooo! Oh, I can do that, like, "A
wax mu-, the wax museum comes to life."

Cindy: Yeah!

[
Kris: Is that what I said?

(22-second pause.)

Kris: Ooo! I'm proud of myself!

It would appear that Kris's enthusiasm had become infectious. Cindy's enthusiastic responses ("That's a good one!", "Yeah!") and her pat on the back ("You got that one on your own.") hearken to Kris's numerous expressions of excitement in both this and other conversations. As the conversation continues, Kris shares her enthusiasm with the teacher:

(12-second pause.)

Kris: Look at this sentence I made: "The wax museum comes to life."

T: Oh, that's good.

Kris: I just thought of it.

T: I like that. Yeah...

Kris: Yay!

After the teacher leaves, the girls co-construct additional description of the wax museum:

Kris: Um, "strange"? "Looks like real human flesh."

Cindy: "The people look real." "The statues look real." How does that sound?

Kris: (Inaudible.)

Cindy: "The statues in the museum look like real people."

Kris: Your flesh is just sk-, skin, isn't it? "Flesh."

Cindy: (Inaudible.)

Kris: Oh! "The s-"

Cindy: "The statues of the (inaudible) look like real people." It doesn't (inaudible).

Kris: Well, "The wax museum comes to life." That's what I was k-, it kind of

[
Cindy: (Inaudible.)

Kris: They're kind of the same, I think. But, uh,

Cindy: "The wax museum"

[
Kris: "The wax, the wax on the"

Cindy: "Statues"

Kris: "statues"

Cindy: "Looks like flesh"?

Kris: Yes. Yes! I

?: (Inaudible.)

Cindy: You like that one?

Kris: I like that one.

Cindy's original suggestions ("The people look real."; "The statues in the museum look like real people.") led to Kris's mention of flesh and her more abstract contribution: "The museum comes to life." Finally, together the girls constructed the final image, "The wax on the statues looks like flesh."

This excerpt concludes with Kris writing down the final image and thanking Cindy for her help:

?: This is a very (inaudible.)

Kris: O.K.

Cindy: "The wax"

[

Kris: That was a good, O.K. I'll write on this paper. (Brief pause.)
O.K. "The wax," "The wax," "on the"

Cindy: "Statue."

Kris: "statue"

Cindy: "Looked like flesh." That'd be neat to see. I've never seen a
wax statue before, only on T.V., but that's not the same.
It's not the same.

[

Kris: Woa! Am I, oh, jeez, I'm glad I asked you to help me!

On February 23, as the girls were working on the introductions for
their first papers, Kris once again expressed her irrepressible
enthusiasm and gratitude for Cindy's help:

Kris: "My trip to California was marvelous."

Cindy: "Would you like to"

[

Kris: "Would you like to know about it?"

Cindy: Yeah!

Kris: O.K., "Would," O.K., you have to help me.

(Typing sounds, accompanied by conversation.)

Kris: "Would you"

[

Cindy: "you like to"

Kris: "to"

Cindy: "hear"

Kris: "hear!" What'd I say, "know"? Ah, "hear."

Cindy: That's not right: h-e-a-r.

Kris: What?

Cindy: H-e-a-r, "hear." As in not "here, here," as in

Kris: Oh.

Cindy: "listen, hear."

Kris: Yeah. I knew that. "Hear." (Chuckles.) Lucky you're here... We again see Cindy reacting with enthusiasm of her own ("Yeah!") after the girls once again co-construct a bit of effective wording ("My trip to California was marvelous. Would you like to know about it?").

Mike

Mike seemed quite concerned about his typing speed as the students began writing their first drafts. After I finished reading the first draft of my model paper to them, Mike sighed and said it would take him weeks to write his paper due to his slow typing speed. Much later, as we began preparing to start the research paper, he said he didn't think we had any chance of finishing it before the end of the school year (I didn't mention it, but I shared the same concern!). Despite his slow typing speed, however, Mike never accepted my offers to help with the typing. He seemed to feel that this was part of his responsibility, and he hammered away at it with conviction.

I have identified two roles that Mike seemed to fall into, that of "traffic cop" to keep the boys' efforts on track and that of computer consultant. On February 9, for example, he felt the need to redirect Andy's attention ("Would you do your work?"). While the students were conducting research at my house in April, he and Andy were highlighting printouts of research material:

Mike: Gimme another one, paper.

Andy: We're done.

Mike: No, we're not!

Later in the day, Mike helped Kris make a change on the laptop computer:

Andy: Good job, Mike. You're a good instructor.

Mike: You're welcome, man.

Kris: I think Mike should become a computer whiz.

Mike: Yeah, right!

Mike figured out that, since the writing partners double-saved their

files on each other's disks, he could easily review Andy's work by loading it into his own computer. One afternoon Kris happened to look over his shoulder and see Andy's paper on Mike's computer screen:

Kris: You guys are both doing the same thing?

Mike: No, that's his story. I just put it on mine.

As we have noted, Mike and Andy liberally interjected humor into their work, which led me into occasional humorous forays of my own. In late May I decided to pull Mike's leg about a double-negative he had used; if Andy hadn't intervened in what started sounding like a version of "Who's on First?", I'm afraid I might have pulled Mike's leg right off:

Mike: Then next week you don't have to do nothin'?

T: That's right, you don't have to do "nothin'".

(Brief pause, followed by Mike chuckling softly.)

T: Listen to what I said: "You don't have to do *nothin'*".

Mike: [Anything.

T: Oh, no, that's not what you said. You said, "You don't have to do nothing." That's right.

Mike: [What about it? Nothing.

T: You don't have to do nothing.

Mike: I know we don't have to do nothing.

T: That's right. You don't have to do *nothing*.

Mike: I know. I just

T: [Nothing is what what you don't have to do.

Mike: (Chuckles uneasily) O.K. I don't understand. It's too complicated.

T: *Nothing* is what you don't have to do, which means what do you have to do?

Mike: Nothing.

T: Something.

Andy: Are we gonna do anything next week?

T: Yes. Good question. Yes, you are.

On April 13, the day the students came to my house for Internet research, Mike ran across an article on an Australian animal that included the word "sham." He became fascinated with the word. Probably overreacting, I cautioned him about plagiarism and told him that it didn't sound like a word he would normally use. He was, however, not to be denied. On May 16 the word resurfaced as he read over part of the boys' first draft:

Mike: "It is largely a sham."

T: "A sham," right.

Mike: Yeah, well, can't I put that?!

T: We'll see, we'll see.

Several days later, while we were discussing the concept of "key (transitional) words," Mike asked, "Are key words like 'sham' and stuff like that?" Later in the class period, he could restrain himself no longer and insisted on putting the word into his paper:

Mike: (Excitedly) O.K., I, I, I gotta put something on my thing. I just can't hack it anymore. "It's largely a sham." Where is that?

T: If you insist on "sham," go ahead, put "sham" in there.

.
.
.

Mike: I gotta find it.

Cindy

Cindy came to take her writing work quite seriously. When the students started accumulating computer printouts of their research, I gave each of them an orange folder for their printouts. Cindy took her folder with her after class one day so she could look it over during study hall. She was somewhat disappointed with the amount of material she had been finding on figure skater Scott Hamilton, so she indicated

that she would like to try to contact him either by letter or by e-mail. Unfortunately, we were unable to find an e-mail address for him, and we ran out of time for the letter. Nevertheless, her comments demonstrated the interest she had developed in the quality of her writing.

We have seen examples of the considerable assistance that Cindy provided Kris in the areas of idea generation and organization. She also, as we have mentioned, took on the role of computer consultant. The following excerpt illustrates the kind of frequent exchange in which both roles came together:

Kris: Um, I have three sentences. That's not a big enough paragraph, is it?

Cindy: Mmm, some of mine are that long, but they're really long sentences.

Kris: Oh, yeah, they're kinda long. Well, oh, well.

(Typing sounds.)

Kris: O.K., how does this sound? "The jail was huge, giant, enormous." I put commas there. Does that sound (inaudible)?

Cindy: [Yeah.

Kris: O.K.

(Typing sounds.)

Kris: Oh, woops.

(Typing sounds.)

Kris: Where'd it go? (8-second pause.) Cindy, I have a qu-, um.

Cindy: What?

Kris: I need my thingie to right there.

Cindy: Go down.

Kris: I did, but it won't go down.

Cindy: Where is it?

Kris: Right there.

Cindy: Go over.

Kris: See? I'll show you where it is, like,

Cindy: Use your arrow keys and move it, like, left to right.

Kris: I did that. It doesn't work.

Cindy: Oh, oh.

Kris: O.K., it's right there.

Cindy: Enter.

Kris: Enter?

Cindy: Enter. Enter. That's space.

Kris: Oh, that's space. (Brief pause.) Didn't work.

Cindy: New page.

Kris: I don't need a new page, though. I need a new paragraph.

Cindy: Um, delete. It'll go back to where you were, I think.

Kris: Yeah.

(Typing sounds.)

Kris: If I go there, oh, well, I'm not

Cindy: [Won't go.

Kris: What?

Cindy: It won't go anywhere.

Kris: There.

Cindy: Does it move?

Kris: No. (Brief pause.) See, now, it goes up and over, but it won't go down and over. Wait, O.K. Where'd it go? Eeee, yikes!

(Typing sounds.)

Kris: Down, O.K. Ah, not that.

(Typing sounds.)

Kris: See, it stops right there. Does it have to go all the way over there, then, maybe?

Cindy: I don't know.

Kris: I can't write that much! That's all I can think.

Cindy: Well, it's back to the place you were.

Particularly interesting in this excerpt, yet another extended collaboration between the girls, is their persistence; they did not give up and automatically ask for the teacher's help, but rather worked together until the computer issue was resolved.

Summary

Each student in his or her own way contributed to the texture of the conversations that unfolded in our classroom during the year. I strongly suspect that many fruitful aspects of these contributions would not have emerged in a more traditional teacher-centered structure. The students both developed and helped each other develop during their collaborations throughout the year. Moreover, individual student contributions, such as Kris's enthusiasm and Andy's facility with word choice, seemed to "rub off" on their writing partners.

Transfer of Responsibility

For students to become independent writers and to generalize their learning to new settings, they must be able to take responsibility for their own learning. Therefore, I wanted to examine the extent to which they internalized the thinking and the writing techniques that I had modeled, as well as their ability to scaffold one another's writing development.

Table 8 summarizes the key codes that inform this important issue of transfer of responsibility. As we saw earlier, I relied heavily on thinking aloud during my modeling. The code tabulations indicate that thinking aloud played a prominent role in the students' writing work through the revision stage. By the time they started writing their second paper, however, their thinking apparently had congealed enough that thinking aloud was less critical.

Seeking and offering clarification, seeking ideas and evaluations

from others, and admitting difficulty serve as additional indicators of the students' efforts to take command of their own learning. These codes appeared less frequently and less consistently, but they did seem to play an important role in specific situations and for specific pairs of students. It is noteworthy that students occasionally sought evaluation of their work from a peer, but never from me. I attribute this, at least in part, to my frequent reminders that the students were expected to rely as much as possible on each other for assistance and support.

TABLE 8

Transfer of Responsibility (Key Code Tabulations)

* Potentially Disconfirming						
	ORGANIZING		REVISING		WRITING	
	FIRST PAPER		FIRST PAPER		SECOND PAPER	
	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy
Thinking Aloud	20	15	11	3	0	0
Admit Difficulty with Structure	7	0	0	0	0	0
Taking/Giving Ownership of Idea	0	1	0	0	0	7
Seek Clarification	2	4	1	5	0	20
Offer Clarification	0	5	2	4	1	13
Seek Evaluation from Peer	4	0	3	1	3	0
Seek Evaluation from Teacher	0	0	0	0	0	0
Seek Idea from Peer	1	10	6	4	0	0
Offer Help with Idea	0	0	9	2	0	0
Question Own Idea	0	4	0	0	1	2
Question Other's Idea	2	5	0	1	0	0
Admit Difficulty with Own Idea	7	4	1	0	0	3
Admit Difficulty with Other's Idea	0	0	1	0	0	3
Admit Memory Difficulty	0	0	1	0	6	0
* In-Context Interruption	0	10	1	7	3	1
* Out-of-Context Interruption	6	18	1	3	4	3
* Teacher Comment - Time Management	2	5	1	2	0	1
* Teacher Comment - Behavior Mgt.	0	3	0	3	0	1

The potentially disconfirming codes further illuminate the types of interactions that evolved during the school year. Kris and Cindy

worked very independently throughout the year and required few reminders to stay on task; their interruptions were generally brief and seldom interfered substantially with their work. Andy and Mike, on the other hand, had a more difficult time staying on task. While I found it necessary to spend more time with them than with Cindy and Kris, they generally were able to get back to work and to accomplish the tasks at hand once they had been redirected. The relative scarcity of teacher comments about time and behavior management indicates that distractions and interruptions rarely reached crisis levels.

Modeling Color-Coding (January 9)

In order for students to take responsibility for their own learning, it is essential that they develop a sense of ownership for their own ideas. I made overt attempts to foster ownership by referring to the student who had generated a specific idea (e.g., "...When I start to write this, I may not write it exactly the way I have it here. I'm, I would probably write it more like what Andy just said..."). I also reminded students of their central role as decision-makers (e.g., "You're the one that has to decide that. You know the background and I don't."), which I would continue to do throughout the school year.

Even at this early stage in the study, Kris began employing think-alouds to help give her writing a sense of direction. Near the end of the January 9 class session, as the students began looking over their brainstorm with an eye to color-coding, Kris could be heard thinking aloud about two ideas in her brainstorm; during the brief exchange that ensued, Andy offered support for her thinking:

Kris: Most of mine'll be at its own. Well, no. These two will go together.

T: Yeah. Try not to leave too many things all by themselves.

Andy: [Like, put (inaudible) and put them two together with the (inaudible).]

Kris: Yeah, these two could go together 'cause they're on the bridge.

Kris had appropriated the think-aloud technique ("Most of mine'll be at its own. Well, no. These two will go together.") that I had modeled earlier. Then Andy emulated the supportive interactions I had modeled and encouraged by pointing out two ideas that belonged together.

A few days later Kris employed think-alouds as she worked on color-coding brainstormed ideas about her trip to California:

Kris: I think that's it. "Train museum." (Inaudible.)

(68-second pause.)

Kris: Get that in there somewhere.

(15-second pause.)

Kris: (Inaudible) goes for, no, that was in the train museum.

(36-second pause.)

Kris: Wait, "Fisherman's Wharf" is this color.

Cindy: Yup.

(16-second pause.)

Kris: I don't know why I have "hills" written down. Here's "homeless"; that would go. I don't have any more markers. Hmm. O.K., this one, I have to, here's an "airplane." "Airplane" doesn't really go with any of the groups. I bet we can make our own group out of colors.

Description/Narration, Organizing First Paper (January 30-February 1)

Cindy and Kris

I entered the conversation at only six points during the course of this transcript, as Cindy and Kris worked very independently and efficiently. The transcript includes six out-of-context interruptions, but three of them came in rapid succession, and the girls were able to get back on track without any urging from me. On one other occasion, the interruption was very brief, and they again got themselves back on track. On the whole, it appeared that the interruptions did little to disrupt the girls' work; rather, they appeared to represent the brief digressions that naturally punctuate most conversations.

On two occasions, I ended up entering the conversation during an interruption, which effectively rechanneled the discussion back to the writing task. There was no evidence in the transcript, however, that either Cindy or Kris had requested my help at any time during their efforts to organize and brainstorm; they accepted my assistance when I offered it, but they appeared to be content to rely on their own resources to accomplish their tasks.

Both Kris and Cindy demonstrated through think-alouds that they were wrestling with the complexities of effective writing. Their think-alouds provide glimpses into thinking that focused on important structural factors such as the organization of details. For example, the following think-alouds emerged as Kris color-coded her brainstorm of ideas about California: "O.K. I think that's all I have for Hard Rock Cafe...I think that's it. Train museum...Get that in there somewhere...(Inaudible) goes for, no, that was in the train museum...Wait, Fisherman's Wharf is this color...There's another (inaudible)...We need to do the big groups first, right?...Ooh, let's see. Where could I put that? Here's a red. Red's pretty. We need to use all of them, yes we do. We need to use all of them."

Scaffolding was in evidence at several points in the girls' conversations. On one occasion, Cindy helped me push Kris's thinking on combining small groups in her brainstorm:

T: You got a lot of small groups, or

Kris: Uh-huh. I don't have very m-,

T: O.K.

Kris: like, that's about my biggest group, and that.

Cindy: When you divide the groups,

[

Kris: Um, well, here's "trolley car," "weather," "kind of weather."

Cindy: "Weather" can go together.

[

T: Yeah.

Kris: Those two. So, what

Cindy: And "trolley car" and "airplane" could go together.

Kris: See this. "Weather."

T: You know, when you have groups, you might see if there's a way to

Cindy: Group 'em all together?

I continued the scaffolding for several minutes without further input from Cindy, but her observation that "trolley car" and "airplane" could go together had helped establish the concept that perhaps larger groupings in Kris's brainstorm were possible.

A bit later on, Cindy expanded on one of Kris's ideas, thereby helping Kris to clarify and extend her thinking about Alcatraz:

Kris: Uh-oh. (Sighs, whispers inaudibly.) (Brief pause.) O.K., I could describe the, just, just describe it, like what it was like. That's what I was thinking.

Cindy: [Like in the inside?

Kris: Yeah. And, then, "tomato trucks." (Brief pause.) That's what I was thinking for the same thing for "tomato trucks," too.

At the very end of the transcript, Cindy helped Kris expand her ideas about the zoo:

Kris: Let's see. I could describe some of the animals and stuff. The animals and maybe put

Cindy: What kinds of animals there were?

Kris: Yeah. Put, like, "awesome."

Cindy: "Outrageous"?

Kris: Hmm, I pick the words I don't know how to spell.

Cindy: Sure!

Kris: "Out-", (inaudible).

Cindy: (Inaudible.)

Kris: (Inaudible.)

Cindy: I think it's "r-a-."

Kris: I, uh, O.K., just a second. I'm trying to figure it out.

Cindy: "Strange"?

Kris: Mmm, they weren't strange.

Cindy: "Different," from around here

A simple question ("What kinds of animals there were?") led to a collaborative effort to generate descriptive words. Cindy's final suggestion ("'Different,' from here.") placed the previous suggestions into proper perspective.

Andy and Mike

As we have noted, Andy and Mike frequently found it very difficult to concentrate on their work during these prewriting sessions. They had difficulty from the outset identifying ideas suitable for descriptive and narrative paragraphs, and lapses of attention thereafter impeded the efficiency of their work.

Despite their distractibility, both boys employed think-alouds successfully in reaching important organizational decisions about their papers. Early in the session, for example, Mike demonstrated the intensity of his thinking as he worked on organizing a section of his paper:

Mike: (Hums.) O.K. The first one would be, let me see, "saddle," "blanket," "bridle," "halter," "rope," "tack." (Brief pause.) "Oats," "cowboy boots," "hay," (inaudible).

Andy: (Returns from the drinking fountain) (Inaudible) dry out all the good markers.

[
Mike: "Water," "wood chips," "bucket," (inaudible), "bell."

Andy: Here, Mike, hurry up, use this if you got to.

Mike: Yeah, but I'll have to wait. I'm right in the middle of one.

Shortly thereafter, both boys could be heard thinking their way through their organizational tasks:

Mike: "Oats," "hay," "water."

(18-second pause.)

Mike: Oh, boy.

Andy: Hey, um.

Mike: "Oats," "hay," "water,"

[
Andy: (Inaudible.)

Mike: "Wood chips," "bucket."

Andy: "Bull rope."

(Sound distortion as microphone is moved.)

Mike: "Wood chips," "bucket."

(21-second pause.)

Mike: Ah, that would be "tack." (Brief pause.) (Inaudible.)

Naming ideas out-loud seemed to help Mike and Andy to focus on the task of categorizing their ideas.

Mike demonstrated the ability to scaffold Andy's efforts by helping him generate narrative details about a bull ride:

Mike: You have to kinda, like, tell a story, right?

Andy: "Inside," "bull."

Mike: Um,

Andy: "Bullrope."

Mike: Put "bull person," whatever.

Andy: What?

Mike: The person who rides the bull, the person.

Andy: Me.

Mike: (Chuckles.) Me. Um,

Andy: "Scared."

Mike's initial thought ("You have to kinda, like, tell a story, right?") got Andy thinking about details that would be important to the

narrative. Once Andy was underway, Mike suggested including the person riding the bull; this suggestion prompted Andy to identify himself as the bullrider and to add the adjective "scared" to his brainstorm.

I hoped Mike and Andy would accept and understand their roles and responsibilities as writers. Although I did not want to heap more frustration on them during these challenging prewriting activities, I reminded them that they would be making the important decisions:

Mike: How many things do I need? I got, like, twenty already.

T: Uh, ideas for your

[
Mike: Yeah.

T: Well, you just decide when enough is enough. You won't probably be able to use all of those, but at least you've got a lot of ideas to choose from.

Collaborative Revising of First Paper (March 28-29)

Cindy and Kris

I entered this conversation six different times, once to discuss an upcoming parent meeting, once in response to Kris's question about whether she had added a detail in the right place, once to help with spelling and to help Cindy move a paragraph within her file, once to check up on things, once when Cindy announced that she had finished her revisions, and once at the very end of the class period as Cindy and Kris were experimenting with various printing fonts. It is noteworthy that my inclusion in the conversation involved a substantive writing issue only once (Kris's question about the location of an added detail).

The girls once again worked efficiently and independently throughout the class period. The transcript contains only one instance of an out-of-context interruption and no in-context interruptions at all. The lone out-of-context interruption involved a brief discussion of a recent health test; the girls returned to their writing work without intervention from me.

Much of the girls' conversation during revision centered on

structural issues such as moving ideas within the paper, adding supporting details, adding categories, and incorporating reader sensitivity. Evidence of the girls' thinking of structural issues once again emerged through their think-alouds, of which there were 11 in this transcript. The following brief excerpt, for example, includes think-alouds revealing both Kris's concern for addressing issues raised by her editors and Cindy's awareness of organizational structure:

Cindy: Gee, I'm gonna change this before I go moving it.

Kris: Hmm. O.K., let's see. And I talked about (inaudible). The sights? Hmm. Do I need (inaudible)? (Typing sounds.) Somebody said I needed to look over the

Cindy: Oops, made a boo-boo.

On three occasions, the transcript includes one of the girls talking quietly as she types. Three of the 11 think-alouds appeared to focus on mechanical/typing revisions:

Cindy: O.K., everything's double-spaced, and where there's a comma, there's a space. (Lengthy pause.) I'm finished (inaudible).

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.
.

Kris: What's up with the double "s"?

.
.
.

Kris: It'll last once. Oh, gosh! (Chuckles.) O.K., read through, ahhh! Now what? There's a "tab." (Brief pause.) There.

In order to reinforce ownership of ideas, I continued reminding the students of their responsibilities as writers. Early in the class session, Kris asked me if she had added an idea in the right place. After discussing the matter briefly, I added, "You're the writer. Sometimes it helps to just write it down and then look it over later on and see if you like the way it sounds or not."

Cindy continued to support Kris's efforts; we already have noted Cindy's assistance in the expansion of Kris's description of Alcatraz. At Kris's request, Cindy also elaborated on her own editing suggestion by teasing out more details about the wax museum, apparently dismissing

Andy's marginally successful attempt at humor:

Kris: Hey, Cindy.

Cindy: What?

Kris: What do you mean by, um the wax museum? What do you mean, "more details," like?

Cindy: Like, tell what kind of statues they have, like,

Kris: Ooo!

Cindy: Like, people.

Andy (in background): Wax.

Kris: That's a good one.

Cindy: No, the characters. Never mind.

Kris: Yeah, Andy...

Cindy's suggestion led to Kris's including the names of specific people who were memorialized at the wax museum.

In the following excerpt, Cindy scaffolds Kris's effort to address one of her editors' suggestions:

Kris: O.K., Cindy?

Cindy: What?

Kris: I need help.

Cindy: Tell me what's wrong.

Kris: What?

Cindy: Tell me what you need. I'm double-spacing.

Kris: O.K. It says,

Cindy: (Inaudible.)

Kris: "How long was I there, how was the climate, and how long did it take me to get there?" So, I'm at the airport part. So, I don't know. I think it took us three hours to get there.

Cindy: Well, what time did you leave?

Kris: Early in the morning, I don't know.

Cindy: From the airport? Do you remember?

Kris: Seven, and we got there at 10.

Cindy: (Inaudible.)

Kris: Yeah. Three hours.

The final version of Kris's paper reflects her inclusion of details that grew out of this conversation ("...When we went to San Francisco we flew. We arrived at the airport at 10:00.").

Andy and Mike

Despite Andy's preoccupation with the laptop computer, the transcript of these revision sessions reveals a dramatic decrease in the amount of time and energy devoted to interruptive interludes. Seven in-context interruptions and three out-of-context interruptions were noted, compared with 10 in-context interruptions and 18 out-of-context interruptions in the transcript of the organizing sessions.

Furthermore, my participation in these revision sessions was quite limited. Over the course of the two class periods, I entered the boys' conversations 13 times, and each time I stayed only briefly. On five of these occasions, I answered spelling-related questions; once I helped Mike read an editor's comments; twice I answered computer-related questions; and once I answered a question about an upcoming parent meeting. Only once did I remind Mike and Andy of the tight time schedule (we needed the revisions completed before the impending parent meeting) and urge them to work more efficiently. The remaining 3 "visits" related to redirecting Andy's attention and, eventually, moving him to another computer because of his preoccupation with the tracking ball of his laptop. After I asked Andy to move, he readily acknowledged the error of his ways:

T: O.K., I want you to move over to that computer.

Andy: O.K.

T: Save it on the disk.

Mike: Why is he movin'?

Andy: I was messin' around.

Mike: What'd he do?

T: Too much play value (inaudible).

The fact that Mike and Andy had a collection of revision suggestions from which to work and were not forced to generate all their own ideas probably contributed to their higher level of independence. It would appear, moreover, that the boys also were gaining confidence in their abilities as writers. We have seen Andy's emerging success with creative expression and idea development. For his part, on several occasions Mike appeared to be quite interested in not only incorporating editors' suggestions into his paper, but also in selecting which revisions he would include.

The fact that Mike didn't even seem to realize that Andy had been playing with the tracking ball of his computer, as revealed in the excerpt above ("What'd he do?"), is indicative of how focused he was on his revisions. In fact, the very first comment in this transcript records Mike looking for Kris so he could get a clarification of one of her suggestions ("Whose was this? Is Kris over there? I'll ask her later."). Later, he again expressed his interest in addressing his editors' suggestions, as well as his right as an author to choose from among those suggestions, an assertion that I supported:

Mike: I, I'm gonna first do this one.

T: O.K.

Mike: But I'm readin' it over 'cause I hafta find the place where (inaudible).

.
.
.

Mike: Some of this stuff I don't want to do what they said.

T: That's your choice. Or, if, if, you know, you think there might be a better way than what they suggested, you could ask somebody else.

The three episodes of thinking aloud contained in this transcript reveal that both Mike and Andy were thinking about structural elements of their papers. Although almost immediately interrupted by a question from Mike, Andy began musing over the wording of one of his paragraphs:

Andy: "The first time I"

Mike: By the way, what'd you mean by, "Explain about the stuff you get."

Mike was captured reviewing aloud the apparent wealth of suggestions from his editors: "O.K. Now they're gonna ask, 'Explain that.'

Explain that next thing. Explain the next thing. So keep on doin' it."

Finally, we continue to see evidence of the boys scaffolding one another's thinking. The very suggestions for revision that served as the focus of these two class sessions provided numerous scaffolds for writing improvement. An excellent example arose when Andy helped Mike respond to one of his (Andy's) editing suggestions, which Andy connected conceptually to questions raised by one of the girls:

Mike: ...Then, you put, like, "Explain why you need, need a partner," or something, where, where you don't have to have a partner or something.

Andy: Yeah, except

Mike: Yeah, but you can't compete then if you don't.

Andy: Well, you should explain that then.

Mike: Yeah, O.K.

Andy: Like, "If you wanta compete professionally, you should have a full-time he-, heeler or header. And you, and the header ropes the head of the steer," 'cause didn't Cindy or Kris ask what that was?

Mike: Huh?

Andy: Didn't Kris or Cindy ask what a header or a heeler was? I thought so.

Mike: Yeah.

Writing First Draft of Second Paper (May 7)Kris and Cindy

I entered the girls' conversation on six occasions during this class period. I came over once to check on things, twice to help with the laptop computers, twice to try to help Kris with her two Olympic wrestling issues, and at the end of the class period to discuss studying for the health test. On the two occasions when Kris asked for my help, she already had grappled with the issues in question without success. The transcript contains seven notations of typing sounds; on several occasions, the girls wrote independently for long periods of time between comments. Although the transcript contains no audible think-alouds, the girls frequently subvocalized as they typed.

The transcript includes three in-context interruptions and three out-of-context interruptions. Each of these, however, was brief; several centered on operation of the laptop computers, which Kris and Cindy had had few opportunities to use.

Andy and Mike

On May 7, Andy and Mike demonstrated a remarkably keen ability to take responsibility for the organization and composition of their writing. To be sure, my role as "secretary" and de facto authority figure in their midst may have contributed to this transformation. Nevertheless, I made overt attempts to minimize my role and to emphasize ownership between the boys. Moreover, my scaffolding was focused quite narrowly on organizational and grammatical issues that presented them with difficulties. On only one occasion, dividing the material about koalas into two paragraphs, did I play a substantive role in addressing a structural issue; and my comments and questions could be characterized more as "gentle nudges" and reminders about the volume of information than as "giveaways." The writing decisions were made by the boys, and their decisions gave direction to their efforts.

Interestingly, there was not a single think-aloud employed during

this writing session. This undoubtedly resulted from the very public nature in which the boys conducted their business. There were, however, seven comments that directly ascribed ownership of ideas (e.g., "You highlighted it."; "See, I told ya. They don't believe it...No one believes me that that was true, but oh!"; "'So, they norm-', I don't know, you said it."; "I said it doesn't go there."; "You wrote it.").

For my part, I made an effort to recognize individual contributions to the writing effort, and I reminded the boys that my role was limited ("It's your paper. All I'm doing is, I'm doing the secretarial work."). On two occasions I urged the boys to use their own wording rather than "borrowing" wording from their research sources.

The transcript revealed nine out-of-context interruptions and one in-context interruption. Although I left several times to work briefly with Kris and Cindy, I was at the boys' computer for most of the class period; this, of course, probably influenced the number and nature of the interruptions. Nonetheless, two of the interruptions occurred before the actual writing work began, and those that occurred during writing were very brief and hardly interrupted the writing work at all. Not once did I find it necessary to remind the boys to use the time wisely, and I only found it necessary on one occasion to make a mild "behavior management" comment ("What's next? Let's go, guys. What's next?").

Scaffolding for One and All

While one normally would expect most of the scaffolding duties to fall to the teacher, transcripts from throughout the year demonstrate that the students developed the ability to sense the needs of a peer and to provide helpful guidance. While I did not provide explicit "instruction" in scaffolding, I modeled it and the students appeared to develop ways of emulating it.

Mike

At different times during the year, Mike scaffolded Andy's efforts to generate details, refine wording, and organize his ideas. In the following excerpt, taken from the February 9 writing session, he directs Andy's attention to his organization think-sheet, then temporarily takes over responsibility in order to help Andy get underway:

Mike: ...O.K., what do you need help on?

Andy: (Inaudible.) You know,

[
Mike: Naa! What do you need help on, on that thing?!?

Andy: These sentences. I can't

Mike: Well, which one are you doing? Which web?

Andy: The sentences.

Mike: Was it "exercises"?

Andy: Not supposed to be.

Mike: What else did you put already?

(Intercom interruption.)

Andy: Mmm, (inaudible.)

Mike: What'd you put?

Andy: "You should be physically fit. That determines your willpower and determination to ride bulls."

Mike: And you should put, "You have to get fairly stretched out, (brief pause) or you'll crack your (brief pause) open, or crack your (brief pause) open."

Andy: (Chuckles.) What?

Mike: (Chuckles.) "Probably crack your head open" or (inaudible), "so you should get"

Andy: Oh, O.K.

Since Mike and Andy shared many of the same interests, Mike was able to help Andy clarify his thinking, as in the following excerpt about proper spur placement during bull riding:

Andy: "The 45 degrees in your spur is for," what would that be for, Mike?

Mike: What?

Andy: (Inaudible) the 45-degree slant in your spurs.

Mike: Ninety-degree angle.

Andy: But

Mike: What?

Andy: I can't think what the reason is. You don't have to go like this the whole time. You can just go like this.

Mike: You can keep your feet straighter.

.
.
.

Andy: "It's easier to ride that way."

It is noteworthy here that Andy asked Mike for advice and did not quibble when Mike corrected him on the degree of slant of the spurs (although it remained "45-degree slant" in Andy's paper). Then, after Mike suggested the reason for the slant ("You can keep your feet straighter."), Andy refined the wording ("It's easier to ride that way.").

Kris

While the girls' early conversations were characterized by more scaffolding from Cindy than from Kris, later in the school year Kris became better at sensing opportunities to suggest improvements to Cindy. In the following excerpt from the May 6 writing session, Kris shares a suggestion that helps Cindy to clarify her thinking about the introduction to her paper on Scott Hamilton:

Cindy: "...facts about his life. Would you like to hear about him?"

Kris: That's good. How about, when you put, "This paper is on Scott Hamilton," oh, yeah, that's fine. And then, you wanta know how to start it out, you probably already know, but start out, "Scott Hamilton was an ice skater, figure skater."

Cindy: "Figure skater."

Kris: "He was a figure skater in the blank, blank Olympics."

Cindy: I was thinkin' of starting with

Kris: Right? Does that sound, that'd sound good, that'd make it inter-

[

Cindy: I was gonna start with what he did when he was little.
(Inaudible.)

Kris: Oh, yeah, when he was in

Cindy: (Inaudible.)

Kris: Oh, yeah, that's

Cindy: Now he's a broadcaster.

Interestingly, the introduction that Cindy settled on included very few of these ideas: "This is a biography on Scott Hamilton's life. Here are some facts about his life. Read on if you want to know more about him." Although little of this conversation found its way into the final introduction, the dialogue appeared to have stimulated Cindy's thinking about various ways to introduce her paper.

Cindy

Evidence abounds of Cindy helping Kris with her planning, writing, and revising. The volume of such evidence undoubtedly results in large measure from the fact that Kris was very forthcoming in asking for help throughout the year. Nevertheless, Cindy demonstrated the capacity to rise to the occasion and provide very valuable scaffolding.

Some of Cindy's assistance was structural in nature, as in the following excerpt from the February 9 writing session in which she helps Kris with paragraph structure:

Kris: ...Um, so, then, should I put, do we have to have a couple paragraphs? Do we?

Cindy: Hmm? We need different things for different paragraphs.

Kris: Because, like, I c-, I can make a, now should I go down there and put some sights? 'Cause at that I should have, already I should have about those two, that together, then from here to here, and then this and that, shouldn't I? Well, we can fix it up later, then, I guess.

Cindy: You should start a new paragraph (inaudible).

Kris: Uh, should I?

Cindy: How many sentences do you have there?

Kris: One, two, three, four, five, six, seven, (brief pause) nine.

Cindy: Yeah.

Kris: I would say so.

(Cindy chuckles.)

Kris: O.K.

On other occasions, as we have seen, Cindy's scaffolding took the form of leading Kris to improved wording. In the following excerpt, Cindy suggests an idea that leads Kris to a very descriptive image:

Kris: Wait, O.K., I have one. "The tomato trucks are really cool."
Should I put period and then put, "When they," yeah, yeah, yeah!
Never mind.

.
.
.

Kris: Wait, O.K. I'm gonna put, "When they go by,"

Cindy: "They drop tomatoes all over the road"?

Kris: "tomatoes will fly across the road." Yup, O.K.

A later conversation, recorded on May 3 as Cindy and Kris worked on organizing their research for their second paper, reveals the development of a lexicon that includes the terms "topic" and "category," as well as the ever-popular "group." The excerpt begins as Kris muses over where to include specific details in her brainstorm, receiving support from Cindy along the way:

Kris: O.K., all of this here, there, there, and there.

Cindy: Maybe you could figure out which ones sound better together like I did.

Kris: Like, this all goes together. These go, I bet all these go together for sure.

Cindy: Then the other ones.

Kris: This is about the track. That is, too, though. I, I don't, do you think I need to say that?

Cindy: What?

Kris: (Inaudible.)

Cindy: No.

Kris: Then, this is about, um, there to, this is all, this is a category, O.K.?

Cindy: Yeah.

Kris: I know that 'cause it talks about all the points and all that.

Cindy: Yeah, it could be a separate category.

Kris: O.K.

Both girls have used the term "category" to represent the groupings of ideas in Kris's paper. As the conversation continues, "category" becomes interchangeable with the term "group":

Cindy: But then what (inaudible).

Kris: So, (brief pause) this is about, this is about it, too, how much it can hold. So that should go there, though, shouldn't it?

Cindy: Yeah.

Kris: No, not there. I mean

Cindy: [No, not there, but the other one.

Kris: there. So, (brief pause) O.K., oh, wait, this goes with that. O.K. This is, O.K. Um,

Cindy: Except you should change the color of one of, one of the groups.

Kris: Yeah.

Cindy: The big one.

(Lengthy pause.)

Kris: Well, this can be a category - these three, I know for sure.

Cindy: These all go together. You can make 'em a group (inaudible) if you have any other ones that color.

Kris: Oh, I changed, (brief pause) yeah, I should change this and that to a different color. Yeah. They'll be brown. (Brief pause.) O.K. See, these go together. This is a separate group. That's a separate group. I'm still tryin' to figure out that one and that one. That's about

Cindy: This should be a different color, too, 'cause it's about (brief pause) yeah.

Cindy continues to support Kris' efforts as the conversation turns to identifying category titles:

Kris: Now help me come up with a topic.

Cindy: (Inaudible.)

Kris: I need a topic for this.

Cindy: (Inaudible.)

Kris: I need to come up with a name for, like,

Cindy: The other groups?

Kris: Yeah.

Cindy: O.K., what group were the turquoise? (Brief pause.) O.K., I got an idea for this category.

Kris: Oh, goodie! That's what I need help on.

Cindy: Um, "things at night"? "Things to do with night"? Let's see, (inaudible)

Kris: Um, like, "things,"

Cindy: "that go on at the night."

Kris: "that go on." Or just, "things that are going on."

Cindy: "During the nighttime," 'cause you have 6:30 P.M., 7 P.M., (inaudible).

Kris: O.K.

Talking the possibilities over with Cindy enabled Kris to organize her ideas in a way she had been unable to do by herself. Both girls employed the terms "category" and "group" to help solidify their thinking. Once the groupings had been identified, Kris introduced the term "topic" to represent a label that would complete the grouping task.

Andy

While Andy's distractibility tended to be among his most visible behavior characteristics, transcripts reveal that over the course of the school year he developed a keen sense of perception regarding matters of organization and expression. In the following excerpt, from the February 20 writing session, Andy helps me scaffold Mike's attempt to organize his paragraphs and separate them on the computer:

Mike: ...I can't, I don't know where to put paragraphs, between the big thing, part of something?

T: Well, why don't you guys look that over and tell me where you think you should start a new paragraph, and then I'll show you how to do it.

Andy: Now, let's put a paragraph right there.

T: Well, read it over.

Mike: [Where? (Inaudible.)]

T: The purpose, you change paragraphs when you start talking about something different. O.K.?

(Brief pause.)

Mike: O.K., here's a (inaudible).

T: O.K., why don't you get your cursor in here. Click, click in there and then just use this. I think you'll find this a little bit easier to use.

Mike: [Oh, O.K. (Brief pause.) There's a, there's a top. There's one paragraph.]

T: See, you should have, you've got four sections here. So that should be at least

[Andy: You've got four paragraphs.]

T: four paragraphs.

Mike: Oh.

T: Four sections to the paper is what you said.

Andy: [So find out where you started with this one, and find out where you started with that]

one.

Andy took my suggestions ("You change paragraphs when you start talking about something different."; "You've got four sections here.") and applied them to Mike's paper with comments of his own ("You've got four paragraphs."; "So find out where you started with this one, and find out where you started with that one.>").

Later, on March 22, Andy, Mike and I helped Kris to rearrange some of the details in her first paper, which I read aloud:

Andy: I think it was about the two paragraphs. They, like, went together or something.

Mike: Oh, yeah.

Andy: They're all mixed up.

(The teacher continues to read aloud.)

Mike: Thought that these, something, should go up here with this one or something. I don't know.

T: Is this all about Eureka?

Kris: I don't know, is it? Which one? (She begins reading aloud quietly.) The lumber company is with Eureka.

Andy: [There we go! Lumber company! Where did that go in there for, or why?

Kris: [Well, it's in Eureka.

Mike: Yeah, it's in Eureka.

Kris: The lumber company is in Eureka.

T: Place to end this (inaudible)?

Kris: [But, yeah. And Alcatraz should be up with San Francisco.

Andy took the lead in clarifying that a section of Kris' paper included information that belonged in two separate sections ("I think it was about the two paragraphs. They, like, went together or something."; "They're all mixed up."; "There we go! Lumber company! Where did that

go in there for, or why?"). By raising the issue of confusion within her paragraph, Andy helped Kris to determine a better organizational scheme. Mike joined the collaboration by reinforcing the perceptions of both Andy ("Thought that these, something, should go up here with this one or something.") and Kris ("Yeah, it's in Eureka."). Furthermore, helping Kris organize the section on Eureka led her to recognize a detail (Alcatraz) that belonged in the section on San Francisco. This excerpt provides an example of three students collaborating to improve a piece of writing - and learning from one another in the process.

Summary

It is clear that these seventh-graders were able to provide very helpful guidance for one another when difficulties in organization and expression arose. Interestingly, for different reasons (distractibility and a quiet nature) Andy and Cindy would appear to be uncertain candidates for consistently providing meaningful scaffolding to their peers; in reality, however, they each took the lead in their respective pairs in providing assistance and advice. It could be argued that in many instances the students went beyond "scaffolding" to simply providing specific ideas to their partners. It must be remembered, however, that these were, first of all, seventh-graders and, secondly, students who had experienced many years of failure and frustration with written expression. In light of all that, it seems that they took giant strides in developing a facility for scaffolding one another's writing.

Collaboration

Collaborative decision-making occurred within both student pairs throughout the year. Numerous codes evolved that help to portray the nature and breadth of the students' collaborative moves (see Table 9).

TABLE 9

Collaboration (Key Code Tabulations)

* Potentially Disconfirming							
	ORGANIZING		REVISING		WRITING		
	FIRST PAPER		FIRST PAPER		SECOND PAPER		
	Kris/	Mike/	Kris/	Mike/	Kris/	Mike/	
	Cindy	Andy	Cindy	Andy	Cindy	Andy	
Seek Evaluation from Peer	4	0	3	1	3	0	
Seek Evaluation from Teacher	0	0	0	0	0	0	
Seek Clarification	2	4	1	5	0	20	
Offer Clarification	0	5	2	4	1	13	
Offer Help with Idea	0	0	9	2	0	0	
Offer Help with Computer	0	0	1	4	2	0	
Offer Help with Procedure	1	7	0	0	2	5	
Seek Idea from Peer	1	10	6	4	0	0	
Complete Thought	3	2	4	0	0	9	
Elaborate on Own Idea	15	3	5	0	3	10	
Elaborate on Other's Idea	5	3	1	2	0	11	
Initiating Idea about Writing	31	32	9	20	10	26	
Uptake of Idea about Writing	4	9	1	0	5	7	
Agree	0	1	0	0	0	5	
Disagree	1	5	0	0	1	7	
Pat on the Back	0	0	0	0	1	2	
Personal Support	0	0	0	0	2	3	
Writing Support	5	1	4	1	0	5	
Equity	9	11	0	0	0	24	
Confirmation	16	32	25	15	4	11	
Initiate Humor	0	7	1	2	0	3	
Humor Uptake	0	5	0	1	0	4	
Express Interest in Own Writing	5	0	4	0	*2	1	
Express Interest in Other's Writing	3	1	0	0	2	0	
Express Interest by Thanking	3	1	5	0	2	0	
Express Interest in the Group's Work	0	0	0	0	0	3	
Express Interest in Research Project	0	4	3	2	0	0	
* In-Context Interruption	0	10	1	7	3	1	
* Out-of-Context Interruption	6	18	1	3	4	3	
* Personal Criticism	0	2	0	2	0	0	

Both pairs of students consistently throughout the year utilized confirmation to acknowledge that a message had been received. Cindy and Kris, moreso than Mike and Andy, sought evaluation of their work from their partners (e.g., Kris: "How's this sound...?"; Cindy: "O.K., how does this paragraph sound?"). The boys, on the other hand, were more likely to seek clarification of an idea (e.g., Mike: "What do they get high on, the eucalyptus?"; Andy: "Did you say 'gram' or 'kilogram'?"). Not surprisingly, the revision stage saw the greatest rendering of help with ideas and with the computer. The students were more likely to offer writing support than personal support or a pat on the back - probably not surprising in the uncertain time of early adolescence.

Both student pairs relied heavily on the elaboration of ideas during their collaborations. In the following excerpt, for example, Kris and Cindy discuss ideas that might be included in Kris's description of Alcatraz:

Kris: "Jail." There, O.K. "Jail" was, uh, "Alcatraz." I'm gonna put, like, it was, can I put "real"? 'Cause it was, like, it was really real, I guess, I don't know. You know,

Cindy: [Hmm, yeah.

Kris: (Whispers) "Alcatraz." It'd be "realistic"? 'Cause it used to be a jail, but now it's not.

Cindy: It's just a tourist spot (inaudible)?

Kris elaborated on her own idea of the jail being "real" by expanding the image into "realistic." Cindy then elaborated on Kris's comment about Alcatraz formerly being a jail by asking rhetorically if it is now a tourist spot.

Messages of equity occurred extensively in two situations. First, both pairs conveyed their "we"-ness more often during the organizing stage, perhaps because they found it necessary to work very closely as they navigated that important but uncertain terrain (e.g., Kris: "We need to do the big groups first, right?"; Mike: "Aw, here we go. Andy, what else should I put?"). Secondly, Mike and Andy generated an

exceptionally large number of such messages while writing their research paper. This is not surprising since they had chosen to write a single paper together and were seated with me as I typed for them for most of the class period.

Andy and Mike incorporated humor much more generously into their conversations than did Kris and Cindy, probably because they had been friends for some time and knew each other quite well. Kris and Cindy, on the other hand, were more likely to express interest in their own and each other's work.

Modeling Color-Coding (January 9)

While this lesson centered on my modeling rather than on student interaction, evidence did emerge that the students already were beginning to work collaboratively. In addition to the examples already mentioned in which Kris encouraged Mike in his uncertainty about being able to write more than a page and Andy's helpful elaborations and clarifications, Mike indicated that he would be willing to seek help from Andy when necessary:

T: Any of you can talk to anybody else if you want a suggestion, if you're having trouble figuring out how to group things. You had a question, Mike? Did you have a question?

Mike: No. I just said if I don't, if I don't get where one would go, I can just ask him.

Description/Narration, Organizing First Paper (January 30-February 1)

Cindy and Kris

Cindy and Kris collaborated freely throughout the color-coding and brainstorming sessions. The extent and diversity of this collaboration is reflected in the tallies of several specific codes. For example, the transcript includes 15 instances of a student elaborating on one of her own ideas, as well as five examples of elaborating on an idea of her partner. On seven occasions a student admitted difficulty with one of her own ideas. There were 16 messages of confirmation acknowledging a partner's comment. Repetition of a previously expressed idea occurred

six times. One of the girls sought clarification from her partner on 2 occasions. Since much of the writing task involved brainstorming descriptive words and narrative ideas, it is not surprising that nine questions about wording were asked and 10 comments about wording were shared.

We have seen examples of the girls working together to combine some of Kris's small groups of ideas and to generate titles for categories, Cindy helping Kris to expand her thinking about modes of transportation, and Cindy pushing Kris's thinking on the description of the wax museum. As discussed earlier, Kris generally received Cindy's suggestions with great enthusiasm. On one occasion, however, Kris's enthusiasm for her own work may have caused her to miss signals that Cindy also needed some help. In the following excerpt, Cindy twice appears to be hinting that she needs help; Kris, however, continues focusing on her own agenda:

Cindy: Oh, boy. My groups are confusing.

(39-second pause.)

Kris: Does that look O.K.?

Cindy: Yeah.

Kris: I don't know.

(102-second pause.)

Kris: Which is my t-, my, my topic? Oh, I know what I'll call it. Never mind.

Cindy: (Sighs.) Oh, boy.

Kris: What is "oh, boy"? Can you help me come up with a name for, um, Fisherman's Wharf, the wax museum, a boat museum,

Cindy: "Museums?"

The apparent missed signals ("Oh, boy. My groups are confusing."; "(Sighs) Oh, boy.") notwithstanding, Cindy soon suggested "sights" as a category title for Kris's group of ideas, and Cindy's organizational dilemma ultimately was resolved.

Near the end of this conversation, Kris checked on Cindy's progress and acknowledged that she had not made much of a contribution to Cindy's work:

Kris: This? O.K., um, (brief pause) here we go. Do you need help on anything right now?

Cindy: (Inaudible.)

.
.
.

Cindy: There.

Kris: Is that all? I didn't help you, but, is that all your descriptive things you can talk about and stuff?

Cindy: Mmm, hmm.

Although Cindy appeared to focus her energies primarily on helping Kris generate ideas, on one occasion she expressed enthusiasm (although somewhat more restrained than Kris's) for Kris's ideas:

Cindy: "Wondrous?" (Inaudible.)

Kris: Yeah. One, two, three. (Sighs.) I don't know. I have no idea. "Cabin." "Cabin" and the lum-, lum-. (Brief pause.) O.K. And, then, hmm, I was thinking I could describe the jail.

Cindy: Ooh!

Kris: Like, tell what it was like and like that.

Cindy: (Inaudible.)

Kris: Yeah, so,

[
Cindy: That'd be good.

Andy and Mike

The transcript demonstrates a mixture of both productive and counterproductive interactions as Andy and Mike worked their way through their *organization* think-sheets and descriptive/narrative brainstorm. The coding tabulation for the full transcript reveals 32 instances of initiating a writing-related topic or idea. This total is roughly comparable with that of Kris and Cindy during this lesson, although the distribution was slightly more equitable with Mike and Andy (see Table

7).

The conversation included three examples of elaborating on one's own idea and three elaborations of another's idea, four instances of seeking clarification, five offers of clarification, and seven offers of procedural help. On five occasions, one of the boys questioned one of his partner's ideas, and one's own idea was questioned four times. On four occasions one of the boys admitted difficulty with one of his own ideas. On the other hand, writing support and procedural help each were offered only once. One message of agreement was eclipsed by five messages of disagreement. The conversation included two personal criticisms (one directed at Cindy by each of the boys) and, as we have seen, numerous interruptions.

The January 30 class session started with the boys bantering back and forth and Andy finally admitting that he didn't know how to begin looking for ideas suitable for description or narration. Mike said that he had no suitable ideas in his brainstorm. I reviewed the concepts of description and narration and eventually offered suggestions.

Mike remained resistant for several minutes, insisting that he had no suitable ideas to work with:

Mike: None of mine are narrative or description.

T: You're looking for places where you can either tell a story,

Mike: Your (inaudible).

T: a story that might be interesting to the reader, something that happened to you or, uh, tell how a certain idea in your

Mike: [But none of 'em did happen.

T: paper is, uh, built around a story of something that happens.

Mike: There's none of 'em, like. No, no, no, no, no, no, no, no, no, no. None of 'em.

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Mike: Nope, nope. (Brief pause.) No, (inaudible). All of 'em are just, like, things, like "bucket" and stuff like that. Like, all

of 'em are, like, just, like, "the pickup trailer," stuff like that.

T: Well, do any of 'em deal with something that you have to do?

Mike: No.

T: O.K., that you have to do, maybe, in a certain way?

Andy: Pickup, back up the truck.

Mike: [Well, yeah, you're not going to go head first and that.

T: You're looking for things that,

Andy: I've done it.

T: ideas that talk about something that has to be done, probably in a certain way. And both of you have topics where I would think there'd be things that need to be done in a certain way, in a certain order.

Mike: [Well, but they know about all that.

T: Yeah, but remember, you're writing to somebody who doesn't know this.

Mike: Well, they have to. Gee, it'd be just (brief pause). They would!

T: Now, keep in mind your audience is somebody who doesn't really know much about this.

Mike: They know how to back up.

T: Well, maybe that's not one you want to use. Maybe there's something else.

Andy: [That was just a suggestion, Mike!

T: Yeah.

Mike: Sorry, Andy.

Whether Andy's suggestion about "backing up the truck" was made in good faith or meant to be provocative is unclear. It is clear, however, that the suggestion fueled Mike's resistance. Lack of awareness of

reader knowledge and needs (e.g., "Well, but they know about all that...Well, they have to.") recurred occasionally during the early stages of the study. Mike had a very difficult time accepting the possibility that many people would not know as much as he did about certain topics (roping, for instance). He finally settled down and eventually suggested that his narrative paragraph could explain the steps that partners follow in roping.

When I asked Mike later about his occasional resistance, he said he sometimes got frustrated when he had an idea how something should go, and I said it should be done differently: "...I think it's the right way and then it's really not, so then I get kinda argumental (sic)." He added that his other teachers may have been teaching correctly but, with larger classes, often did not have the chance to actually show him proper writing techniques.

During an ensuing exchange just moments after the earlier difficulties, the boys once again had difficulty developing a genuine sense of collaboration:

- T: Andy, how about you?
- Andy: What about me?
- Mike: Did you find one yet?
- T: [Find a place where you might be able to use, uh,
tell a story
- Andy: [Mmm.
- T: or s-, order of events?
- Andy: [How 'bout "ball"?
- Mike: Um, that's a suggestion.
- Andy: What?
- Mike: "Bell," "ball." What's that? That one, right there.
- Andy: "Bell." B-e-l-l.
- Mike: I told you I was right.

Andy: You said "ball."

Mike: I know.

(Andy laughs.)

Mike: So, write, hmm, what is that?

T: Well,

Mike: Andy!

T: get some help from your partner here, too.

Andy: Partner, help me!

Mike: Well, I need to see your paper first.

T: Let's see.

Mike: Read 'em off, Andy.

T: See if you can come up with a place where either you could tell a little bit of a story of how some things happened or you can describe what something looks like or.

Mike: Andrew, can I see your paper?

It appears that the boys had little base of experience on which to draw in this collaborative task. My modeling and our previous full-group conversations, though apparently adequate for Cindy and Kris, had not provided Mike and Andy with enough to go by.

It appeared difficult during this session for Mike and Andy to sustain an extended conversation about their writing work without my participation. The transcript does contain examples of productive dialogue between the boys; these interactions, however, typically were quite short and frequently truncated by some type of interruption or rib-tickling.

In perhaps the best example of a sustained dialogue, at the very end of the transcript, we see a liberal sprinkling of humor and gentle mayhem:

Mike: O.K., Andy, you can put "crazy."

Andy: Oh, just a minute.

Mike: Um,

Andy: O.K.

Mike: O.K., put, like, "rough."

Andy: Just a minute. (Brief pause.) How do you spell that?

Mike: R-o-u-g-h.

.
.
.

Andy: "Happy"?

Mike: Oh, O.K. Write that one down, too.

(Brief pause.)

Andy: O.K.

Mike: "Scared."

Andy: O.K., just a minute. Ah!

Mike: That's about it, isn't it?

Andy: Yeah. We're done. Let's go to the "bucking chute."

Mike: (High, affected voice) O-kee do-kee, (low voice) for Duracell.
O.K.

Andy: Inside.

[
Mike: Bucking chute.

Andy: "Inside."

Mike: You have to kinda, like, tell a story, right?

Andy: "Inside," "bull."

Mike: Um,

Andy: "Bullrope."

Mike: Put "bull person," whatever.

Andy: What?

Mike: The person who rides the bull, the person.

Andy: Me.

Mike: (Chuckles.) Me. Um,

Andy: "Scared."

(Mike chuckles.)

Andy: (Chuckles.) Oh-oh!

Mike: Wait a second! He has to go to the bathroom.

(Brief pause.)

Andy: Aw, you nerd!

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.
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Andy: You put, "friends"?

Mike: "People," "audience," um, "the guy that speaks," whatever, "speaker guy."

Andy: "Announcer."

Mike: (Sighs.) "Announcer." "Clowns," um, everybody. I have this awesome trap. It's awesome. O.K., it's a sparrow cage. It has

Andy: [A what?

Mike: A sparrow trap...(describes the sparrow trap at length).

Despite the frequent digressions, this excerpt features Mike helping Andy generate ideas, which Andy seemed to appreciate, followed by a reversal of these roles. Mike demonstrated an understanding of my earlier explanation of a narrative ("You have to kinda, like, tell a story, right?") and attempted to apply this understanding to his dialogue with Andy.

Perhaps as a way of dealing with the uncertainties of their task, Mike and Andy incorporated liberal doses of humor into their conversations. In addition to frequent growls, groans, and grunts, on numerous occasions the boys launched into humorous give-and-takes. The transcript includes seven instances of initiating humor and five humorous uptakes. Occasionally these humorous interludes carried a personal sting. For example, we noted earlier that Andy poked fun of

Mike's mispronunciation of the rodeo term "bucking chute", which was to become a recurring theme throughout the year. Most of the boys' humor, however, was simply innocent and playful and indicative of their enjoyment of the chance to talk.

On one occasion, a visiting student arrived to borrow a calculator, walked over to the boys' table, and said, barely audibly, "What, you guys are taping?" I must admire the quickness of Andy's final reply in the ensuing exchange:

Mike: We're doing our research on, uh, oh, I don't know.

Visiting student: Mr. Hallen-, how come (inaudible) talking?

T: We're recording what they're saying.

Andy: But no one's saying anything.

(Mike chuckles.)

The boys' propensity for going off on wild tangents is typified by their play with the word "rodeo":

Mike: Is "rodeo" r-o-d-e-o?

Andy: Yes.

T: R-o-d-e-o.

Mike: Yup.

Andy: Rodeo. Ro-day-o..

Mike: [(Inaudible.)

Andy: (Inaudible.) Ro-day-o. Ro-day-o Drive. There's a town called Rodeo.

Mike: I know.

Andy: In Hoi-, in Ohio.

Mike: (Chuckles.) Hawaii. (Sings.) Hoo-doo-doo. Rodeooo. Doo-doo-doo. Rodeooo.

(Andy makes fake crying noises. Mike chuckles.)

The visit from another student mentioned earlier proceeded quite benignly. On two other occasions during the course of these three class

sessions, however, Mike reacted more aggressively to visiting students who entered the room and looked at the work he was doing ("I don't like people looking at my work."). Nevertheless, both Mike and Andy took interest in the fact that I was copying all their work for the research project:

T: Oh, hey, uh, let me tell you one thing, though. Could you do me a favor and write in something that I'm going to be able to copy off?

Mike: (Chuckles.) Oh.

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.
.

Mike: ...You're going to make a copy of this?

T: ...Yeah, I copy

Mike: Oh!

[

T: everything you guys do. I have a copy of all of it at home that I use to kind of study this whole thing that you're doing here.

Mike: Mmm.

(14-second pause.)

Mike: (Quiet, inaudible murmur.)

Andy: How many years have you been in college?

T: Forever.

Andy: When are you gonna be done?

T: I don't know, I don't know.

Andy: What are ya working for?

Mike: You hafta keep paying money, too, don't ya?

T: Yup.

Mike: Jeez!

T: Uh, I'm workin' for a Ph.D., and hopefully by the end of next summer I'll be pretty close.

Mike: What's that?

T: It's the highest degree that you can earn

Mike: [Why, why are you even trying to get it, 'cause you know you're gonna have a job here, and they won't give you more if you even have more. So why you doin' it?

T: Just to learn. I'm enjoying it.

Andy: Yeah.

It is tempting to conjecture that Andy and Mike were expressing genuine interest in the research project, including its focus on their writing, but that the scrutiny of the visiting students was not welcome because they were "outsiders." On the other hand, it could have been simply a matter of interpersonal dynamics with certain visiting students, since one other student was greeted with good humor in the "But no one's saying anything" incident.

The 11 equity codes in the transcript provide further evidence that Andy and Mike had begun developing a collaborative spirit. Equity was expressed primarily by using the pronoun "we" (e.g., "What do we do now?"; "I, we can't think of one, the two of us together."; "O.K., um, I need a, we'll agree some things.>"). In addition, on at least one occasion each of the boys referred somewhat whimsically to the other boy as "Partner."

Collaborative Revising of First Paper (March 28-29)

Kris and Cindy

During this session initiating comments about writing-related topics were evenly split between Kris (five) and Cindy (four) (see Table 7). It would appear that Cindy had come to feel comfortable sharing ideas of her own, in addition to supporting Kris's efforts.

The coding tabulations reveal that both Cindy and Kris solicited and offered ideas during the session. One of the girls sought an idea from her partner five times, and on three occasions one of the girls sought an evaluation from her partner. One question each was asked about wording and about the computer, and a student sought clarification

once. The transcript revealed one occurrence of admitting difficulty with ~~memory~~ and one admission of difficulty with an idea. Help with an idea was offered nine different times. A student elaborated on one of her own ideas five times and on one of her partner's ideas once. Writing support was offered on four occasions, and the transcript contained fully 25 occurrences of confirmation. Elaboration of another's idea was offered once, and clarification was offered twice.

Both girls both sought and offered advice during this session. Kris asked Cindy for an evaluation of her introduction and asked for help addressing both Cindy's editing ~~comments~~ and those of other editors. Cindy asked Kris for an evaluation of one of her paragraphs and helped Kris ~~move~~ text on her computer.

Both Andy and Mike entered the girls' conversation during this session, if only briefly. As we have seen, Andy offered an attempt at humor from across the room; Mike came over to help the girls with their exploration of printing fonts at the end of the class period.

The girls expressed their gratitude and enthusiasm in various ways. Kris seemed pleased that an upcoming parent ~~meeting~~ would once again be held at her home:

Cindy: I have a question: what time?

T: Eight o'clock.

Cindy: Where?

[

Kris: Where?

T: It's at Smiths'.

Kris: It's at our house again?

T: Yup.

Kris: Oh, oh, goodie!

She complimented Cindy on her work at ~~moving~~ ideas in her text ("Oh, that's good!") and changing some of her wording ("That's good!"..."Sounds good."). She also expressed her appreciation for

Cindy's endorsement of her introduction ("Does that sound good? Oh, goodie!"), for Cindy's suggestions for adding details to Kris's paper ("Ooo!...Thank you!"), and for Cindy's computer assistance ("Huh, that's a good idea!"). For her part, Cindy was enthusiastic about the increasing length of her paper ("This is longer than before! Mr. Hallenbeck, it's longer than before."). Both girls greeted the discovery of various printing fonts with great enthusiasm:

T:	Why do you like that so much?	(Inaudible.)
		[
Cindy:		It's cool!
		[
Kris:		Woooo! Ours won't do that.

Mike and Andy

The boys' interactions during the revision sessions were characterized by a steady, consistent effort to address the concerns and suggestions of their editors. Admittedly, Mike's effort was more consistently focused on the task at hand, with Andy occasionally succumbing to the lure of his laptop computer. Nevertheless, Andy, too, demonstrated through both his revisions and the completion of his introduction a commitment to improving the quality of his paper. The choppy nature of the conversations typified the revision process, in which revisions are addressed individually, making extended interactions on the same topic somewhat rare.

Initiating comments once again were evenly distributed. Mike initiated 11 writing-related changes in topic, and Andy initiated nine. The impression that each boy was more concerned with his own revisions than with those of his partner is supported by the fact that the transcript contains no examples of uptake comments or questions.

The transcript contains five instances of one of the boys seeking clarification and four offers of clarification, not surprising in a session focused on revision and involving peer editors. Students sought ideas from a peer on four occasions, and on two occasions a student elaborated on someone else's idea. Computer help was offered on four

occasions.

The transcript included no references to equity, which is not particularly surprising due to the personal nature of the revision task. There was one instance of a personal criticism, in which Andy chided Cindy for the way he felt she was looking at him from across the room.

We have noted that the very first comment of the transcript represented Mike's interest in seeking clarification from Kris for one of her editing suggestions. In the process of securing that clarification, Mike was able to share some of his knowledge about roping competition:

Mike: By the way, what'd you mean by, "Explain about the stuff you get."

Kris: What?

Mike: It was one of your questions, "Explain about the stuff you get." You mean, like, if you win the roping thing?

Kris: What you got in competition.

Mike: Oh.

Kris: You know, like, you get money or something like that.

Mike: O.K.

[

Andy: Mike, (inaudible).

Mike: Yeah, or a belt buckle.

Kris: Oh, yeah.

The following excerpt, in which Mike begins by asking Andy for help with a revision suggestion, includes computer assistance, elaboration, offering help with an idea, and confirmatory statements:

Mike: O.K., no. Did you, on your thing you had, "Explain." O.K., "The first thing you need is a partner. A partner is important. If you don't have, you can't be a roper."

Andy: What? (Chuckles.) I just lost half my paper.

Mike: Well, push the thing down.

Andy: Now, oh. There, I got it back.

Mike: Andy, push this thing right here. I mean, O.K. Then, you put, like, "Explain why you need, need a partner," or something, where, where you don't have to have a partner or something.

Andy: Yeah, except

Mike: Yeah, but you can't compete then if you don't.

Andy: Well, you should explain that then.

Mike: Yeah, O.K.

Andy: Like, "If you wanta compete professionally, you should have a full-time he-, heeler or header. And you, and the header ropes the head of the steer," 'cause didn't Cindy or Kris ask what that was?

Mike: Huh?

Andy: Didn't Kris or Cindy ask what a header or heeler was? I thought so.

Mike: Yeah.

Of course, Andy's reference to Cindy and Kris serves to validate their role as legitimate partners in the writing enterprise.

While Andy was very helpful in the excerpt above, he fumbled two other opportunities to help Mike, one innocently and one more culpably. On one occasion, Mike asked Andy for help separating a couple of words and received some well-intentioned but incorrect advice:

Mike: "By yourself," that's two different words, right?

Andy: "By (brief pause) yourself." "By (brief pause) your (brief pause) self." Four words, three.

On another occasion, Mike's request for assistance was ignored completely, as Andy's attention was riveted on a duck shoot game he had found on his laptop computer; Mike ended up turning to me for help: (Shooting sounds.)

Mike: Cool. (Brief pause.) Andy, I gotta question on this. What are these? Andy, on this story thing, what are these?

Andy: Hey, I got one!

(Shooting sounds continue.)

Andy: Got two. I'm supposed to have a target.

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.
.

(Shooting sounds stop.)

Mike: Mr. Hallenbeck, what are these? Right there.

Despite these lapses, which probably represent the kind of thing that can happen in any collaboration, Andy demonstrated a measure of commitment to the collaborative process when he shared his introduction with Mike, after which he expressed his pride in his work:

Andy: How's this sound: "Is this what you call fun? Getting a tour of hell on a 2,000-pound package of hamburger, and you better get out of the way before you're turned into a cowboy shish-kabob."

Mike: (Inaudible.)

Andy: I think that sounds kinda good!

Earlier, Andy had complimented Mike on Mike's improvement of one of Andy's suggestions:

Mike: O.K. Now they're gonna ask, "Explain that." Explain that next thing. Explain the next thing. So keep on doin' it.

Andy: "Professional rodeo-er."

Mike: "Professional roper."

Andy: Sounds good.

We have noted that humor played a large role in the boys' conversations. A wild digression occurred when Andy first unveiled the "2,000-pound package of hamburger" image in his introduction. Apparently engrossed in his own work, Mike mistook Andy's reading part of his introduction aloud for a question directed at him:

Andy: "Are you crazy enough to strap your hand to a 2,000-pound package of hamburger?"

Mike: What?

Andy: "Are you crazy enough to strap your hand to a 2,000-pound package of hamburger?"

Mike: Yeah, and let it drop off a building. Yeahhhh! I wouldn't mind

that, though, if it was soft.

Andy: No, bull - hamburger?

Mike: (Chuckles.) Oh.

[
Andy: Two thousand-pound package of hamburger?

(Discussion unfolds of what it would be like to jump into a huge, uncooked hamburger.)

The notorious "bucking chute" emerged once again quite unexpectedly, although it did not appear to bother Mike:

Mike: Um, Andy?

T: You have a question?

Mike: I got a question for Andy. Um,

Andy: What? (Chuckles.)

Mike: Do you have one of those things, I gotta find it.

Andy: Bucking chute?

Mike: O.K., no...

An interesting exchange took place when a visiting student asked about the purpose of the video camera:

Andy: 'Cause we're specialer than all of you.

Visiting student: How come you guys (inaudible)?

Mike: For, for, he's, you know, he's still goin' to, like, that college or whatever? He has to get a cer-, he's gettin' a, he wants to get a certain degree, so he has to go to do all this stuff. So, *he's using me.*

Ironically, despite the boys' feeling "special," later in that same class period I decided to permanently discontinue using the video camera because I learned that it had been bothering them:

Andy: (To the teacher) Thank you for moving that. It bothers (inaudible). It was botherin' me.

T: (Inaudible.) Really? I didn't, I didn't think it would bother you guys.

Mike: I don't like it either. Just like you can't do nothin'. That thing's watchin' ya.

I was becoming increasingly concerned about the attitude of the others, particularly Andy and Mike, toward Cindy and her frequent absenteeism. They seemed judgemental and unforgiving. At the very beginning of the March 28 class session, Andy interrupted what he was doing with his computer to scowl at Cindy from across the room, and Mike joined in:

Andy: (Inaudible.) Cindy, stop lookin' at me that way! (It's) scarin' me!

[
Mike: (Singing) (Inaudible)'s fallin' in love.

At the end of the class period, however, while the students were gathering at the door, Andy had pulled Cindy's ponytail from behind and said, "Hi, Cindy. Mike did it." I thought and hoped it was a good-natured gesture.

Writing First Draft of Second Paper (May 7)

Kris and Cindy

Exchanges between the girls during this session often took the form of "endorsing" one another's work. The class period opened with Kris offering to get Cindy's disk for her and a spirited conversation about Kris's upcoming birthday; the girls' interactions remained very genial throughout the rest of the period, ending with a mutual commitment to study for a health test together. Kris's concerns over two details about Olympic wrestling initially were broadcast to all quarters, but eventually were directed primarily at me.

Initiation of writing-related topic changes was dominated by Kris, with seven instances to Cindy's three; Cindy dominated instances of uptake, four to Kris's one. Coding tabulation supports the geniality of the conversation. While no collaborative code occurred in profusion, several codes were represented. On six occasions Kris admitted memory difficulty regarding wrestling details. Although most of these were directed to me, Cindy acknowledged her support and empathy during Kris's anguish over forgetting: "It's like me. That's what I do." Questions

were asked about the computer (once), an idea (once), and procedures (twice). A student sought evaluation of her work from her partner on three occasions, and on three occasions a student elaborated on one of her own ideas. Offers of procedural help were offered twice, as were offers of help with the computer. Personal support was offered twice, once by Cindy while helping Kris with her computer and once by Kris when asking for permission to study. Kris thanked Cindy once for her computer help, and Cindy thanked Kris once for a wording compliment.

The girls exchanged writing excerpts on several occasions, ostensibly seeking evaluation but in reality receiving unquestioned endorsement. Nonetheless, their eagerness to share their work demonstrates a high comfort level with the collaborative enterprise.

Regarding expressions of equity, the transcript reveals four instances in which the girls used the plural pronoun "we." None of these instances occurred within the context of writing, however; rather, they occurred in reference to a tape recorder ("It doesn't play back, Mike. We found that out ye-, last, we found that out yesterday.") and an upcoming test (e.g., "May we study, Mr. Hallenbeck?"). While not related directly to writing activities, these references nonetheless indicate a continuing sense of partnership between the girls.

A brief exchange at the very beginning of the class period indicates that, despite the fact that most of each student pair's attention was focused on its own work, Cindy and Kris also were aware of the boys' presence and efforts:

Kris: Guess how many days 'til my birthday. Five.

T: Five, huh?

Cindy: Let's see how many months 'til mine. June, July, August, September, October, November, December.

Kris (from across room): [Do you need your disk, Cindy?

Cindy: Yeah.

Kris: I'll get it for you.

Cindy: It's like seven and a half months 'til my birthday. Seven and a half months.

Kris (from across room): I got five days 'til my birthday.

Cindy: It doesn't play back, Mike. We found that out ye-, last, we found that out yesterday. (Inaudible) thought it would.

Kris's comment about her upcoming birthday was broadcast generally, although it generated a response only from me and from Cindy; Mike and Andy, as we shall see later, were quite engrossed in their own writing at the time. Cindy's comment to Mike relates to a tape recorder that the girls had tried to use the previous day and that the boys now were attempting to use.

Although Cindy and Kris seemed quite intent on their writing, one note of disconfirmation arose late in the class period. Midway through the class period, Cindy raised the issue of an upcoming health test. Some time later, after writing for quite awhile, the girls made the following comments:

Kris: What should I write? Um, I'm gettin' sick of writing.

Cindy: So do I. I wanta study.

Kris had experienced what she perceived as some serious setbacks in her writing during the class period. Faced with those setbacks, and combined with the impending test, she apparently had had enough writing for the day. On the one hand, this turn of events could be viewed as a (hopefully temporary) loss of interest in her writing project. On the other hand, it might be seen as the kind of temporary setback faced by all writers - myself included - that requires an occasional distancing from the project, only to rise up and fight again another day. Furthermore, it would appear that the collaborative structure of the classroom was allowing the students to talk freely about their concerns - certainly an important aspect of a genuine community.

Andy and Mike

The May 7 transcript revealed dramatic evidence of the development of the boys' thinking about expository writing. As such, Chapter 6 will present a detailed examination of the collaborative decision-making that characterized this writing session. The transcript includes numerous examples of elaboration, clarification, and generally productive give-and-take. Moreover, the boys' commitment to working together is reflected in the 24 comments and questions that included references to equity (e.g., "Now, let's do about their body weight and stuff."; "'Cause then we wouldn't have to put any more in that. We could start a new paragraph."; "And then we'll mention that later, their behavior."; "O.K., and then they have short claws, and, how could we use that?").

Mike and Andy gave one another personal support on three occasions. For example, before the actual writing work began, Mike urged Andy to come out for the track team since he probably would be a very good shot-putter. On five other occasions, the boys supported each other's writing efforts. For instance, Mike acknowledged Andy's contributions ("That sounds good. What else were you gonna put?"); he even swooned ("Ohhhhh!") on one occasion and called Andy's work "professional." Mike complimented the boys' mutual work ("Wooo. I guess we got a good sentence."), as did Andy ("Good job!"). On the other hand, there was one occurrence of the "space violations" that had occurred in earlier conversations:

Mike: Would you go away?!?

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.
.

Andy: Slide over!

The issue was resolved without further fanfare, however, and the writing process moved forward.

As with previous conversations, this one was infused with humor and side comments. Andy and Mike initiated humorous comments three times, and humorous uptakes occurred four times. A particularly

interesting discussion occurred while I was across the room trying to help Kris define a "technical fall" in wrestling. Andy, overhearing our conversation, said to Mike (alluding to a teammate on their football team): "'Technical fall'? It's when someone like John Winston comes running up behind the line with the ball and trips."

Brief side conversations often occurred between the boys when I would leave to check on Kris and Cindy. For example, the following exchange took place near the end of the class period:

T: Be right with ya, Cindy.

(Typing sounds.)

Mike: There, now I used it all.

T: Good! Good sentence (inaudible).

Andy: Good job, Mike.

T: Alright, why don't you decide what comes next and (inaudible).

Andy: [Gonna lift weights?

(The teacher goes over to talk to the girls.)

Mike: Yeah.

(The boys conduct a very quiet, brief conversation. The teacher returns.)

Mike: O.K., "If you would see a koala, you would usually see it in the tree."

(Typing sounds.)

It is noteworthy that the conversation above was quiet and ended as soon as I returned, signaling the time to resume working. I recognized the importance of taking short breaks from demanding cognitive work and the fact that they occur naturally in a collaborative environment; such interludes are an important ingredient in the "ambience" of a learning community. For Mike and Andy, these breaks took the form of brief conversations of personal interest. Given the breaks, they were able to get back to the task at hand. I generally did

not call attention to the short breaks and allowed them to run their course as long as enough productive work was taking place.

Collaboration Throughout the Year

Of course, collaborative dialogue was not restricted to the four points in time that serve as the focus of this study. Collaborations began in September and continued throughout the school year.

Exploring the Terrain

In order to best capitalize on my modeling of CSIW and the collaborative student writing that would follow, I needed to create a classroom environment in which everyone - teacher and students alike - would find opportunities to learn from one another. I began undertaking this effort on September 28 by sharing photographs and home video from the 1995 Ag Expo at Michigan State. My intention was twofold: having grown up in the suburbs, I wanted to place myself in the position of a learner and to learn a bit about farming and farm machinery; coincidentally, I hoped to put the students in the position of resources for me and for one another. I was struck by how attentive the students were (especially Mike and Andy, both of whom lived on farms and both of whom previously had been pretty inattentive). They were very knowledgeable about the substance of the video and photos and very clear in their explanations of the function and operation of each piece of machinery.

Our actual writing work began in mid-October. The first collaborative writing activity involved descriptive and narrative paragraphs about topics of personal interest, with an eye to making writing more interesting. Despite some "squirreliness" (which didn't seem quite as pronounced when I listened to the audiotape as one would surmise from the comments in my fieldnotes), the students offered very good suggestions for sensory details when we shared our brainstorm. The following excerpt centers on the brainstorm for Kris's description of her cat:

T: Now, think of another maybe more descriptive, I wonder if there's a word that's more descriptive than "goes" under the

Kris: He jumps. I can put "jumps."

T: Jumps.

Mike: He leaps.

T: Leaps?

Kris: Leaps! Oh, that's a good word.

T: Leaps.

Mike: Thank you much.

(Kris laughs.)

T: Very good.

(Mike and Kris laugh.)

T: O.K. An excellent response and a wonderful reply. Very good.

Later, when I shared my own brainstorm (about scuba diving), Mike offered a suggestion that ultimately would help me improve my paragraph:

T: You see things out in the distance in a haze. "Silence;" "lazy," kind of lazy bubbles; "filtered light" coming down through the surface; "burst;" "expand." I guess what I was thinking of there is when you

Mike: Instead of "burst," like, "exploded."

T: "Exploded." I like that. I might be able to use that.

Mike: [(Inaudible) stupid (inaudible).]

T: No, no. I might be able to use that; that's good. Because that, that would work. What I was trying to think about there is when you're underwater and you blow, you let your bubbles go up to the surface of the water, they go straight up, and then they hit the surface and then they kind of...explode. Yeah, that's really a better way of explaining it. They hit the surface, and they go out in all directions. It's pretty neat to watch. That's good; I like that.

The students took a keen interest in their own and each other's writing. As they worked on revisions of their narrative paragraphs, Andy moved furniture around in order to push his computer next to where

Mike's laptop was plugged in. He even moved his monitor onto Mike's table in order to sit closer. (I've also noticed with other students doing research on the computer that the computer screen seems to become a focus of interest as no print medium ever could.) At one point, Mike asked Andy for help in writing about the defense on the seventh-grade football team, on which both boys played.

Getting Serious

Once we began working on the first major paper, I tried to include the students in my modeling of CSIW. As I composed my own paper about our concession stand fundraising project, I decided that it would include a descriptive paragraph about baking in the home economics room. Below are a few excerpts from the session in which I modeled the brainstorming of descriptive words, and during which I received help from all four students at one time or another:

Andy: "Be sure to eat first."

Mike: (Chuckles) And I have this (inaudible).

[
T: O.K., that's good. "Be sure to eat first."
I like that. What kind of a word could I use for the, the
smell?

Mike: "Odor?"

Andy: "Aroma?"

Mike: (Inaudible.)

[
T: "Aroma." Ah!

Mike: What?

T: "Aroma." What kind of aroma? Uh,

Andy: "Nasty." (Chuckles.)

T: It's not nasty.

Mike: No, it's a fantastic aroma.

T: "Fantastic aroma." Good.

.
.
.

T: Well, I don't know, if you haven't made monster cookies. Any of you made monster (cookies)?

[
Cindy: I have.

T: Did, did you get your hands into the batter,

Cindy: No.

T: where you've got to get in there, and you get all that

Andy: That stuff's

Mike: "Oatmeal?"

Andy: "Thick!"

T: Yeah, you've got the oatmeal and the peanut butter and all that stuff, and you're trying to mix it together with your hands. What would be a good word to describe?

Andy: "Messy?"

Cindy: "Mooshy?"

T: Hmm?

Cindy: "Mooshy?"

.
.
 .

T: Is that going to be enough for a decent paragraph? "Be sure to eat first," "fantastic aroma," "goosey" to describe the popcorn balls, (inaudible), "mooshy," "caked on hands." That would be, these would both be for the cookies. How about puppy chow? What could I, what would be a good word that might be useful in describing making puppy chow?

Andy: Owww.

Kris: "Tastes good."

T: "Tastes good."

Andy: "Powdery."

T: "Powdery?" O.K.

Mike: Oh, I got to shake the bag, opened it up. Pffff!

T: Oh, and the powder flies.

Mike: Yeah.

.
.
.
Mike: "Powder, powder explodes out of the bag."

T: "Powder explodes out of the bag." Good. O.K.

I incorporated many of these images in the descriptive paragraph I wrote and shared later with the students. They seemed genuinely pleased to see that I had used so many of their ideas in my paragraph.

Generation of effective wording, as we have noted, served as the focus of many of the early collaborations. The following excerpt, in which Cindy helps Kris develop descriptive images of a wax museum for her first paper, characterizes the impressive results of many of those conversations:

Kris: Um, "strange"? "Looks like real human flesh."

Cindy: "The people look real." "The statues look real." How does that sound?

Kris: (Inaudible.)

Cindy: "The statues in the museum look like real people."

Kris: Your flesh is just sk-, skin, isn't it? "Flesh."

Cindy: (Inaudible.)

Kris: Oh! "The s--"

Cindy: "The statues of the (inaudible) look like real people." It doesn't (inaudible).

Kris: Well, "The wax museum comes to life." That's what I was k-, it kind of

[
Cindy: (Inaudible.)

Kris: They're kind of the same, I think. But, uh,

Cindy: "The wax museum"

[
Kris: "The wax, the wax on the"

Cindy: "Statues"

Kris: "statues"

Cindy: "Looks like flesh"?

Kris: Yes. Yes! I

?: (Inaudible.)

Cindy: You like that one?

Kris: I like that one.

?: This is a very (inaudible.)

Kris: O.K.

Cindy: "The wax"

[

Kris: That was a good, O.K. I'll write on this paper. (Brief pause.)
O.K. "The wax," "The wax," "on the"

Cindy: "Statue."

Kris: "statue"

Cindy: "Looked like flesh." That'd be neat to see. I've never seen a
wax statue before, only on T.V., but that's not the same.
It's not the same.

[

Kris: Woah! Am I, oh, jeez, I'm glad I asked you to help me!

While their collaborations were not always as lengthy or dramatic as those of the girls, Mike and Andy also took advantage of their opportunities to share ideas and seek opinions. In the following excerpt, Mike helps Andy think through the organization of his paper about bull riding:

Andy: Now, should I do "supplies" or "rosin"?

Mike: Which one would go best next?

Andy: I don't know.

Mike: (Inaudible.) Which is "rosin"?

Andy: Right there. That's all about it.

Mike: I'll put "rosin." (Brief pause.) Well, I'm not sure. They're both practically (inaudible). It doesn't matter, whichever one. They both sound good.

Andy: Hmm.

In the following excerpt, Andy helps Mike start writing the conclusion to his first paper:

Andy: "You are ready to go roping now with your partner."

Mike: Could I put that?

Andy: (Inaudible.)

Mike: What?

Andy: "I think you're ready to"

Mike: "Start roping"?

Andy: Yeah. "I think you are ready to start roping with your partner and buy my next book."

(Mike laughs.)

Andy: "You"

Mike: O.K., what?

Andy: "You are ready" (Typing begins in the background.)

Mike: I'm ready.

Andy: "You (typing sounds) are (typing sounds) ready (typing sounds) to (typing sounds) start (typing sounds) roping." (Inaudible) space.

Mike: (Chuckles.) "(Inaudible) buy my next book." No, I won't put that.

Mike: I'm gonna put something else. I got something better. (Typing sounds follow.)

Mike's last comment indicates that, despite Andy's obvious assistance in getting him started, he was not relying entirely on Andy's ideas.

Moreover, Andy's help seems to have unleashed what Mike considered to be even better ideas.

Mike's conclusion eventually read as follows:

Now if you want to start roping you should find a partner and you should go to roping class for practice and advice. If you're a city person or country person and you have no

experience with roping or horses or nobody in your family has experience I would would not (sic) recommend this to you. I would not recommend this to you because you won't know much about horses and how to work with the horse to get the steer.

This conclusion, with its explicit attention to reader sensitivity, is especially interesting in light of Mike's earlier difficulty accepting the notion that many readers would know much less about his topic than he. Mike appears to have accepted his status as an "expert" in the area of team roping.

Mike and Andy seemed to recognize both the difficulty and the potential of working collaboratively. Every week I required my English students to write a brief entry in their notebooks reflecting on the week's work. Early in our investigation, Mike wrote the following entry: "Last week we started on a brainstorm for are (sic) first story. We are have (sic) a hard time getting started." The following week, however, his reflection read as follows: "We did a little brainstorm. I liked working with partners..." During the peer revision stage, Andy wrote the following entry: "I like to help people improve things." Later in the year, Andy reflected on peer revision from the perspective of the recipient: "I like the comments about my story."

In mid-April, when our classroom Internet connection became unreliable, students and parents alike expressed enthusiasm for the Saturday research session at my house. The students were well-behaved, and they worked on their various tasks conscientiously. They seemed a little "stiff" and reserved while I explained the day's agenda, but once they got to work they relaxed. They did quite a bit of socializing, and Andy spent much of his time playing games on one of the computers. That was O.K. since I wanted them to have fun and hopefully do a little "bonding." They consumed two large pizzas and quite a bit of our copious supply of leftover Easter candy.

I felt like we got a lot accomplished, both "academically" and interpersonally. At one point Cindy and Andy discussed their horses,

and after a few minutes Mike joined the conversation. Just before the students left, Mike said that they had worked for 4 hours and 38 minutes (he had timed the session on his watch), and that amount of work "would have taken four days at school."

Winding Down

Very late in the school year, when the students were pretty much sick of school, I often found it necessary to remind them to be specific in their editing suggestions to one another. They frequently just circled a response to an editing question on the edit think-sheet without explaining their criticism to the author. On May 21, however, while sharing his editing comments with Cindy, Andy demonstrated twice in rapid succession that he had internalized what I had been saying about giving specific feedback:

Andy: There. (Brief pause.) Um, "tell what was being explained?"
 "Sort of," 'cause, like, sometimes I'd get confused and didn't know what you were talkin' about. (Sound of page being turned.)
 Like, that one: it, like, doesn't make sense.

Cindy: Yeah, I know, (inaudible)

[
 T: What was it that

Cindy: (Inaudible) when he was little.

[
 T: What was it that

Andy: It needs to be different order, put in a different order.

Cindy: Yeah, I think I had a (inaudible).

[
 Andy: All words that are spelt wrong are underlined.

Although he was perhaps the most "burned out" of the four students by the end of May, Andy nonetheless offered Cindy valuable suggestions for improving her paper. His suggestions were specific, and he offered them in a nonthreatening manner; the antagonism that characterized some of his earlier interactions with Cindy appeared to have dissipated.

Summary

The excerpts in this section provide glimpses of the kind of support and assistance the students were able to provide for one another throughout the school year. While they by no means noticed everything that needed improvement or gave flawless suggestions to one another, they did make a concerted effort to give and graciously receive both praise and criticism. They seemed to sense the opportunity to learn from one another and, I believe, in the process grew to understand the value of exposing their work to public scrutiny - an experience that could easily be pretty scary to students who have experienced years and years of writing failure.

Interview data and written reflections indicate that the students found collaborative talk helpful and enjoyable. Students reported numerous benefits: getting more ideas, helping with word choice, having someone there when the teacher is busy elsewhere, helping put ideas together, writing more quickly, making writing more fun, spelling help, and having someone ask you to explain ideas they do not understand.

Reading-Writing Connections

I was interested in the extent to which the year's writing tasks would reinforce reading skills, and vice-versa. Table 10 suggests that the number of references to reading and the occurrences of oral reading of student texts increased during the year. To a degree this is to be expected due to the nature of the revising and writing tasks. In addition, however, I surmise that as the students gained confidence in their writing they became more willing to share it with one another. Also, as they became more knowledgeable of the writing process, I suspect that they became more willing and able to refer to supporting texts such as *organization* think-sheets and research materials. Of course, the very nature of the second major writing project - the research paper - lent itself to the infusion of reading experiences.

In order to reinforce the interconnectedness of reading and writing and to foster independence, I regularly referred the students to resources that would assist them in whatever writing task occupied them; more likely than not, those resources took the form of printed text (e.g., brainstorm, organization think-sheets, and research materials).

TABLE 10

Reading-Writing Connections (Key Code Tabulations)

	MODEL COLOR-CODING	ORGANIZING FIRST PAPER		REVISING FIRST PAPER		WRITING SECOND PAPER	
		Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy
Refer to Reading	0	0	3	1	3	1	7
Read Own Work	0	12	18	3	6	7	0
Teacher Directs Thinking to a Resource	0	2	8	3	6	2	1

Description/Narration, Organizing First Paper (January 30-February 1)

Since the nature of these prewriting tasks focused at the level of the single word or short phrase, reading-writing connections were limited to reading entries from brainstorm lists. Throughout the color-coding and brainstorming sessions, the girls (primarily Kris) read from their word lists as they discussed ways of improving the structure and interest level of their writing. The boys, too, frequently referred to entries in their brainstorms.

Collaborative Revising of First Paper (March 28-29)

During these class sessions, students read over the revision suggestions of their editors and reviewed their own first drafts. Mike and Andy read portions of these texts aloud on six occasions, often seeking the opinion of a peer:

Andy: How's this sound: "Is this what you call fun? Getting a tour of hell on a 2,000-pound package of hamburger, and you better get out of the way before you're turned into a cowboy shish-kabob."

.
.
.

Mike: I put, "If you do not have a partner, you can still rope, but not professionally."

.
.
.

Mike: 'Cause I have a question that says that, "Explain why," O.K., right here, it has, "If you don't have experience, I wouldn't recommend this to you." And she asked, "Why is, why, why should I?"

The transcript also revealed three instances in which the boys made reference to reading (e.g., "But I'm readin' it over 'cause I hafta find the place where (inaudible).").

While much of the girls' reading occurred silently, in the process of soliciting evaluation of their work Kris read portions of her paper aloud twice and Cindy read one portion of her paper aloud. In addition, on one occasion Kris read an extensive editor's suggestion aloud as she sought Cindy's assistance.

Writing First Draft of Second Paper (May 7)

On seven occasions Cindy and Kris read portions of their work aloud to each other as they continued to compose their research papers:

Kris: Does this sound O.K.? I don't think it does. Here's, I'm gonna read it. "This paper is about the 1996 Olympics. I am writing this because I am going to the Olympics. The events you are going to hear about are the events my family and I are going to see. First, I am going to talk about wrestling."

.
.
.

Cindy: How 'bout this? "When he was six weeks old, he was adopted by," and then I'm going to put "Dorothy and Ernest Hamilton." Does that sound

[
Kris: Oh, he was adopted?

Cindy: (Inaudible.)

Kris: Oh, that's interesting.

.
.
.

Cindy: O.K., listen to this. O.K., where'd I leave off? (Brief pause.) "When he started skating, he progressed rapid-, rapidly. By the time he was 13 years old, he was already

involved in compe-, competition"

Kris:

[
"tition."

Cindy: "skating."

At times the girls were so eager to share their own writing that they seemed to lose sight of their roles as peer helpers and evaluators.

The transcript includes seven instances in which Mike and Andy referred to reading material, not surprising since their paper was based on research. In one instance, as we shall see in the next chapter, both boys decided to check their research in order to resolve an uncertainty about wording. On other occasions, the boys read portions of their research aloud, reviewed their writing from the computer screen, and read from their organization think-sheets.

Other Connections

Initial interviews in September revealed that all four students disliked reading. As time passed, however, Cindy, Mike, and Andy (the three who were assigned to me for English) seemed to develop an appreciation for our regularly scheduled free reading periods; this appreciation was reinforced by my trip to a bookstore with a purchase order after canvassing the students for topics. The books I bought included a Saddle Club Mystery for Cindy and a pro football almanac for Mike. I also bought a rather expensive book on rebuilding car engines, which was selected mostly for Andy.

I was a little amazed at how enthusiastically Mike and Andy went after their books; I wasn't so surprised at Cindy's glomming up her book. At the end of their first reading period with the new books, Andy even asked for more time to finish the section he was reading; the last sentence of his journal comment that day read, "Thank (sic.) for getting this book." Each of the topics in these books received at least careful consideration as a potential topic for one of the two papers the students wrote during the school year.

For the majority of the school year, during sixth period we

maintained my longstanding policy of beginning class every Monday and Wednesday (and sometimes Friday) with a 15-minute free reading period, followed by 5 minutes or so to write a comment on the reading (which I read and return the next day with my written reaction). While Cindy remained cooperative and eager to read during this journal time, the boys eventually started complaining about doing their reading. Once we started doing the research for the second paper, however, their complaints stopped and they resumed reading willingly. I wonder if the research (in an area of interest - Australian animals) had anything to do with this renewed interest in reading.

The students occasionally mentioned their feelings about reading in their weekly reflections. For example, on September 22 Cindy wrote the following: "I enjoy reading. I am starting to enjoy reading more." Later, on November 2, she wrote, "I like reading. I used to not like to read because I thought it was boring, but now (sic) I don't." Still later, on April 26, Cindy wrote the following: "This week we highlighted our research. I got plenty. I am enjoying researching (Scott Hamilton)."

The students were VERY enthusiastic about researching their topics on the computer. As Andy was researching on April 11, one of my teaching colleague's students came over and looked over his shoulder at what he was doing. Andy said, "You should be in this class. It's cool." As Kris was paging through, skimming, and printing articles from an InfoTrac CD of recent magazine articles, she exclaimed, "I want to look for more of these. This is fun!"

Although the students read their work aloud to one another throughout the year (e.g., during organization and peer editing sessions), the connection between reading and writing became most clear as they gathered and organized the research for their second papers. This connection is illuminated by the following comment, recorded while Cindy conducted research about Scott Hamilton on the Internet: "Look at

this. 'He threw firecrackers at his sister or (Inaudible).' (Cindy and Kris laugh.) Man, he's mean!"

During the same research session, Mike became very excited about information he and Andy were reading about kangaroos:

Mike: Colors of kanga-, kangaroos. (Inaudible) the colors are blue, gray, red and black, yellow, or brown.

Andy: What?

Mike: (Chuckles) Yeah. Colors of kangaroos: blue, gray, and red, but they also can be black, yellow, brown. Mr. Hallenbeck? (Brief pause.) Oh, we forgot two colors, too. There're (inaudible), albino or white kangaroos, too. Holy cow!

Andy: What?

Mike: There's, there, there are all, O.K. There are also albino or white kangaroos. Mr. Hallenbeck! Listen to this. Mr. Hallenbeck?

T: Yeah?

Mike: Listen to this: O.K., for the colors of the kangaroo, there are blue, gray, red. They also can be black, yellow, or brown. And there're also albino or white kangaroos.

T: Albino kangaroos? Really?

Mike: Cool!

T: I'll be darned! (Inaudible.)

[
Mike: I didn't think there were that many.

T: I thought there was one kind of kangaroo.

Mike: That's what I thought.

T: Brown. (Chuckles.)

Mike: White, that'd be weird, a white kangaroo hoppin' around out there. Weird.

During a conversation in June, Mike's father made a point to mention that through the year Mike had become more confident in himself and in his reading during homework sessions. He reported that Mike required much less help at home with homework than he had earlier in the year or in previous years. He added that Mike was much more able to

find material in his textbooks without needing to have it pointed out to him. Since we had devoted the lion's share of our energies during the year to working on writing skills, with a heavy emphasis on structural issues, I surmise that this emphasis had carryover into reading, at least for Mike.

Summary

The logical connection between reading and writing was reinforced during the course of this study. While students regularly read their work to one another, the connection became dramatically clear during the research paper phase of the study. The students demonstrated an enthusiasm for reading their research that carried over into their approach to writing tasks.

This chapter examined evidence that each of the students made unique contributions to the collaborative writing enterprise and that the students accepted transfer of responsibility for their learning and scaffolded one another's writing development, appreciated and enjoyed the collaborative structure, and incorporated reading into their writing tasks. Throughout their interactions, the students demonstrated a facility for capitalizing on dialogue to improve their writing products. Moreover, the conversations revealed a concern not only for their own writing development but also for that of their peers. The next chapter will examine ways in which the students' ideas about writing developed alongside their writing skills.

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**FROM THE INSIDE OUT: ADOLESCENTS WITH LEARNING DISABILITIES
THINK AND TALK ABOUT WRITING**

VOLUME II

By

Mark J. Hallenbeck

A DISSERTATION

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CHAPTER 6

FINDINGS: THINKING ABOUT WRITING

This chapter examines evidence supporting the final analytical assertion, that the students' view of writing developed from a preoccupation with "mechanics" (e.g., spelling, punctuation) and quantity (i.e., length) to an appreciation of writing as effective communication of ideas to an audience. Moreover, this emerging awareness recognized the critical importance of text structure and reader sensitivity.

As the students' understanding of effective written expression developed, they developed more positive personal feelings about writing. Over the course of the school year, the students also developed a clearer appreciation of the writing strengths they were developing. Evidence supporting these assertions is drawn from conversations during the four key points in time and from throughout the school year, as well as from writing samples. The writing session of May 7 will be examined in particular detail, as it demonstrates the magnitude of Mike's and Andy's development.

What is Writing?

Initial Impressions

As the school year began, the students projected rather limited visions of expository writing. In the fall interview, Mike seemed to equate school writing with reading tasks, i.e., writing a report on something he was asked to read; he mentioned that teachers "make you write." Andy indicated a wider perception of school writing, including Young Authors and short stories. Cindy emphasized writing about horses, a special interest of hers. Kris mentioned writing reports. When asked what they anticipated working on when we worked on "writing," the students uniformly mentioned tasks related to grammar, spelling, and

punctuation. None mentioned anything about any kind of holistic, meaning-related work.

With one exception, the students reported doing very little writing outside school. Mike indicated that he wrote only if he had to and that this writing was restricted to notes of about 10 words. Andy's outside writing was restricted to notes about things he needed to do. Cindy did not report doing any kind of writing outside school. On the other hand, Kris mentioned writing letters to a cousin who lived in an adjoining state, notes to her parents telling them where she was, and journal entries (which she enjoyed writing).

During the early interviews the students expressed varying levels of confidence about their writing. For Mike, knowledge related to writing appeared to be external ("I'd go into the encyclopedia and copy it out of that."). For him, a good writer would have to be "a genius or something." Even for good writers, he implied that knowledge must be external ("They probably just read other books."). By contrast, Andy expressed confidence in thinking up things to write about: "Someone will say write a story about this or something, and then I just think about it." Andy was able to distinguish between a "story" and a report; his confidence, however, appeared to be limited to made-up stories. Cindy expressed confidence in her ability to generate knowledge for writing if the writing involved horses or fantasies. Kris expressed some confidence in expository writing, but this was restricted to letters to her cousin. All four students mentioned the importance of knowing something about the topic.

Signs of Change

The interval between the pretest papers in the fall and the posttest papers in the spring witnessed marked changes in the students' ideas about writing, with corresponding developments in writing achievement. The students' early preoccupation with mechanics (e.g., spelling, punctuation) and their aversion to writing appeared to

dissipate quickly once they started implementing the CSIW strategy with topics in which they were interested and about which they were knowledgeable.

The breadth of change in the students' thinking came into sharp focus on February 27. One of the students had suggested that they conduct a "mass sharing" of peer editing comments on the first drafts of the first paper. All four students were to share their comments with each of the other authors. Near the beginning of the class period, my teaching colleague was called to the office. For most of the rest of the class period, I was responsible for activity on both sides of the room divider. I ended up spending most of the class period on the other side of the classroom, generally unaware of the dialogue that was emerging on my side.

When I eventually listened to the audiotape of the students' conversation, I was amazed at the insightful comments offered by the editors and the mature replies of the authors. The following excerpts, in which the students discuss the editor think-sheets they had completed for Mike's paper, illustrate the tenor of this revealing conversation:

Kris: Your paper was about learning and doing something about roping, right?

Mike: Yeah.

Kris: O.K. Um, I have to look at this. This was a good paper. I thought it was interesting, and I liked how you started out, like, you kind of, what was it, you were talking to the reader.

[
Andy: Got the gist of what (inaudible).

Kris: I liked that, that you, like, "Did you ever wonder." Pretty cool how you started out.

Cindy: I liked the second paragraph. You explained what you need: like, if you don't have a partner, you can't rope. I liked that.

Mike: (Inaudible.)

Kris: Um, I thought you, um, told what was being explained. I thought you told that really good. And using two to three categories, I thought it was good. Did you?

Cindy: Sort of.

.
.
.

Mike: What was that one?

Kris: I put, "gives details"

[

Andy: Maybe (inaudible).

Kris: "and explain."

[

Mike: Oh, yeah. That's what I put, too.

Kris: I put, "sort of," because, I'll tell you later. Um, "Using key words," I put, "sort of."

?: (Inaudible.)

Kris: I thought

Mike: Same with me.

Cindy: He had a few.

Kris: And, "Making it interesting," I put, "yes."

[

Cindy: "Yes."

[

?: "Yes."

Kris: It was really interesting.

Andy: I put, "Yes."

All three of Mike's peers complimented him and provided specific reasons for their compliments. Mike, in turn, entered the conversation by comparing his editors' comments with his own assessment of his work ("Oh, yeah. That's what I put, too."; "Same with me.").

The conversation continues with constructive criticisms (or, in Kris's less delicate terminology, "bad things"):

Kris: O.K., let's go to the bad things. Um, O.K., why I put "sort of" for "Give details explaining each category" is because I thought if a person that read this has never been roping or, I don't know how to explain it, they might not know what the "header" and the "heeler" is, and they might,

Mike: Oh.

Kris: we hope they know what a halter is and a bridle is, but, you know,

Mike: Yeah.

[
Kris: if they don't know that, you know, you might want to explain what that is.

.
.
.

Cindy: Well, for some parts that (inaudible), definitely check your spelling.

Kris: Yes, check your spelling.

[
Cindy: (Inaudible) some words that weren't words.

Mike: Yeah, well, I know that.

[
Cindy: Check it, check it a lot. Then in one spot,

Kris: I only found a couple of 'em.

[
Cindy: you had two words running together, so (inaudible).

[
Mike: Where is that
at? Oh.

Mike acknowledged the validity of his editors' concerns ("Oh."; "Yeah."; "Yeah, well, I know that.") and appeared to be genuinely interested in addressing their concerns ("Where is that at? Oh."). I was both surprised and pleased that Mike didn't get defensive at Cindy's tone, which was more "pointed" than Kris's.

As the conversation develops, Mike continues to take the criticisms graciously and enters into a three-way dialogue about his paper with Cindy and Kris:

Cindy: (Inaudible.)

Kris: Which one?

Cindy: Mmm, right here. He has them running together.

Kris: Oh! I didn't see that.

[
Mike: Yeah, yeah. I seen that.

Cindy: A space there.

Mike: Yeah, I put it there.

[
Kris: Yeah. That was

Cindy: Some of your, um, wording is kinda (wrong??? long???).

[
Mike: Yeah, I know.

Kris: Kinda.

Cindy: Then one thing that would make it interesting:

[
Mike: (Inaudible.)

Cindy: "Explain why you would not recommend this to someone that has no experience." (Inaudible.)

Mike: Oh, O.K.

Mike's final draft ultimately concluded by addressing Cindy's suggestion above:

...If you're a city person or country person and you have no experience with roping or horses or nobody in your family has experience I would would not (sic) recommend this to you. I would not recommend this to you because you won't know much about horses and how to work with the horse to get the steer.

Mike's peer editors continue to provide suggestions:

Kris: Yeah. Um, mine, I put, like, "Explaining more for vocabulary," but, I mean, you did good on your vocabulary, you know, coming up with that stuff, but, I don't know, and I put, "More details on the event." I don't know

[
Mike: Oh, how you do it?

Kris: I don't know what I meant, though. Oh, yeah! That's it.

[
Mike: You mean how you rope a
(inaudible)?

Kris: Yeah. And then, one thing that would make it more interesting, maybe explain the stuff you get, like in competition. Do you win anything, or something like that,

[
Mike: Oh, O.K.

Kris: you know? Maybe

Mike: Yeah.

Kris: it'll go, "Hey!"

[
Andy: (Inaudible) win a jackpot?

Kris: Yeah.

Mike: What?

Andy: Jackpot roping?

Mike: Oh, yeah. I could tell 'em that.

[
Andy: That's cool.

Kris: That's what I have for (inaudible.) It's a good paper!

Mike seemed to be genuinely interested in these suggestions, as indicated by his efforts to seek clarification ("Oh, how you do it?"; "You mean how you rope a (inaudible)?"; "What?"). He probably could tell that the editors had studied his paper very carefully, and he seemed to appreciate that. He readily acknowledged the value of their suggestions ("Oh, O.K."; "Oh, yeah. I could tell 'em that."). Andy helped clarify Kris's suggestion ("Jackpot roping?") and acknowledged its potential contribution to Mike's paper ("That's cool.").

The conversation above highlighted the students' understanding of both collaborative dialogue and the intricacies of effective writing. The lively give-and-take and the thoughtful nature of their comments and elaborations demonstrate their appreciation for one another's input. The content of their suggestions indicates an emerging awareness of such features of good writing as catching the reader's attention, including an effective conclusion, and providing clarifications for a naive reader. It must be emphasized, moreover, that this is only a portion of a very effective extended dialogue that occurred without a teacher present to moderate; I was completely unaware of the quality of this conversation until I listened to the audiotape.

The transcript above suggests that students came to understand the importance of audience in effective writing. In mid-April they had an opportunity to write for an authentic audience when they wrote an e-mail

message from my house to the members of my dissertation committee. Because very little time remained before they were to be picked up by one of their parents, the message was brief. Actually, two messages were written - one by Cindy and Kris and another by Mike and Andy:

To: (e-mail addresses of committee members)
 Subj: Hello from Mr. Hallenbeck's!
 We are the two girls in Mr. Hallenbeck's study. This writing study has helped our writing. It also helps on how we use our vocabulary.
 Kris and Cindy

We are Mike and Andy. We are wrighting (sic) the paper together abought (sic) Australia. We are at Mr. Hallenbeck's house. We're working on our papers.

Several members of my committee responded immediately. A flurry of correspondence followed between the students and several committee members. The professors expressed interest in the students' already completed papers and in their current research. This interest spawned a series of messages in which the students sent writing samples and responded to the professors' questions.

Quite frankly, everyone involved seemed to genuinely enjoy the e-mail exchanges. The professors were very enthusiastic about corresponding with students and provided detailed commentary on the students' writings. The students looked forward to the professors' messages and were eager to write back. On April 16 Andy sent his bullriding essay, along with the following preamble: "This is my Expert essay story. When I finished it, it was the happiest day of my life, but it was fun." On May 3 Cindy wrote the following reflection in her notebook: "This week I did e-mail. I like doing that because I (sic) was easy to understand and anser (sic) their questions."

The experiences that unfolded during the year in our classroom helped change the students' perceptions of writing and what it means to be a writer. In interviews conducted at the end of the school year, their definitions of "writing" suggested an awareness of the structure and intent of effective written expression that had not been evident in

the fall. Andy defined writing as "putting words on paper." Mike mentioned "organizing" and "just writin' about somethin' you know or somethin'." Telling about somethin'." Cindy defined writing as "writing stuff down...stuff you know." Kris saw writing as "how to write properly...the right way, coming up with stuff...words...sentences." Significantly, their comments in May indicated an increased awareness of themselves as legitimate sources of knowledge (e.g., "Just writin' about somethin' you know or somethin'." Telling about somethin'."; "Things you know."; "Stuff you know.").

Writing Lexicon

As time went by, the students developed a lexicon of writing-related terms that helped structure their dialogue. As they brainstormed and organized ideas during the prewriting sessions, for example, both student pairs used the term "group" frequently. At various times, Kris used the terms "title," "topic," and "name" to refer to category labels. Cindy referred to ideas she planned to add as "things." Mike and Andy employed such terms as "the topic thing," "titles of your things," and the ever-popular "web" as cognitive markers for their thinking about writing.

During the revision sessions, terms that emerged in the girls' conversation focused on issues of organization and reader sensitivity and included "switched a lot of things," "add some stuff," "paragraphs," "details," "catches their attention," and "describe." The boys' conversation included structural terms such as "introduction" and "ending."

The writing lexicon continued to develop through the research paper at the end of the year. Cindy and Kris employed terms such as "category" and "group" as they grappled with organizing their material:

Kris: O.K., all of this here, there, there, and there.

Cindy: Maybe you could figure out which ones sound better together like I did.

Kris: Like, this all goes together. These go, I bet all these go together for sure.

Cindy: Then the other ones.

Kris: This is about the track. That is, too, though. I, I don't, do you think I need to say that?

Cindy: What?

Kris: (Inaudible.)

Cindy: No.

Kris: Then, this is about, um, there to, this is all, this is a category, O.K.?

Cindy: Yeah.

Kris: I know that 'cause it talks about all the points and all that.

Cindy: Yeah, it could be a separate category.

Kris: O.K.

Cindy: But then what (inaudible).

Kris: So, (brief pause) this is about, this is about it, too, how much it can hold. So that should go there, though, shouldn't it?

Cindy: Yeah.

Kris: No, not there. I mean

[
Cindy: No, not there, but the other one.

Kris: there. So, (brief pause) O.K., oh, wait, this goes with that. O.K. This is, O.K. Um,

Cindy: Except you should change the color of one of, one of the groups.

Kris: Yeah.

Cindy: The big one.

Kris: Well, this can be a category - these three, I know for sure.

.
.
.
Cindy: These all go together. You can make 'em a group (inaudible) if you have any other ones that color.

Kris: Oh, I changed, (brief pause) yeah, I should change this and that to a different color. Yeah. They'll be brown. (Brief pause.)

O.K. See, these go together. This is a separate group. That's a separate group. I'm still tryin' to figure out that one and that one. That's about

Cindy: This should be a different color, too, 'cause it's about (brief pause) yeah.

Cindy and Kris employed their writing lexicon to give focus to their organizational efforts. Combining this terminology with a wealth of research appeared to facilitate a very focused, very efficient dialogue.

Mike and Andy employed nonexotic terminology during their co-authoring session of May 7, relying on traditional terms such as "describe," "sentence," and "paragraph"; on one occasion Mike referred to categories as "things." Despite the generic nature of these terms, the boys demonstrated a solid understanding of the complex writing concepts to which they applied. We shall examine this conversation in detail on pp. 262-288.

Structural Issues

An important indicator of the students' thinking about writing lies in comments and questions that indicate an awareness of structural issues critical to effective written expression. Table 11 reveals that, not surprisingly, such comments and questions occurred most often during the organizing stage, when issues of structure receive the most explicit attention. Nevertheless, structural issues played a significant role in student conversations during revising and writing as well. Cindy and Kris made many more such comments during the organizing and revising sessions than did Andy and Mike; this probably occurred because their conversations were more focused on the task at hand and their thinking was much less impulsive. The boys, on the other hand, generated a large number of structural comments and questions while writing their research paper late in the year, probably because they had a vast fund of information that still required more organizing when they reached the writing stage.

TABLE 11

Thinking About Writing (Key Code Tabulations)

* Potentially Disconfirming						
	ORGANIZING		REVISING		WRITING	
	FIRST PAPER		FIRST PAPER		SECOND PAPER	
	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy	Kris/ Cindy	Mike/ Andy
Awareness of Structural Issue	50	12	10	4	1	16
Admit Difficulty with Structure	7	0	0	0	0	0
Comment on Wording	10	2	0	1	0	3
Question about Wording	9	0	1	1	0	1
Taking/Giving Ownership of Idea	0	1	0	0	0	7
Initiating Idea about Writing	31	32	9	20	10	26
Uptake of Idea about Writing	4	9	1	0	6	7
* Comment/Question about Spelling	6	6	7	9	1	0
* Comment/Question about Punctuation	0	0	0	0	0	1

The large number of times that writing-related topic changes were initiated suggests that both pairs of students engaged in lively exchanges at all stages of the writing process. The relatively fewer number of uptakes, however, suggests that many of these comments went without follow-up.

Prewriting

By far the most frequent single code in the girls' January 30-February 1 transcripts identified comments and questions demonstrating an awareness of structural issues (e.g., "'Airplane' doesn't really go with any of the groups."; "I need to make my largest group smaller."; "Which is my t-, my, my topic? Oh, I know what I'll call it."). Fifty such structural references occurred in the transcript (see Table 11). The other 26 codes (excluding initiating and uptaking) combined for a total of 148 occurrences, with the next-highest single code being that of thinking aloud (20 occurrences).

The girls' comments during the three days in which they worked on description, narration, and organization of the first paper were directly related to the nature of the tasks at hand. Their comments on January 30 centered on organizational issues. Over the next two days, they focused on matters of reader sensitivity, namely generating descriptive words and narrative details; their objective - sometimes spoken, sometimes not - was creating interest for the reader.

On January 31, Andy and Mike continued to work on their organization think-sheets. On February 1, they began brainstorming words and ideas for their descriptions and narrations. Although they needed to be redirected occasionally, their organization think-sheets looked quite good by the end of the class period.

The 12 occurrences indicating awareness of structural issues (see Table 11) represented a relatively small proportion of the boys' coded comments and questions during prewriting. The other 35 codes (excluding initiating and uptaking) accounted for the rest of the 209 total occurrences. The most commonly occurring code was confirmation (32); this probably resulted from the frequency of teacher scaffolding during these conversations. Other frequently occurring codes included thinking aloud (15) and seeking an idea from a peer (10).

As with Cindy and Kris, the boys' comments during these class periods were related to the nature of the tasks on which they were working and the level of success they were experiencing. For example, the session during which they were locating sites for descriptive and narrative paragraphs, and with which they had a great deal of difficulty, saw numerous questions about ideas and admissions of difficulty. They did not make any comments relating to matters of writing structure during that portion of the first class session. During the sessions in which they concentrated on their organization think-sheets, however, eight comments or questions related to writing structure. Three such comments surfaced while the boys developed

descriptive and narrative brainstorm.

Revising the First Paper

By the end of March the students had completed the editing, peer editing, and revising think-sheets for their first papers; on March 29 they began working on their revisions. They got right to work and seemed enthusiastic about their work. A review of the coding tabulations from the March 29 transcript reveals 10 instances of comments or questions relating to writing structure from Cindy and Kris. On four occasions, one of the girls offered writing support to her partner. On one occasion, a question was raised about wording.

During this revision session, Kris and Cindy discussed structural issues such as moving ideas, adding a category, improving wording, adding more supporting details, and catching the reader's attention. In fact, in the opening comments of the transcript, Cindy addresses two key issues of writing structure, organization of ideas and breadth of coverage:

Cindy: I switched a lot of stuff around.

Kris: Really?

Cindy: I worked on this for an hour, and I switched a lot of things.

Kris:

[
Oh, that's good!

.
. .
.

Cindy: Yeah, but then I'm going to add some stuff, too.

Kris: Yeah, and you're sitting by me, too, so whoa! O.K.

Cindy: I'm gonna add some stuff about my sister's horse.

Continuing the organization theme, a few minutes later Kris asked me if she had identified the correct place to add a detail to her paper; I agreed that she had. In the following excerpt, the girls discuss the mechanics of moving text on the computer:

Cindy: I'm gonna move this part about Lady, "sometimes his mom's in a bad mood." I'm gonna

Kris: Oh, yeah.

Cindy: change that and put, "Lady."

Kris: Do you know how ta, like, move paragraphs and all that, or do we

Cindy: [On here,

Kris: have to redo it?

Cindy: to move 'em, just copy and paste.

Kris: Oh, oh, O.K.

The girls often knew where they wanted to place their ideas; occasionally, however, they knew an idea should move but had difficulty figuring out where to move it. At one point early in the class period, Cindy wrestled with exactly where to move an idea:

Cindy: I've still got to capitalize all their names. (Inaudible.) I changed it from "when his mom is in a bad mood" to "when Lady, Starlight, Katie, and Nappie are in a bad mood."

Kris: That's good!

Cindy: And then I'll store it in that part with Lady. (Brief pause.) Or I could put it by itself and make it in a different paragraph.

On several occasions the girls focused on adding details in places that needed more supporting information. One of Kris's editors, for example, had suggested that she expand the section of her paper about the wax museum; she decided to discuss some of the specific statues in the museum and enlisted Cindy's support in doing so:

Kris: Um, hey! Do you know about the Beatles group? Any?

Cindy: Um,

Kris: There, there, the guy that got killed was John, wasn't it?

Cindy: Yeah. John.

Kris: Thank you! O.K. (Inaudible.)

Cindy: And then there's

Kris: Bingo and Lingo and Kingo and psshh.

Cindy: Um, hmm.

Kris: O.K.

Cindy: What was his name? Johnnnnn

Kris: Johnnnnn

Cindy: *Lennon!*

Kris: John Lennon!

Things did not get off to such a good start 6th period on March 28 for Mike and Andy. The boys were using laptop computers, and Mike got right to work. While I was running around helping the others with their revise think-sheets, however, Andy just sat there playing with his computer, not even looking at his revision materials. Kris eventually went over to the other side of the room to work with a friend on some homework; after awhile, I went over to see if I could help them and thereby expedite Kris's return to our side of the room. While I was over there, Andy removed the tracking ball from his computer and was playing with it when I returned. I told him that he would have to move to one of the bigger computers if he couldn't use his time more wisely.

The next day, March 29, everyone got right to work, and all the students seemed enthusiastic about their work. Many questions were asked, and there was a great deal of conversation. Once again, however, I discovered Andy extracting the tracking ball from his laptop, so I sent him to one of the larger computers. Later, during 8th period study hall, Andy told me that he had been working during 6th period, had gotten a lot done, and was just about finished with his revisions. As we shall see shortly, he indeed had accomplished a great deal, despite the distraction of the tracking ball and unbeknownst to me.

Only four of the boys' comments or questions during this revising session were coded as demonstrating an awareness of structural issues. Andy mentioned having added to and checked over his introduction. Mike discussed the fact that his editors had suggested that he explain some

of his ideas more fully, and he asked me if he could add something new to his conclusion, as suggested by one of his editors.

The transcript of these revising sessions dramatically illuminates Andy's emerging writing skills, even in the face of numerous digressions. Despite his preoccupation with the "bells and whistles" of his laptop computer, he managed to write the opening idea for a rather remarkable introduction to his paper on bullriding: "Are you crazy enough to strap your hand to a 2,000-pound package of hamburger?"

Andy's introduction continued to unfold in his mind. Part of it first came to my attention later in the same class period when Andy asked how to spell "shish-kabob":

Andy: How d'ya spell "shish-kabob"?

.
.
.

Andy: "Cowboy shish-kabob." Is that one or two words?

T: "Cowboy shish-kabob! " Sounds like a good, uh, image.

I soon became involved with something else and did not hear or read the entire introduction; however, Andy read it to Mike with justifiable pride:

Andy: How's this sound: "Is this what you call fun? Getting a tour of hell on a 2,000-pound package of hamburger, and you better get out of the way before you're turned into a cowboy shish-kabob."

Mike: (Inaudible.)

Andy: I think that sounds kinda good!

The next day, unaware of any of the above conversations, I asked Andy if he had done any work on his introduction. After a remarkably humble reply, I looked over his shoulder and read the final product:

T: ...Have you been able to come up with anything for that introduction?

Andy: Yeah.

T: Did ya?

Andy: I'm done.

T: I still haven't seen that. Is that something different, or did you start remembering that one you had before?

Andy: I just put a little bit of somethin'.

(Typing sounds.)

T: Oh, (chuckles) I like that. That's good. (Brief pause.) That will definitely catch the reader's attention.

Andy's introduction reveals an emerging ability to channel his natural creativity into his writing, albeit a sometimes slow process. It is extremely interesting to me that this introduction emerged literally under my nose during what for me was a very frustrating class period highlighting Andy's "distractibility" and resulting in his banishment to a different computer.

Other codes related to the boys' thinking about writing occurred in the revising transcript. One comment was made about wording, and one question was asked about wording. On four occasions one of the boys sought an idea from a peer, and one question was asked about another student's idea. The transcript reveals four offers of clarification and five efforts to seek clarification from a peer, including the following exchange involving Mike, Kris, and Andy:

Mike: By the way, what'd you mean by, "Explain about the stuff you get."

Kris: What?

Mike: It was one of your questions, "Explain about the stuff you get." You mean, like, if you win the roping thing?

Kris: What you got in competition.

Mike: Oh.

Kris: You know, like, you get money or something like that.

Mike: O.K.

[

Andy: Mike, (inaudible).

Mike: Yeah, or a belt buckle.

Kris: Oh, yeah.

Mike seemed genuinely interested in addressing Kris's editing suggestion, and he received useful assistance from his classmates.

Writing the Research Paper

The students had *much* less trouble coming up with topics for the research paper than they did for the first paper. Once they started gathering and organizing their research, I began to suspect (and was verified in later student interviews) that having a wealth of ideas to work with (see sample organization think-sheet, Appendix B) was relieving them of enough of their cognitive burden that they could concentrate on mastering the more complex aspects of organization and expression. The following excerpt, taken from Andy and Mike's May 3 organizing transcript, would seem to bear this out:

Andy: O.K., what's next? It looks like

Mike: (Inaudible) kangaroo?

Andy: Miniature kangaroo.

.
.
.

Mike: Did we do this one yet?

Andy: I don't know. Look on that and see if it says (inaudible).

Mike: I don't know. I guess not.

(Lengthy pause.)

Mike: Andy, get your stuff about the kangaroo. That's the last one that you just read then, right?

Andy: I don't think I have anything on a kangaroo. (Brief pause.) Let's do the uncommon animals that we hear about 'cause someone might want to know about the other animals instead of the kangaroo and the wombat and stuff.

By May 7, the students had completed the research for their second paper and had organized their ideas. Writing began on May 6 and would continue through May 16. As they had done the previous day, Cindy and Kris got right to work on May 7. They used laptop computers, and I

spent most of my time typing for Mike and Andy at the big computer. Kris and Cindy had become very independent about their work, and I had found it possible to spend as much time as necessary working with Mike and Andy, who tended to be more distractible and who had more difficulty typing. On May 7, Cindy and Kris worked on their introductions and the beginning paragraphs of the bodies of their papers.

Following a little difficulty getting the laptop computers and disks properly engaged, the girls began writing, sharing portions of their work along the way. Kris experienced difficulty with two ideas from the section of her paper on wrestling, and I was unable to provide adequate assistance. The girls asked if they could spend the last portion of the period studying for an upcoming health test, which I allowed them to do.

The girls' interactions were extremely genial, beginning with Kris's offer at the beginning of class to get Cindy's disk for her and continuing right through to their desire to study together at the end of the period. They seemed to have settled into a comfortable, supportive relationship. I must say, as I transcribed the audiotape and reviewed the transcript, I wondered if maybe they were a bit too supportive. They seemed quite prepared to praise one another's thinking and writing, but I saw little evidence of careful analysis of the writing they shared. Only one coded comment from this transcript dealt with a structural issue of writing. There was one instance in which a student shared a positive evaluation of one of her partner's words. Only one comment addressed a spelling issue, indicating that the girls had other priorities.

Early in the class period, both girls shared portions of their papers; Kris shared her introduction and part of the body of her paper, and Cindy shared part of a paragraph from the body of her paper:

Kris: Does this sound O.K.? I don't think it does. Here's, I'm gonna read it. "This paper is about the 1996 Olympics. I am writing this because I am going to the Olympics. The events you are

going to hear about are the events my family and I are going to see. First, I am going to talk about wrestling."

Andy (?): First, you are?

(Kris continues to read her paper aloud.)

Kris: Is that O.K.?

Cindy: Yeah.

Kris: Oh, I think it's kind of gooberish.

Cindy: How 'bout this? "When he was six weeks old, he was adopted by," and then I'm going to put "Dorothy and Ernest Hamilton." Does that sound

[
Kris: Oh, he was adopted?

Cindy: (Inaudible.)

Kris: Oh, that's interesting.

Noteworthy here is not simply Cindy's endorsement of Kris's writing, but also her apparent disregard for Kris's comment that her writing sounded "kind of gooberish" (translation: "dumb"). Moreover, Kris made no attempt to revisit the text with Cindy in hopes of improving it.

Cindy did not have time to finish reading her piece before Kris interjected her interest in one of the details. Again, beyond the fact that Kris shared her interest in Cindy's writing is the fact that the writing underwent no real scrutiny. Moreover, Cindy did not immediately finish reading her paragraph; the girls simply returned to their writing until Kris requested another evaluation.

It appears that the girls had become so comfortable with sharing their work that they had evolved into a sort of "mutual admiration society." When the transcript resumes, Cindy continues sharing her work. This time, Kris's assessment is slightly more specific:

Cindy: O.K., listen to this. O.K., where'd I leave off? (Brief pause.) "When he started skating, he progressed rapid-, rapidly. By the time he was 13 years old, he was already involved in compe-, competition"

[
Kris: "tition."

Cindy: "skating."

Kris: I like the word "progress." That, I thought that sounded good.

Although the girls may not have been overly critical of each other's work, Kris became very concerned over two "loose ends" in her own paper. Early in the class period, she indicated to me that she had a problem with a section of her paper:

Kris: O.K., I kinda figured out something I might have a problem with...I think I could have a problem because there is a difference between Greco-Roman and freestyle, but there's nothing to tell about it because I can't remember the difference, but

T: Well, you have some, uh, research on that, don't you?

Kris: The scoring and all that stuff is exactly the same. "Competition format and scoring rules and tie-breaking rules are all the same." That's what I have.

T: Oh, but you don't have any kind of a description of the difference between the two

[
Kris: They don't have any. I know between regular wrestling and freestyle.

[
T: Well,

Kris: and

T: Well, what are you going to see? Are you going to see freestyle?

Kris: Yeah.

T: Well, maybe if, maybe, maybe you should just cover freestyle then.

Kris: O.K.

T: Unless you can find some more information, 'cause that might be an area where you might be lookin' for some more information. See, that happens when you do research. You get started writing a paper and you realize, "Whoa, I don't have enough on this particular topic," you know. Then you may have to go lookin' for some more, some more information.

Kris's concern over accurately portraying the difference between freestyle and Greco-Roman wrestling demonstrates not only perceptive thinking in recognizing that the distinction was important, but also enough pride in her writing that she wanted the distinction portrayed

accurately.

Kris became even more concerned about another detail that she considered important to her paper, the definition of a "technical fall." Coming from a family quite involved with wrestling, she apparently felt that she should know this information and several times berated herself for not remembering it:

Kris: Oh, crap! Um, I gotta problem.

Cindy: What?

Kris: I forgot what tech-(inaudible). Oh, crap! I can't remember. This is bad! It torques me off. I know I, aw! I'm not just saying that because I don't know what it is 'cause I really do because my brother's a wrestler, so I do, but I can't remember. Oh!!! What is it??? Crap! Oh, I forgot.

Cindy: It's like me. That's what I would do.

.
.
 .

Kris: Crap! I can't remember. (Pause.) But I should describe "technical fall." Oh, that really, really torques me off!...

.
.
 .

Kris: Um, I forgot what "technical fall" means.

.
.
 .

Kris: (Quietly) Aw, crap!

.
.
 .

Kris: Gosh! I forgot!

While one might consider the expletive "Crap!" rather tame, it was uncharacteristic for Kris to use any such terms in class; the fact that she did use the term several times suggests the extent of her frustration. Nevertheless, Kris once again had demonstrated a keen awareness of the importance of specific details and the pride to ensure that those details were portrayed accurately.

Since Andy and Mike had generated a very large quantity of research on Australian animals and time was running short, I volunteered to do as much of their typing for them as necessary. During the class

period the boys finished the section of their paper about koalas and wrote the section on kangaroos.

Mike and Andy demonstrated a very strong commitment to the quality of their writing and were much more focused on their task than in previous class sessions. The large amount of research data that they had collected and organized (e.g., 13 separate ideas about koalas) seemed to facilitate this more focused attitude. The research mediated the boys' difficulties with idea generation, which were seen so vividly in the January 30 - February 1 transcript. Furthermore, the task of organizing and writing up this wealth of material seemed to obviate Andy's distractibility. Having so many ideas at their fingertips freed the boys' energies and allowed them to concentrate on the complexities of effectively sharing what they had learned from their research. Throughout the May 7 class period, as we shall see later in this chapter, they conducted themselves with the confidence and self-discipline of real experts.

The coding tabulation helps to illustrate a dramatic change in the boys' interactions. Issues of writing structure emerged in 16 of their comments or questions. They sought clarification 20 times and offered clarification 13 times. They requested elaboration twice. Elaboration of one's own idea occurred on 11 occasions, and elaboration of another's idea occurred 10 times. Summarizing an idea occurred five times; on six occasions, a student repeated an idea discussed earlier. Procedural help was offered five times. The vigorous give-and-take of the conversation is reflected by the occurrence of five agreements, seven disagreements, and nine occasions in which one of the boys completed his partner's thought.

Mechanics

Issues of mechanics, prominent in the students' definitions of writing in early interviews, played a relatively minor role in their conversations throughout the writing process. Spelling issues surfaced

occasionally during the organizing sessions and, not surprisingly, more often during revising. Punctuation was discussed very seldom during any of the four key points of time.

Spelling was mentioned during the girls' conversations of January 30-February 1 only six times, four times by Kris and twice by Cindy. Interestingly, two of those comments referred to spelling's relative lack of importance:

Kris: (Whispers) "Alcatraz." It'd be "realistic"? 'Cause it used to be a jail, but now it's not.

Cindy: It's just a tourist spot (inaudible)?

[
Kris: So, yeah, "realistic." (Brief pause.) (Chuckles.)
I don't care how I spell this.

Cindy: Oh, well, it doesn't matter.

Later, Kris even said, "Hmm, I pick the words I don't know how to spell."

Issues of mechanics were raised by Mike and Andy six times during the prewriting sessions, all involving spelling. The words that generated difficulty included "tack," "supply," "rodeo," "ambulance," and "rough." It is noteworthy that Mike and Andy had trouble with "tack" and "rodeo," words central to their topics and words that they undoubtedly used frequently in conversation. This difficulty was symptomatic of the severe spelling problems that both boys experienced.

While I tried to de-emphasize the importance of spelling, particularly in the early stages of the writing process, it became clear that the spelling of a specific word could become a major roadblock. At one point, Mike made it clear that he quite simply would be unable to continue unless he determined the correct spelling of a word:

Mike: How do you spell "ambliances" (sic)?

Andy: "Ambliance." I c-

[
Mike: (Inaudible.)

T: O.K., "ambulance"?

Mike: Yeah.

T: Uh, O.K., I'll tell you the same thing I told the, the
(inaudible).

[
Mike: I know, but not, don't worry about spelling, but I have no
idea.

T: O.K., a-m-b-

Andy: "Ambulance."

T: u-l-a-n-c-e.

On occasions such as this, it appeared that cognitive work came to a standstill if the student had no idea how to begin spelling the troublesome word. When I finally recognized this, I began backing off from my insistence that the students not worry about spelling until the very last. My intention had been to reinforce the importance of ideas over spelling, but I decided that my insistence became counterproductive when it jeopardized the continuity of the student's work.

Not surprisingly, issues of mechanics emerged frequently during the revising sessions. Kris and Cindy mentioned spelling seven times; words that created difficulty included "arrived," "statue," "Lennon," "guy," "Egyptian," "ear," and "library." Cindy mentioned needing to capitalize the names of her family's horses. None of these issues seemed to generate an inordinate amount of concern for either of the girls. In fact, two spelling concerns were greeted with amusement:

Kris: O.K., you spell "guy," g-u-i, right?

Cindy: No, "guy" is g-u-y.

Kris: (Chuckles) Oh, yeah, what'd I say?

Cindy: G-u-i.

(Both girls laugh.)

.
.
.
Cindy: How do you spell "ear"? E-a-r?

Kris: "Ear"? Like this thingie?

Cindy: Yeah.

Kris: E-a-r.

Spelling issues were raised by Andy and Mike nine times during revising. Words and phrases that gave them trouble included "will," "heeler," "those," "professionally," "better," "shish-kabob," "be able," and "way." As in the earlier transcript, Mike's severe spelling problem came to the fore, again stopping him in his tracks:

Mike: How do you spell "professionally"?

T: Did you run it through the spelling checker yet?

Mike: Yeah. No, I haven't. But I'm not done with that yet.

T: Well, you know, you can worry about spelling at any time. You can save that for last.

Mike: Well, I still, I, I don't have a clue. P-r-f-

T: Uh, p-r-o-

Mike: I've spelled that wrong already?

T: P-r-o-

Mike: P-r-o-?

T: P-r-o-

(Spelling help continues.)

Once again I persisted in trying to delay concerns about spelling. I did ultimately recognize that Mike was completely stuck, and I did spell the word for him. However, in retrospect it seems that I should have explicitly acknowledged the rightful place of spelling correction during the revision stage of writing.

Issues of mechanics, including spelling, were ignored almost completely during the May 7 writing session. This is somewhat surprising since, even though most of the students' ideas had come from printed research, they nevertheless still needed to incorporate this material into their own organizational structures. Within these

structures, the students needed to summarize their research and to write transitions and topic sentences. Perhaps they had learned that spelling and other issues of mechanics could wait until more critical concerns of structure and reader sensitivity had been addressed.

Length

Early in the January 9 modeling session, each of the three students in attendance expressed concerns about their upcoming first paper. Kris asked how long the paper would have to be and added that she was "gonna take, like, a lot (of time)." Andy asked if it would take as long as four hours; little did he suspect the truth!

To allay possible concerns about typing speed, I had indicated that I would spend as much time as necessary helping with the typing. Nevertheless, when I mentioned that the papers would probably be "a good two, three pages typed," Andy and Mike wanted reassurance:

Andy: How many paragraphs will you type for us at one time?

.
.
.

Mike: About a whole page. (Chuckles.)

.
.
.

Mike: You probably want more'n a page,

[

Kris: (Inaudible.)

Mike: though, don't you?

Mike obviously was concerned by the two-to-three-page length possibility, although I assured all the students that it looked like they had plenty of ideas in their brainstorm to sustain a paper of that length. In the following exchange, Kris and I both attempted to reassure Mike:

Mike: I can't get more than a page.

T: You know,

[

Kris: Oh, yeah, (inaudible).

T: I think you will.

Mike: I know I can, but I don't (inaudible).

[
T: We'll worry about that later. We won't, we won't get all
uptight about that right now.

By the end of March, the students seemed to have become comfortable with the increased length potential generated by effective prewriting activities; the issue rarely surfaced thereafter. On March 29 Cindy asked me if hers was the only two-page paper so far. She also mentioned that she had thought of more details to add. Cindy appeared to sense a feeling of closure once she and Kris had added more details during the revision session. "There," she said, "I'm pretty much finished with mine. Mmm, hmm. I just added what I wanted to add." As she printed her revised paper, Cindy expressed excitement over the increased length: "This is longer than before! Mr. Hallenbeck, it's longer than before."

Grouping and Labeling Ideas

Critical features of the prewriting stage include adequate generation of ideas, organizing the ideas into compatible groups, and labeling each group with a unifying idea - all areas of extreme difficulty for many students with learning disabilities. The students in this study demonstrated dramatic growth in their ability to complete all of these tasks. Not surprisingly, their conversations frequently centered on these issues.

During one of the prewriting sessions, Cindy expressed concern about the large size of one of her groups and the relative dearth of ideas in another:

Cindy: Yeah, I need to make my largest group smaller. I've got this color on every page.

Kris: Do you really? Yeah.

Cindy: One there.

Kris: (Inaudible.)

Cindy: (Chuckles.)

[
Kris: Better than mine. You, I had to be creative and make up a color.

Cindy: I have seven groups!

[
Kris: O.K. So, now, what we need to do is, uh,

Cindy: Put it on that. I gotta add a couple of extra little things (inaudible).

This excerpt reveals how a brief exchange between writers can help trigger an awareness of how to deal with a pressing composition issue.

Cindy and Kris gleaned an understanding that a group of ideas has not been adequately categorized until a unifying term for the group has been identified:

Kris: Hey! Should I put a title, this part, "Eureka"?

Cindy: Yeah.

Kris: For that since that was in Eureka?

Cindy: Yeah.

Kris: O.K. (Sighs.)

.
. .
.

Kris: ...Can you help me come up with a name for, um, Fisherman's Wharf, the wax museum, a boat museum,

Cindy: "Museums?"

Kris: um, sourdough bread, sea lions,

Cindy: Mmm, "sights?"

Kris: O.K., hey! Good idea, jeez! S-i-

In this excerpt, Kris acknowledged the importance of identifying a unifying idea for seemingly disparate ideas, as well as her difficulty in doing so. Cindy then listened to Kris's list of ideas and derived "sights" as a possible identifier. Kris immediately recognized "sights" as a viable title to unify the ideas in question.

While working on the organization think-sheets, several of the

boys' comments and questions indicated an awareness of the proper category for specific details (e.g., "Ah, that would be 'tack.'"; "Trailer and pickup.' What should I put for the topic thing?"; "Um, how about...I'll just put, 'things used for the horse'?"). The following exchange indicates an awareness by both Mike and Andy of the importance of correct category titles:

Mike: "Rosin," "rope," um, put, um

Andy: I'll just put "rosin" down

Mike: No, no, no, no.

[

Andy: 'Cause that's what it's all about.

(Mike chuckles.)

Andy: But that'd be tack, too.

Mike: "Tack."

(Andy chuckles.)

Mike: Fine. Put "rosin" down. "Tack..."

Other structural comments and questions referred to the size of various groups, the use of category titles in the paper, and the proper location of details within the paper (e.g., "I only have one for the blue one."; "O.K. 'Partner,' and I have, (brief pause) I only have one for one color."; "It won't be in the story, will it?"; "Could I switch (inaudible) if I did some of these colors wrong?"; "I'm done with my web. I switched about five things around.").

While brainstorming descriptive and narrative words and details, structural comments/questions focused on how to use descriptive words in the paper, quantity of details, descriptive identifiers, and definition of purpose (e.g., "So you, should I try to put those words in there?"; "How many things do I need? I got, like, twenty already."; "...Where's my descriptive? 'To ride.'"; "You have to kinda, like, tell a story, right?").

The January 30-February 1 transcript contains numerous examples of

impulsive thinking from one or both of the boys, such as the following exchange, which began as I referred to the work we did on descriptive writing earlier in the school year:

T: You might even want to look back at the, uh, brainstorm you did about your dog when you wrote a description about your dog. You came up with these words that would help show what that dog is like: "speedy," uh, "crouch,"

Andy: (In high voice) Speedy Gonzalez!

T: um,

Andy: Woo-woo! (Screeching noise.)

[
T: "space-"

Mike: "Spazz attack."

T: "Spazz attack," "spazz attack."

[
Mike: Aw, she got her first squirrel last night.

T: "Spazz attack." Oh, really?

Mike: Yup. She got a bird, er, a mouse, and a squirrel so far.

T: It's hard enough on those poor animals in this weather without your dog after them.

[
Mike: I know. My other dog has, like, fifty animals.

While spontaneity can add interest to writing and generate creative ideas in the mind of the author, the organizational demands of well-written prose do not lend themselves to undisciplined thinking. It remained to be seen if the boys' thinking would become more structured as the school year progressed. As we shall see in the next section, their conversations underwent a remarkable transformation by the end of the year.

Structural Awareness Mini-Case Study: Mike and Andy on May 7

Mike and Andy had decided to co-author a research paper on Australian animals. They had gathered and organized a great deal of material and had begun writing their first draft prior to the May 7 writing session. Because time was growing very short, I had volunteered

to sit at their computer and "take dictation" as they thought their way through the wording of their paper.

This transcript illustrates an intricate interweaving of structural awareness, collaborative decision-making, and teacher scaffolding. It would be difficult to discuss these interesting interactions without examining all three factors together. Suffice it to say, Andy and Mike revealed, and I tried to help them refine, a surprisingly well-developed sense of purpose and a joint commitment to clear, effectively written prose. Because this transcript stands in such sharp contrast to others involving Mike and Andy and demonstrates such vivid examples of structural awareness and collaborative decision-making, it warrants close examination.

The Koala and the Eucalyptus

Andy and Mike started working on their koala section having already completed the first part. After I reread aloud what they already had written, they wasted no time in launching back into their writing. The first issue requiring resolution centered on the effect of eucalyptus leaves on the koala, a discussion that consumed four full pages of transcript:

T: Last thing you said was that "the, uh, koala is a quadruped, meaning four-legged. The koala feeds at night and sleeps during the day. It eats only eucalyptus leaves."

Mike: Um, well, "Scientists think," well, I guess they don't, "Scientists think that they get high on these leaves" or somethin', I don't know. How would you put it?

Andy: [Get hooked on 'em.

T: Is that what scientists think, or is that what

Mike: [No, that's what they don't think.

T: Scientists don't

Mike: [Some of 'em don't.

Andy: Some think, some scientists

[
Mike: People think that, but scientists don't.

T: Oh, O.K.

Andy: Some scientists think that.

Mike: I read in the book

Andy: It said on that paper that

Mike: I read on that one thing, and scientists do not think it on that one sheet there.

At first, both boys agreed that scientists think that eucalyptus leaves make the koala high. My clarifying question ("Is that what scientists think, or is that what...") redirected their thinking, leading them to rather vaguely cite references from their research.

As the conversation continued, the boys began to distinguish between "scientists" and "people"; for a moment, the issue appeared to have been resolved:

T: So you think
[
Andy: Well, let's

T: some scientists do?

Andy: Let's put, "Some"

Mike: "People."

Andy: "Some people think that (typing sounds) the koala gets hooked on the eucalyptus leaves." (Typing sounds.)...

.
.
.

Andy: "And some scientists"

Mike: No, don't put that.

Andy: O.K.

Mike: The, that's it. Period.

T: Period?

Andy: No.

Mike: Yeah, "get hooked on the eucalyptus leaves."

[
Andy: What do we have?

T: "Some people think that the koala gets hooked on the eucalyptus leaves."

Mike: That sounds good. Well, what else were you gonna put?

Andy suggested wording that Mike accepted ("Some people think that the koala gets hooked on the eucalyptus leaves."), but Mike stopped Andy when he started elaborating about the scientists. It is interesting to note the civility with which Andy accepted Mike's rather abrupt interruption ("No, don't put that."). Andy appeared a bit uncertain that the issue had been resolved and asked for a rereading. Mike gave the wording his stamp of approval; nevertheless, he deferred to Andy, asking him if he had more to add. Earlier in the school year such interruptions and uncertainties most likely would have resulted in jibing or jocularly; now the boys seemed too engrossed in their writing to be bothered with any of that.

After a couple of pauses during which Andy seemed to be reconsidering, I resurrected the issue of the scientists. My persistence led Andy to get up and look for the research from which this idea had come:

T: O.K. Well, are you finished with this sentence now?

Mike: Yeah.

Andy: Yeah.

T: O.K., now what do you wanta say? You said something about scientists.

(Brief pause.)

Mike: No, that was it. They're hooked on leaves (inaudible).

T: Yeah, O.K., but you're talking about just regular folks. Now, you said some things about scientists.

[
Andy: "Some scientists have proved," (brief pause), well, not "proved."

Mike: They haven't proved. They

Andy: Just a minute. I'm gonna get that one sheet.

(Andy gets up and walks across the room.)

Mike: Get that one. (Brief pause.) Is that it? I wanna see somethin'.

Andy: Just a minute.

Mike: On the next page, it is.

Andy: (Inaudible murmuring as he reads, accompanied by the sound of pages being turned.) I can't find it.

Mike: (Inaudible) looking, I know.

Andy: You highlighted it.

This excerpt illustrates the hard work it sometimes takes to express a complex idea correctly. The boys seemed quite willing to undertake this work, apparently taking enough pride in their work to seek the correct wording.

Neither Andy nor Mike, to whom Andy gave credit for having initially found the material, could find the wording, so I looked through their computer printout until I found what they were looking for:

T: Um, look at the last line of the

Mike: "Because most koalas are (inaudible), weird drugs," knock it off.

(Andy chuckles.)

Mike: "(Inaudible) the koalas were hooked on eucalyptus oils found on the gum leaves. These contain some seed-"

T: "Sedative" drug. You know what a sedative is? It makes you tired and makes you want to sleep.

Mike: "Koalas in the most (inaudible), scientists have" (pause)

T: "Debunked." Disbelieved. "Debunked."

Mike: [See, I told ya. They don't believe it.

T: O.K., yeah. Scientists

Mike: Hah!

T: When you debunk a belief, you shoot it down.

Mike: [Nobody believes me.

T: So what do you want to say?

Mike: No one believes me that that was true, but uh!

T: O.K., what, what do you wanta say?

Mike: "But scientists"

Andy: "debunked"

T: Uh, don't use their

Mike: ["Ha-,"

T: word. Use your own word.

Mike: ["Scientists have proved that that is not true."

Andy: (Inaudible whisper.)

Mike: "Scientists (typing sounds) have proven (typing sounds) that that is not true."

T: "That that is not true." (Typing sounds.)

Mike: Yeah.

Once the original citation was reviewed and the words "sedative" and "debunked" were defined, the boys were able to generate acceptable wording. Mike correctly took credit for having had the first doubts about the original wording and did a little gloating.

Koalas Getting Water

Next, the boys set about explaining the important role eucalyptus leaves play for the koala. Their discussion demonstrated a keen interest in crafting the best possible sentence. Mike got the sentence started, but Andy quickly took the lead in refining the wording. Mike did not seem to feel like Andy had stolen his thunder (as probably would have been the case earlier in the year), but rather contributed his support:

Mike: ...“They get their”

[
T: Now, you’ve got

Mike: “water from the leaves.”

Andy: “They also get their water from the ee-calyptus leaves, or u-calyptus.”

(Typing sounds.)

T: O.K.

Andy: “The eucalyptus leaves have a high”

[
Mike: You get a good diet from ‘em?

Andy: “high water content.”

T: Do you wanna put that in here?

Mike: Just said that, though.

Andy: Yeah, but it doesn’t say they have a *high*

[
Mike: They get their water from ‘em.

T: It’s a good ide-, yeah, that makes sense. So, you wanta add that?

Andy: Yeah.

T: Um, let’s see. “The eucalyptus leave, leaves have high water content” (pause)

Andy: “so koalas normally don’t need to drink water, as they absorb enough water from”

T: Yikes! Wait a minute. (Chuckles.)

Andy: “the leaves.”

.
. .

T: Good sentence! That’s a world-class sentence, Andy.

Mike: (swoons): Ohhhhhh!

T: Alright!

Mike: Professional (inaudible) are you now.

[
T: O.K.

Andy: I know.

Andy had crafted an exceptional sentence. My praise for his effort was eclipsed by Mike's, who bestowed it with professional status.

The Koala's Behavior (Part 1)

The lengthiest part of the conversation, taking up 10 pages of the transcript, involved incorporating a very large amount of material into an explanation of the koala's behavior. I found it necessary to move out of my secretarial role several times in order to scaffold the boys' efforts to determine how this large amount of material should be divided and introduced:

T: Now, you guys have a lot of material here about koalas.

Mike: [Oh.

T: Is that too much for one paragraph?

Andy: Yeah.

Mike: Well, I was gonna say somethin' about their

Andy: [Now, let's do about their body weight and stuff.

T: If you're going to have to divide this into two paragraphs, you've gotta have some (inaudible)

Andy: [Because

Mike: [Well, I wanted to have the

Andy: They only have

Mike: I wanted to put that stuff in there, but you wouldn't let me, about climbing

T: [What?

Mike: the trees to get their food.

T: Who wouldn't let you?

Mike: Well, like,

Andy: [You.

Mike: someone (inaudible).

T: I'm the secretary. I didn't have anything to say.

Mike (chuckles): [I told you to write it down,
but (inaudible).

Andy: [I said it doesn't go

T: [I,

Andy: there.

T: it's your paper. All I'm doing is, I'm doing the secretarial work. If somebody didn't like the idea, it must have been your co-author here; it wasn't me. So,

Mike: I suppose that didn't sound good there.

Both boys had ideas about how to start this section about koala behavior. The issue became complicated by Mike's accusation that I had recommended that they not include details about tree climbing; Andy, however, took ownership for that suggestion, and Mike finally acknowledged that the tree-climbing information should go elsewhere. The boys took a very mature, reasoned approach to resolving this disagreement (much to my relief).

The conversation returned to the issue of establishing parameters for the next paragraph:

T: So,

Andy: Yeah, (inaudible).

T: is that some stuff about behavior?

Mike: No, it's about how to get the food.

T: Oh, O.K. Well,

Mike: and their, like,

Andy: Yeah, behavior. They climb trees.

Mike: [(Inaudible) to get the food.

T: Do you have enough about behavior for one paragraph?

Mike: No.

Andy: No. Then, we could put

Mike: Well, would behavior

[
Andy: their behavior

Mike: be about their young and stuff?

Andy: their behavior

T: Could be.

Andy: and their young?

T: Yeah, yeah, the, the way they rear their young. That would be behavior. I'm just thinking, you've got too much there for one paragraph.

At first, both boys thought they had too little information for a paragraph about koala behavior - until Mike recognized that "behavior" would include raising the young. As the conversation continued, Mike devised a scheme for separating the next two paragraphs:

Mike: Well, could we put,

T: You've got a lot of stuff.

Mike: "They, they are vegetarians" (brief pause) in that same thing?

T: No, yeah, where would you want that?

[
Mike: 'Cause then, 'cause then we wouldn't have
to put any more in that. We could start a new paragraph.

T: O.K., that would be the end of this para-

[
Andy: I'm an omnivore.

Mike: Yeah.

T: Oh, where, O.K., tell me where you wanta put that they're vegetarians. Tell me where that's gonna go in the paragraph.

Andy: Right before the ee-calyptus thing, where they're gettin' hooked on and drugged and stuff?

Mike: That, that would

[
T: Right here? O.K., right here? Where the cursor is?

(Pause.)

Andy: Mmm, (inaudible), yup.

Mike stepped in this time and took leadership. By placing information about the koala's vegetarianism in the previous paragraph, he insightfully placed eating habits in the same paragraph with water gathering. This allowed the next paragraph to deal more specifically with behavior. Andy seemed to recognize the wisdom of this decision before I did. Moreover, my scaffolding did not appear to contribute to this organizational decision; Mike did it by himself, and Andy concurred. In this instance, Mike took charge of an organizational task, which previously more likely would have fallen to Andy. It seemed that Andy's organizational insights had rubbed off on Mike.

Andy took the lead in the next portion of the conversation, which focused on the wording of the sentence about the koala's vegetarianism:

T: O.K. What do you want, what do you want to say there?

Andy: "They are only vegetarians."

T: "They are only vegetarians"?

Mike: (Inaudible.)

Andy: What's that word, "fetus" or somethin' like that? "Fauna."

T: "Fauna."

Mike: What?

T: "Fauna" just means animals.

Andy: Yeah, see, "They're only vegetarian fauna."

T: Oh, "vegetarian fauna." My word! Andy,

Andy (chuckles): What?

T: I'm impressed with the language. That's good. Good.

Mike (chuckles): I (inaudible) somethin'. (Chuckles) You're readin' it, "What's that mean?"

[
T: O.K., now,

(Andy chuckles.)

Mike: You wrote it.

In the excerpt above, Mike graciously acknowledged Andy's ownership of the wording. The smooth seas became a bit choppy in the next segment, however, as I found it necessary to provide some grammar instruction:

T: O.K., we've got a little bit of a problem here because

Mike: It doesn't make sense, does it?

T: you said, "The koala feeds at night and sleeps during the day. They are only vegetarian fauna. It eats only eucalyptus." You see, we're going from one to the group, back to one.

Mike: I know. That's why they

[
T: Is there a way

Mike: won't put it there.

T: No, the idea's fine, but we need to

[
Mike: Yeah.

Andy: [Copy] it, cut it, and paste it somewhere.

T: No, no, no. It's, it's O.K. to go there, but we need to do something with this pronoun right here.

Mike: Well, "they."

T: See, you're talking about

Mike: It's the koala.

T: "the koala," then you're talking about "they," a group, and then you go back to "it," which is one, so

Mike: Put "the"

T: So, you want

[
Mike: koala are again.

T: O.K., you wanta keep this singular then?

Andy: Yeah, "the."

T: "The koala is only veget--"

Mike: Yeah, but "koala are,"

[
Andy: "Is a," "is a,"

Mike: "only are vegetarian."

Andy: "a vegetarian."

T: What did you say?

Andy: Read that sentence that we just had.

T: "They are only vegetarian fauna."

Andy: "The koala is"

T: Well, what you could do is you could change this to "koalas,"

Mike: Yeah.

T: leave this, "they are," and then change this to "they eat."
Then

[
Mike: Yeah.

[
Andy: Yeah.

T: Then you'll have, uh,

Andy: Good job!

T: Then you'll have, uh, the same number of pronoun. "Koalas feed,"
O.K., and then this other sentence was,

Mike: Would you go away?!?

T: "They are,"

Andy: "Slide over!"

Mike: (Inaudible.)

T: and "they eat."

Once the boys understood the nature of the problem, the challenge became infusing the grammar instruction without destroying the momentum of the conversation. Their attention started to wander toward the end of this segment, but they seemed satisfied with the result.

The next task was to begin the new paragraph about koala behavior. Both boys proposed the exact same topic, which Andy expanded slightly:

T: O.K., now, you want a new paragraph?

.
.
.

Andy: Yyyyup.

Mike: Yeah, I guess.

.
.
.

T: Now, um, how you gonna start this new paragraph? What's this paragraph gonna be about?

Andy: How 'bout their

[

Mike: Their young.

Andy: Yeah, their young. The koala's young

[

Mike: and their behav-

Andy: and behav-, their

Mike: The koala's behavior and young.

[

Andy: The koala's behavior and young.

T: O.K.

Andy: Young raising.

The topic had been determined. Attention then turned to creating a topic sentence to open the new paragraph:

T: How would you, how would you put that into an introductory sentence, a topic sentence?

(Brief pause.)

Andy: (Inaudible) paragraph is (inaudible)

[

Mike: "The koala's behavior"

(Pause.)

T: Somethin' about behavior ought to be in the first sentence.

Mike: I know. "Koala feeds, koala's young and behavior," or something? I don't know.

Andy: "Koala's behavior"

Mike: "with the young." I, no, that's not right. "Koalas"
 ["Behavior and the
 Andy: young"?

T: I'm not sure you really need to mention the young. I think

Andy: O.K., if we can just

[
 Mike: Why not?

Andy: put that in there somewhere.

T: 'Cause, 'cause you'll be going into child

Mike: Koala's behavior.

Andy appeared to have grasped the fact that the topic sentence need not mention specific details that will appear in the paragraph. Grammar reared its ugly head once again, however, as the boys struggled to create a complete sentence to open the paragraph. Much scaffolding was needed here:

T: O.K., now make it a sentence. That's just a phrase. You
 [
 Mike: Yeah.

T: need a complete sentence. What about

Andy: "The koala's goofy behavior"?

T: "Goofy"? Is this gonna be goofy

Mike: No.

T: stuff you're gonna

Mike: Not gonna be goofy stuff here.

Andy: I don't know.

T: O.K.

(Brief pause.)

Mike: "The koala's behavior." That's it.

[
 Andy: (Inaudible.) "The koala's lives," no, "lifestyle behavior"?

T: O.K., that's still not a complete thought because you don't have

a verb in there.

Andy: What's a verb?

T: Well, it's an action word

Mike: "The koala with their behaviors."

T: Still doesn't have a verb.

Mike: What's a verb?!?

T: A verb is an action word or something that connects your subject
with the

Mike: [(Inaudible.)

T: rest of the sentence.

Andy: Let's see.

T: What about their behavior, in general?

Mike: And then we'll mention that later, their behavior.

(Brief pause.)

T: Is, is their behavior interesting, or (pause)

Mike: "Koala's interesting behavior."

Like Andy, Mike appeared to have grasped the fact that the topic sentence need not include specific details about the koala's behavior. However, he was really struggling with the basics of sentence structure.

While Andy appeared to be trying to follow my instruction, Mike became so frustrated that he asked me to simply write something down myself:

T: O.K., that's, but that's still not a sentence.

Mike: What's wrong with it?!? "The koala and their behavior." Period.

T: It's not a complete thought.

Mike: (frustrated): Huh, why not?!?

T: There's not a verb. There's no verb.

Mike: What's a verb?

Andy: Action.

[

T: It's either action

Mike: Person, place, thing, or whatever?

T: No, that's a noun. It's either an action word or a word that connects the subject with the rest of the sentence, a word like "is," "are," "was."

[

Mike: Well, how 'bout you just put somethin'?

(Brief pause.)

Andy: Ahhh,

T: I'll be right with you, Kris.

Mike: How 'bout you just put somethin' down, I don't know. I can't think of one.

T: Well, try a linking verb like "is." See if you can get the word "is" in there. (Pause.) "The koala's" (pause)

Andy: "behavior"

[

Mike: "Koalas"

Andy: "is unusual"

T: O.K.

Andy: "of others"

[

Mike: But it's not *that* unusual.

Andy: "of other faunas"?

(Typing sounds.)

Mike: Yeah, but it's not unusual, though.

T: Well, you said

[

Andy: Yeah, it is. It's a koala. Koalas are unusual.

[

T: Well, we can put that down, and then you can look at it later.

Andy: Yeah.

Although generally I preferred to employ scaffolding questions, the depth of the boys' frustration required a more direct scaffolding

comment. In order to allow the cognitive work of paragraph construction to continue, I finally provided a "big clue" ("See if you can get the word 'is' in there."). This clue enabled Andy and Mike to begin co-constructing a topic sentence.

With the basic components of the topic sentence determined, all that remained was to refine the wording. For that, Andy once again took the lead:

T: But, see, now you have a complete thought. "The koala's behavior is unusual."

Andy: "of other fetus."

T: ['Cause that's

Andy: Er, "faunas."

T: "Is unusual," (brief pause) I don't know if you wanta over-

Mike: ["With other animals."

T: overuse the word "fauna."

Andy: O.K.

T: I, that word's kind of a highfalutin word. I'm not sure you wanta use it too much.

Andy: Highfalutin.

T: But, see,

Mike: [Then, use "(inaudible) to people." I don't know. "Compared to other animals."

T: What do you think of that, Andy?

Andy: What?

T: "The koala's behavior is unusual compared to other animals"?

Andy: Yeah.

(Typing sounds.)

Mike: Wooo, I guess we got a good sentence.

T: Good.

Mike contributed a revision in response to my caution about "highfalutin" language. I made a point to acknowledge Andy's considerable contributions and expertise by asking for his endorsement of the revised wording. Mike recognized, probably with a sense of relief, the quality of their topic sentence.

The Koala's Behavior (Part 2)

Now that the topic sentence had been written, Mike and Andy continued discussing how to structure the paragraph about koala behavior:

T: What's next? Let's go, guys. What's next?
 [
 Mike: O.K., we're gonna put,
 "When the," but that goes to the food part, when the
 [
 Andy: So
 Mike: koala gets their food.
 Andy: So, let's cross it out.
 Mike: Well, "The koala's"
 Andy: Let's not use that idea.
 Mike: "behavior (inaudible)"

Both Mike and Andy demonstrated an awareness that information about the koala's food does not belong in a paragraph about behavior. As the conversation continued, both boys contributed to the wording of the next sentence:

T: You can put it in and then decide later if you wanta move it, you know. This is just the first draft.
 [
 Mike: "The koalas"

(Typing sounds.)

Mike: "When the koalas have fun, they climb."

Andy: Hmm.

[
 Mike: "When the koalas have fun, they," let's see, "climb trees"

(Typing sounds.)

Mike: O.K., and then they have sharp claws, and, how could we use that?

Andy: They have sharp claws to climb the trees.

Mike: "And they are very skillful climbers."

T: O.K. Um, I'll just write what you guys just said. "They have sharp claws (typing sounds) to climb the trees"

Mike: ["That makes them skillful climb-, skillful climbers."

T: Oh, O.K.

Mike: Yeah.

T: Um, do you want that all in one sentence?

Mike: Yeah.

T: "They have sharp claws"

Andy: [Put commas.

T: Well, actually, what we would need there is a semicolon.

Mike: [Those (inaudible).

Andy: Yeah, that's it.

Mike: "That makes them skillful climbers."

(Typing sounds.)

Mike: There, now I used it all.

T: Good! Good sentence (inaudible).

Andy: Good job, Mike.

T: Alright, why don't you decide what comes next and (inaudible).

.
.
.

Mike: O.K., "If you would see a koala, you would usually see it in the tree."

(Typing sounds.)

Mike: "You would find it in a tree."

In providing scaffolding, I attempted to ensure that Andy and Mike

were doing the cognitive work. In so doing, they hopefully would gain a better understanding of how effective writers put ideas together. The boys appeared to accept that I was only offering suggestions and that they had control over the paper; their comments suggest that my scaffolding did little to diminish their sense of ownership of the final product. Mike's final comment above ("You would find it in a tree.") reveals his awareness of the power of a single word in creating the desired image in the mind of the reader.

Koala Child Rearing

The paragraph about koala behavior continued with details about child rearing. In the first comments that followed, despite the fact that he had a useful detail to add, Andy paused to acknowledge Mike's potential contribution. This demonstrated both a collaborative spirit and a sincere desire to produce the best possible writing:

(Typing sounds.)

T: O.K.

Mike: O.K.

Andy: "They have one young a year."

Mike: [O.K., then "They're,"

Andy: Oh.

Mike: What about? "They have one, only one young, young a year." Or something like that.

It's interesting that Andy did not holler about Mike stealing his thunder here. He easily could have complained, "Hey, that's my idea." Mike deferred to Andy, who then elaborated and eventually passed the baton back to Mike for further elaboration:

Andy: "And it weighs"

Mike: O.K., "They have one young a year (typing sounds),"

Andy: "and the young weighs"

Mike: ["and it, less than a half a kilogram."

(Typing sounds.)

T: At birth?

Andy: Yeah.

Mike: At birth, yeah.

T: "Less than (typing sounds) half a kilogram"?

Mike: Yeah.

T: Boy, that's not much.

Mike: Well, the, well, it's still in its pouch, so it wouldn't matter.

T: Oh, yeah, yeah.

Mike: "And its, for the first part of its," wait.

.
.
.

Mike: "For the first, for the first several months, it stays in the pouch."

It is interesting to note that earlier in the year elaborations such as Mike's had come more frequently from Andy. This excerpt provides further evidence that the students appeared to be learning from one another. By expressing my genuine interest in the ideas that were emerging, I apparently facilitated Mike's demonstrating more of his expertise with this topic.

At this point in the conversation, Mike suddenly thought of a detail that should have been included earlier:

Mike: Did we describe the koala already?

Andy: ["Grows fast."

T: What, Andy?

Andy: "Grows very fast (typing sounds) on a diet of milk"

Mike: [(Inaudible.)

Andy: "and leaves."

T: O.K., use your own words, though. I don't want you guys to just

Mike: Yeah.

T: use right off of

[
Andy: I'm just usin' that part: "on a diet of milk and leaves."

(Typing sounds.)

Mike: Did we already describe it, up there?

T: Well, you said something.

Mike: Did we describe that it had a short tail?

T: No, uh, you said, uh, (pause) "One of the most commonly talked about animals in Australia is the koala. The friendly"

[
Andy: Did

T: "koala has round ears and a round nose, five fingers."

Mike: "And a short tail."

Mike's concern for the proper placement of details apparently triggered a concern in Andy for the accuracy of an idea covered earlier:

Andy: Did you say "gram" or "kilogram?"

Mike: "Kilogram."

Andy: O.K.

(Typing sounds.)

Mike soon picked up on Andy's concern for accuracy:

Mike: Can we go back down to that part? I put "kilogram," right?

T: Yeah.

Mike: Yeah, O.K.

The boys then concluded the section on the koala and congratulated themselves for their effort:

Andy: "And they're not fully weaned until twelve months."

(Typing sounds.)

.
. .
Mike: There. We're done. Woo, hoo!

(Typing sounds.)

T: Done with the koala?

Mike: Yup.

The Kangaroo

Despite their obvious success with the koala section, or perhaps because of it, the boys appeared willing and eager to forge on. They quickly decided which animal to discuss next, with no evidence of competition over who would make that decision:

Andy: Should we go to the portipoo (sic), (pause) or should we go to the s-?

[
Mike: Kangaroo.

Andy: O.K., and kangaroo.

Mike: Kangaroo.

T: O.K., what would be your topic sentence about the kangaroo?

Mike: "The kangaroo is very unique in Australia."

With minimal teacher scaffolding, Mike and Andy had moved smoothly from topic selection to the construction of a clear, effective topic sentence. The ease with which they crafted this topic sentence is quite remarkable in light of the previous struggle over the wording of the "koala behavior" topic sentence; it would appear that my scaffolding during the previous outing had paid dividends. The boys then proceeded to refine the wording of their topic sentence:

T: (Inaudible.)

Mike: Wait.

Andy: "Is the most talked-about."

Mike: "Is the most common to see."

Andy: "In some areas."

Mike: "In most areas." I don't know.

(Typing sounds.)

Mike: Well,

T: "The most common to see"

Mike: "Common animal that everyone knows about," or something.

(Typing sounds.)

Mike: One of those that we just said.

T: Well, you can work on the wo-, uh, wording later. O.K.

Mike: O.K.

In my final comment, I was acknowledging that (a) this was a first draft and (b) that the cognitive work must continue and shouldn't get too bogged down in wording issues, lest it falter. (The final version of this topic sentence was worded as follows: "The kangaroo is the most common animal that everybody talks about.")

Finally, the focus turned to completing the section on the kangaroo. Andy's voice could be heard in the background, indicating that he had begun carrying on a conversation with Kris and Cindy across the room. So Mike took the lead in completing the kangaroo section, including an interesting transition back to the koala:

T: Now, what do we have to say about the kangaroo?

(Pause.)

T: Did you get everything in on the

Mike: [Well, "They, like, the koalas are,
(pause) the koalas are very, (pause) are very, now, koalas are"

T: You mean kang-

Mike: "Koalas are lots of different colors."

T: You mean kangaroos?

Mike: Yeah, (chuckles) that's what I meant. "Kangaroos are, (typing sounds) have a lot of different colors," (typing sounds) somethin' like that.

(Typing sounds.)

T: O.K.

Mike: Um, "The kang-, (pause) the kangaroos are vegetarians, (typing sounds) just like the koala," or somethin'.

(Typing sounds.)

Mike: Does marsupial have young in the p-, that's, "They're also marsupials."

(Typing sounds.)

Mike: Um, "They (brief pause) have their young in a pouch." That's marsupial, right?

At this point, Andy asked for permission to go to the restroom.

Mike forged ahead, but Andy stayed involved from the background

(probably while writing out a restroom pass):

Mike: "To run, to move, they jump, whatever, they hop. To get to different places, they"

[
Andy (from the background): "And they push off with their back, back"

[
Mike: No, I don't

wanna say that yet.

(Typing sounds.)

T: "To move to places, they" what?

Mike: "Jump," or whatever, "they hop."

Andy: "Hop."

Mike: "Hop."

T: "Hop"?

Mike: Yeah.

T: What did you say, Andy?

Mike: And

Andy: And

[
Mike: we've got right here, "And when they hop, they use their"

Andy: "Back tail."

Mike: "not only two legs but their back, their tail."

.
.
.

Mike: "Their tail to push off (typing sounds) when they jump"

.
.
.

Mike: Yeah, that's good. "When they hop, they use their tail to push off."

This excerpt features Mike and Andy co-constructing a very effective sentence, much as Kris and Cindy had done during earlier conversations.

A quick "reality check" at the end of the class period revealed that considerable material remained to be written about the animals of Australia. Nevertheless, Mike appeared to be keeping it all in perspective, taking ownership for both the work already completed and the work yet to come:

T: We makin' some progress here?

Mike: Yup. We only have (pause, sound of pages being turned) seven things left to do.

T: Seven more animals?!?

Andy: (chuckles): Yeah.

T: Seven more categories, really?

Mike: We only got two done, (pause) but those aren't, well, this one, these two won't take very long, these three. These'll take longer than, same about as the koala. Those are really long. So I wrote all those.

Mike appeared to have gained a good understanding of the amount of time and effort required to write up specific volumes of material. As such, he was able to look forward with some confidence to the rest of the writing.

Mike's and Andy's dialogue throughout this remarkably revealing conversation consistently demonstrated both a commitment to quality and an awareness of the structural requirements of effective writing. It dramatically reveals the extent to which a year of collaborative dialogue can move students from a condition of uncertainty and frustration with writing to one of confidence and reflection.

Reader Sensitivity

As the students developed their writing skills and collaborated on strategies for improvement, issues of reader sensitivity arose with increasing frequency. Increased awareness of the importance of structural issues led naturally to an enhanced concern for how one's writing would be received by a reader. This concern was facilitated in large measure by the instructional emphasis on including description and narration and by the fundamental importance placed on peer editing and revising.

Word Choice

In late January and early February the students focused much of their energy on reader sensitivity in the form of making their writing more interesting. Earlier in the school year they had practiced generating descriptive words and narrative details for topics of personal interest and transforming these brainstorm into descriptive and narrative paragraphs. They all had done well on these assignments and seemed quite pleased with the resulting paragraphs. Their objective now was to apply these techniques to their first paper.

On January 30, the boys' first task was to locate ideas in their brainstorm that would be suitable for expansion into descriptive or narrative paragraphs; they were directed to find at least one of each and to generate brainstorm of descriptive words and narrative details. Then they were to begin transferring the color-coded ideas from their brainstorm to their organization think-sheets, a procedure that included determining a unifying "title" for each category of ideas. They had a great deal of trouble locating places in their brainstorm for description and narration but had better luck with the organization think-sheet.

The boys' difficulties, particularly in locating sites for description and narration, are reflected in the large number of in-context interruptions (10) and out-of-context interruptions (18). These

interruptions included poking, playing with the tape recorder, disassembling a mechanical pencil, drawing, singing, and making animal noises. On more than one occasion as I transcribed the audiotapes, I found myself laughing at the menagerie of sounds that accompanied the boys' work.

Kris and Cindy had more luck finding sites for descriptive and narrative paragraphs. As such, they spent much of their time generating descriptive words and narrative ideas. The following exchange typifies their efforts to find words that would add interest to their papers:

Kris: (Sighs.) I don't know what to do. O.K., I will, I won't (brief pause). I can do something for this, O.K. For "sourdough bread," I could put, maybe, "wonderful bread" or something?

Cindy: "Delicious"?

Kris: Ah! Good word! How do you spell it?

(Tape runs out.)

Kris: O.K. Um, what does the word "wondrous" mean?

Cindy: "Wondrous"?

Kris: About, oh, "wonderful," "awesome."

Cindy: "Good"?

Kris: "Good."

Cindy: "Totally outrageous"?

?: Yeah.

Kris: O.K., descriptive for a lake? Um,

Cindy: "Calm"?

Kris: "Calm." Yes, it was! O.K., so I'm going to put "lake" and then put...

The exchange above suggests that the girls were stuck on the idea that descriptive words should be adjectives, perhaps because the adjective often is presented as the part of speech that "describes" a noun. The excerpt below, from a few minutes later in the conversation,

suggests the same preoccupation with adjectives:

Kris: Let's see. I could describe some of the animals and stuff.
The animals and maybe put

Cindy: What kinds of animals there were?

Kris: Yeah. Put, like, "awesome."

Cindy: "Outrageous"?

Kris: Hmm, I pick the words I don't know how to spell.

Cindy: Sure!

Kris: "Out-", (inaudible).

[
Cindy: (Inaudible.) "Outrageous."

Kris: (Inaudible.)

Cindy: I think it's "r-a-."

Kris: I, uh, O.K., just a second. I'm trying to figure it out.

Cindy: "Strange"?

Kris: Mmm, they weren't strange.

Cindy: "Different," from around here.

I made a feeble attempt, apparently without success, to tease out some descriptive nouns or verbs:

Kris: I used "realistic" down here, too.

T: O.K., well, is there a, is there something else that you could say to describe Alcatraz? That's O.K., you don't need to cross it out, but what are some words

[
Kris: "Amazing."

T: you could use to help us visualize the place?

Kris: It's so big and

T: O.K., alright. "Big"? "Huge"? See, these are the kind of things I'd like you to be doing with each other. Try to pull out some terms here that

Cindy: O.K.

T: by talking back and forth. "Enormous." Is it "enormous," or is it just "huge," or, you know, how big is it? Think of, yeah,

that's the kind of suggestion I'm looking for between you guys. I apparently lost sight of my original objective - generating descriptive nouns and verbs - in favor of reinforcing the importance of collaborative teamwork. A better approach might have been, as soon as Kris started to give me more adjectives, to refer back to the descriptive paragraph she had written earlier in the semester and to identify the various kinds of descriptive words she included.

Although Cindy and Kris approached this task more successfully than did Mike and Andy, all students eventually identified sites for descriptive and narrative paragraphs. Their brainstorming led to descriptions and narrations that added interest to their papers (see Appendix J). Because time became so tight, less emphasis was placed on including description and narration in the research papers.

Appropriate Details

Accomplished writers strive to anticipate details that will be important for their readers and to include these details in their writing. From very early on, Kris and Cindy demonstrated concern over the adequacy of details to support various of their ideas. For example, during a think-aloud near the end of the January 30 session, Cindy said, "Hmm! Something's missing." Earlier, Kris had wondered if she had enough material to write about the weather in California. In talking to me about it, she came to realize that she had plenty of ideas; in the end, however, her decision centered on the issue of reader sensitivity:

Kris: I know, but I do have enough to write about it, but

Cindy: Mmm.

Kris: Not interesting, would it be? I don't think so.

Cindy: [(Inaudible.)

Kris: I'm gonna cross it out.

Despite frequent distractions and occasional disagreements, Andy and Mike demonstrated a concern for including appropriate details in

their descriptive brainstorm. In the following excerpt, they work on brainstorming descriptive words for Mike's description of the rodeo grounds:

Mike: O.K., um, I need a, we'll agree some things. It's noisy, there's

Andy: [No,
it's not noisy all the time.

Mike: Those little (inaudible): Yee-ahh! Eee-eee-eee. (Inaudible.)
O.K., "noisy." Wow, what a super one! Thanks, Andy.

Andy: Wha?

Mike: Um, "dirty." It's kinda, kinda dirty, "dusty."

Andy: How can you read that?

Mike: (Chuckles.) It's easy. "Noisy," "dusty," "D" for "director" or whatever that one is.

Andy: (Laughs.) "Director." "Description."

Mike: [Descr-, oh, thank you!

Andy: (Chuckles.) Don't touch.

Mike: (Chuckles.) Start writin' and get goin'.

(Andy makes singing noise.)

Mike: O.K., "dusty," (inaudible).

.
.
.
Mike: There. (Brief pause.) I only got two.

T: What's that?

Mike: Well, I got, like, "noisy," "dusty."

T: Well, O.K. That's good.

Mike: Um,

T: Maybe Andy

[
Mike: Oh, and "a lot of people."

.
.
.
Mike: Aw, here we go. Andy, what else should I put? I put "noisy,"
"dusty," "lots of people," "lots of horses," "lots of vehicles,"

"lots of trailers." (Chuckles.)

Andy: Vehicles and trailers are the same thing.

Mike: (Chuckles.) I don't care. Lots of what else? Or

Andy: Candy. Mmm.

Mike: "Concession stand."

Despite frequent digressions, the boys demonstrated an emerging willingness to work together and to capitalize on one another's expertise.

Appropriateness of details became an important issue during the revision sessions in late March. In the following excerpt, Kris revealed not only her desire to follow her editor's advice, but also a clear understanding of the concept of reader sensitivity:

Kris: I have to write some more about Alcatraz. I
[
Cindy: (Inaudible.)

Kris: don't know what to write about. (She reads aloud what she has already written about Alcatraz.)

Cindy: You could tell about what it looked like on the inside, like, bars and stuff like that.

Kris: O.K.

Cindy: Like, bars, the cells. You could tell about what the cells looked like.
[
Kris: (Excitedly) I could put, I could put, like,

Cindy: That's what I'm thinking.

Kris: "You wouldn't," um, "believe what," um,

Cindy: "The scene, what it looked like,"
[
Kris: "You wouldn't believe"

Cindy: "on the inside."

Kris: Wait. Would this sound good: "You wouldn't believe, but they actually had a lib-, a library in the jail," or something like that. That kinda catches their attention, kind of, when I said, "You wouldn't believe."

Kris' comment about "catching their attention" indicates a clear awareness of reader sensitivity. The excerpt above also illustrates once again how Cindy and Kris were able to push one another's thinking during the writing process.

By the revision stage of the first paper, Mike and Andy were demonstrating improved collaborative skills and a clear commitment to the quality of their papers. Earlier in the day of March 28, Andy had come into the classroom from study hall asking to work on his paper. He spent about half the class period conscientiously working on his revise think-sheet. While working, Andy told me that he had read the section of his paper on spurs (in which Cindy had indicated some confusion when editing the paper) and that Mike understood it fine. I read it over, and I, too, was confused.

As Andy explained the concept of spur position to me, we identified a couple of details that would help to clarify this part of the paper. Andy added these details in the margin of Cindy's copy of his paper. His willingness to make this revision appeared to be a clear acknowledgement of reader sensitivity. Andy said that the girls' suggestions had been helpful.

Feelings about Writing

Not surprisingly, as the students' writing skills developed, their attitude toward writing improved dramatically. In individual interviews conducted in September and early October, Kris said that she really didn't like writing but that it depended on the assignment. Cindy indicated that she did not have strong feelings about writing. While Kris and Cindy seemed lukewarm about writing, Mike and Andy were quite candid about their dislike of writing (Mike: "Blaah. I don't like it."; Andy: "It bites."). Mike emphasized that he did not like to read, either. On October 19, I kept the boys after class to discuss their behavior and whether or not it would be possible to allow them to

continue sitting together. I was concerned about these guys, especially in light of their expressed dislike for writing. During our discussion Andy suggested, "Couldn't we just skip it?" Mike concurred.

As their first papers took shape, however, the students began expressing both interest and pride in their writing. On February 9, shortly after beginning the first draft of the first paper, the following exchange occurred between Andy and Mike at the end of the class period:

Andy: I'm making progress. Yoo-hoo!

Mike: Yeah, five words.

Andy: What? I've got a paragraph, Mike.

A much later exchange, this one from the May 21 peer editing session, illustrates the development of their confidence as writers:

Andy: I'm just too good of a writer.

(Mike chuckles.)

[

Cindy: You guys are good.

.

.

.

Mike: You don't take all the credit.

Kris and Cindy also demonstrated increased confidence. Comments such as the following, from the February 20 writing transcript, were not unusual:

Kris: I'm using big words. It's really impressive.

[

Cindy: So, I should read it?

Kris: Uh, huh, yeah!

Cindy: O.K.

(Cindy reads her paper aloud.)

Cindy: And that's all I've got. Not bad, huh?

Unabashed verbal credit-taking such as this from both student pairs implies a high level of confidence, especially in light of a powerful

peer culture that generally discourages "bragging."

Weekly written reflections indicated change in the students' feelings about writing. For example, Mike wrote the following entry on February 16: "This week we started to wright are stores (sic). I think that I got prety (sic) far on my story. I am just about done. I thought it was going to be allot wors (sic) but it wasint (sic)." The fact that he thought it would be a lot worse may not seem like a glowing endorsement until one considers Mike's earlier aversion to writing (September 27: "Blaah. I don't like it."). On February 16 Andy wrote, "I like working on computer and wright (sic)." For Andy to say he liked writing was a remarkable revelation in light of his earlier comments about writing (September 27: "It bites."). On February 21 Cindy expressed an emerging confidence in her writing ability: "I got a good start on my story. It won't take me long to finish it. I am a fast typer."

The students entered into the second paper, the research paper, with considerable gusto. On March 18, while they were still editing the first drafts of the first paper, Mike asked when we would be starting the next paper. He said that he thought that one would be more fun. By March 28 construction was underway on an addition to the school building. Bulldozers were working right on the other side of our classroom wall; pounding and even floor-shaking occurred throughout the day. Remarkably, none of this activity seemed to interfere with the students' writing work.

By the end of the school year, both student pairs had demonstrated both an increased knowledge of writing structure and a much higher comfort level with writing tasks. In interviews conducted at the end of the school year, the students indicated that they saw substantial improvement in their posttest papers over the pretest papers from the fall (e.g., Mike: "Well, I knew how to write it better."). Mike explained that they felt more confident with putting their ideas in

order and with proofreading. Cindy mentioned that her writing made more sense.

Strengths and Weaknesses in Writing

For writers to develop efficiently, they must learn to appreciate both their writing strengths and their weaknesses. Strengths must be nurtured and weaknesses mediated. The process of collaborative writing helped the students learn to identify and discuss both appealing aspects of their writing and aspects that needed improvement.

In the fall interview, Mike had great difficulty understanding my question about his strengths and weaknesses in writing. He eventually indicated that he was able to write "a pretty long one" and was able to capitalize and use commas; he had difficulty with quotation marks and was able to spell only "easy words." Andy indicated that he was able to come up with story ideas, but he had trouble with "spelling and stuff like that." Cindy said that she usually was able to figure out what to say but that she had trouble with spelling. Both Cindy and Kris mentioned having difficulty coming up with an idea to write about; Kris indicated a strong preference for writing assignments in which the teacher dictates the topic. She expressed lukewarm confidence in her sentence and paragraph structure. She said that she had difficulty writing long pieces (i.e., longer than a page).

On April 4, I decided to assemble the four students and ask them to reread their two pretest papers from September as well as their recently completed first paper using CSIW. Their comments indicated that they all seemed to feel that their writing had improved. Moreover, they were able to identify specific areas of improvement. Here are excerpts from that conversation:

Kris: You know what I think this paper has done for me?

T: What's that?

Kris: It's very scary.

T: Scary?
[

Kris: Now I use big vocabulary words.

T: What's scary about that?

Kris: (Chuckles) I never, I haven't done that. I never did that before.

Andy: I like big vocabulary words. It keeps you interested in what they're talking about.

[

Kris: So now, so now I say

Mike: Oh, I know.

Kris: So now my friends go crazy 'cause I'll say, like, "Oh, that's so marvelous!" and I used to just say, like, "Oh, that's cool" or "That's good."

T: Do you have, I've noticed that. Do you have any idea why that is?

Kris: Probably because I, I don't know.

T: I'm interested.

Kris: Paper. I think the paper did it.

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Cindy: Well, definitely, definitely explains a lot more.

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Kris: Um, I got, you can tell that we put a lot more thought in this one than that one.

Cindy: Yeah.

Kris: Because it's longer, it sounds better.

Andy: It makes more sense.

Kris: Yeah.

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.

.

Kris: This one's better than my, my other one.

T: Well, better in what way?

Kris: Using words.

Cindy: You use (inaudible).

Kris: 'Cause this one's kinda all bunched together, where this one's paragraphs.

[
Mike: Oh, hey, and this one

Kris: That's why it's (inaudible).

[
Mike: like, you start, like, the ending and stuff is better, like this, like the first part, how do you get people

[
Andy: Categories.

Mike: interested in 'em? How to end your stories and like this, concluding of it, whatever.

Andy: (Chuckles) I didn't even have

Mike: I just used to say, like, "The End" or something, you know.

T: Oh, O.K.

Andy: I didn't even have paragraphs in this one. I just, oh, I guess I did.

Mike: (Chuckles) I didn't have any in this.

Andy: One, two. Two paragraphs.

Cindy: (Chuckles) I had one.

Andy: Oh, three actually.

Kris: I had one *big* paragraph.

Cindy: I had one small paragraph, and then this one was, uh,

Mike: Am I supposed to have two spaces there?

Cindy: seven, eight, nine.

.

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T: Andy, what do you notice improving in your, uh, in your writing

Andy: I don't know.

[

T: as you looked at the old papers and the new one?

Andy: Thinking, I don't know, taking more time.

T: Oh, O.K., doing it a little more logically.

Andy: [Step by step.

T: O.K. Cindy?

Cindy: (Inaudible.)

T: Any particular improvements that you noticed as you looked at the papers? I think you mentioned the paragraphs.

(Mike and Andy conduct a quiet, inaudible side conversation.)

Cindy: Yeah, and what I write's getting interesting.

T: Getting more interesting?

Cindy: When I was supposed to write a paper, it was boring.

T: Oh, O.K. You know, that, that brings up one final comment. We spent a fair amount of time on descriptive paragraphs and narrative paragraphs with the hopes that it would help make the writing more interesting? Cindy just mentioned that she thought that her writing is becoming more interesting. What do you guys think, anything in that regard?

?: Probably.

Kris: Yeah.

Mike: More interesting than before, like this one and stuff.

The students demonstrated keen insight in commenting on their own improvement. Kris and Andy both said they had been putting more thought into their writing; both students also mentioned using big vocabulary words. Kris added increased length, "sounding better," and better organization to her list of improvements. Andy said that his writing made more sense and that he now used categories. Mike and Cindy both noted that their writing had become more interesting. Cindy also mentioned more thorough explanations and better organization. Mike noted a better conclusion in his more recent paper.

Prior to the April 3 parents' meeting, I sent home copies of the students' two pretest papers from September and their recently completed first papers for the parents to review and discuss with their children. Kris's parents, Brenda and Ron, and Mike's parents, John and Toni, were

the only parents able to attend the meeting; all agreed that they saw considerable improvement in paragraph structure. There also was agreement that the more recent papers were better organized and more interesting:

Toni: It was more organized.

John: You know, very much more organized.

[
Toni: More detail, and it was more interesting to read. This one was kinda boring.

[
John: Well, this one you're just kinda guessin' at where you're goin', I mean, um

[
Toni: Yeah, and this one had so much, um, I don't know, I put down "atmosphere."

Mark: Mmm.

[
Toni: I don't know, you felt like you were there. I don't know, he's talking about dust and being at the rodeo and, you know.

[
Mark: Mmm, hmm.

John: The noise and

Brenda: Mmm!

[
Toni: Yeah!

John: You know, getting very

Ron: Descriptive.

John: descriptive

Toni: Yeah.

.
. .

Brenda: Well, I thought Kris had a lot more descriptive words.

Ron: Oh, she did.

Brenda: Yeah, in this last paper that she had done. The other ones were, I don't know, it didn't put a picture in your mind, or she didn't use, oh, what do you call 'em, sound words...

Reviewing the transcripts of student conversations helped me to recognize a key advantage of peer editing. When students discuss the

Mike: "The cool thing was that"

1

Andy: Say more.

Mike: O.K., I wonder if there's not that much more to say.

Mike: Um, "In old Sacramento there was a train museum there."

Mike: "There are moving trains."

Mike: "Telephones that you" (brief pause).

Mike: Why? No, what's wrong with that? There's nothin' wrong with it.

Mike: They move. (Brief pause.) What kind of moving trains? Nah, train museums, all different kinds. O.K., that's good. O.K., "tell what was being explained?"

Mike: Yeah. "Use two to three categories?" (Inaudible: microphone bumped.)

Mike: One, yup. "Name each category clearly?"

Andy: Yeah.

[
Mike: Let's see. "My trip to California."

[
Andy: "Alcatraz."

Mike: "Sights of, sights." Yeah. "Eureka." Well, then she started talking about lumber company and stuff. Well, I guess that's in Eureka. Yeah.

By discussing the paper together, Andy and Mike were able to try out their emerging understandings about effective writing. They recognized, for example, that more details about Alcatraz and the train museum would be helpful; moreover, they were able to generate suggestions for some of these additions (e.g., "Like what the cells looked like and stuff."). Later they considered whether various categories were accurately identified and organized. Such analysis and dialogue cannot help but reinforce effective writing techniques in the minds of peer editors.

Pretest/Posttest Results

Pretest and posttest papers were administered in order to obtain confirmatory or contradictory evidence regarding the development of the students' thinking about writing over the course of the year. Students were read identical directions prior to writing both the fall and spring texts. In each case, they wrote "expert" essay papers, in which they discussed what they knew about a topic about which they were quite knowledgeable, and explanation papers, in which they explained the process of accomplishing a task about which they were quite knowledgeable. The expert papers represented the same text structure on which the students worked during the school year. The explanation papers were administered to see if writing gains in the expert essay structure, which was taught and practiced, would transfer to another text structure that was neither taught nor practiced. The students' pretest and posttest papers are reproduced in Appendices L-O.

The pretest expert essay and explanation papers provided a

"baseline" from which to compare future writings. As has been true every other year in which I have assigned pretest papers, all papers were a single paragraph in length. A couple of these papers (e.g., both of Mike's papers, Kris's expert paper, Andy's expert paper), however, were considerably longer in length than I had received in previous years' pretests. In fact, when he got to the end of his expert pretest paper, Andy said, "Gol, I wrote a page."

Cindy lacked focus in the expert paper, which included several subtopics; she had no topic sentence in the explanation paper. She made an attempt at reader sensitivity in both papers, using good descriptive adjectives in the expert paper. There were a few good, specific details in the expert paper but steps without many details in the explanation paper. She used few transitional expressions in the expert paper but some in the explanation paper (although an over-reliance on "then").

Kris had pretty good details in both papers, although the expert paper jumped around quite a bit. She used transitional expressions/key words, especially in the explanation paper, and showed evidence of reader sensitivity and author voice in the explanation paper.

Andy wrote an explanation paper instead of an expert essay. He demonstrated some reader sensitivity in both papers. There was no topic sentence in the explanation paper and steps but few details in the explanation paper.

Mike also incorporated some reader sensitivity in both pretest papers, and some author voice was in evidence in the explanation paper. There were some good details in both papers. No topic sentence appeared in the explanation paper.

A comparison of pretest and posttest paper scores indicated substantial improvement in expert essay papers for Cindy, Kris, and Mike (see Table 12). Each of these three students' scores (see scoring criteria, Appendix F) improved in all areas (holistic, primary trait total, and reader sensitivity total), and their posttest papers were

markedly longer than their pretest papers. The primary trait score assessed such structural concepts as introduction, definition of categories, development within and across categories, use of key words, and overall organization. The reader sensitivity score reflected the extent to which the introduction draws in the reader, the purpose is clearly expressed, the audience is targeted, and the author's voice is in evidence.

TABLE 12
Pretest and Posttest Results

<u>Expert Text Structure</u>								
	<u>Holistic</u>		<u>Prim. Trait Total</u>		<u>Read. Sens. Total</u>		<u>Words</u>	
	<u>pre</u>	<u>post</u>	<u>pre</u>	<u>post</u>	<u>pre</u>	<u>post</u>	<u>pre</u>	<u>post</u>
	(Possible: 3)		(Possible: 18)		(Possible: 12)			
Cindy	1	3	7	16	2	5	97	284
Mike	1	3	8	17	5	10	152	396
Andy	2	1	13	9	5	0	144	53
Kris	2	3	13	15	3	9	119	283
<u>Explanation Text Structure</u>								
	<u>Holistic</u>		<u>Prim. Trait Total</u>		<u>Read. Sens. Total</u>		<u>Words</u>	
	<u>pre</u>	<u>post</u>	<u>pre</u>	<u>post</u>	<u>pre</u>	<u>post</u>	<u>pre</u>	<u>post</u>
	(Possible: 3)		(Possible: 12)		(Possible: 12)			
Cindy	1	1	6	6	3	1	63	96
Mike	1	2	6	6	1	5	112	286
Andy	1	1	4	3	1	1	44	24
Kris	2	2	8	6	2	6	99	118

Some improvements were particularly dramatic. For example, Cindy's primary trait total increased from 7 to 16 and her paper length increased from 97 words to 284 words. Mike achieved a similar

improvement in primary trait total, from 8 to 17, and his reader sensitivity total and paper length both more than doubled. Kris's scores, though less dramatic, also reflected improvement in all areas measured.

Andy's expert posttest results stand in stark contrast to those of the other three students. The posttest papers were written at the very end of the school year, and Andy, whose behavior was characterized by impulsivity and distractibility, had simply run out of gas. In an interview the next day, Andy said his September papers were better because "I think I had more willpower then." At the May 29 parent meeting, Andy's mother agreed that he had lost interest in school for the year, adding: "I think he knows more about changin' a tire than what he's got there; I know he does...It's, this is real short." Despite the lack of evidence of improvement in his posttest papers, the papers Andy wrote during the school year (see Appendices J and K) and his comments throughout the process indicate considerable improvement in his understanding and construction of effective prose.

The expert posttest papers of Mike, Cindy, and Kris show a command of structural skills that were not present in their pretest papers. As noted earlier, all four expert pretest papers consisted of a single paragraph; introductions and conclusions were scant if not absent entirely. In their expert posttest papers, Mike, Cindy, and Kris incorporated paragraph structure, and each of these three posttest papers included a legitimate introduction and conclusion.

Explanation paper primary traits included introduction, steps, key words, and overall organization; reader sensitivity measures were identical to those listed above for the expert essay structure. While three of the students demonstrated dramatic improvement in their expert posttest papers (see Appendix M), such improvement is not evident in the explanation posttest papers (see Appendix O), although their posttest texts did increase in length. The lack of comparable improvement might

be a further indication of the effectiveness of the instruction, since the explanation text structure was not practiced during the school year. The explanation pretest and posttest measures were administered to see if development in the expert text structure would transfer to the explanation text structure without explicit instruction. An examination of the explanation papers seems to indicate that such transfer did not occur. When I asked the students about this in an interview afterward, Mike explained that he "didn't know if we were supposed to put 'em in different paragraphs." Regarding introductions and conclusions, he said, "I wasn't sure I was supposed to do that, either."

Pretest and posttest measures in a previous study (Hallenbeck, 1996) demonstrated dramatic improvement in both the expert and explanation text structures; however, students in that earlier study had written papers using both text structures during the year. It would appear that, for many students with severe writing disabilities, "what is learned is what is taught." Another possibility is that transfer between text structures might occur with further practice or, perhaps, through overt discussion of different text structures during reading.

Transfer

Transfer to new situations would suggest that student learning had been internalized. On April 2, I discovered what I consider important evidence of transfer. My teaching colleague, Joanne, who worked with Kris on math for one class period in the morning, told me that Kris had asked at the end of the period if she and the other seventh-graders could have some time to review for a social studies test. The students had been told that the test would include an essay about the Irish Republican Army. Kris had written a practice essay at home the night before and said something to the effect of, "Listen to my essay," or "Let me read this to you." She proceeded to read the essay, which my colleague reported to have been well-organized and interesting. Joanne

complimented Kris on her effort and asked her if our writing project was helping her with her writing; Kris replied that it was.

Kris's mother mentioned this incident at our parent meeting the very next evening. The following excerpt from that conversation includes comments from both of Kris's parents:

Brenda: Um, last night, um, Kris, we got home from the track meet and she was home, and she was kind of looking over her lesson to study for the social studies test, and she decided that she was going to sit down and write out all of the vocabulary and their meanings. And then a little while later she said, "You know, we have an essay," and she read what the essay was, and then she went back on the couch. A little while later she comes back and she goes, "I'm write, I wrote down what I would like to say for this essay," and she almost had a whole page. And she was really excited about it

Ron: Mmm, hmm.

Brenda: and we had to stop everything so she would read this page to us. And while she was reading, uh, she was going on and on and on, and she stopped and she says, "You know, I think this writing program that I'm doing at, uh, Mr. Hallenbeck's class, it's making me use bigger words, like this word: 'established.'" (Laughs.) And then she read a little more and she goes, "See? There's another big word that I used." So, I guess I'm seeing

Ron: (Chuckles.) That was good.

[
Brenda: that she's having a little more confidence

Ron: Oh, yeah.

Brenda: in her writing. And for her to sit down

Ron: And write.

Brenda: and write a whole page of what her essay was, what she wanted to say in her essay, totally self-directed - I never told her to sit down (chuckles) and write -

Ron: I didn't either.

Brenda: and she comes back with what she wanted to say in her essay and was proud of the big words that she had used, so I guess I see some confidence there and willing to sit down and write it out.

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Brenda: For just, for her to think on her own to write this whole

answer out

Mark: Mmm, hmm.

Brenda: and then so excited about it...She was real pleased with what she had done, so (brief pause).

Ron: It wasn't bad!

Brenda: No! (Laughs.)

Ron: Well, you *should* be pleased with that!

I copied Kris's, Mike's, and Cindy's answers to the I.R.A. essay question (Andy took social studies in another special education classroom). Mike's answer was also very complete and well-written. Mike received maximum points for his answer, and Kris missed only one point. Cindy, however, did very poorly on the question, perhaps because of extensive absenteeism prior to the test.

Kris's public affirmation of her social studies essay both at home and in school was very interesting. One is tempted to surmise that her eagerness to share the essay resulted, at least in part, from her having become so used to sharing her writing in our classroom. No less interesting is the emerging confidence that prompted her to write and share the essay in the first place.

Summary

Their year of collaborative work had effected in these four students a transformed vision of expository writing. They came to see writing not as a mechanical task governed simply by elusive grammatical rules, but rather as a systematic means of communicating a message to an audience. Moreover, the students' written products revealed demonstrably improved writing skills and reflected this appreciation of writing as an important means of human communication.

The students' conversations and writings revealed growing confidence in their ability to construct effective prose. They no longer saw writing as some mystical, inaccessible endeavor reserved for

linguistic geniuses; rather, they came to recognize themselves as legitimate sources of knowledge and practitioners of the art. Their collaboration had provided them an opportunity to test out their own ideas and to critically assess the work of others. These four seventh-graders had started to think like writers.

CHAPTER 7

DISCUSSION: FROM THE INSIDE OUT

WE LEARN...

10% of what we read
20% of what we hear
30% of what we see
50% of what we both see and hear
70% of what is discussed with others
80% of what we experience personally
95% of what we TEACH to someone else

- William Glasser,
(in Lazear, 1991, p. 117)

This study explored a particularly dismal venue for many students with learning disabilities - the uncertain world of expository writing (Graham, Harris, MacArthur, & Schwartz, 1991; Englert, 1990b). In examining their emerging understanding of exposition, the study uncovered two formidable allies for these students - one rather well-researched and the other almost wholly overlooked. While Cognitive Strategy Instruction in Writing (CSIW) provided a strong structural foundation for their work, it was the students themselves who nurtured and pushed each other's thinking throughout a year of surprisingly efficacious dialogue.

The study also examined the teacher's role in creating a collaborative classroom climate, in modeling the thinking behavior of effective writers, and in scaffolding the students' writing development. Despite the newness - for both the students and the teacher - of all this dialogue, the students flourished; shucking off years of writing frustration like an old coat they had outgrown, these four seventh-graders developed in both their thinking and their writing skill.

The findings reveal that expository writing need not be a black hole in the academic lives of students with LD. Moreover, learning to write need not involve a great deal of pain and suffering. Rather, the

participants in this study discovered that writing instruction can progress by leaps and bounds when it centers on generative dialogue involving both teacher and students.

Collaboration is very rare in schools (Cazden, 1988). Writing, in particular, traditionally is seen as a solitary activity in American schools (Zebroski, 1994). This study, on the other hand, engaged students in a dialogic process similar to that practiced by accomplished writers. The study recognized the natural desire of students to talk to their peers about matters of importance, and its findings support the contention that "oral discourse during composing changes experienced speakers into experienced writers" (Hunter, 1989, p. 9).

We have characterized *dialogue* as more than simply "talk," but rather as talk used in an effort to discover new understandings and to relate new knowledge to old (Cazden, 1988; Burbules, 1993). This investigation examined the role of collaborative dialogue in developing students' thoughts and perceptions (intrapsychological plane) and the role of the teacher and peers in mediating those thoughts and perceptions (interpsychological plane) (Vygotsky, 1978).

This study illuminates the potential of both teacher-student and student-student dialogue in fostering cognitive development. It answers the call for more classroom research and accompanying teaching implications involving adolescents (Lessen, Dudzinski, Karsh, & Van Acker, 1989). More specifically, it recognizes the need for special education research involving cooperative learning approaches and instruction focused on instructional objectives rather than student disability (Mertens & McLaughlin, 1995). In so doing, it blurs the distinction between teacher and student and highlights the capacity of adolescents with learning disabilities to take charge of their own learning and to generate new knowledge.

The Teacher

While I had employed CSIW for several years with other groups of students, prior to the 1995-96 school year I had engaged students in collaborative learning very rarely. Like many teachers, I recognized intuitively the value of student collaborations, but I had avoided it because I didn't really know how to go about doing it; I had failed to recognize that CSIW provided an ideal venue for "doing it." Thus it was with some trepidation that I embarked upon a yearlong study that would feature extensive ongoing collaborations among students who (I correctly surmised) probably disliked writing. Moreover, I strongly suspected (again, correctly) that this kind of thing was probably rare enough in regular education and virtually unknown in special education.

I learned over the course of the year and during the ensuing data analysis that these four seventh-graders learned to employ CSIW every bit as well as those for whom the collaborations had been much more limited. In addition, however, they gained a greater appreciation of both their own role and the role of their peers as legitimate sources of knowledge and support. All four students came to see their peers as partners in the writing enterprise; they regularly scaffolded one another's efforts, and their peer editing conversations benefited both author and editor. The students recognized one another's value as collaborators with verbal compliments and expressions of appreciation.

Once I had finished modeling the CSIW strategies, my role became one of resource and facilitator (Barnes & Todd, 1995). By turning over responsibility for the lion's share of the writing work to the students, I was able to concentrate most of my efforts on scaffolding when their collaborations proved inadequate. This type of instruction takes longer than more teacher-centered models, but I discovered that it promotes deeper learning for the students because they play a more active role in the learning process. Furthermore, the students' learnings are continuously reinforced and expanded as they take on teacher-like roles

while working with their peers.

Don't Underestimate

Over the years I have learned to avoid underestimating students with learning disabilities and to be open to surprises. This simple lesson was reinforced time and time again during this investigation by all four students, but perhaps most dramatically by Andy. There is much that all of us who teach students with LD can learn from Andy.

I often needed to consciously avoid placing my expectations for other students on Andy. Sometimes I found myself wondering if his distractibility and fluctuating commitment to our work was specific to my class. At parent-teacher conferences in February, however, the very first thing his parents mentioned was his short attention span. They later commented on his tendency to use small spellable words in his writing. I told them that I thought some of that may be changing with CSIW and the use of the computer; I think the final draft of his first paper bears this out (see Appendix J).

I learned that I shouldn't assume that Andy had not internalized concepts just because his attention tended to wander. For example, when Andy appeared to need help getting started with the introduction for his first paper, I suggested starting with something like, "Is this your idea of fun?", then describing a bullrider being thrown around by a bull. He thought that seemed O.K., so he got started. A few minutes later, he asked me if it was O.K. to use the word "hell" in his paper. I told him it depended on how he planned to use it. He read his image of an animal giving "a tour of hell." I said I thought that sounded great and asked him how he thought of it. He beamed and said it just came to him.

I can only surmise that Andy's "tour of hell" image grew from my brief suggestion, which I attribute to engagement within his zone of proximal development (Vygotsky, 1978). He seemed to need an entry point for developing his introduction. By suggesting an idea, apparently I

had provided an entry point from which he could begin generating his introduction. Although I may have helped him get underway, the introduction that was to come was his and his alone.

The interaction above occurred on Friday, February 26. Three days later, on Monday, the first thing Andy said at the beginning of class was that he had had a frustrating experience over the weekend. He had been bored at a funeral wake and got to thinking about the introduction for his paper in the T.V. room of the church. (He told me later that a bullriding advertisement on ESPN had spawned his thinking.) He said he wrote down an "awesome" introduction, but he put the paper in his pocket and his mother washed the pants, obliterating the writing. I asked him if he remembered any of the words so he could maybe reconstruct some of it. "No," he said, "that's why I wrote it down."

I thought it was interesting (a) that he would think about his paper over the weekend, (b) that he would write part of the paper on his free time, and (c) that he would attest publicly to all this. I wondered if we had experienced some sort of breakthrough on Friday when he came up with his "tour of hell" image. The introduction that ultimately emerged was quite vivid and very effective: "Is this what you call fun? Getting a tour of hell on a 2000 pound package of hamburger. And you better get out of the way before you're turned into a cowboy shishkebob."

This scenario was made all the more interesting by the fact that much of Andy's work on his introduction took place, unbeknownst to me, during a class period in which I had found it necessary to move him because he had disassembled the tracking ball of his laptop computer. The recognition that such productive work could have taken place virtually under my nose during a time when I sensed little important work taking place reinforced for me the importance of high expectations and trust when working in a collaborative classroom environment. For Andy, having the support and encouragement to overcome his early

struggles seemed to have opened doors and enabled him to demonstrate remarkable creativity and to make insightful contributions.

Both Andy and Cindy, in her partnership, overcame what seemed like significant limitations and took the lead in collaborations within their writing pairs. Uncertain candidates on the surface for leadership roles, they nevertheless made significant contributions in their partnerships and provided ongoing scaffolding assistance to their peers.

Andy, Cindy, Mike, and Kris all demonstrated that teachers need not direct all the efforts of students with special needs. Teachers can give up some of the responsibility for student learning to the students themselves. In so doing, they will help students to recognize their true potential and to avoid the learned helplessness so common in special education classrooms.

Modeling

Within a collaborative classroom environment the teacher takes on the role of a model, serving as a link between interactions with an expert (teacher) and interactions among peers (Cazden, 1988). While students are expected to assume responsibility for much of their own learning, the teacher provides necessary "entry points" by modeling effective learning behaviors. My modeling was heavily loaded up front; I stated explicitly that the students would very soon be responsible for employing the strategies being modeled. As such, it was important that I check for understanding frequently, including seeing if students could anticipate future steps in the learning strategy. Later in the school year, my role would change to one of mainly scaffolding students' efforts when necessary.

I wanted the students to adopt the habits and thought patterns of effective writers. In order to turn over writing responsibilities to the students, I employed think-alouds (Hunter, 1989; Duffy & Roehler, 1987; Raphael & Englert, 1990; Englert & Raphael, 1989; Englert, 1990b; Englert, Raphael, Anderson, Anthony, & Stevens, 1991) to make my

thinking visible as I modeled the CSIW strategies. During modeling I tried to anticipate difficulties that might present themselves in order to minimize their effects on the students.

I avoided tricky lingo while demonstrating effective approaches to the writing process. I didn't want the students' thinking to become mired in abstractions, so my main criterion for terminology was its utility in clarifying effective thinking about writing. For example, although the term *category* was used on the CSIW think-sheets, I used the more accessible term of *group* in my think-alouds. A *group* was a collection of ideas that *seemed to belong together*, rather than the abstraction related to *the same topic*.

Involving students as much as possible during my modeling acknowledged the essentially social nature of effective writing (Bruffee, 1984; Hunter, 1989; Porter, 1986) and paid valuable dividends later when it came to turning over responsibility. Throughout modeling I engaged the students in a kind of writing apprenticeship wherein they helped me with my work in anticipation of better understanding their own. They accepted this apprenticeship as a means of gaining access to the Discourse of the writing community (Gee, 1992; Hunt, 1994; Bruffee, 1995). For my model paper I purposely selected a topic with which the students were familiar in order to allow (nay, *encourage*) them to participate in its preparation. This allowed them to contribute to my thinking from the very outset.

Employing the apprenticeship approach prompted the students (especially Andy) to offer me numerous suggestions during the class session in which I modeled the color-coding of brainstormed ideas. They sought clarification on 10 occasions and elaborated on someone else's comment or idea several times. The large number and variety of student contributions indicated that they recognized their important role in the learning process and made it clear that they were personally investing in the CSIW strategies.

Actively involving students in the modeling allowed a dialogical relation to develop in which role shifts between "teacher" and "student" could occur (Burbules, 1993). Such role shifts allow the teacher to model effective collaborative behaviors from both perspectives (teacher and student) and to scaffold when confusions occur. I modeled equity throughout the modeling sessions, primarily by using the pronoun "we"; the students appeared to pick up on this and started using "we" in their comments and responses almost immediately.

As the students took over responsibility for their writing work during the year, I found it necessary to bite my tongue a few times when a student author chose not to address the suggestion of a peer. I came to realize, however, that I couldn't have it both ways: I couldn't put the students in charge of their own learning and at the same time tell them I didn't agree with the decisions they were making. It's likely that their papers would have been a little better if I had hovered over them and interjected copious suggestions and mandates. However, they would not have learned as much as they did by making those decisions themselves and by helping one another with those decisions.

Scaffolding

The apprenticeship instructional model assumes synchronicity between teacher modeling and the scaffolding of student efforts. Modeling provides solid ground upon which students can build their understandings. Occasions naturally arise, however, when an apprentice requires the intervention of the "master." The teacher's expertise is still required when students' resources are exhausted for specific tasks or domains (Daiute & Dalton, 1993; Vygotsky). The apprentice writers in this study, as with their counterparts in other disciplines, occasionally ran into difficulty with cognitive tasks. At those times, I attempted to help them move through the current difficulty in order to resume their work as seamlessly as possible.

During scaffolding the teacher temporarily takes control of

elements of a task that are beyond capacity of the student. This allows the student to complete a task normally unattainable without assistance (Vygotsky, 1978; Wood, Bruner, & Ross, 1976; Gee, 1992; Palincsar & Brown, 1984). Teacher scaffolding enables students to participate fully in holistic tasks, thereby "keeping the eye on the prize" while receiving assistance as needed.

My scaffolding during the early modeling sessions primarily took the form of anticipating future difficulties. Once the students had begun constructing their own writing projects, I intervened in situations where it appeared that a student's cognitive work was in danger of stalling. Those later scaffolding events took the form of both questions and comments designed to find entry points through which the students could resume independent work. At times scaffolding took the form of directing students' attention, providing direct instruction, seeking and offering clarification, elaborating, or reviewing.

Whenever possible, I tried to employ questions as my main scaffolding tools. Questioning is at the heart of the dialogical process (Gadamer, 1982, cited in Burbules, 1993, p. 96), and I have long felt that questioning is at the heart of effective scaffolding. Questions require the student to do most of the cognitive work and help transfer responsibility by engendering in the student a greater feeling of ownership. Scaffolding questions, however, differ from questions in the more traditional "initiation, student response, teacher evaluation" (IRE) sequence. In this study, questions were designed to push student thinking, not to urge students to guess the "correct answer" in the teacher's head.

Despite their intuitive value, I came to realize that scaffolding questions can become counterproductive during times of extreme student frustration. In these instances, direct scaffolding comments are more effective. Nevertheless, even on the rare occasions when I found it necessary to provide a student with a "big clue," I said only enough to

provide an entry point; the students did not require my *telling* them what to do or exactly how to do it (even though that request was made once or twice).

This study spotlighted for me the fine line between scaffolding and direct assistance. I fully recognized my responsibility to provide direct assistance to a student when necessary, although I tried to do so in a way that enabled the student to do as much of the thinking as possible. The study helped me realize, however, that when students reached the breaking point, direct assistance was the scaffolding they need at that time. For example, when Mike became stalled by the spelling of a word, or when Mike and Andy were completely stumped by a grammatical issue, they needed more than just a "gentle nudge" in order for their cognitive work to continue. I've come to realize that it doesn't matter whether it's called "direct assistance," a "big clue," or simply "instruction," it certainly qualified as scaffolding because it was what the student(s) needed at the time to enable their work to continue.

Nurturing a Collaborative Environment

At the outset of the study, I considered one of my greatest challenges to be that of building a truly collaborative environment in my classroom. Having worked for several years with CSIW, I was very confident in modeling it and relying on it for the structural support the students needed in order to become successful writers. However, I had had precious little experience using cooperative learning-type strategies in my classroom; in that regard, I suspect I was in the company of most secondary resource teachers. I had employed peer editing in previous outings with CSIW, but I had no experience with structuring student dialogue throughout the writing process. As such, I struggled with all the "control" issues that run through the mind of a teacher faced with the specter of a classroom filled with student talk. Especially scary was the fact that I had no idea how to "manage" all

that talk.

What I learned was that CSIW - and actually the writing process itself - already provided an ideal platform for collaborative dialogue. Writing is a form of language. Dialogue is intrinsic to the human condition, and language is fundamentally dialogical (Bakhtin, 1981). I didn't need to "manage" the dialogue at all. The central focus of the dialogues became whatever it was that the students needed to say in their writing; all their conversations quite naturally revolved around that single, very simple issue.

Although CSIW provided us with a framework for the students' conversations, I did need to nurture a classroom environment that would allow dialogue to flourish. The first order of business was to provide the students with a preview of our writing work so they knew where we were going. Central to this overview was the notion that effective writing needed an audience and that the students would provide one another with that audience. Once that notion had been established, we set about listing ground rules that we thought would be appropriate when seeking and providing writing feedback. Discussing the transcript of a recently recorded classroom dialogue helped greatly by giving the students a chance to assess the degree to which they had followed the guidelines we had developed. By learning to give and receive constructive criticism, the students learned the value of opening their work to public scrutiny - a pretty scary concept to students who had experienced so much frustration with writing, but nonetheless one they pursued with gusto.

It was very important that my modeling and scaffolding were seen by the students as behaviors they could emulate. To facilitate this perception, I needed to develop equity - a sense of parity or "we-ness" - with the students. Equity places teacher and students on the same level (Burbules, 1993; MacGregor, 1990; Hunter, 1989) as learners. I hoped that if the students could come to see my modeling and scaffolding

efforts as those of a collaborator, they would realize that these were strategies that they, too, could emulate. My hopes were realized; the transcripts are filled with examples of all four students scaffolding one another's writing development.

To create a truly collaborative classroom environment, the teacher should seek venues in which he/she can function as a learner while the students take on "professorial" roles. For example, asking the students to interpret my Ag Expo photos and video enabled me to (1) establish equity with the students, (2) model the behaviors of a learner, and (3) position the students as legitimate sources of knowledge. If the teacher expects students to enter her/his academic world, she/he must be willing (if not eager) to enter their worlds. It is important to take a genuine interest in the students' interests (e.g., Cindy's horses, Mike's track season, Andy's pond, Kris's upcoming trip to the Olympics) even if they are not the topic of a writing project. Early in the school year the descriptive and narrative paragraphs allowed us all to enter each other's worlds while simultaneously practicing valuable writing tasks and contributing to one another's cognitive work.

Both overtly and covertly, I tried to foster a collaborative spirit in the classroom. Early in the year, I overtly urged students to work together and reminded them to check with peers before coming to me for assistance. As the school year progressed, my efforts became more covert - confirming that I had heard what students had said, establishing equity, nurturing humor, providing personal and writing support, and giving pats on the back for a job well done. By the end of the year, my main role had become one of supporting the students in their writing endeavors in order to help them maintain their momentum.

All conversations during the year were punctuated by interludes of personal interest. I learned to let conversational elements such as expressions of humor and discussions of personal events emerge and run their course without worrying that the academic agenda would be

completely derailed. I came to recognize these "breaks" as a natural feature of a healthy "workplace." In this regard, it helped greatly that the objectives and expectations of the writing project had been made abundantly clear at the outset. Students discovered that occasional digressions were acceptable as long as those objectives and expectations remained paramount.

I found it necessary to stay calm and to recognize that Mike and Andy often had difficulty meeting my curricular demands. The fact that they maintained a friendship outside class sometimes compromised their efforts to stay on task. As I sometimes noticed in class and was struck by in the audiotapes, however, their writing work moved along at a pace they could handle; the end products showed that the many digressions had not derailed their cognitive work after all. I came to recognize that conversational digressions are a natural feature of collaborative dialogue and an important aspect of community building; context and the personalities of the individuals involved determine the extent and nature of those digressions. Sometimes I had to let a digression run its course, then redirect the students' (generally Mike's and Andy's) attention to the task at hand; on these rare occasions the students generally recognized the need for my intervention and complied willingly.

It must be remembered that students with learning disabilities generally have experienced considerable academic frustration and failure; as such, they need ongoing moral support if they are to genuinely embrace the notion of collaborative classroom dialogue. Providing this support is an ongoing challenge for a resource room teacher. The challenge was highlighted one afternoon when a visiting student happened to be sitting near Andy's and Mike's tape recorder. While he was working on a test from one of his regular classes, the tape recorder caught the visiting student exclaim, "God, I'm stupid!" I replied, "No, you're not. Those are hard. I told you that." Such

words of reassurance would carry a hollow ring if the students had not learned to trust in the concern of their teacher.

Although such dramatic comments did not emerge from the four students involved in this study, I found it a constant challenge to support their independence while simultaneously trying to mediate the feelings of frustration and struggle that I knew they sometimes felt. Identifying and navigating within students' zones of proximal development is an ongoing challenge for all teachers, but student frustration compounds the challenge for teachers of students with special needs.

The Students

The students in this study generated many of the same findings as did successful students in other studies of collaborative writing. They were able to learn elements of the writing process from one another (Daiute, 1986). In so doing, they took on teacher-like modeling roles and learned to serve as masters by contributing individual strengths, with the role of expert shifting throughout their collaborations (Daiute & Dalton, 1993). Their conversations were highly interactive and responsive (Daiute & Dalton, 1993; Dale, 1994). They elaborated their inner speech and modified their thinking throughout their year of collaborative writing (Dale, 1994).

Collaborative dialogue changes learners by virtue of the way they learn. These four students demonstrated the ability to become active participants in their own understanding (Barnes & Todd, 1995; Watson & Young, 1986). What's more, they came to view themselves and each other as legitimate sources of knowledge. In the fall, Kris and Cindy were lukewarm about writing; Andy and Mike were overtly hostile. Nonetheless, they all appreciated the chance to collaborate, effectively implemented CSIW, and adopted the role of collaborator. Each student emulated the scaffolding and encouraging behaviors the teacher had

modeled. This tells us that by working together, even students who struggle mightily with this complex academic task can adopt a proactive stance as learners and accept responsibility for their own cognitive development.

Student Dialogue

Student conversations throughout the year were characterized by lively exchanges, reflected in the transcripts by considerable overlapping talk. The students generally got right to work during collaboration sessions and, with a few exceptions, worked throughout the class period with minimal interruptions or digressions. They enjoyed their collaborations: their talk was generously punctuated with exclamations and chuckles and often took on the appearance of "out-of-school" conversations. It is, in fact, dialogue that makes "in-school learning more like out-of-school" (Britton, 1990, p. 106), engendering more enthusiasm than traditional instruction. Bringing personal interests into their writing further capitalized on the students' enthusiasm for "outside school" language and experience.

The study illuminated all three foundational purposes served by dialogue in schools (Burbules, 1993): *pedagogical* (learning about writing), *communicative* (community problem-solving), and *relational* (community building). Furthermore, the students' interactions engaged them in all three kinds of talk essential to building a classroom community (Henson, 1993). Unstructured conversations touched on such wide-ranging topics as animal traps, birthdays, and aerobics. The students connected on a more personal basis with stories such as Mike's effort to recruit Andy for the track team and Cindy's accounts of her family's horses. The students' dialogues, which formed the grist of this study, enabled them to collaboratively generate new understandings about the complexities of expository writing. Bakhtin's distinction between "primary" speech genres (e.g., greetings, informal talk) and "secondary" genres (those appearing in more complex formal contexts)

(Berkenkotter & Huckin, 1993, p. 482) provided a useful framework for examining the students' interactions. Both genres figured significantly in the conversations: out-of-school voices mixed with an emerging expository writing lexicon to create a tapestry of talk that was both interesting and revealing.

Cindy and Kris moved more fluidly into collaborative dialogue than did Mike and Andy, whose already firm friendship and early difficulties with the prewriting tasks presented early constraints. The girls immediately launched into productive dialogues focused almost exclusively on the writing task at hand. While they occasionally digressed into the conversations and stories that characterize most talk, these digressions were brief and never threatened to sidetrack their writing work.

The boys' early conversations were liberally punctuated with protracted interruptions. Humor helped keep Mike and Andy sane through what was for them an extremely challenging and often frustrating enterprise. Once they got the hang of the writing strategies and began to trust their own abilities to productively collaborate, however, they went great guns (as seen in the May 7 writing transcript examined in detail in Chapter 6). Fewer interruptions and more productive exchanges occurred from the prewriting stage to the revision stage, a trend that continued through the writing of the research paper. The revision stage seemed to be something of a turning point for the boys' collaborations. Perhaps their realization that they had produced good first drafts generated the confidence necessary for more fruitful dialogue.

Cindy and Kris, whose conversations were very collaborative right from the start, ended the year occasionally seeming like a "mutual admiration society," sometimes satisfied with simply sharing and endorsing one another's work. Andy and Mike, on the other hand, had a much harder time "getting with the program"; however, at the end of the year, they were just hitting their stride, as evidenced by the frequency

and variety of productive utterances during the May 7 writing session. This could be a case of "the candle that burns brightest burns fastest," or it may be simply that students find it difficult to sustain highly intense collaborations over such a long period.

The frequency and variety of coded utterances characterizes the richness of the students' dialogue. They consistently incorporated all four broad categories of moves identified by Barnes and Todd (1995): initiating, eliciting, extending, and qualifying. The most commonly occurring student comment codes included *initiating an idea about writing, seeking clarification, elaborating, and offering clarification*. Throughout the year there was considerable confirmation that ideas had been received, which contradicts the popular misconception that adolescents are so busy waiting to toss in their own comments that they don't listen to others. Compliments for peer assistance abounded, especially from Kris but regularly as well from Cindy, Andy, and Mike.

A New View of Writing

The students in this study demonstrated dramatic change in their view of expository writing during the year. From an early preoccupation with "mechanics" (e.g., grammar, spelling) and length, they came to see effective writing as the communication of ideas to an audience. Through a year of dialogue filled with "exploratory talk" (Barnes, 1976, cited in Cazden 1986, p. 454), the students' attitude about and understanding of expository writing developed alongside their writing skills.

In early interviews the students revealed rather limited visions of expository writing. They saw writing as either (1) imposed on one from outside, (2) limited to narrow area(s) of personal interest or genre, or (3) involved with grammar or mechanics. Confidence with writing ranged from some confidence within very narrow boundaries (e.g., writing letters to cousins, writing about horses, writing stories) to the impression that writing was only for geniuses and therefore virtually inaccessible.

The early preoccupation with mechanics and the aversion to expository writing seemed to dissipate rather quickly once the students started implementing CSIW with topics of interest about which they were knowledgeable. Teacher modeling of CSIW began in early January, and by the end of February the students had engaged in a very productive "mass sharing" of peer editing comments that lasted nearly the entire class period with little if any moderating from the teacher. The transcript of this session revealed the depth of both the students' commitment to collaborative dialogue and their emerging understanding of the writing process. Students took their collaborating responsibilities very seriously and, in turn, their comments and suggestions were taken seriously. Early concerns about paper length were quickly mediated once the students became comfortable with CSIW rationale and procedures. Length concerns soon gave way to concerns over adequate coverage of the topic, which automatically addressed the length issue.

When concerns over mechanics did occur, they almost invariably dealt with spelling. While I tried to de-emphasize spelling, I discovered that it could prove debilitating when a student fixated on the spelling of a word to the extent that the writing process stalled (generally because the student had no idea how to even approximate the correct spelling). Not surprisingly, issues of mechanics (particularly spelling) arose most often during revising, which is as it should be.

Transcripts of student dialogue revealed increased awareness of the structural issues inherent in effective writing. Such comments and questions occurred most often during the organizing stage, when authors focus virtually all their attention on the structure of their work. Nevertheless, structural issues found their way into student conversations at all stages of the writing process. Such utterances centered on issues such as identifying an idea that didn't belong in its current group, making a large group smaller (or vice-versa), determining titles for groups of ideas, adding more supporting details, sharing

comments or questions about effective wording, and catching the reader's attention. While Kris and Cindy made far more such utterances during prewriting of the first paper, by the end of the year Mike and Andy had "taken over the lead." This probably was the result of the girls' developing effective collaborations almost right away, whereas the boys took longer to get the hang of it, and eventually interruptions made up proportionately far fewer of their utterances.

The boys' writing session of May 7 spotlighted the remarkable transformation that had taken place. Interruptions were few and far between. Comments on structural issues took center stage as Mike and Andy focused on placing details in the proper paragraphs, refining wording, constructing effective sentences, and checking the accuracy of information. At one point, Andy needed to use the restroom; however, he continued to add composing ideas until he was completely out the door, and Mike forged on without him without missing a beat. Throughout the session the boys shared the spotlight and demonstrated tremendous pride in the way their paper was developing.

Writing lexicons developed in both writing pairs that helped the students maintain focus on their collaborations and ground their conversations in aspects of writing structure. Terms ranged from the simple, such as "things" to represent ideas and "groups" to represent related ideas, to the more abstract, such as "categories" for related ideas and "topics" for category titles. This lexicon became a rallying point for our classroom writing community. The terms, and the ways in which the students employed them, underscored an increasingly solid understanding of the complex writing concepts they represented.

The students came to appreciate the importance of audience in writing; this key concept both gave direction to and dictated the constraints of crucial prewriting activities (an area of extreme difficulty for many students with LD). Reader sensitivity was a natural outgrowth of their enhanced appreciation of structural issues and tended

to be a key focus when working on descriptions and narrations and during the revising stage. Efforts at these times centered on making writing more interesting, catching the reader's attention, and providing adequate information for a naive reader.

Not surprisingly, the students' attitudes about writing improved as their skills developed. In the fall Kris and Cindy appeared ambivalent about writing; Andy and Mike, however, expressed overt hostility for the task. As time wore on their confidence increased, and they were known to assert this publicly (e.g., "I'm just too good of a writer."; "I'm using big words. It's really impressive."; "Not bad, huh?") and in written reflections (e.g., "I like working on computer and wright (sic)."; "I got a good start on my story."). By mid-March students who earlier had said they hated writing and who had been quite distractible were seldom interrupted from their writing work, even by building construction that literally shook the classroom.

Interviews at the end of the year indicated that the students' conceptions of writing had developed into a solid understanding of structure and intent, an appreciation of reader sensitivity, and a recognition of their role as legitimate sources of knowledge for writing. The students identified the following improvements in their own writing: putting more thought into it, using big vocabulary words, increased length, "sounding better," better organization, making more sense, using categories, more interesting content, more thorough explanations, and better conclusions. The students' parents noticed many of these same improvements.

Pretest/posttest analysis indicated significant improvement in all areas of writing quality - holistic, primary text traits, and reader sensitivity - for Cindy, Mike, and Kris. While Andy's posttest papers reflected his late-year "burnout" more than his improved writing skills, his two completed papers demonstrated significant growth. Transfer to an untaught text structure was not evident. This might mean that, at

least for these students, "what was learned was what was taught." Or it could be that transfer might occur with further practice or, perhaps, through overt discussion of different text structures during reading.

Taking Responsibility

Throughout this investigation the students accepted transfer of responsibility for their own writing development and demonstrated the ability to scaffold one another's development. As such, their performance verifies the old axiom, "The best way to learn something is to teach it." Even during the early teacher modeling sessions, the students began stepping out of the traditional passive student role and into the role of collaborator by helping me teach and clarifying issues that were causing confusion. Such interactions would continue sporadically throughout the year.

Although I did not provide explicit instruction in scaffolding, the students nonetheless were able to emulate it. From the very start, Kris and Cindy engaged in lengthy extended collaborations, rarely calling on the teacher to mediate their efforts. They were very persistent and independent during their interactions; their conversations abounded with examples of providing entry points that enabled a partner to continue her writing work. Early conversations featured more scaffolding from Cindy, but as time went by Kris began sensing opportunities to help Cindy with her work.

Mike and Andy demonstrated remarkable growth in their ability to take charge of their own learning between the early prewriting sessions and the May 7 research paper writing session that served as our mini-case study in Chapter 6. While my presence as "secretary" during that session may have helped remind them of their writing responsibilities, that doesn't begin to tell the whole story. The boys demonstrated a very mature sense of mission and used reflective turn-taking throughout the conversation. They really did treat me like a secretary and deferred to my "teaching" role only on the rare occasions when I found

it necessary to provide extended scaffolding, which was focused very narrowly on a few specific organizational and grammatical issues.

Specific types of utterances supported the contention that the students were taking on teacher-like roles and employing dialogue to accept responsibility for their cognitive work. Thinking aloud started early, at the end of the teacher modeling session, and remained very common throughout the first paper. Thinking aloud was especially helpful in the prewriting stage during which the students generated ideas and reached important organizational decisions. The students employed this strategy less often during the second paper, indicating that perhaps their thinking had congealed to the extent that inner thought made thinking aloud less crucial.

The students sought and offered clarification, sought ideas and evaluations from others, and admitted difficulty during their efforts to take command of their own learning. During the four key points in time, they occasionally sought evaluation from a peer but never from the teacher; they would share their work with me but never asked me to evaluate it or to suggest improvements. I attribute this in part to my frequent overt and covert reminders that they were expected to rely on one another as much as possible. This level of independence represents a dramatic switch from the traditional IRE model of teaching, in which students constantly ask, "Is this what you want?" Rather than trying to guess what was in the teacher's head, the students worked at refining what was in their own heads.

Unique Contributions

Each student made individual contributions as needed during collaborations with their partners. They learned to sense the needs of partners and sought opportunities to make personal contributions to the dialogue. On numerous occasions a student could be heard emulating the collaborative "specialty" of her or his partner.

Contributory roles emerged early in the year and continued to

develop right through the final bell in May. During the early teacher modeling session, for example, Andy corrected another student's misconception about the category into which an idea should be placed. Then he proposed a new category title under which the idea would fit. At the end of the class period, he supported another student's efforts to begin organizing ideas in her brainstorm. Throughout the year Andy demonstrated proficiency at refining wording, analyzing organizational structure, synthesizing ideas, and filling gaps in categories, all of which seemed to rub off on Mike to a greater or lesser degree. Andy developed a facility for creative expression and elaboration, also contagious.

Throughout the year Kris contributed enthusiasm and energy, traits which Cindy quickly began to emulate. She greeted Cindy's suggestions with effusive praise, which helped to draw Cindy into the collaborations.

Cindy provided computer help and offered Kris innumerable useful suggestions regarding wording and organization. She was especially helpful in placing ideas in the correct categories, combining small groups of ideas, expanding ideas, and creating category titles. Kris emulated all these skills at one time or another.

Mike also contributed computer help. More importantly, in the early stages he served as a "traffic cop," mediating Andy's distractibility with varying degrees of success; he achieved greater success as the year progressed, eventually nearly abandoning the role altogether. He overcame early resistance to accepting the role of an expert and accepting the naivete of potential readers. Mike consistently demonstrated persistence in his writing work, declining my offers to type for him and overcoming his early frustrations with brainstorming. He adopted some of Andy's facility with words, developing a keen interest in highfalutin' language (e.g., "sham," "debunked").

Kris and Mike took the lead in initiating writing-related dialogue early in the year, but within each partnership pair the gap narrowed steadily. Their commitment to the process seemed to draw their partners into the fray. Even good friends like Andy and Mike moved beyond their tendency to create fun, making substantial contributions to the collaborative effort both to their own benefit and to that of their partners.

Teamwork

All four students had experienced group work in previous years of schooling, but never protracted over an entire school year and never as the key instructional model within a cognitive domain such as writing. They welcomed this opportunity and profited both academically and affectively during their collaborations. Talking over their ideas helped all four students generate writing that they would have been unable to produce alone. Through dialogue they pushed each other's thinking, and they genuinely enjoyed the opportunity to work together.

Dialogue helped the students navigate the crucial and often troublesome prewriting stage. It was during peer editing, however, that collaboration seemed to pay the most visible dividends - to both author and editor. Peer editing appeared to help students not only generate suggestions for other authors, but also to analyze their own writing. Surprisingly revealing comments emerged during a "mass sharing" of peer editing comments in which all four students engaged in an extended analysis of each other's work with virtually no teacher moderation.

Dialogue genuinely enabled the students to learn from one another. Amidst the lively exchanges that characterized the students' conversations, the transcripts include numerous examples of both student pairs co-constructing sentences and descriptive images (e.g., Kris: Wait, O.K. I'm gonna put, "When they go by,"; Cindy: "They drop themselves all over the road"?; Kris: "tomatoes will fly across the road." Yup, O.K.). The students acknowledged the value of collaborative

talk, mentioning such insightful benefits as getting more ideas, helping with word choice, having someone there when the teacher is busy elsewhere, helping put ideas together, writing more quickly, making writing more fun, spelling help, and having someone ask you to explain ideas they do not understand.

The students maintained focus on their academic duties, even in the face of the digressions that naturally punctuate human conversation. While the transcripts were sprinkled with both in-context and out-of-context interruptions, I very rarely needed to redirect a conversation. The students were able to get back on track, perhaps in part because we had discussed this eventuality at the outset, and "getting off track" had been one area of focus when we reviewed a transcript and audiotape of one of their conversations. Over time, Andy and Mike realized a dramatic decrease in the amount of time and energy devoted to interruptive interludes.

In an earlier study (Hallenbeck, 1996), I had examined the writing growth and classroom interactions of another group of students; in that study, however, the only structured collaborations took place during peer editing. Despite the fact that most of those students were older than these seventh-graders, there was no evidence of the extended unmoderated interactions so prevalent in this investigation. My only explanation for this difference is the fact that these seventh-graders collaborated at every stage of the writing process and grew much more familiar both with each other and with the collaborative process than the students in the earlier study.

Transcripts of the four key points in time revealed that expressions of equity ("we"-ness) occurred throughout the year, but most notably in two situations: during the organizing stage and during the boys' co-authoring of the research paper. This suggests that the all-important prewriting stage, perhaps the most uncertain terrain for disabled writers, generates a "we're in this together" spirit that helps

students overcome their difficulties and move forward with the writing process. Secondly, collaborative research and co-authoring seems to create a natural bond between students engaged in a complex yet rewarding process that ultimately yields a single written product.

Throughout the year the students' conversations were characterized by an interweaving of cognitive factors, which focused on the pursuit of knowledge, and affective factors, which demonstrated concern and commitment to the process and participants (Burbules, 1993). Cognitive factors in the conversations focused on recognition of issues of writing structure and reader sensitivity. The transcripts also revealed regular expressions of affect that are crucial in developing communicative virtues of tolerance, patience, openness to give/receive criticism, admissions of error, self-restraint during turn-taking, and willingness to listen thoughtfully and attentively (Burbules, 1993).

While both student pairs developed effective working relationships over the course of the school year, contacts between the pairs were relatively rare and generally formally structured (e.g., mass peer editing sessions). Moreover, on several occasions during the year Mike and Andy expressed overt hostility toward Cindy, generally regarding her frequent absenteeism, which at times caused delays in the writing work. These comments, more prevalent during the early stages of the study, eventually dissipated once Cindy's attendance became less erratic; by mid-April Cindy was being included in side conversations about horses, and her editing comments were being welcomed. This situation concerned me deeply, nevertheless, throughout the year and precipitated more than one discussion with Mike and Andy.

It is not unusual for a student to become marginalized during collaborative activities with peers (Cazden, 1988; Cooper, Marquis, & Ayers-Lopez, 1982, cited in Cazden, 1986, p. 449). I was heartened, however, to see that the differences between the boys and Cindy dissipated during the year, and her perspective became more generally

welcomed. Ironically, I attribute much of this change in attitude to the very same collaborative process that precipitated her marginalization in the first place. While her absenteeism often caused uncomfortable delays in the collaborative process, that same process brought her "back into the fold" once the absenteeism abated. Eventually Mike and Andy seemed to recognize that the group's responsibilities included ensuring that all members took part and had the opportunity to both benefit and contribute (Barnes & Todd, 1995).

The cognitive and affective benefits of collaborative writing appeared to maintain over time. The following school year (1996-97), the three students for whom I remained the English teacher - Cindy, Mike, and Andy - were able to pick up where they had left off and write effectively and independently. While they explored different expository text structures - explanation and comparison/contrast - they required little if any review of the CSIW procedures and entered into collaborative dialogue quite naturally. In light of the fact that students with learning disabilities so often require extensive and ongoing review of previous learnings, it appeared that these students had realized much deeper learning than the more traditional rote work completed primarily to pass a test. Moreover, the following year there was little evidence of the marginalization of Cindy that had concerned me so often during this investigation.

In sum, the cognitive and affective benefits of collaborative dialogue were affirmed during this investigation. Hopefully this experience and others like it will help enable the participants to take on productive roles in a world that needs collaborators and community builders (MacGregor, 1990; Barnes & Todd, 1995).

Reading-Writing Connections

While this investigation focused on the domain of written expression, connections between writing and reading occurred naturally throughout the study. Although the students read from their own and

others' written texts most often during the prewriting and revision stages, they brought reading into their writing work throughout the year. The students enjoyed talking and working with one another, creating a logical unity of the language arts (Cazden, 1992). Students in this study quite naturally shared their writing and sought guidance from other printed sources. I tried to encourage this connection, regularly referring to written resources that would assist the students in their writing work (e.g., brainstorm, organization think-sheets, research materials).

All four students expressed enmity toward reading in the fall interviews. As time wore on, however, Andy, Mike, and Cindy came to welcome our regular free reading periods. Although these sessions eventually lost some of their allure for Mike and Andy, the boys' enthusiasm for the reading periods returned once they started working on their research paper. Coincidence? Perhaps not, especially in light of the sometimes giddy enthusiasm with which they went about their research on the computer.

The connection between reading and writing paid dramatic dividends during the preparation of the research paper. The struggles that characterized the prewriting stage of the first paper, particularly for Mike and Andy, failed to emerge during the research paper phase of the investigation. Students agreed that the abundance of research they had assembled mediated their difficulty with idea generation and allowed them to apply their energies to complex organizational tasks.

Summary

Daiute (1986) urged more research on collaborative writing in order to gain a better understanding of the complexities of collaboration and its potential as an effective writing intervention. Dale (1994) extended this call by urging further research in coauthoring interventions at the secondary level. Very few investigations have

examined the effects of collaborative dialogue among students with special needs. This study has demonstrated the value of collaboration in mediating the difficulties of adolescents with learning disabilities in a particularly challenging cognitive domain - written expression.

An examination of the students' papers indicates that their writing skills developed impressively during the course of the school year. Inextricably connected with this writing progress were changes in their ideas about writing and the increased confidence with which they came to approach writing tasks. It is my contention that much of this development and confidence was born of their opportunities to try out ideas with their peers and to have their efforts validated in a public arena. Since writing, like other communication forms, is by nature a public act, it follows that the creation of written text is most effectively accomplished in the public domain.

This investigation reminds us that we should not underestimate our students. By focusing so much of our attention on skill deficits, we as special educators run the risk of overlooking significant strengths that students can bring to bear on challenging academic tasks. Rather than assuming that we as educators hold all the keys to our students' future success, we must assist students in developing habits of independence that will serve them well in the world that awaits them after graduation.

CHAPTER 8

IMPLICATIONS

I have no doubt whatever that most people live...in a very restricted circle of their potential being. They make use of a very small portion of their possible consciousness...much like a person who, out of the whole body organism, should get into the habit of using and moving only the little finger. We all have reservoirs of life to draw upon of which we do not dream.

*- William James
(in Lazear, 1991, p. iii)*

The current study sought to examine collaborative dialogue as a vehicle for fostering writing development among adolescents with learning disabilities. Analysis centered on student conversations about writing that served as a window to changes in their thinking as their writing skills developed. The study also examined the role of the teacher in modeling, scaffolding and facilitating collaborative problem-solving. The findings of this investigation are of interest to classroom teachers who work with students experiencing writing difficulties, researchers in the fields of special education and writing, and teacher educators.

Teachers

The implications of this study for teachers fall within two domains: that related to Cognitive Strategy Instruction in Writing (CSIW) and that related to collaborative classroom structures. While these domains might be examined separately, they were inextricably interwoven throughout this investigation.

Cognitive Strategy Instruction in Writing (CSIW)

Cognitive Strategy Instruction in Writing has been shown in this and in other studies to facilitate dramatic writing improvement among both elementary and secondary students with learning disabilities. Its emphasis on providing structure to each step in the writing process

offers an anchor to students who experience extreme difficulty generating and organizing ideas and composing and revising written text. Students learn to appreciate the logical structure of written prose and to apply this structure to their own writing. Applicable more broadly to any group of students in need of such understanding, CSIW offers teachers in a variety of classroom settings a valuable tool for teaching expository writing.

Through CSIW students enter into writing apprenticeships in which the teacher models the thinking of a skilled writer and the use of specific writing strategies. Ongoing teacher-student and student-student dialogues facilitate the scaffolding of students' writing development. As such, CSIW offers a valuable instructional model for teachers who wish to help students develop their writing skills, while at the same time nurturing independent thinking and collaborative decision-making.

Collaborative Classroom Structures

The teacher's role in supporting collaboration among students with learning disabilities is a complex one. The teacher must juggle the inclination to help with the desire to turn over as much responsibility as possible to the students. Facing seemingly endless demands for remediation of student difficulties, the special education teacher might be tempted to infer that collaboration would be too risky and too time-consuming for special education settings. The value of collaborative structures, however, lies in their potential to both capitalize on natural student urges to communicate and broaden the base of support available to students.

As the findings of this study suggest, collaborative writing provides opportunities for students to "try out" their ideas on others, as well as to experience the support of peers as they develop their writing skills. The extra time spent employing collaborative structures pays off in enhanced student understanding of important learning

processes such as written expression.

Researchers

Collaborative dialogue among students with learning disabilities is an under-researched area. Much remains to be learned about the ways in which students collaboratively generate knowledge. With collaboration becoming increasingly important in the employment world, students with LD must learn to both share and receive ideas with a sense of purpose and grace. Equally important, through collaboration students gain enhanced understanding of their own thinking and a greater appreciation of their potential to generate meaningful knowledge.

The current study might be extended in a number of ways. More work could be done focusing on specific skills and capacities that are enhanced during collaborative work. Findings from such research would have important implications for classroom management and instructional design. Also, the role of the teacher in fostering meaningful collaboration might be explored further. Teachers would benefit from additional insights into effective ways of introducing and modeling collaborative problem-solving within special education and, for that matter, regular education settings. "Guideposts" for identifying successful and unsuccessful interactions at various stages of the collaborative enterprise would be especially helpful.

The findings of the current study are applicable only within similar contexts. This study featured a single teacher-researcher working with four students with learning disabilities in a pull-out resource room setting. Future research could involve teachers in multiple sites working with larger, more heterogeneous groups of students. In light of the current emphasis on serving students with mild disabilities in regular classrooms, a particularly useful investigation would involve whole-class implementation of collaborative writing that involves students both with and without learning

disabilities. Moreover, there is no reason to believe that findings similar to those outlined here would not accrue among general education students in regular classrooms.

Teacher Education

Teacher educators should make their students aware of the powerful potential of collaborative problem-solving among students of various ages and abilities. In light of research demonstrating that in many cases children learn more efficiently outside school than in school, apprentice teachers should become aware of collaborative teaching models that capitalize on children's natural inclination to talk and to work together. Teacher educators would be well advised to not only present these collaborative models to apprentice teachers, but also to utilize them in their own teacher education classes. Doing so would engender in preservice teachers a better appreciation of the reaction such structures foster among students and would provide them with an experience base upon which to discuss and implement collaborative teaching models.

APPENDICES

APPENDIX A

PLAN (BRAINSTORMING) THINK-SHEET

- Typed (verbatim) by the dissertation author for print clarity -

PLAN THINK-SHEET

Name Andy Date 12-13-95

TOPIC: Bullriding

WHO: Who am I writing for?

Beginner

WHY: Why am I writing this?

I want them to now how to ride bulls

WHAT: What do I know about the topic? (Brainstorm?)

•Rosen

•Bullrope

•Bullriding glove

••Bulls

•Spura

Warm up

•bell

•boots

a strong Left or right arm

•partener to pull you rope

•bucking shot

✓react

-You also need to be physically fit

••To mak you rope - glove stiky

••In a bag

••sand

•buy it

(Continue on another sheet, if necessary.)

APPENDIX B

ORGANIZATION THINK-SHEET

- Typed (verbatim) by dissertation author for print clarity -

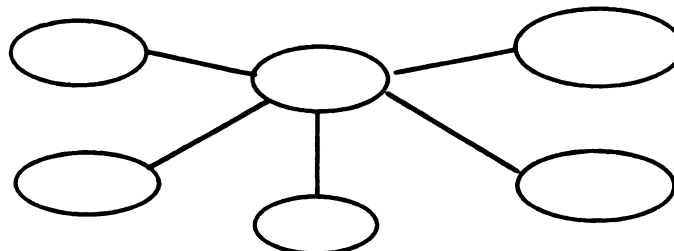
ORGANIZING MY IDEAS

Topic:

Australian Animals

Koala	get water form leaves one young a year young wights less hafe killigarn Feed at night and sleeps in the day skillful climber sharp claw, walk on trees, hooked on euqliptis good Diet from leave short tail stay in pouch for seven month eats. usually will be in trees. they are vegetarians	Kangaroo	use tail to push off when jump they hop and carry young in they are vegetarean they are a varity of
		Planrgale	it is the smallest out of all mar- supials hunts during night weights only 4 or 5 grams looks like minuater kangaroo has long nose and rounded ears lives in grassy areas
Potoroo	it is a minature kangaroo color light brown has distinct dark stripes its ears are short and round It has five toes it is about 70 to 75 cm long it sleeps in a nest at night at night hunts for food it is only found in restricted area in Eastern Victoria	Platypus	has a paddle like a tail and bill like a duck has webbed feet and tail like a beaver has duble coat of fur lives allong river banks in burrows a female usually lays two eggs a male is approxemently 50 cm long and weights 2 kg a female is aproxemently 45 cm long and weights 700 gm
tasmainin devil	eats small pray eats all of its pray has powerful jaws hunts and feeds at night its apperanc is largely a sham it is not very fearce has a fierce appearance it is black size of a small dog		

Format of Blank Organization Think-Sheet:
ORGANIZING MY IDEAS



APPENDIX C

EDIT THINK-SHEET

- Typed (verbatim) by dissertation author for print clarity -

EDIT

Name Mike

Date 3-13-96

Read To Check Your Information. Reread my paper.

What do I like best? (Put a * by the parts I like best)

What parts are not clear? (Put a ? by unclear parts)

Question Yourself to Check Organization. Did I

Tell what was being explained?	<u>Yes</u> sort of No
Use 2-3 categories?	<u>Yes</u> sort of No
Name each category clearly?	<u>Yes</u> sort of No
Give details to explain each category?	<u>Yes</u> sort of No
Use key words (first, second)	Yes <u>sort of</u> No
Make it interesting?	<u>Yes</u> sort of No

Plan Revision. (look back)

What parts do I want to change?

1. I dont really have some key words
2. I have to chang some words with others so it sounds ok
I didnt spell some words right

Write two or more questions for my editor.

1. Do I neet key words.
2. Can you help me with switchning some words and help me
spell some of them right.

APPENDIX D

EDITOR THINK-SHEET

- Typed (verbatim) by dissertation author for print clarity -

EDITOR

Author's Name Mike

Editor's Name Kris

Date 3-21-96

Read To Check Information. Reread the paper.

What's the paper about?

Learning and hearing somethings about roping.

What do you like best? (Put a * by the parts you like best.)

What parts are not clear? (Put a ? by unclear parts.)

Question Yourself to Check Organization. Did the author

Tell what was being explained? Yes sort of No

Use 2-3 categories? Yes sort of No

Name each category clearly? Yes sort of No

Give details to explain each category? Yes sort of No

Use key words (first, second) Yes sort of No

Make it interesting? Yes sort of No

Plan Revision.

What two parts would you change?

1. Explaining more (vocab word)

2. more detail on the event.

One thing that would make it more interesting is explain about

the stuff you get. (compation)

APPENDIX E

REVISE THINK SHEET

- Typed (verbatim) by dissertation author for print clarity -

REVISE

Name Cindy Date 3-28-96

1. What suggestions did your editor give?

- a. move things ✓
- b. change things ✓
- c. change all
- d. call them by name
- e. name more types of toys✓

Put a check next to the suggestions you will use.

2. How will you make your paper more interesting?

Add more to some

Paragraphs

move some around

3. Go back to your first paper and make your revisions.

Revision Symbols

Type	Symbol	Example
Add Words	^	little The ^ girl is my sister.
Take Words Out	—	The woman <u>has</u> tried to give
Change Order		He had <u>go</u> to home
Add Ideas Here		The <u>✓dog is friendly.</u> Tell which dog/

APPENDIX F

COGNITIVE STRATEGY INSTRUCTION IN WRITING (CSIW) SCORING CRITERIA

Expert Text Structure

Definition of an expert paper:

An expert paper informs the reader on a topic about which the author knows a lot. Detailed information is presented to the reader in several logically organized categories which may have steps within them similar to an explanation paper. The writer clearly (explicitly) introduces the topic to the reader. A variety of key words are used to signal the reader of changes of categories.

HOLISTIC

This an overall rating based on the criteria for an expert paper that teachers were to discuss with their classes.

3 Introduction... 2-3 categories or steps... categories or steps labeled... keywords... logically organized... no irrelevant information... interesting

2 Obviously an expert paper but missing one of the above criteria... could become a 3 with one revision... a good explanation but without categories

1 Not obviously an expert paper... needs a lot of work (i.e. disorganized with irrelevant information, weak undefined categories)... sense of author being an expert... clear topic

0 Not an expert paper

TYPE OF EXPERT PAPER

(Note: Theses ratings are not qualitative but just serve to identify the type of paper written.)

3 Expert (Paper mainly is divided into categories which are explicitly or implicitly stated.)

2 Explanation (Paper follows a "how to" structure)

1 Compare/Contrast

0 Does not attempt to tell about something the author knows about... narrative or associative

INTRODUCTION

3 Clear introduction of the topic in a well defined sentence

2 Implicit statement in introduction, but doesn't actually introduce the topic

1 A suggestion of the topic, implied topic, in title... implicit topic but lacks introduction to paper

0 Can't tell what the topic is supposed to be

DEFINITION AND DEVELOPMENT OF CATEGORIES/STEPS**A-1 LABELING OF CATEGORIES**

This looks for evidence of grouping. It considers quantity of labeling of categories.

- 3 Explicit statement defining each category... uses 2-3 categories.... all categories/steps labeled
- 2 Explicit statement defining at least one category but has more categories implicit... or all categories are clear even if implicit
- 1 Categories not clearly defined, vague, no explicit labels...one category and the rest vague
- 0 No categories evident

A-2 DEVELOPMENT WITHIN CATEGORIES/STEPS

This considers the depth within categories/steps.

- 3 Fully developed... details appropriate... lack of extraneous information... sufficient information for categories chosen
- 2 Most categories/steps are developed but not sufficient details in all of them... some extraneous information.
- 1 Some category development... great deal of extraneous information... lack of sufficient details
- 0 Rambling... no categories/steps... details do not relate to categories/steps

A-3 DEVELOPMENT ACROSS/BETWEEN CATEGORIES

This considers the breadth of the categories chosen.

- 3 Categories necessary to explain the topic; clear, detailed and easy to follow with no obvious gaps between
- 2 Some categories left out that can be easily inferred, but doesn't interfere with cohesion
- 1 General or vague categories... attempts to explain but too much is left out, needs major revision... some flow, some cohesion
- 0 No categories... steps are insufficient... sketchy, extremely vague

KEY WORDS

- 3 Effective use of key words and phrases to signal sequence of events or change of categories (First, second, ... then, next, while, when, if/then)... paragraphing to signal transition
- 2 Uses some key words and phrases, but could use additional ones to enhance clarity.. or.. redundancy
- 1 Limited use of key words and phrases, or inappropriate
- 0 No key words... or... incorrect use

ORGANIZATION

This looks to see if all of the parts are there. It assesses the presence of basic text structure and a logical flow.

3 Logical flow... uses basic text structure... has introduction, 2-3 categories which are defined and developed (does not necessarily need a closing and can have some irrelevant information if the basic structure is present

2 Could be a 3 with one revision giving attention to text structure (may be missing introduction, may not have all categories defined but have the other elements)... still flows logically

1 Lacks introduction and has only one clear category or only steps... has introduction but no clear categories/steps... categories/steps not clear but can be inferred

0 Lacks basic text structure for expert paper... consists primarily of irrelevant information

Explanation Scoring Criteria

HOLISTIC

3 (CLARITY, KEY WORDS, INTRODUCTION, STEPS, BALANCE, INTERESTING AND INFORMATIVE) Clear explanation, including a good introduction and enough information for reader to execute the topic described

2 A good explanation overall; has introduction and steps, but did not effectively use key words and phrases --- or --- left out steps --- or --- listed groups rather than steps

1 Less than effective explanation with a clear topic, but not sufficient steps, --- or --- not a clear topic with a sequence of steps, --- or --- vague, low informational quality

0 Not an explanation, but a chaining of events, of a narrative

INTRODUCTION

3 Clear introduction of the topic in a well defined sentence

2 Implicit statement in the first sentence, but doesn't actually introduce the topic

1 A suggestion of the topic, implied topic, in title

0 Can't tell what the topic is supposed to be

STEPS/GROUPS

3 Steps/groups necessary to explain the topic; clear, detailed, and easy to follow with no obvious gaps

2 Some steps/groups left out that can be easily inferred, but doesn't interfere with comprehension

1 General or vague steps/groups, attempts to explain but too much is left out, needs major revision

0 No steps/groups --- or --- steps are insufficient

KEY WORDS

3 Effective use of key words and phrases to signal sequence of events in the explanation (First, second, ...then, next, while, when)

2 Uses some key words and phrases, but could use additional ones to enhance clarity --- or --- redundancy

1 Limited use of key words and phrases, or inappropriate

0 No key words --- or --- incorrect use

ORGANIZATION

3 Introduction, sensible sequence of steps, sense of closure (order of events is logical, cohesive paper)

2 Introduction, sequence of steps but may have some events out of sequence, may lack closure --- or --- needs editing such as deletions or extraneous detail

1 Events not in a discernible order, or too sporadically listed; needs major revision

0 Not organized; associative

Reader Sensitivity Scale

INTRODUCTION

This scale measures the way the writer introduces the topic to the reader. We are interested in the writer's awareness of the importance of communicating with, and catching the reader's attention.

3 Introduction grabs reader's attention... high quality, meaningful, clever

Ex: May tell you why you would want to do something
 Successfully uses dialogue or questions to grab reader's attention
 Interesting and clever introductions
 "Do you guys out there want to learn how to fish? Well, let's make it fun or it's no use. Let's go to a lake. Here we go!

2 Clear attempt to grab reader's attention but not necessarily consistent with topic; not necessarily clever or original... may ask a question to draw reader in

1 Not particularly interesting, but has an introduction; may ask a question

Ex: "Hello, I'm going to tell you what I had to explain to my sister. What I told her is how to clean her room.

0 No introduction to reader

Ex: How to take care of a snake. First, you need a snake.

PURPOSE SETTING

Writer states the purpose for writing the paper and for the reader to read it.

3 Explicit stated purpose with words like "because," "the reason is..." May use one of the following reasons, e.g., to persuade the reader to do/decide something, tell the reader about a thing she/he may not know about, or help the reader make a decision. Establishes context and rationale for the paper.

Ex: "Ding ding! Hello. Oh, Kristen. You want directions to my house from yours? Ok!

2 Implicit purpose... writer may have a purpose but not relate it to readers' needs.

Ex: "I can climb a tree better than any of my friends. Sometimes they think I am crazy because I can go so high. I am very good at it so I can teach you how.

1 Purpose stated and author is clearly communicating with reader, but not clear why author is writing the paper, nor does she/he relate it to readers' needs.

Ex: "Dear Jamie, I know I'm at home, but I thought it would be more businesslike to write you a letter telling you how to add.

"Hey, guess what? I'm going to tell you how to get to my house from Post Oak.

"Hi! I am going to tell you how to make macaroni and cheese."

0 No purpose evident, e.g., "First you need to put the kickstand up."

AUDIENCE AWARENESS

This scale measures how the writer is able to communicate that she/he is aware of an audience, what the audience knows and doesn't know; what the audience would be interested in. Thus, knowledge and interest are important aspects of this scale.

3 Clear indication of attention to audience... including who the audience is... throughout the paper... thoroughness of information for this audience... exciting and clever attempts to engage audience throughout the paper... Addresses reader at beginning and at end.

Ex: "Dear Jamie... I thought I'd write a paper telling you how to add. I'll start with a a... Oh, no! I forgot! You can't read!... Another thing that would help is... You're practically an expert! Goodbye!"

2 Clear indication of attention to audience... BUT only at the beginning or end, not throughout the paper. Not necessarily attentive to audience's needs for information (even if audience is addressed throughout the paper; lacks audience appeal, interest or engagement of reader throughout the paper; fails in some minor way to complete communicative cycle with reader

Ex: Hello, all you people out there. I'm here to tell you how to put together a puzzle. It's easy! First, get a puzzle. Next, open it and sort the pieces... The way you do it is... Then put the rest in the bottom. Now you dump out the top, put those together, they will form the border. Now dump out the bottom and put them together. Ta-da.

1 Not clear who audience is... some sense that writer thinks there is one, but indefinite, e.g. references to audience, i.e., recurring use of 'you,' but no real interaction with audience.

0 No real communication with audience... e.g. rigidly adheres to text structure

AUTHOR'S VOICE

Reader is aware of the author's personality through dialogue, humor, opinions, judgments expressed in the paper. This is not a measure of how much knowledge the writer has.

3 Author's personality is evident through dialogue, humor, references to self, opinion, attitudes or judgments

Ex: Dear Jamie letter (see above)... Begins letter, "Dear Jamie... I'll start with a ... oh, no! I forgot! You can't read! Get Mom to read this for you... Now I'll start... Do it on your fingers... Oh! Another thing that would help is when you count each finger, put it down. Now count the two other fingers --- six, seven! Grrr...eat! Now try four plus five. If you can do the one i just did, you're practically an expert. Goodbye!!!!

2 Limited use of dialogue, humor, references to self, opinions, attitudes, judgments... not used throughout the paper

1 Marginal use (1 instance) of at least one of the above... quantitative measure... Can barely get an inkling of author's personality, but not much more.

0 No sense of author's personality

APPENDIX G

INTERVIEW PROTOCOLS

INTERVIEW QUESTIONS

Week of 9/18/95

What do you think of when you think of "writing"?

What kind of writing do you do in and outside school?

What do you like or dislike about writing? Why?

How do you approach a writing task? (thinking, preparing yourself, organizing, getting it done, etc.)

How do you feel you did on the writing pretests?

What strengths and weaknesses do you think you have in writing?

What do you think it takes to be a good writer?

APPENDIX G

INTERVIEW QUESTIONS

Week of 2/26/96

All:

Do you feel you're understanding CSIW so far? Why, why not?

Think about what you've learned and what has been helpful or not helpful. Please comment on:

- the strategy itself
- my approach to teaching the strategy
- the role of peer collaboration
- the results so far.

In what way(s) do you offer and receive peer help?

Has your thinking about writing been changing at all? Why, why not? In what way(s)?

 :

Do you realize you do quite a bit of thinking aloud? Does this seem to help you? How? Did you do this before?

When you ask questions, are you thinking aloud, or are you asking the questions?

Have you used CSIW ideas in any of your writing in English class?

Do you feel like supports your thinking? Does she offer (enough) helpful suggestions?

 :

Do you feel that supports your thinking? Does she offer (enough) helpful suggestions?

Do you feel like you have plenty of chances to share ideas with ?

Does ask for your help? Do you ask for hers?

Do you feel like you listen to each other?

 :

What caused you to think of the "tour of hell" image last

APPENDIX G

Friday?

What caused you to think about your paper at the wedding (funeral?) last weekend? Is this surprising to you?

What causes you to get off track so often? (P: boredom, confusion?)

Is it better to have a knowledgeable partner, or not? Why, or why not?

Is it hard to write for someone who is unfamiliar with your topic? Why, or why not?

____:

You sometimes seem argumentative or resistant/stubborn. Why?

You two often seem to get off track. Why? (P: boredom? confusion?)

Is it better to have a knowledgeable partner, or not? Why, or why not?

Is it hard to write for someone who is unfamiliar with your topic? Why, or why not?

APPENDIX G

STUDENT GROUP INTERVIEW QUESTIONS

Week of April 1, 1996

•Look at pretest papers, latest paper. Compare, comment.

•How do you feel about collaborative writing vs. individual writing?

P: Advantages, disadvantages of each?

•Do you think your writing is better, worse, or about the same when you collaborate with a partner rather than working alone? Please explain.

•Has collaboration helped you develop your writing skills in any way?

•What have you learned from your partner or other students?

•What roles have you taken on during your collaborations?

P: What kinds of things have you done to give or seek help?

•What do you find most helpful in a collaborator?

P: What can a student do to make the best use of the conversations?

•What aspects of your writing do you discuss during collaborations?

•What factors make collaboration work better or worse?

P: Consider seating, personalities, teacher role, etc.

APPENDIX H

DATA ANALYSIS CODES Definitions and examples

Student Codes

CODE	DEFINITION	EXAMPLE
QC	Question about computer	"How do you move a whole sentence to make a new paragraph?"
ADC	Admit computer difficulty	"So, what do I do, pop mine?"
OH-I	Offer help with an idea	"What could I call my topic?" * "Sights?"
ADI-S/O	Admit difficulty with own/other's idea	"I don't know why I have 'hills' written."
SE-S/T	Seek eval. from stdnt./tchr.	"How does this sound?"
INT-S/O	Show interest in own/other's writing	"This is longer than before!"
INT-TH	Show interest by thanking	"Huh, that's a good idea!"
INT-G	Show interest in group's work	"There. We're done. Woo, hoo!"
EWP-S/O	Positive eval. of own/other's word	"I like the word 'progress.' I thought that sounded good."
CT	Complete thought of a peer	"...but it seemed" * "Like they were real?"
QI-S/O	Question own or other's idea	"Is that all your descriptive things?"
PB	Pat on the back	"Good job, Mike."
EQ	Equity (re. writing only)	"O.K., we're gonna put..."
SUP-P	Personal support	"There you go."
EL-S/O	Elaborate on own/other's idea	"Look at your groups here." * "Then you put which group will go first." "I forgot!"
ADM	Admit memory difficulty	"O.K."
AGR	Agree (with peer)	"You get a good diet from 'em?"
SCL	Seek clarification	"(Swoons) Ohhhhhh!"
HI	Humor initiated	"Scientists don't."
OCL	Offer clarification	* "Some of 'em don't."
OWN	Take/give idea ownership	"You highlighted it."
QW	Question about wording (vocabulary)	"I could put, maybe, 'wonderful' or something?"
SI	Seek idea from a peer	"I need help."
RR	Refer to reading material	"Just a minute. I'm gonna get that sheet."
CON	Confirm receipt of message	"Oh."
READ	Reads own work	"'The first thing you need is...'"
TA	Thinking aloud	"O.K., now they're gonna ask..."
OH-C	Offer help with computer	"Hold on and click which one you want."
PC	Personal comment	"Guess how many days 'til my birthday."

OH-P	Offer procedural help	"You gotta find a descriptive word, O.K.?"
IN-C	In-context interruption	(During modeling of concession stand paper ideas) "We should do it more often."
IN-O	Out-of-context interruption	"How much can you bench press?"
INT-P	Show interest in the research project	"Is my mom and dad goin' (to parent meeting)?"
SP	Comment/question re. spelling	"How do you spell 'heeler?'"
I	Initiate idea (writing topic change)	"Some of this stuff I don't want to do what they said."
U	Uptake (extension of writing-related initiated idea)	"Describe what a longhorn looks like." * "A steer."
SUP-W	Writing support (not after a question)	"Do you need help with anything right now?"
REP	Repeat an idea	"'Calm?'" * "'Calm.' Yes, it was!"
DIS	Disagree (with peer)	"No, I don't wanna say that yet."
HU	Humor uptake	"Rodeo. Ro-day-o." * "Ro-day-o. Ro-day-o Drive."
ST	Comment/question indicating structural awareness	"We could start a new paragraph."
CW	Comment about wording (vocabulary)	"What kind of words should I use for that?"
ADST	Admit structural difficulty	"So, I put, like, 'boat museum.' Now what?"
PCR	Personal criticism	"Ooo, you're a rebel."
QP	Question about procedure	"Could I switch if I did some colors wrong?"

Teacher Codes

APC	Acknowledge personal comment	"You did, huh?"
DT-R	Direct thinking to a resource	"Now, you have your organization sheets."
SCL	Seek clarification	"How do you work with your partner?"
COT	Checking on things	"O.K., how we doing here?"
CU	Check for understanding	"Do you know what you're doin' here?"
HI	Humor initiated	"I'll take this nasty, uncomfortable chair."
SUP-P	Personal support	"You should come out (for track)."
SC-Q	Scaffolding question	"Is that too much for one paragraph?"
EL	Elaboration	"No, because your sister's coming in..." * "They won't be able to make it (to the meeting)."
MGT-T	Time management comment/question	"O.K. You're going to work on your brainstorm? O.K."

DT-ST	Direct thinking to structure	"Now, you guys have a lot of material here about koalas."
RS	Respond to student need/question	"So, then, mark 'Fisherman's Wharf' down?" * "Mmm, hmm."
ANT-P	Anticipate procedural problem/question	"There's another step we haven't gotten to yet."
OWN	Give ownership of idea	"I would probably write it like Andy said..."
OH-P	Offer procedural help	"Set that out where you can look at it."
OCL	Offer clarification	"I would probably write it like Andy said because they're not gonna know who Ms. Jackson is."
PB	Pat on the back	"That's a good suggestion."
SUP-W	Writing support	"Cowboy shish-kabob! Sounds like a good image."
SC-C	Scaffolding comment	"You have a lot of ideas here."
R	Review	"O.K., just to kinda review..."
EQ	Equity	"We weren't doin' it in any particular order."
MGT-B	Management of behavior	"O.K., I want you to move over to that computer."
WT	Urge to work together	"Check with your partner."
DA	Directing attention	"O.K., you need your disk."
M	Modeling	"That's probably a blue dot."
FR	Framing lesson/discussion	"The first step we'll do today."
TA	Thinking aloud	"'Boys and girls participate'...blue dot."
CON	Confirm receipt of message	"Oh, is it?"
ANT-W	Anticipate writing problem/issue	"I may decide to move these ideas later."
INS	Instruction	"No, that's a noun because..."

APPENDIX I

REFLECTIONS

This study was at once one of the most difficult and most rewarding things I've ever undertaken. The pressures and uncertainties placed tremendous strain on me, on my family and sometimes even on the students. There were times when I seriously wondered whether there would be any findings at all and, if there were, whether I would be able to discover them. And yet I've never before learned so much about teaching and learning in such a short (did I say *short?!?*) period of time. I learned that after 20 years in the classroom, I was a pretty good teacher; but I also discovered that I had stepped into some black holes along the way. I learned immeasurable lessons about how students learn and about their potential for taking charge of their own learning. Finally, my trial by fire taught me more than I thought I'd ever know about educational research.

Figuring Out What to Look For and Knowing When You've Seen It

I found that if I were going to learn anything of substance about student dialogue, I needed to make myself scarce as much as possible and let the students collaborate in their own way. This took some adjustment both for me and for the students; the students were accustomed to calling on the teacher for help rather than calling on their peers, and I felt pretty sure that helping the students was the major part of my job. I sometimes felt torn between helping students who were struggling with some aspect of their writing work and studying their struggle by letting them attempt to resolve the difficulty or seek help from a peer. Eventually I came to realize, however, that this uncertainty over where and when to intervene is part and parcel to teaching within students' zones of proximal development. By seeking

their zones, I could learn more about how they were learning and could help them participate more fully in that learning. Despite, or perhaps because of, these uncertainties, the whole approach seemed to lead to increased student independence.

Because student dialogue was such an "unknown" for me, it wasn't easy to know what to expect or how to decide what was important. The frantic pace of the school day causes comments and events to blend together into an amorphous mass. Sorting through it all became both the most frustrating and the most interesting aspects of the study. Collecting the data seemed terribly difficult, but it was a picnic compared to figuring out how to analyze it and write about it. When it came time to "put up or shut up," I was extremely grateful that I had taken careful fieldnotes. The three extended memos that I wrote to my dissertation committee proved to be invaluable during both data analysis and report writing.

Transcription: The Good, The Bad, and The Ugly

A schoolyear's worth of audiotapes and the accompanying transcripts quickly created (my apologies to Dickens) the best of times and the worst of times. Transcribing the tapes became a full-time job, added to my other full-time jobs of teacher, husband, and father. It seemed like I spent literally every spare minute (as indeed I did) transcribing tapes; yet the pile of tapes in my desk continued to grow. I had trouble deciding what to record, so I recorded everything. I had trouble deciding what to transcribe verbatim, so I transcribed almost everything verbatim.

It was only through listening to and transcribing the tapes, however, that the picture of what was happening in my classroom started to emerge. I was constantly amazed at how revealing those audiotapes were. How could all these things have been happening in my classroom, right under my nose, without my realizing it? I often thought how

wonderful it would be if every teacher could have selected class sessions recorded and transcribed. Sharing tapes and transcripts with the students proved to be invaluable; I wished we had had the time to do it more often.

Other Challenges

It came as no surprise that adding a research study to an already demanding full-time teaching regimen was no easy task. At times I would fixate on the multiple responsibilities of a special education teacher, almost to the point of becoming immobilized. A secondary resource room teacher juggles a complex array of variables and must be ready to re-prioritize at a moment's notice if, for example, a student gets stuck on an assignment for another class or announces that he/she would like some help reviewing for a test coming up the next class period.

I was responsible for direct math and English instruction and for tutoring students at six grade levels. Each of my students was taking six or seven courses, involving virtually every member of the faculty. And, of course, there were always staffings to be scheduled and IEP's to be written. My fieldnotes were littered with references to meetings before school to discuss the burgeoning number of at-risk students in the junior high. Suffice it to say, it was very difficult to find the time and energy to conduct systematic research within this complex, demanding environment.

Over Thanksgiving weekend my wife was talking at a craft fair to a woman from whom we had ordered a Christmas tree skirt. This woman volunteered that she had taught special education for many years but had left the field in order to go into coronary care nursing. She told my wife that she couldn't believe how much less stressful coronary care nursing was than teaching special education. *Coronary care nursing!* Somehow I wasn't surprised.

Additional frustration came in the form of delays that plagued the

study from the outset. My UCRIHS proposal was approved in September, but it took nearly a month to get all the consent forms turned in. Once winter weather set in, we experienced periodic school closings, and one of the study participants became chronically absent. I started developing grave concerns about both the continuity of instruction and the likelihood of even completing the study by the end of the school year. By March 8 the study was so far behind that I decided to divert from my original plan of working on writing for part or all of two to three class periods per week. We found it necessary for the rest of the school year to frequently spend the better part of an entire week on writing in order to keep the study moving and to have a fighting chance of completing the research paper before the end of the year (which we were barely able to do).

One night when my frustrations and obligations seemed to be particularly overwhelming, I decided I needed to set everything aside for awhile and catch up on some journal reading that had been piling up. I read an article chronicling the journals of a student teacher. He portrayed in great detail the crustiness that overtakes many experienced teachers (and that I sometimes found myself fighting off). But he also emphasized what should be the focus of all we do in schools - the students - in a way that rekindled my enthusiasm and energy. The article reminded me that my research study represented not an obligation, but an opportunity that I was fortunate to have.

I don't know how I would have survived this schizophrenically daunting yet stimulating experience if it weren't for my family. My wife picked up the slack without complaining (usually), performing many of the parental duties we had formerly shared while I sat down in the family room with my new family - a tape recorder, headset, and computer. My daughters got used to knowing their dad was in the house physically but perhaps not mentally.

Teacher Notes: Learning from Dialogue

During the course of the study I became especially interested in the way an atmosphere of classroom dialogue rubs off not only on the students but also on the teacher. I was frequently reminded how much a teacher can learn about teaching and learning by talking to the students.

A good example occurred after the students had completed the body of their first paper and it was time to talk about writing the introduction. The session in which I introduced the writing of an effective introduction did not go well. Mike and Andy were especially distractible throughout my presentation, which centered on a worksheet on writing introductions. When we got to the computers, although Cindy immediately started composing an introduction, I quickly became exasperated with the boys. Mike persisted in interrupting me and insisting that he either already had an introduction or didn't need one. Andy just wanted to play with his computer and paid little attention to what I was saying.

As time ran out in the class period, I walked away from the boys in frustration. I soon returned to explain that playing and arguing were counterproductive behaviors in learning. I explained (as I had done before) that I never said all this would be easy and that writing was hard work. I asked Mike if he had ever worked on introductions before. At first he said no. Then he said that he had worked on it before, but no one had helped them and they were left on their own. It appeared that I had badly misjudged the students' prior knowledge about writing introductions; my presentation had created at least as much difficulty as the boys' distractibility.

I decided that introductions were important enough to take another stab at. Two days later, I reframed my presentation by sharing two papers written by former students; I also asked the students to bring in their health and social studies textbooks so we could see how the

authors employed introductions at the beginnings of chapters. Surmising that the original worksheet probably had been too abstract, I replaced it with a typed handout summarizing the techniques it presented.

Things went much better the second time around. The boys said they got a better understanding of the introduction, and Kris (who had not been present for the earlier presentation) seemed to follow along well. The students were able to pick which techniques from the handout had been used in all the introductions we examined. Our discussion helped Andy and Kris get ideas for their introductions. Cindy already had written her introduction, so she helped Kris with hers. Mike got right to work on his introduction as well.

In mid-October, I held a private conference with Mike and Andy to discuss their inattentiveness. They expressed their dislike for writing and suggested that we "just skip it." They told me that they had been paying attention at first, but after awhile my explanation got dragged out and became boring. I told them that in the future I would try to avoid beating things to death.

From then on, whenever I would see one of the students fading away, I would try to make light of it by publicly chastising myself for "beating a dead horse" again. They thought this was pretty funny, but I wanted them to realize that I was trying to be sensitive to their attention span while at the same time ensuring that the lesson progressed adequately. This seemed to work fairly well, and once we got into the actual writing (and got to the computers), the variety of activity was more to their liking. Andy and Mike had taught me that I couldn't elaborate (i.e., "beat a dead horse") like I was used to doing with older students for fear of losing their attention.

Student Notes: Some Answers and More Questions

Despite occasional setbacks, the students participated enthusiastically in the research project. They particularly seemed to

look forward to getting started on the actual writing of their first paper. By February 5 they were asking if they would be starting that week, and there was discussion about who would get what computer. I wondered to what extent the students would recognize the value of the copious "preliminaries" (i.e., descriptive and narrative paragraphs, brainstorming, color-coding, organizing) on which we had worked in preparation for their first drafts. This question ultimately fell by the wayside, but I would like to resurrect it in a future investigation.

I was particularly interested in the value of enlisting student support during modeling. When I read the first draft of my model paper aloud, the students were very attentive and said that this helped them figure out what to do with their own papers. They seemed to be acutely aware of their own contributions to my brainstorm as I read the "final product." They were very complimentary about my paper; I wondered if in some small way they were sharing in the credit.

It was fascinating to watch the responses of both the students and professors to the e-mail exchanges that began in mid-April. Andy was among the first to e-mail his first paper to the professors. When he walked into the classroom on April 18, he went directly to the computer to see if there were any e-mail messages for him from Michigan State. When he found a reply waiting, I announced it and the other three students huddled around the computer to see.

Andy asked me to read the message aloud and smiled throughout the reading. I complimented him and asked what he thought about the professor's laudatory comments. Being a young man of few words, he said, "Cool." Kris and Mike immediately wanted to send their papers. I made a printout of Matt's message and gave it to him; he then printed another copy to bring home to his mother. The professors seemed to recognize a unique opportunity to take part in the investigation and to establish an ongoing correspondence with some real kids. The students, in turn, welcomed the chance to share their work with an audience of

true experts.

Once the e-mail messages started arriving regularly, all four students read them eagerly. Kris took one message with her and read it on the bus on the way to a track meet. Cindy said she wished she could send pictures on e-mail because one of the professors had never seen a newborn colt. Mike said he wished the committee could send pictures of themselves over the Internet, so I did my best to provide a brief biography of each of the professors; the following summer I took a photo of each committee member and showed them to the four students in the fall.

At the time I wondered if (1) keeping the committee in mind as a legitimate audience might affect the way in which the students gathered their research data and wrote their second papers and (2) whether the committee's participation would increase the students' sense of themselves as valid sources of knowledge and information. Unfortunately, the schedule at the end of the school year became so tight that we barely even *finished* the research papers; as a result, these questions remained unexplored. Grist for another study, perhaps.

The study answered some questions and raised others. Undertaking it reinforced for me the tremendous value of teachers systematically studying events in their own classrooms. The demands of such inquiries are considerable, but the rewards are immeasurable.

APPENDIX J

**FIRST PAPERS
MIKE**

**Learning and Hearing Some Things
About Roping**

By

Assistance

April 13, 1996

APPENDIX J

Did you ever wonder how many ropers there are in the United States? I think there is about several thousands of ropers. I think this is a popular sport and if you want to know some ways to get started read this; it might help.

The first thing you need is a partner . . . If you do not have a partner you can still rope but not professionally because when you rope you would not be able to catch the steer by yourself because you would not be able to catch the head and the back legs at almost the same time. A partner is important to you if you; do not have a partner you can't be a roper. If you are a header you have to find a partner who is a healer. A header catches the steer's head and a heeler catches the back legs of the steer. When you find a partner you and your partner need to practice every chance you get. And the second thing is a horse which you should already have if you're going to be a roper. After you get really good if you win you can win things like money and belt buckles. Those are the most common things you will win. You also need people to come to the rodeo to keep the rodeos in business.

The ground's have a lot of action going on. There is lots of noise from people and from the vehicles going in and out and with the trucks and trailers. It is also very dusty after rodeo starts with the bulls and the hores running around. And there are also clowns and a concession stand. And at the rodeo grounds there are long horns and horses . There are also bucking chutes. There are a lot of people and trailers and pickups going through.

When you go to the rodeo you will need lots of stuff for your horses and some things for you. You will need food and water and wood chips for your trailer. If you are showing your horse you will need nice clothes and cowboy boots. For your horse you will need bells for protection for the hoof. You also need a halter and bridle; you put those around the horse's head. You need a saddle and saddle blanket; those go on top of the horse to ride. If you are a roper you will need roping gloves to protect your hands from getting pinched from the rope and so the rope slides easier.

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Now if you want to start roping you should find a partner and you should go to roping class for practice and advice. If you're a city person or country person and you have no experience with roping or horses or nobody in your family has experience I would not recommend this to you. I would not recommend this to you because you won't know much about horses and how to work with the horse to get the steer.

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FIRST PAPERS
CINDY

THE FUNNY ANTICS OF OUR HORSES

by

with

April 13, 1996

APPENDIX J

This is a paper on my family's horses. Our horses are very important to us. They are special animals. We love them very much. This paper will tell you about them.

When Max was first born it took him two hours to stand on his own. My sister and dad had to help him stand up. Before he would try, but he fell down a lot. After that he wobbled a little.

Max is obnoxious. He comes up to you, and he will try to bite you. It is extremely painful! When he does that it is very annoying. When he does that it drives you nuts.

Max is getting some bad habits. He will lay his ears back and kick at you. That little stinker has already kicked me. That hurts really bad; especially when he kicks you in the upper leg.

Lady is fun to ride, because she is a good trail horse. She has good footing on very small cliff like ditches. She does not have any attachment to the other horses. You can take her away from them and she does not care.

Sometimes Lady, Starlight, Katie, Napoleon, and Max are all in a bad mood. When Starlight is in a bad mood she will kick at you. Nappy will lay his ears back. Max does the same thing. Lady will bite at you. So will Kate.

Sometimes they will fight. Other times they will break their stalls. That drives me nuts when they do that because I have to fix it. Sometimes we let them out and one of them rips shingles off the barn roof. Starlight destroyed her stall almost completely.

There are many types of horse toys. We got a stall ball for one of our horses. At first she was afraid of it, but now she plays with it. She kicks the ball around her stall. My horse used to beat up the ball until we took it away from her. You buy the toys for them to keep themselves occupied.

I really love horses. They are beautiful animals. Some people don't like them.

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You can do a lot with them. Like: show, race, trail ride, and a lot more. Some are very smart. When we put them outside they are usually full of energy. Some times they do goofy things. I remember the time when Lady was bobbing her head and knees up and down. It was so cute.

There are a lot of good qualities about them. For instance Lady loves it when I cuddle her. She has a good disposition. Lady is very patient and gentle. Katie is very patient and some times if you hug her she will hug you. Starlight is a sweet little girl. She loves to be itched. She will sometimes itch you. Nappy is a sweet and loving horse. He is quiet and gentle. He has a quiet disposition. Max loves attention. he loves it when you itch his neck.

I hope you liked hearing about our horses. I enjoyed telling you about them. These animals are very important to our future.

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FIRST PAPERS
KRIS

Some Sights in
ΧΑΛΙΦΟΡΝΙΑ

CALIFORNIA

By
With

April 13, 1996

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My trip to California was marvelous. Would you like to hear about it?

Our time in San Francisco was fun. When we went to San Francisco we flew. We arrived at the airport at 10:00. The airport was neat because we flew over the Bay. Then we got a rent car, and drove to the Mariot Hotel. The Hotel was nice. It even had a weight room. They have a two-hour difference. We ate at 6:00 our time, but it was 4:00 their time. We ate at the Hard Rock Cafe. The food was delicious.

The sights were fabulous in San Francisco. Fishermans Warf is a tourist place. The Wax Museum was one of the places in Fishermans Warf. It was so realistic. If you turned a corner not paying attention you would think someone was in the glass case. Some of the statues were John Lennon, OJ Simpson, and an Egyptian guy. The sourdoughbread was fantastic. There was this sea lion that was funny, big, and cute.

One famous bridge I saw was the Golden Gate Bridge. The bridge was beautiful. There was one gross thing there. The gross thing there was seeing 4 guys kissing.

Eureka was a beautiful place. The animals were outrageous. The bears were fascinating. The lake was so calm, and warm for being in the mountains. The mountains were wonderess. The cabin was just like a real house. The lumber company was cool. We got to see how they make the lumber that you use for your house. Alcatraz was neat. I felt like I was in there with a bunch of convicts. The cool thing was you could buy headphones, and hear a story. The jail was huge, giant, enormous. You wouldn't believe that they had a library in a jail.

In Old Sacramento there's a neat train museum. The trains were real ones. There are moving trains. There are also telephones that you listen about a certain trains. It is really cool. The tomato truck are cool. When they go by tomatoes will fly Across the road.

I hope you enjoyed hearing about my trip to California. I have enjoyed telling about it. Now if you go on a vacation to San Francisco, you will know some places to

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go.

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FIRST PAPERS
ANDY

Bullriding

By

&

April 13, 1996

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Is this what you call fun? Getting a tour of hell on a 2000 pound package of hamburger. And you better get out of the way before you're turned into a cowboy shishkebob.

A bull rider needs to be physically fit and, good balance before they ride. You should have a strong left or right arm or whatever arm you are comfortable riding with. You should also be able to react fast if something bad happens. You should also be limber or agile. That pretty much determines your willpower and determination to ride bulls.

The bull ride is a rush. Before you ride you will be very scared or dizzy. But once you ride you will be happy. But a few minutes later you will be shaking. The first time I rode a bull. I was afraid, but after I did it few times, it was fun.

Some bulls are different than others. Mexican bulls are quicker than the bulls in this area. The bulls from here close their eyes when they're trying to get you, and Mexican bulls don't.

These are some of the necessities you need for bull riding. One of them is a bull rope to ride with. The rope looks like a flat, braided rope with a big leather piece of padding where your hand goes. You should also have boots and spurs. You should also have two dog collars or two leather straps to hold your boots on so you don't pull them off when you're riding. You

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should also have a glove so you don't get rope burn on your hand. You need a partner to pull your rope tight.

You put Rosin on your rope and glove so your hand doesn't open as easy. Rosin is a hard rocky or sandy substance. When you break it down into dust and make it hot, it becomes sticky. You can buy it in store. It comes in a bag. One of the names is Black Ice.

You should have a 45-degree slant on the back part of your spurs, but don't have it any more than 45 degrees or they'll disqualify you. A 45-degree angle in your spur is so you can keep your feet straighter, OR to make it easier to ride. The spur slants in and then you can ride with your knees.

I hop this has helped you a little. You should find a teacher to help you ride bulls. Now you are ready to ride. Well I hope you don't be come a cowboy shishkebob!!

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**RESEARCH PAPERS
MIKE AND ANDY**

- Retyped (verbatim) by the dissertation author for print clarity -

AUSTRALIAN ANIMALS

Authors:

and

May 29, 1996

If you went to the outback of Australia you would see strange-looking animals. You would see two-eyed animals that are in a tree acting kind of drunk. You might also see a two-legged animal hopping along on the ground. This book is about Australian animals.

One of the reasons there are odd animals found here is because there was a land bridge about 50 million years ago that connected with other continents. The animals did not have time to get to the other continents before the continents split apart. There are rare fauna such as marsupials found here because they didn't have time to originate on other continents.

One of the most commonly talked

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about animals in Australia is the koala. The friendly koala has rounded ears and a round nose, five fingers and a short tail. It's a quadraped, meaning four-legged. Koalas feed at night and sleep during the day. They are only vegetarian fauna. They eat only eucalyptus leaves. Some people think that the koala gets hooked on eucalyptus leaves. Scientists have proven that that is not true. The eucalyptus leaves have a high water content, so the koalas normally do not need to drink, as they obtain enough water from the leaves.

The koala's behavior is unusual compared to other animals. When the koalas have fun, they climb trees. They have sharp claws; that makes them

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skillful climbers. If you would see a koala, you would usually find it in a tree. They have only one young a year, and their young weighs less than half a kilogram at birth. For the first several months, it stays in the pouch. It grows very fast on a diet of milk and leaves. They're not fully weaned until twelve months.

The kangaroo is the most common animal that everybody knows about. Kangaroos have a lot of different colors. Some of the colors of the kangaroo are red, grey, blackish brown, dark brown, and white. Kangaroos are vegetarians, just like the koalas. They are also marsupials. To move to places, they hop. When they hop, they use their tail to push off.

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The Tasmanian devil has a vicious appearance, but it is largely a sham. The Tasmanian devil is the size of a small dog, and it is black. The Tasmanian devil hunts and feeds at night and sleeps in the day. This not-so-ferocious animal is an omnivore; with its powerful jaws it eats all of its small prey.

Some people think the platypus is a combination of a duck and a beaver. It has a paddlelike tail, and it has a bill like a duck. It has two coats of fur and webbed feet like a beaver. It lives along the river bank in burrows. Females usually lay two eggs. A female platypus is approximately 42-45 centimeters long and weighs 700 grams. The male platypus is approximately 50

centimeters long and weighs two kilograms.

The potoroo is like a miniature kangaroo. It is only found in restricted areas in eastern Victoria. It was only discovered in 1980. It belongs to the marsupial family. The potoroo is light brown with distinct dark stripes. Its ears are short and round, and it has five toes. It is about 70-75 centimeters long. It sleeps in a nest during the day and hunts during the night.

The planigale is the smallest of the marsupials. It looks like a miniature kangaroo. The planigale has a long nose and rounded ears. It weighs only 4 or 5 grams. It lives in grassy areas and sleeps there during the day and

hunts at night.

The thylacines is one of Australia's endangered species. The thylacines is two meters long and has soft sandy hair. Its body is like a wolf and it barks like wolf.

The wombat is one of the few affectionate pets. The wombat only lives on the island of Tasmania. It lives in a burrow about 20 meters deep. The wombat is about 3 feet long with tough hide. The hide is a yellow-black to a gray-brown color. They use this hide to make long-wearing rugs. The wombat is a marsupial and it eats at night. The wombat eats roots, vegetables and leaves.

Some of the animals that are found here are unique because there are only found in Australia. The reason why we

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picked these animals is because they are the most unique of Australia's animals.

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RESEARCH PAPERS
KRIS

- Retyped (verbatim) by the dissertation author for print clarity -

1996 Olympic Trip

Co-Author

Author

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This paper is about the 1996 Olympics. I am writing this because I am going to the Olympics. The events you are going to here about are the events my family and I are going to see.

First I am going to talk about wrestling. There are two kinds of wrestling. There is Greco-Roman and Freestyle. The competition format, the scoring rules, and tie-breaking rules are all the same. The event I am going to see is Free-style. Free-style is an interesting sport. When people here wrestling they say "how can you watch that." I like to watch Free-style because it is different from high school. High school is fun because I get to watch my brother and other people I know.

Here is some information about the competition format. Each wrestlers match will contain of one period of five minutes. The match can end sooner if the wrestler scores a fall or technical fall. A Technical fall is when a wrestler scores ten points more than his opponent. In order to be declared the winner by points at the end of the regulation of the five minute period, a wrestler must have scored a minimum of three technical points. Now you know some things about the competition format.

You should know about the scoring and rules before you go to see this event. Scoring is based on offensive and defensive moves. The person who pins their opponent or has the most points wins the match. The match is stopped if the wrestler scores ten points more than his opponent. If the wrestlers have to go into sudden death, they will have to wrestle it out in a time of three minutes. The first wrestler who scores the first technical point is the winner.

The event you're going to hear about next is track and field. The capacity of the stadium is 85,643. There will be 2,000 athletes in the track and field events, approximately 1,300 men and 700 women. They

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have added some events and dropped some. The ones they added are the women's 5,000 meter and the women's triple jump. They dropped the women's 3,000 meter. Every country can enter at least one man and one woman in any single event. If you want to enter more of your athletes will have to get a qualifying performance. The athletes in the running events have to run between one and four rounds of their competition. The field events have a qualifying round and a final round. There are no qualifying rounds for the marathon and the race walk.

This is how the scoring and rules will be determined. If you have the farthest distance in the field events, you will win. If you have the fastest time in the running events, you will win. The places for the athletes in the multi-events is based on a scoring table. The person with the highest point total wins. The multi-events are the decathlon and heptathlon.

This is how the tie-breaking rules are determined. For the running events, the ties are broken by a photo finish up to 1/100th of a second. If you are in throwing or horizontal jumping events, the tie will be broken by the second-best preformance, then the third-best, and so on. If the high jump or pole vault is tied at the best height, the athlete who cleared first at that height will win, but if they cleared on the same jump, they will have to go with the fewest total misses. The third step for high jump or pole vault will be a jump-off for first place only. The other people who are tied will remain tied.

This is some activities that will happen during the night. The climate has an effect on some events. The average temprature is 80 degrees at 7:00 at night. The average humidity is 65 percent. The horse schedule changed to avoid the heat. The men's marathon is at 6:30 p.m. so there will be a big crowd. Some feel the marathon should be held in the morning. The medical support group say no longer than 8:00

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a.m. Some of the athletes despite some of the grumbling said they will run when ever the event is held.

I hope you enjoyed hearing about the 1996 Olympics. I have enjoyed telling you. If you are interested in any other event that will be in the Olympics you can look on the Internet.

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RESEARCH PAPERS
CINDY

CHAMPION FIGURE

SKATER

SCOTT HAMILTON

AUTHOR

ASSISTANT AUTHOR

APPENDIX K

This is a biography on Scott Hamilton's life. Here are some facts about his life. Read on if you want to know more about him.

When he was six weeks old he was adopted by Dorothy and Ernest Hamilton. He was a little goody two shoes. He would throw firecrackers at his sister. When he was two years old he got a near fatal childhood illness. He became so sick he had been in and out of hospitals most of his young life. This illness stunted his growth. When he started ice skating he started growing again. When he started skating he progressed rapidly. By the time he was 13 years old he was already involved in competition skating.

He has changed very much over the years. For one thing, he is losing his hair. He is 32 years old and he only weighs 110 pounds. Scott was an awesome skater. He has never been a pair skater. He has been a free skater and a men's single figure skater. On ice Scott was king. He was a strong contender.

Scott has won gold medal in 1984 in the Winter Olympics in Sarajevo. In 1980 he got 5th place. He has gotten four consecutive world champion medals. He has been a professional skater ever since he won that gold medal. Now he just hosts some figure skating events.

Here are some things skaters have to do in their routines. Some people do flips, but those are mostly done by the pros. Some do what is known as a Salchow or a triple Salchow. Most are to do a triple loop or a triple or double Lutz. You must do a triple axel. Everyone has to do a triple axel. Scott loves to do double toe loops and back flips. You must have speed, confidence, accuracy on your routine.

Scott has always been fast on his feet. He picks really good music for his routine. Most skaters practice on an empty rink to avoid the crowds. Scott now has a lot of memories about his young life. He lives in the town of Bowling Green, Ohio where he was born and grew up. He is a very intelligent person. Scott has a lot of

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trophies and medals. His gold medal is most important to him.

On his last routine he had it well planned . He chose good music. He was well prepared for this competition. When I saw him step out on to the ice he was dressed nicely. When he started his routine he was all over . He started out with a gentle glide and then as the music got stronger he started to go faster he did a double axle then a tilt spin and jump. Then as the music slowed he slowed down. He ended with a back flip and a smile. Scott was wonder full at this competition.

I have enjoyed telling you about his life. I hope you liked reading this biography. I Hope you are inspired by this paper. I hope that if you liked it you would write a paper of your own some day. This is my last comment : Scott is the most wonderful skater I have ever seen.

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APPENDIX L

EXPERT PRETEST PAPERS

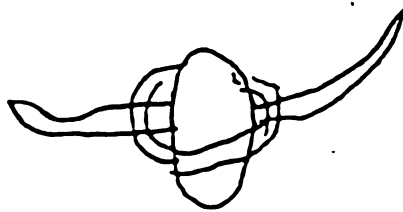
MIKE

- Typed (verbatim) by the dissertation author for print clarity -

Roaping

Roaping to me is a sport of fun to me becus I like doing it. The first step is to get a roap. You first have to learn how to hold the roap and make a loop. That didnt take so long for me but the nehed to hard things is to throw the rope and treral the rope thats hard. I cought on berty fast becus I has Gronups helping me and they knew what they were doing. I only rope on the grond. But my parents rope of a horse. I will do that some day soon. I still just rope a bale of hay with fake cow hed. The best way to cetch the cowis to have the rope go around both horns Ill draw you a pitcher what it should look

APPENDIX L



I forgot one thing when you rope you
stand behind the calf on its left side.

APPENDIX L

EXPERT PRETEST PAPERS
ANDY

- Typed (verbatim) by the dissertation author for print clarity -

9-11-95

I now a lot about bullriding. before
your bull comes in to the buckingshots
you put rosen on your bullrope. The
bullrope has a handle on it. When the
bull you draw is in the shots take the
bullrope on the opisit side of you.
then you take a hook and pull the
bullrope under the bull & up to you you
put the rope threw a lope. Then you
sit down on the bull and have one of
your frends pull the rope tite on your
hand. Then put the rope in your hand.
DONT LET GOT OF THE ROPE. Then rap
around your hand. then put your leg's
down on the side of the bull. and put
your free arm up then you node your
head and hang on for 8:00.
and when you get of run to the

nerist fenes.

The

End

APPENDIX L

EXPERT PRETEST PAPERS
KRIS

- Typed (verbatim) by the dissertation author for print clarity -

Sept. 7, 1995

Alkatraze

Alkatraze is the best jial ever made. It is in San Fransico California. No body could ecscape. If they did they probly wouldn't live because the water was so cold and it was also shark infested. The people that worked there were very strick. The workers lived there with their families. The kids would go to school but they would have to ride a bout to school. Alkatraze was very dangerous. One year some prisnores escaped, but they never found then again. Then a couple years later Indian attacked and killed lots. They had to close Alkatraze. They shiped the prisnos to other jials. They were thinking about opening Alkatraze again but it might be to expensive to run.

APPENDIX L

EXPERT PRETEST PAPERS
CINDY

- Typed (verbatim) by the dissertation author for print clarity -

9/7/95

Some people don't know how much feed to a horse, but I do. 1 cup per 200 pounds. My horse wighs 800 pounds so she gets 4 cups. We added an extra cup to her feed becuse she is going to have a baby. Not all horses are alike. Some are wild and untame able. Some are gentle but can be anoying. Some are so gentle that they don't care when you play with there tails. I know Lady does not care. Some people show thier horses. I plan on barellerracing Lady or showing her in halter class.

APPENDIX M

EXPERT POSTTEST PAPERS
MIKE

- Typed (verbatim) by the dissertation author for print clarity -

May 23, 1996

Author -----

Do you often wonder why people think Rots are mean I sure wonder that. Read this and I will tell you the truth if there mean or not.

My dog Bear is a Rott short for Rottwieler. Here is some things I know the Rots were about exstinked at one time. When they were about exstink is when they romed the earth with wolfs. later years afters some people would get the Rots pups and train them to be nice and like people. Then the rots were allso used to pull carts for neat packers. They allso helped farmers round up there animal out in the hils.

Buying a rot when you should buy a pure preed. when you pick one out it should

APPENDIX M

not be timid and if you should check it them over when you find one to see if nothing is wrong. If your puppy does not have the marks that a Rot should have and if they are white they are not a pure bred Rot.

Training your Rot. You should take your Rot to an obedience class so that they respect you and they teach the dog how to listen to your commands.

Caring for your dog. You should give your dog shots and you should bring your dog to the vet about 1 or 2 times a year. to check if everything is ok with it. you should give your dog a bath about 1 a week. you should have a good place for your dog to sleep. If you have it in a kennel you should have plenty of things for your dog to do in the kennel.

The right way to treat your dog.
most people think that Rots are mean

APPENDIX M

and they wont touth your rot. The only way your rot is mean is if you train it to be mean otherwise they are loveing animals. One other reason people think they are mean is becuase the rots are usually in moves as a mean dog becuase it is easy to train them to do things.

theas were some things about rots I hope this will help you with your rot if you get one. and the rots are not mean enless you train them to be.

APPENDIX M

EXPERT POSTTEST PAPERS
CINDY

- Typed (verbatim) by the dissertation author for print clarity -

5/24/96 My Favorit tv Show and its Charecters.

This is my favorit show New York undercover. It's about these two New York Detectives. One of them is haveing a terrible Life. His Dad has HiV and his girlfriend Just got killed Mabye and His Father wants to do a Living will. His name is Eddie Torres.

The other has it a Little bit better. Well Life for him in the begining of the Last season was bad. His Feoncey was killed by a sicho Path and She was Pregnent with his baby. His Life now is better. His son is in a privit school. He has a new girlfriend and he is happy. His name is J.C. Wilums.

The girl that died. was Nina Marano. She was Eddies girlfriend. She Loved him very much. They were

APPENDIX M

very happy until Orlando Meldon came along and killed her. She was a very nice person. At Least I think she died. They cut out when she flat Lined and the Doctors came in.

J.C.'s son Gregory is in 6th grade. He is very Protective of his mom. He is a very nice kid. His Parents are divorced. He is called G for short. He takes turns Living with his mom and Dad. J.C. is a great father to G.

Their boss is the Lutenint. Everyone calls her Lo. She has two kids one grrl and one Boy. Her Daughter is the oldest of the two kids. Her husband is realy understanding about her Jog Choice. I don't know her realt name.

J.C. and Eddie are Partners and always have been. These People I have told you about have Been on the air for 3 years and I hope this show is never taken off the air.

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EXPERT POSTTEST PAPERS
KRIS

- Typed (verbatim) by the dissertation author for print clarity -

May 23, 1996 Bud the Cat.

My Cat Bud is Cute. He is black & White. Would you like to hear about him.

Bud is almost a year old. He is a little spaze. Right now he is going through a tough stage. I call him little man because he is so nadey. My cat likes to knock things off a dresser or a table of some sort. Some of the things he has knocked off are bubble pearls, dolls, and any little object he wants or are unique to him. Little man also likes to bit things. He bits my dolls, stuffed rabbits and of course anything than intregs him.

Bud loves to sit at the window in our peach room and chatter at the birds. He thinks he is a stud. We found a dead rabbit and we brought him to Bud and Bud didn't even know

APPENDIX M

what to do.

This cat is a special cat to us. He is sometimes real natey but we still like him. He likes to chew on plant's, and anything he can get to. He is wierd all our other cats wanted to come inside but little man wants to go outside.

Bud is not a One family Cat. Bud loves it when other people come. Even if you are a complete strange Bud will still love you. When Bud sees that other people are here that he doesn't know he will show off. Some ways Bud will show off is jumping on our railing, running in circles and more.

I hope you enjoyed hereing about My Cat. I have enjoyed telling you. Remember if you ever come to My House you will always have a friendly greeting by my cat.

The End

APPENDIX M

EXPERT POSTTEST PAPERS
ANDY

- Typed (verbatim) by the dissertation author for print clarity -

5-28-96

Forged pistons and camshaft.
crankshaft. Are much more stronger and
more precisely manufactured. They also
are more expensive. Therefor are
normally used for high-performance and
high-powered engines.

Cast-iron pistons, camshaft
crankshaft. Cast-iron parts exspan to
quickly.

Aluminum parts are used for higher
or maximum rpm meaning revolution per
minute

APPENDIX N

EXPLANATION PRETEST PAPERS MIKE

- Typed (verbatim) by the dissertation author for print clarity -

Saddeling a horse

9/18/95

The first thing you get a halter and go and catch the hors and take it out and tye it up to a bost. Then you get the sadle out and saddle blanket first you put the sadle blanket on and that should go over the whither then you put the saddl on the horse the saddle horen goes to the front of the horse. The saddle horne is the part were it stickes up the higest on the saddle. Then thers two strapt you bucle thous up the first one you but brety tight and the secon one not very tight. Then you but the bridle on and your reddy to ride.

APPENDIX N

EXPLANATION PRETEST PAPERS
CINDY

- Typed (verbatim) by the dissertation author for print clarity -

9/18/95 How to Saddle up a horse.

The First thing you do is tie the horse up. Then you put on the bridle. Some horses will fuss, so you try to keep their head down. Then you Put the saddle blanket or Pad on while yorur dung that Keep saying whoa. Then you put the Saddle on. Then you fasen the cinches and the Breast collar. Then you get on.

The
n
d

APPENDIX N

EXPLANATION PRETEST PAPERS
ANDY

- Typed (verbatim) by the dissertation author for print clarity -

9/29/95

first you pull up to the fule pump.
open the gas tanke and then take the
hose and put it in the tanke flip the
laver on the pump and pull up the
lever on the handle. to howevery
much gas in to the tank.

The
n
d

APPENDIX N

EXPLANATION PRETEST PAPERS

KRIS

- Typed (verbatim) by the dissertation author for print clarity -

How to make Tuna helper

First you get a frying pan and put water in it and let it boil. Secondly you put the sause, and then the noodles because it takes longer for the noodles. Third you put the tuna in. In the mean time you will stir so it won't stick to the bottom. Forth you will add the 1 cup of milk. It says put butter in it, but if you want it to be more healthy you don't add the butter. Then you will be ready to eat. You might want to wait because it can be really really hot.

Sept. 25, 1995

APPENDIX O

EXPLANATION POSTTEST PAPERS MIKE

- Typed (verbatim) by the dissertation author for print clarity -

5-28-96

When you take your dog for a walk should get your dog collar and dog leash. then go to your dog and tell your dog to sit and stay. To get him to stay you should first crouch down and put your hand in front of his face and say Stay your dog will have to know the things befor you just say it. when you tell him to sit you take your finger and point to the ground. Then you put the collar around the dogs neck. Then you but the leash in your right hand and with left hand slap it agansed your leg and say heal. If you stop and you want your dog to go down you crouch down and point to the ground and say down.

When you teach the dog to do theas

APPENDIX O

tricks you must the the dog the comand and if it doesnt sit you take your hand and tapes it back or push it entill sit then give it a treat. When you tell it to go down you point to ground and pull its fornt feet out and then he will fall down then give it a treat. When you tell it to stay you get it to sit then tell it to stay for a few seconts then give it a treet then keep going entill you get him to stay for a long time. Theas are som tricks to teach your dog. When ever you tell your dog to do something like sit, stay, down you should alway give it a treat no mater what otherwise they will stop dowing becuase if they dont get nothing for dowing it why should I do it.

APPENDIX 0

EXPLANATION POSTTEST PAPERS
KRIS

- Typed (verbatim) by the dissertation author for print clarity -

How to Be a good friend.

If you are a good friend you will always be kind to them.

First you can listen if they need to talk. Just be there for them.

Second I believe that good friends never get mad at you. If there is a rumor and it isn't true I don't think they have the right to get mad at you. If they do they are not true friends.

True friends are the best thing. They help you through the tough times like when a person close to you dies they help you through it.

I wrote this because I just got true friends. I met them in F.C.A. and the steps I listed is what they do for me.

The end

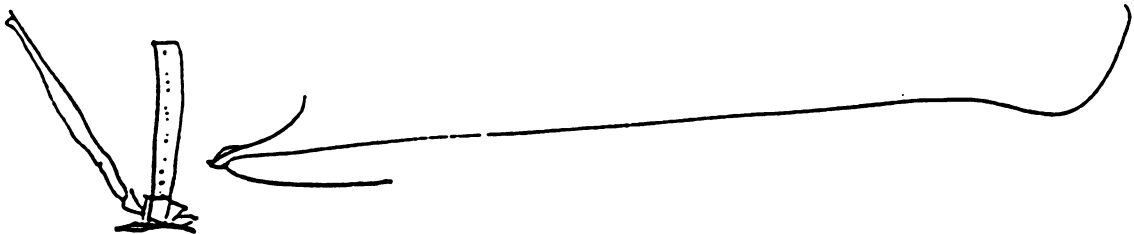
APPENDIX 0

EXPLANATION POSTTEST PAPERS
ANDY

- Typed (verbatim) by the dissertation author for print clarity -

How to Jack up a car 5-28-96

Hand man Jack. Looks like this.



Find your jack. Put your jack about five inches behind the wheel. then you can start Jacking. Be careful when leteing down the jack.

APPENDIX O

EXPLANATION POSTTEST PAPERS
CINDY

- Typed (verbatim) by the dissertation author for print clarity -

How to record a show on your VCR
5/28/96

First you turn on your tv and VCR, than you find the VCR Remote and find the Menu button. Press it. Next when you get the menu choose timer program. Then you choose single event. when a page with SP/LP/or chanal and the date. Push the Chanel number you want. Pick SP or LP. Than put in the time to start. make shure to choose PM or AM. Than put the Stop time. You don't have to do the date. because it is already there. Push menu twice. Than turn off the TV and VCR.

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