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2007

Understanding children's thinking at the moment of writing

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Abstract

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Understanding Children's Thinking at the Moment of Writing

A Graduate Research Paper

Submitted to the

Division of Literacy Education

Department of Curriculum and Instruction

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts

UNIVERSITY OF NORTHERN IOWA

Submitted by

Steve Peterson

August 2007

This research paper by

Steve Peterson

Titled:

Understanding Children's Thinking at the Moment of Writing

has been approved as meeting the research requirement for the

Degree of Master of Arts (or Master of Arts in Education).

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Abstract

This action research project describes the thinking of five third-grade students of varied writing achievement at the moment of writing. Using a theoretical model of writing (Sharples, 1999), student interviews, work samples, and a teacher journal, this study suggests that young writers' primary concern is getting new ideas for their text, whether while just beginning to draft, or after running out of ideas before the writing is completed. This study offers suggestions about how teachers can address this concern, and how teachers might extend the thinking of young writers in order to help scaffold more complex thinking about writing in their students.

Introduction

This research project emerges out of observations I made during the last two years of teaching writing to 8-10-year old students. As the students and I learned about writing, I noticed several behaviors that puzzled me and that pushed me toward conducting this research project. One, I noticed that their writing development was rarely linear, meaning that student writing sometimes showed great progress only to "backslide" in the next piece of written work. I did not know what caused this, nor how I could help them consolidate the knowledge they had begun to develop, but I needed to find out.

A second observation also pointed me toward this project. While I employed a writing workshop format (Graves, 2003), I was dissatisfied with both the information I was gathering from the student-teacher conferences (Anderson, 2000; Graves, 2003) and in my effectiveness at helping students become more self-sufficient writers. In the writing workshop model, student-teacher conferences are a primary means of instruction (Graves, 2003), yet I felt that I was not using them effectively. In my 2006 teaching journal I wrote that I did not think I was doing a good enough job of getting students to "think for themselves." Our conferences were awkward and unproductive. Also, from examining their written work it appeared to be very difficult for some students to apply mini-lessons to improve their writing. Yet, they were making daily writing choices. I wondered what criteria they were using for those choices, if not the mini-lessons? Perhaps, I reasoned, part of the key to improving my teaching lay in the fact that I did not know what my students were thinking about when they were writing. I did not know what criteria they used for the choices they

were making. Could it be that as I tried to figure out how to teach writing, I was missing a key component: student intentions and student thinking?

Rationale

Writing researchers argue that teachers must understand what students are thinking about their writing if they are to help them improve written products (Bradley, 2001; Corden, 2002; Fox, 2001; Graves, 2003; Green & Sutton, 2003; Ruttle, 2004). As cognitive psychologists point out, teachers must help students develop metacognitive skills to make learning deep and flexible (Flavel, 1979; Kuhn & Dean, 2004; White & Frederiksen, 2005). Flexible, thoughtful use of strategies is central to complex problem solving activities like writing (Bereiter & Scardamalia, 1987; Sharples, 1999).

Furthermore, reports by the National Writing Project (Nagin, 2003) and the National Commission on Writing (2003) point out that many students in the United States attain only a basic level of writing achievement. The National Commission on Writing reported that the majority of graduating seniors can perform only writing tasks at the level of the "basic communication of ideas" (2003, p. 19). As both reports point out, few students in the United States are able to perform at higher than basic levels. Improving this relatively poor performance calls for instructional practices that emphasize student thinking and metacognition (Nagin, 2003; National Commission on Writing, 2003; National Commission on Writing, 2004).

Purpose

Metacognition is an important part of the writing process (Fox, 2001; Ruttle, 2001; Sharples, 1999). Researchers in cognitive psychology argue that writers gain

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expertise through several mechanisms. They gain expertise by increasing their metacognitive awareness about the strategies they and other writers use, through developing their own reflective practices while writing texts, and through gaining competence in juggling the multiple demands of writing (Bereiter & Scardamalia, 1987; Sharples, 1999). Using the theoretical models of Bereiter and Scardamalia (1987) and Sharples (1999) in this study I analyzed digitally recorded conversations, in the form of student-teacher conferences, student written products, and my teacher journal to describe the thinking of third-grade writers at the moment of writing.

Terminology

Understanding student thinking is at the heart of this research project. One term that needs to be understood comes from cognitive psychology: *metacognition*. Metacognition is a complex thought process that some individuals engage in as part of the learning process (Flavell, 1979). Metacognition includes one's understanding about what one knows already, one's consciousness about what one does not know, conscious use of strategies to accomplish specific goals, and strategic use of self-regulating and self-monitoring thinking activities in order to accomplish those goals (Flavell, 1999; Kuhn & Dean, 2004).

Throughout this project I employ a *writing workshop* approach (Graves, 2003). The writing workshop approach emphasizes *process writing*: planning, drafting, revising, editing, and publishing. The general format for writing workshop is a short mini-lesson, writing/conferencing time, and sharing time.

Experienced writers use *reflective thinking practices* to create or improve their texts as they are drafting or in the revision stage (Bereiter & Scardamalia, 1987;

Scardamalia, Bereiter, & Steinbach, 1984; Sharples, 1999). Reflective thinking practices, as applied specifically to writing, include planning, rereading, and revising.

Two terms emerge from the theoretical work on writing done by Sharples (1999). *Writing engagement* is the time when students are actually engaged in putting words on paper or screen, and *reflection* is the time when students pause their writing to consider what to write next, or whether to keep what they have previously written as it is.

The theoretical work on writing acquisition of Bereiter and Scardamalia (1987) hinges on two key terms: *knowledge telling* and *knowledge transforming*. Knowledge telling is relatively unreflective writing that primarily uses prior text to generate the next text. Little thought is given to how these parts fit together, or to the overall intent or effect of the piece. Knowledge transformation is characterized by varying degrees of reflection on the part of the writer, in which what is written creates new ideas and connections for the writer.

Student conferences are part of the routine of writing workshop (Anderson, 2000; Graves, 2003). They occur during writing time and are a conversation between the teacher and the student about the student's own written work. The goal is to gradually teach the student to take control of the conference by explaining what he or she is hoping to accomplish in the written work.

Teacher researchers bring a rich set of observational data to their studies. Termed *tacit knowledge* by Maykut and Morehouse (1994), this knowledge that is situated in the intricacies of classroom interactions and choices can help teacher-

researchers make sense of complex learning environments, and serves as one of the major advantages of the teacher-researcher model.

Questions

The primary question that drove this research is the following: What do young writers think about when they sit down to write? A secondary question was this: How does this thinking vary across students in my classroom?

Literature Review

Metacognition and Learning

Educational research points toward the importance of teachers helping students develop metacognitive awareness for expertise to develop (Flavell, 1979; Georghiades, 2005; Kuhn, 2000; Kuhn & Dean, 2004; White & Frederiksen, 2005). Metacognition is often defined as awareness and management of one's own thoughts, or thinking about thinking (Kuhn, 2000; Kuhn & Dean, 2004), and is considered to be a crucial step in the development of critical thinking (Kuhn & Dean, 2004) as well as self-regulated learning (Georghiades, 2005). Applied specifically to writing, theorists of the acquisition of writing expertise argue that immature writers must gradually develop both the ability to reflect on their writing, and the ability to employ these reflective practices flexibly and consciously (Bereiter & Scardamalia, 1987; Sharples, 1999).

Decades old research in learning and teaching have reinforced the importance of the Vygotskian, or sociolinguistic, approach to learning (Floden, 2001; Moll, 2001). According to Vygotskian theory, teachers must understand the thinking processes of their students so they can help students gain the next set of relevant skills

through scaffolding (Floden, 2001; Moll, 2001). According to these theories, learning occurs best when tasks are not too difficult for students, but instead are just challenging enough to require that a student make connections between new information and that which has been previously learned (Moll, 2001). Part of the teaching task, in this theory of learning, is for teachers to listen to what students have to say (Cazden, 2001; Eodice, 1998; Gambrell, 2004); so they can better understand the cognitive spaces that students inhabit (Glasswell, 2003; Moll, 2001). If metacognitive growth is the goal, then understanding the starting point of the students is paramount.

Theories of Writing Acquisition

Researchers in the cognitive psychology of writing in the 1980s argued that writing is a problem-solving activity in which writers must move back and forth between active writing and reflective thinking (Bereiter & Scardamalia, 1987; Flower & Hayes, 1981; Smith, 1982). Through their early work studying the thinking protocols of accomplished writers, Flower and Hayes (1981) built a theory of writing as a series of thinking processes. For Flower and Hayes, writing was primarily a complex set of hierarchically embedded thinking processes that require monitoring and constant decision-making on the part of the writer. For Flower and Hayes, the decisions originate from the tension between the writer's own goals for the written work, and his or her evaluation (and revision) of that thinking once it has been consigned to text. Like Flower and Hayes, Bereiter and Scardamalia (1987) saw writing as a problem solving activity. They theorized that writers must operate within two conceptual spaces: a content space in which writers think about what they mean;

and a rhetorical space in which writers think about what they want to say. This dialog

between rhetorical and conceptual thinking spaces can be illustrated as in Figure 1

below.

Problem Solving Spaces
And Reflective Processes

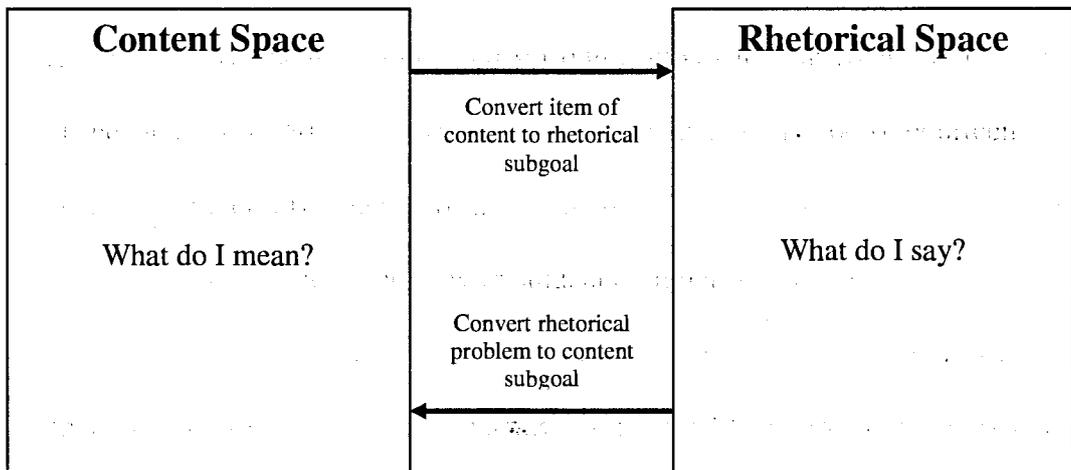| Content Space		Rhetorical Space
	Convert item of content to rhetorical subgoal →	
What do I mean?		What do I say?
	Convert rhetorical problem to content subgoal ←	

Figure 1. Problem solving spaces and the place of reflective processes in written
composition. Source: Scardamalia, et al. (1987, p. 177).

Expert writers move fluidly back and forth between the content space and the

rhetorical space (Bereiter & Scardamalia, 1987; Scardamalia, et al., 1984). For

Bereiter and Scardamalia (1987), expert writing processes are characterized by

knowledge transformation—a very interactive internal dialog that occurs between

conceptual spaces—in which old meanings are transformed through the very act of

trying to fit that meaning into rhetorical structures. At the same time, old rhetorical

considerations are transformed by trying to convey new meaning. The key

component to this knowledge transformation is the writer's reflection, in the form of

an internal dialog, on what the writer wants to say and how the writer wants to say it

(Bereiter & Scardamalia, 1987; Scardamalia, et al., 1984).

In contrast to the reflective problem solving exhibited by expert writers, Bereiter and Scardamalia (1987) noted that immature writers' compositions are characterized by a *knowledge telling* rather than a knowledge transforming format. The knowledge telling format engages in much less reflection than does knowledge transforming. Immature writers engage in less reflection on the writing task than expert writers and so the reflective feedback loop is rarely, or ineffectively engaged, resulting in text that rambles, has less internal coherence, does not develop larger themes, and has little reader awareness (Bereiter & Scardamalia, 1987; Scardamalia, et al., 1984). For the knowledge teller, goals tend to be oriented toward task completion. Reflective practices that serve to improve text include planning, self-monitoring, revising, and evaluating (Bereiter & Scardamalia, 1987; Sharples, 1999; White & Frederiksen, 2005). These are similar to the reflective practices that are necessary for the development of metacognition in general (Whitle & Frederiksen, 2005).

Scardamalia et al. (1984) theorized that teachers could help immature writers by scaffolding the reflective thinking processes of expert writers. Since that time others have emphasized the idea of the cognitive mentoring of reflective practices during planning and revision (Corden, 2002; Corden, 2003; Fox, 2001; Graham & Harris, 2005; Harris, Graham, & Mason, 2003; Saddler, Moran, Graham, & Harris, 2004; Troia & Graham, 2002), through retrospective, portfolio reflections (Perry & Drummond, 2002; Smith, 1998; Underwood, 1998), through prose modeling activities like genre study (Read, 2005; Stead, 2002; Stolarek, 1994; Tower, 2003),

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and through developing clear criteria for self-evaluation of written products (Spandel, 2004).

Since the 1980s, Sharples (1999) reconceptualized the original format of Bereiter and Scardamalia (1987). Like their earlier work, Sharples saw writing as essentially a problem solving activity that involved increasingly effective use of reflection as expertise is gained. While building on Bereiter and Scardamalia's focus on writing as a problem solving process, Sharples' (1999) theory incorporated a temporal and action component to it as well. Sharples identified two phases that occur during the act of writing: an *engagement* phase and a *reflection* phase.
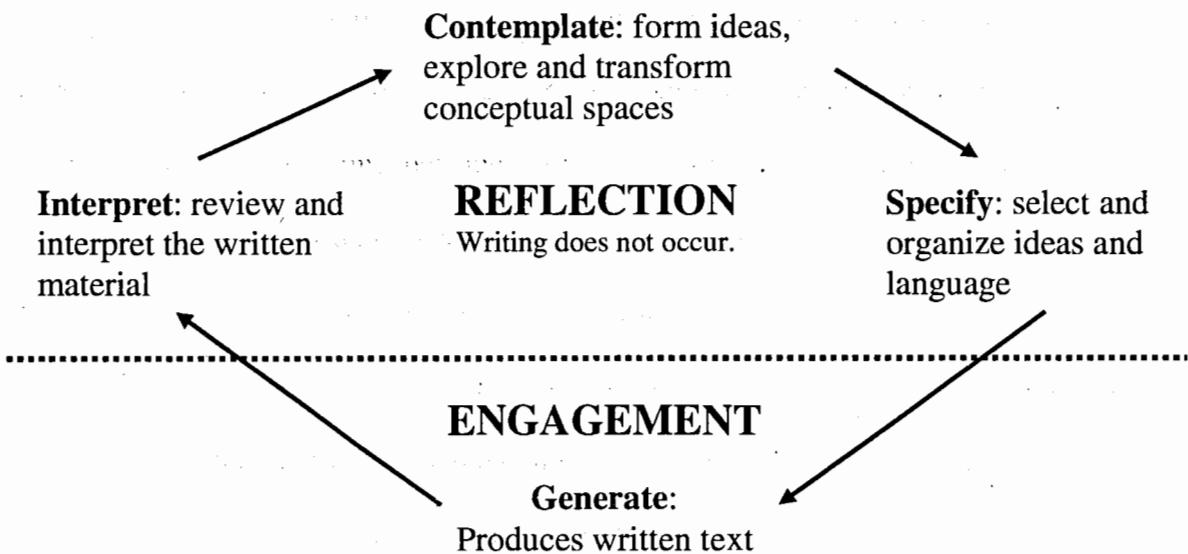
Contemplate: form ideas, explore and transform conceptual spaces

Interpret: review and interpret the written material

REFLECTION
Writing does not occur.

Specify: select and organize ideas and language

ENGAGEMENT

Generate:
Produces written text

Figure. 2. Sharples' cycle of engagement and reflection during writing.
Source: Sharples (1999:7).

According to Sharples (1999), writers continuously cycle through this two-phase process of engagement and reflection. Effective writers must develop strategies both for exiting the period of engagement (in order to reflect) and exiting the reflection phase (in order to draft new work.) Constraints on writing occur in both phases of the writing cycle. In fact, Sharples argues that gaining expertise in writing

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requires expertise in "constraint management" (p.8). During the engagement phase, in Sharples' theory, writers are engaged exclusively in generating text. For immature writers, constraints arise in this phase that can stop text production, e.g., letter formation, spelling, keyboarding skills, and physical discomfort, to name a few. Once engagement with the text is broken, another constraint arises: one's ability to reengage in producing more text. Expert writers are more capable than immature writers of moving fluidly in and out of periods of engagement and reflection, sometimes in quite rapid succession. The result is that expert writers get their thought process, or intention, derailed less frequently than immature writers.

Expert writers are also able to more effectively use the second phase of the writing cycle: the *reflection phase* (Sharples, 1999). The reflection phase is characterized by thinking, not text production. During the reflection phase, writers make judgments about their goals and the means to achieve those goals. Sharples (1999) outlines three forms this thinking can take during the reflection phase.

First, writers can *review* and *interpret* what they have already written. Writers can do this in light of what they intended to accomplish and what they think constitutes good writing. Of course, expert writers will likely have more sophisticated intentions and ideas about what constitutes good writing than immature writers, and they have developed methods for leaving active engagement, reviewing text, and re-entering the engagement phase.

Second, writers can *contemplate changes* to their ideas based on the writing that has occurred through the engagement phase. Like Scardamalia, et al. (1984), Sharples (1999) sees the reflection stage as an opportunity for the actual production

of text to cause the writer to alter the original ideas that were intended. Expert writers are more likely than immature writers to allow the text they produce to cause them to revise the ideas with which they started, and they have developed mental schema through which they can judge the progress of their ideas.

Third, writers can use the ideas that have been contemplated (old or revised) to *alter the words or rhetorical structures* that they have created. Again like Scardamalia, et al. (1984), Sharples (1999) sees reflection as an opportunity for writers to not only use the writing to change their ideas, but to use their ideas as a way to alter the rhetorical structures they are currently using. Because expert writers are more familiar with genre constraints, audience requirements, and the effects of organizational structures on audiences, they are more likely than immature writers to take these into consideration, thereby using the text to alter ideas, or the ideas to alter the presentation.

Expert writers have two advantages over immature writers throughout the writing cycle: They move more fluidly between periods of engagement and reflection, and they use the reflection phase to greater effect (Sharples, 1999). Because expert writers have greater control over the engagement phase, they are less likely to get derailed in a writing task, or if derailed, know how to get themselves back on track. Also, expert writers can use time away from engaged writing—their reflection time— to deepen, expand, or alter ideas and rhetorical structures to improve their writing.

In contrast, immature writers can easily get bogged down by constraints that arise during both the engagement and reflection stages. Immature writers face huge impediments during the engagement phase. Obstacles like letter formation, spelling,

painful pencil grips, and fuzzier authorial intentions all shorten the engagement phase, resulting in a break in text production. Likewise, during the reflection phase the possibilities for encountering debilitating roadblocks are myriad (Sharples, 1999). For example, immature writers might not have well developed procedures for reviewing previously written work, and they might get easily sidetracked by less important editing level considerations, or they might be overwhelmed by the choices they need to make. Similarly, immature writers might not have well developed procedures for planning or revision, which decreases the likelihood that the writer's intent is either discernable or sufficiently altered to reflect new information, thereby yielding writing with less internal coherence. As a final example, immature writers likely do not have well-developed knowledge about the constraints of the genre they are operating within, so much cognitive space is used up negotiating genre constraints that are new to the writer.

Metacognition, Reflection, and Writing: Current Research

Since metacognition is so important to gaining expertise in writing, many researchers have been interested in understanding how young writers think about their writing. This interest has led researchers to explore student understanding of the writing process, and instructional strategies that can increase metacognition. What follows is a short review of this literature.

Metacognition and instruction. Since the researchers of the 1980s established the central importance of a writer's reflection during writing (Bereiter & Scardamalia, 1987; Flower & Hayes, 1981), writing researchers have sought to understand how that reflection can be encouraged. Much work, especially in Great Britain, has

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focused on helping teachers develop instructional strategies that encourage student metacognition. Corden, at Nottingham Trent University, has written several important articles that explored how teachers can encourage the development of reflective practices in young writers (Corden, 2000; Corden, 2002; Corden, 2003). Using a teacher-university researcher collaboration, an instructional strategy was developed— called *TRAWL* (Teaching Reading and Writing Links)—to help young students (age 7-11) become more reflective writers (Corden, 2002; Corden, 2003). Fourteen teachers were randomly selected from 58 volunteers. Teachers were interviewed and observed teaching and interacting with students. Students from all fourteen classes kept student journals, which were collected and analyzed, along with transcripts of teacher-student interactions during writing and reading small group instruction, and student writing samples. Corden found evidence of significant increases in student reflection during both writing and small group reading, leading him to suggest that an integrated approach to reading and writing instruction that focuses on the meaning of texts as well as how texts are constructed to convey that meaning, can help even young writers make significant gains in their reflection about their own writing, and in the quality of that writing. As in an earlier study (Corden, 2000), Corden (2003) found that, given appropriate instruction and time to use it, students developed a "metalingustic awareness" that they used to understand and talk about written work they were reading, and to express their intentions for their own written work.

While Corden's work sought to understand the relationship between teaching, student reflection, and student writing, it looked at changes in student thinking over time as the result of instruction, not at student thinking at the moment of writing.

Fox's work (2001) sought to understand decisions teachers need to make in order to help students "at the moment of writing" (p.1). Fox studied ten classrooms of students, averaging 18 students in each classroom of very young writers (ages 5-7), to determine what teachers do to help students as they encounter difficulties during the writing process itself. Researchers observed teachers' interactions with students, teaching decisions during whole group and individual instruction, and how much on task writing students were able to do. Using Sharples' (1999) model of engagement and reflection, Fox described decisions that experienced teachers made to help students "mend lapses in attention" (p.11) and to help "model and scaffold the process of reflection" (p. 12-13).

Both Corden and Fox argue that teachers must help students effectively reflect on their writing. Corden's work outlines instructional strategies that help students grow in their ability to reflect on their written work. Both sets of studies assert that student metacognition is a goal that teachers should aim for through their writing instruction. By design, Corden's work looks for changes in student thinking over time as the result of instructional practices. In contrast, Fox's work describes ways that experienced teachers help students reflect on their work at the moment of writing. Neither study helps teachers understand what students are thinking about when they sit down to write, what assumptions these students bring to the writing task, or how they make the writing decisions they do make. What follows is a discussion of the research on student thinking about writing.

Student thinking about writing. Researchers have found it difficult to determine what children think about when they write. As a result, some studies have

asked students to talk about writing in a retrospective manner. An example of this is Wray's study (1993). In this study, Wray noted that understanding what students thought about writing was very important for developing an instructional program for those students. To determine what students were thinking, Wray asked 475 seven through eleven year old students to write a letter to future students telling those students what writing in their grade was about. Wray then analyzed the letters and categorized the answers, finding that younger students in particular were understood writing to be about technical aspects such as mechanics and neatness, while older students understood writing to be about expressing ideas. Wray speculated that this change might be a developmental trend, and that young writers focus on what is difficult for them. Wray's work suggests that children's understanding about what writing is changes over time, but since Wray asked students to reflect on writing retrospectively, it is difficult to determine from this study if, and how, students are using these ideas when they are engaged in writing.

In a later study, Bradley (2001) interviewed 65 first grade students and three teachers to try to better understand the thinking of very young writers by entering the classroom and talking to the children. The interviews consisted of a set of four questions that were designed to get at what students thought about writing, and what criteria they used to judge good and poor writing. Using student samples, Bradley asked students to evaluate the writing and describe the criteria they used to make this judgment. Bradley found that the first grade students were primarily concerned with the technical aspects of writing, but were able to articulate judgments—and criteria for those judgments—when presented with actual writing samples. Finally, Bradley

found that first graders in classrooms that emphasized the writing process had more sophisticated ideas about what constitutes good writing than those who were in classrooms that did not emphasize the writing process. Bradley's study suggests that some level of student metacognition is possible, even in very young writers. Like Wray's study (1993), Bradley did not interview students while they were writing, so it is difficult to determine what students are thinking about while they are writing.

Like Bradley, Jacobs (2004) talked to very young writers to see if she could find evidence of metacognition. Twice a month Jacobs interviewed students in her kindergarten classroom in a year-long study of how young writers develop their thinking about writing. Using questions designed to help them reflect on their thinking and use of writing strategies and writing samples, Jacobs found that students grew in their metacognitive awareness over the course of the year. Jacobs attributes this growth to an instructional program that emphasized the writing process, self-evaluation and articulation of intentions, and authentic writing opportunities. While Jacobs' work suggests that metacognition is possible for even very young writers, the moment by moment decision-making is lost in her focus on the larger question of the extent to which metacognition is present.

These three studies illustrate the interest researchers have in understanding student thinking about writing. Researchers argue that young writers' thinking might be especially preoccupied with what is difficult for them (Wray, 1993), but that even young writers can grow in their metacognitive awareness if given appropriate instruction (Bradley, 2001; Jacobs, 2004). While this is important information to know, these studies do little to help teachers understand the decision-making of

writers at the moment of writing. What follows is a review of studies that attempt to uncover what students are thinking at the moment of writing.

   Student thinking at the moment of writing. While think aloud protocols have been successfully used to understand what older writers are thinking about during the writing process (Flower & Hayes, 1981), young writers have a difficult time articulating what they are thinking about while they are trying to write (Sharples, 1999). Scheuer, de la Cruz, Pozo, Huarte, & Sola, (2006) used a modified think aloud strategy to understand the thinking processes of sixty children from kindergarten, first, and fourth grade. Instead of asking students what they were thinking while they were writing, Sheuer, et al. (2006) showed students pictorial representations of four different stages of the writing process (planning, writing, revising, and rereading) and asked the students to talk about what the student in the picture was thinking about. Sheuer, et al.(2006) found that there were significant developmental differences between the thinking of the youngest writers and that of the fourth-grade students. Using the theoretical framework of Bereiter and Scardmalia (Bereiter & Scardamalia, 1987), Sheuer, et al. (2006)found a shift from knowledge telling to knowledge transforming in the older students. Sheurer, et al. (2006) speculated that experience with writing and the extra years of education might have contributed to this shift. Like Corden (2003) Scheurer, et al (2006) also urged educators to use instructional practices that "directed students to be explicit, revise, and redescribe their conceptions about the writing process" (p. 72).

   Like many researchers, Ruttle (2004) was interested in discovering what happens "inside the head" of young writers. However, unlike many researchers,

Ruttle, a teacher-researcher, was less interested in uncovering examples of metacognition in a sample of students, than in understanding the thinking of her students as individuals. Ruttle argues that in order to improve writing instruction, teachers need to "improve our understanding of children as writers" (p. 71). Using action research as a way to improve the metacognition of individual students, Ruttle studied three 8-9 year old boys who struggled with writing. Ruttle collected and transcribed interviews, analyzed writing samples, and used a teaching journal as sources for her case studies of the boys' thinking. Ruttle's results serve as a warning to researchers who wish to determine what children are thinking about, but do not have deep knowledge of the students they are studying.

Ruttle found that uncovering, or not uncovering, "metacognitive awareness" in students was related to several factors. The three students she studied illustrated the problems researchers face if they do not deeply understand the students they are studying. Ruttle noted that Jack shared her conceptions of what constitutes "good writing", and even demonstrated a kind of metacognitive awareness such as adding details and description for an imagined audience, but that he did not "ascribe the same meaning" to these activities as did she (p. 72). As a result, Jack was not able to understand the import of what he had achieved under the terms set up by the teacher, leading Ruttle to wonder what learning had occurred. His writing could be quite sophisticated, but it had not yet become his own, he was not able to use this knowledge to a very great degree, and Ruttle wondered how "metacognitively aware" he was about his own actions.

By way of contrast, a student Ruttle calls Lee was rarely able to put words together to create a completed written piece. Even when dictating a written piece to a scribe, Lee required significant help between drafted sentences to determine what to talk about next. However, when asked what he was thinking about when he was writing, Lee was able to mention that he was thinking about a setting, vocabulary, good words, ideas, a good start, capital letters, and spelling. As Ruttle mentions, all of these could represent sophisticated thinking about writing, yet Ruttle suspected that these ideas reveal more about how Lee had learned to please teachers by repeating classroom language, than they revealed about what was actually going on inside Lee's head. Ruttle argued that Lee *believed* that he should be thinking about these things, and she questioned whether her "preconceived learning objectives, however well intentioned and metacognitively 'pure' get in the way of working with how some individual children think about their writing (p. 75)." Ruttle warns teachers and researchers to understand that the classroom environment is a jointly constructed environment in which teachers must negotiate the meaning of writing with their students through a process of dialogic talk.

Summary. Research on metacognitive awareness in children suggests that it is a tricky concept to measure as children are notoriously inarticulate about their intentions and their reasons. Furthermore, as Ruttle (2004) argues, even when apparently clear evidence appears, as in Jack's writing and Lee's statements, researchers cannot know with certainty what level of metacognitive awareness is present. Ruttle's work does suggest, however, that teacher-researchers, who know the children and have the chance to enter into a daily dialog with students, can bring their

situated knowledge to bear on the subject. More research is needed by teacher-researchers who have the opportunity to talk with students at the moment they are making writing decisions. This goal of this study was to fill that gap in the literature by examining the thinking of third-grade students during the process of writing.

Site Descriptions

School and Town

This research took place from September through December 2006 in my third-grade classroom in an intermediate elementary school in a Midwestern small town—third-grade enrollment is 118 students. The school district is the county seat, and largest city, in a predominately rural county. Poverty rates in the county are estimated to be approximately 8.7% (United States Census Bureau, 2004). The school district is almost exclusively white (99%), and 17% of the school population qualifies for free and reduced lunch. The district performs well on standardized testing: 90% of the third-graders tested were proficient in reading on the Iowa Test of Basic Skills (ITBS) as reported to the State of Iowa in 2007.

Classroom

My classroom had 23 students in it; 12 boys and 11 girls. Of those students, four were previously identified as requiring special education services for reading and/or written expression. Five other students qualified for help in reading through the at-risk program based on two assessments early in the year—Measure of Academic Progress (MAP) and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS)—as well as prior participation in the at-risk program in second grade. I had switched grades from second to third-grade for the 2006-2007 year, so three

students in my class of 23 were in second grade with me in the 2005-2006 school year.

Instructional Environment: Writing Workshop

Writing instruction was conducted using a writing workshop format (Grave, 2003), which I conduct 4-5 times a week for 35-45 minutes. The writing workshop format I use has a three part structure—a short mini-lesson, an extended period of individual or small group writing, and a time to share previously written work. Depending on how much time is available, the sharing time is sometimes whole class, and sometimes small, peer group sharing. Sharing and collaborative writing had been extensively modeled and monitored during the initial stages of writing workshop. Students who formed our third-grade class this year generally had little experience with writing, and only those who were students of mine last year had experience with the writing instruction based on the writing workshop model.

During the writing time of the writing workshop, I typically conducted student-teacher conferences using a two-part format as outlined by Anderson (2000). In this process the teacher circulates through the room stopping to engage students in conversation about their texts. In the first phase of the conference, the teacher asks open-ended questions of the student writer. Anderson notes that there are two goals to the first phase of the conference—1) to help students develop their thinking about their writing processes and intentions; 2) to develop a sense of what issues would most help the writer at the current moment. Based on what is found in this information gathering phase, the teacher decides on a line of instruction to pursue

with the student in the second phase. At that point the writing conference switches from being information gathering to instructional.

In this version of the writing workshop, students had a lot of choice about their topic. Early in the school year, mini-lessons focused on getting ideas, using a writer's notebook, and planning and drafting strategies. In addition to student choice, every month we focused on a study of the particular genre (Ray, 2006; Read, 2005; Stead, 2002; Stolarek, 1994; Tower, 2003). We started the year with a short focus on non-fiction narratives to introduce the writing notebook, then did a longer poetry focus, followed by fiction narratives in the form of monster stories. By late November I introduced non-fiction scientific explanations. These focused genre studies were interspersed with opportunities to choose writing topics and genres. I used the focused genre studies to introduce planning, revising, and publishing techniques that are appropriate for each genre. Each genre study also uses exemplary model texts to help mentor student writing (Ray, 2006).

A central tenet of our writing workshop structure was that students need opportunities to talk, brainstorm, discuss, explain, or otherwise try out their ideas in order to develop metacognitive awareness (Cazden, 2001; Coles, 1995; Gambrell, 2004; Graves, 2003; Kasten, 1997; Parratore & McCormack, 1997; Ray, 2004; Styles, 1989). Students were encouraged to write independently during a "quiet writing time" for a set period of time—usually 10-20 minutes—and then share their writing with others, either in a large group or small group format, or they could continue their writing in a collaborative setting. Depending on the needs of individual students, the "quiet writing time" could include small group, collaborative writing work. Students

were also encouraged to make their writing public through a process of publishing their work so others can see (Graves, 2003; Ray, 2004). A special bookshelf was reserved for student published work, and students regularly visited the student bookshelf for pleasure reading, as well as to get ideas for their own texts.

Data Collection

Practitioner-Research

For this research project I collected data designed to reveal the thinking about writing for six children in my classroom from September 2006 to December 2006. This project represents a practitioner-researcher orientation to research (Burnaford, 2000; Maykut & Morehouse, 1994). Since I wished to investigate student thinking at the moment of writing, the practitioner-research model allowed direct and immediate access to students at the point they were writing, and it allowed use of "tacit knowledge" (Maykut & Morehouse, 1994) that I have gained as a teacher in my classroom in order to help direct my research about my students as writers. The goal of this practitioner-research project was to gather descriptive data that would help inform my future teaching by understanding the thinking processes of my students (Burnaford, 2000).

Sample

I chose to focus this study on the thinking of below, at, and above average writers so I could understand the thinking of a cross section of the writers in my classroom. Prior to beginning the project, I analyzed short written samples and considered reading abilities in order to select the students I would study. Following that, I checked my findings with other teachers to confirm or reject my evaluation.

While admittedly "grade level" writing is difficult to ascertain, I developed a list of 9 students—three that were *roughly* at grade level, three that were below grade level, and three that were above grade level.

I recorded interviews with all nine students over the four month study, but by November I began to focus on six of the nine because transcribing the interviews and collecting the writing samples began to take more time than I had available. As a result, I narrowed the sample to six of the original nine. The sample now represented two students at each of the three performance levels previously identified. To avoid the appearance of coercion of the students and parents, I asked for permission to use the data in April 2007, with the understanding that I would not open the permission responses until grades had been turned in by late May 2007. This procedure for gaining parental and student permission was accepted by the Institutional Review Board at the University of Northern Iowa in October 2006. Of the six selected, five gave permission for me to use their work. Of those five, two were selected because they represented below grade level performance, one at grade level, and two above grade level.

Data Sources

Data collected came from three sources: transcribed recordings of student-teacher interviews, student writing samples, and a teacher journal created throughout the project. At least four interviews (one a month) for each student were digitally recorded during regular student-teacher conferences beginning in September 2006 and running through December 2006. These interviews were structured around the two-part conference process outlined by Anderson (2000)—an initial information

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gathering phase followed by a teaching phase—and used open-ended questioning to probe student thinking about the written texts they were working on at that moment. Student writing samples were collected and photocopied throughout the time period, and a teaching journal was kept to reflect on student progress and my own teaching decisions.

The Interview Technique

Starting in September 2006, I began recording student-teacher conferences. To improve my interviewing technique, I listened to the recordings almost immediately after collecting them, and began transcribing the earliest interviews for all students in October. Since the interviews were based on student-teacher conferences, the actual interviews were deeply embedded in the teaching that I was doing. Rather than entering the interviews with a script of questions that are the same for each interview situation, these interviews were similar to the "active interviewing" technique described by Burnaford (2000), meaning that the interview proceeded in a fluid, dialogic manner. In active interviewing the interviewer begins the interview with general, probing questions, and then further questions emerge from the information that is given. While active interviewing more accurately reflected the recursive nature of our interactions, after listening to the first interviews, I decided that I needed to improve my technique in order to better manage the complex conversational environment that characterized the conferences. I found that my follow-up probing questions were not precise enough to gather as much information as I had originally hoped. To remedy the lack of clarity in my probes, I created question stems as suggested by Anderson (2000) and then attached these to the back

of my conference note-taking clipboard. A list of those questions is listed in Appendix A. This technique helped me improve my questioning technique, so I could gather better information about student thinking.

Data Analysis

Data analysis proceeded in three major stages. In the first stage, an analytic framework was developed using the theoretical models of writing acquisition presented earlier in this paper (Bereiter & Scardamalia, 1987; Scardamalia, et al., 1984; Sharples, 1999). In the second stage, transcript data and written samples were analyzed using an emergent, constant comparative research design. The data were compared to the analytic framework as part of the constant comparison, the framework was refined, and new categories were developed. This process created a map of the terrain of thinking and decision-making that had occurred in the sample as an aggregate. Finally, in the third stage, notes from the data analysis stage for individual students were collected in tabular form under each category of analysis to serve as a summary of the thinking. The three stages of data analysis are described in greater detail below.

Stage One: Developing the Analytic Framework from Theoretical Models

Overview

Sharples' (1999) model implied an analytical framework based on how writers manage the constraints they face. From this model, categories of thought as well as categorical questions were developed to help focus the analysis of the data. Sharples (1999) model was used primarily because it incorporated the two key insights of Bereiter and Scardamalia (1987)—the centrality of *knowledge telling* and *knowledge*

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transforming in text construction—but Sharples' model put these insights into a temporal framework that more clearly showed how writers must manage constraints as they enter and exit periods of engagement and reflection, and was more appropriate for the way that I gathered data—at the moment of writing. Since, according to Sharples, constraints are present during both the engagement and the reflection phases, the choices that writers make to manage those constraints could reveal much about their thinking and writing processes. Categories were developed using the two key phases of writing presented by Sharples' (1999): the *engagement phase* and the *reflection phase*, and analytic questions were developed for each category to aid in theoretically based data analysis.

Engagement Phase Categories and Analytic Questions

In the engagement phase, writers must face, and overcome, constraints that can cause them to stop writing altogether. According to Sharples, these constraints focus on the writer's ability to maintain focus during engagement, or to begin writing again. For young writers in particular, distractions can occur at many levels, ranging from the writing environment, to letter formation, to lack of knowledge about how to begin or where to go next. Of course, disengaged writers do not produce much text. Three categories were created from Sharples' theoretical work to represent the major constraints during the engagement phase: one category was simply a description of how much text was produced, coupled with the writers' own ideas about producing text. A second category was information about the writer's beginning idea that would then drive the initial engaged phase of writing. Finally, Sharples' work suggests that writers must also have strategies for re-engaging with writing once the flow

inevitably breaks down. Taken together, managing these constraints effectively allows a writer to begin, and continue, to produce text.

These three categories—the initial, or generative, idea, self-awareness of drafting process, and actual engagement and re-engagement during the drafting process—were used to help understand the constraint management involved in maintaining engagement. Analytic questions were developed to focus data analysis for each of the three engagement phase categories. These questions are summarized in the following table.

Initial focus analytic questions. Analytic questions for the initial focus category were the following: How does the writer start? How complete is the writer's initial idea? What is the authorial intent of the piece?

Self-awareness analytic questions. An analytic question for the self-awareness of his or her own drafting process was the following: What does the writer know about his or her drafting process?

Engagement and re-engagement. Analytic questions for the engagement and re-engagement category were the following: How engaged is the writer in producing text? How does the writer re-engage with the writing process?

Table 1: Engagement Phase Constraint Categories and Questions

Constraint	Analytic Question(s)
Focus	How does the writer start?
	How complete is the writer's initial idea?
	What is the authorial intent of the piece?
Self-awareness	What does the writer know about his or her drafting process?
Engagement and re-engagement	How engaged is the writer in writing?
	How does the writer re-engage with writing?

Reflection Phase Categories and Analytic Questions

Sharples' (1999) second major phase, the reflection phase, entails the thinking that writers do when they pause their active writing in order to *review* and *interpret* their previous work, to *contemplate changes* to their ideas based on their writing, and/or when they *alter the words or rhetorical structures* to better fit their ideas. Writers face a series of constraints when they think about changing previously generated text, or how to match new ideas to text that has already been created.

As an overview, the theoretically derived categories for the reflection phase were the following: planning, revising, integrating old and new text, reflective self-monitoring, and genre (text macrostructure) constraints. What follows is a list of theoretically derived analytic questions and a table that summarizes the categories and questions.

Planning. Analytic questions for the planning category were the following: How does the writer begin writing? What planning does the writer do before drafting? Does the writer re-think the original plan during drafting?

Revising. Analytic questions for the revising category were the following: What revising does the writer do? When and how does the writer re-think ideas, or text features that have already been drafted? How does the writer think of text improvement?

Integrating old and new text. Analytic questions for this category were the following: What does the do when integrating old and new text? What criteria does the writer use when integrating old and new text?

Self-monitoring and re-engagement. Analytic questions for this category were the following: When does the writer decide to stop drafting and reflect? How does a writer know if he or she has successfully reflected? How does the writer begin writing again?

Genre (text macrostructures). Analytic questions for this category were the following: How does the writer understand writing within a genre? How does the writer manage genre constraints?

Table 2: Reflection Phase Constraint Categories and Analytic Questions

Constraint	Analytic Question(s)
Planning	How does the writer begin writing?
	What planning does the writer do before drafting?
	Does the writer re-think the original plan during drafting?
Revising	What revising does the writer do?
	When and how does the writer re-think ideas, or text features?
	How does the writer think of text improvement?
Integrating old and new text	What does the writer do when integrating old and new text?
	What criteria does the writer use when integrating text parts?
Self-monitoring and re-engagement	When does the writer decide to stop drafting and reflect?
	How does a writer know if he or she has successfully reflected?
	How does the writer begin writing again?
Genre (Macro-structures)	How does the writer understand writing within a genre?
	How does the writer manage genre constraints?

Stage Two: Data Source Analysis

Three data sources were used for this project: transcripts of recorded student-teacher writing conferences, written products, and a teacher journal. Data were analyzed using an emergent design and a constant comparative methodology (Maykut & Morehouse, 1994). Data derived from transcripts were assigned to the previously derived theoretical categories, and the categories were refined based on the new information from the transcript data. Finally, using the refined framework, student written work and the teacher journal were analyzed for what they might add to the description of student thinking. What follows is a more detailed description of this process.

Transcript Analysis

Transcribed student-teacher conferences were read, notated, and cut apart based on "units of meaning" (Maykut & Morehouse, 1994). Using a constant comparative methodology, the units of meaning were assigned to relevant theoretically derived categories (Maykut & Morehouse, 1994). Units could be placed in the category if it was determined that the unit answered one of the theoretically derived analytic questions. Throughout the process, the categories and analytic questions were reviewed and refined to reflect new information derived from the transcript data. If a particular unit could not fit nicely into a category, the analytic questions were altered to allow inclusion of the transcript unit effect. If a unit of meaning did not fit the theoretically derived categories well enough through altering the analytic question, new categories and new analytic questions were developed to

reflect this new information. Two additional categories were developed as the result of this process: reasons for writing, and articulation of thoughts.

Analysis of Written Work and Teacher Journal

Student written work and the teacher journal were read with the revised version of the analytic questions in mind. While reading the journal and the written work, notes were taken regarding the writer's management of engagement and reflection phase constraints, including evidence of engagement in text production; authorial intent; self-conscious use of reflection strategies (e.g., planning, reviewing, revising, self-monitoring); awareness of a reader's needs, and management of text macrostructures, in addition to the new categories that were developed as a result of this process. These notes on individual written work and from the teacher journal were combined with the data derived from the transcripts to yield a compilation of data from three sources for each category. For a chart of how the data were analyzed, see Appendix B: Data Analysis Flow Chart.

Stage Three: Creating the Class Aggregate

The data analysis process yielded notes for each student within each category of analysis. These notes were collected in a table. The resulting table produced both a picture of the thinking of the entire sample, and a picture of where each student fit into the overall picture. The sample aggregate table will be presented in the Results section below.

Results

Individual student data for each category was collected, analyzed, and summarized. These summaries revealed that different students thought in different

ways about the engagement phase and the reflection phase of writing. The data was used to answer this question: What are students thinking about when they write? This question sought to characterize student thinking as an aggregate so as to create a "map" of the terrain of student thought at the moment of writing.

Research Question: What are students thinking about when they write?

In this section, the data from all three data sources—interview, work samples, and teacher journal—are woven together in order to characterize the range of thinking about writing that was present in my sample. First, the varieties of thinking during the engagement phase are presented, followed by the varieties of thinking in the reflection phase. Next, the varieties of thinking related to reasons for writing and student articulation are presented. Finally, a summary of the key issues are presented.

Variation in Engagement Phase Categories

Several patterns emerged from the data regarding students' engagement in the actual production of text. In general, students were much more concerned about producing new text than in revising previously written text. As a result, the largest amount of thought and energy was spent on *engagement phase* items. Findings are presented below about the importance of initial ideas to text production, the amount of text produced, and the writer's own self-awareness about his or her engagement process. For a summary, see Appendix C: Summary of Data by Student and Category.

Initial ideas. Overall, students thought most about how to get a *good* initial idea for a piece of writing. Ideas tended to come from video sources—TV shows like *The Discovery Channel* or *National Geographic* and movies like *Star Wars* or *The Magic School Bus* series; from written texts—teacher or student models, or trade

book models; or through conversations with other students during our sharing time. All five students reported that coming up with the initial idea was very important to the rest of the story. Four of the five students, all but Joseph, reported that this first stage was quite difficult, and was usually a source of concern for them. Four students reported using the writing of other students as the source of their initial ideas. For example, Tricia reported that she read the poetry of another student and worked in collaboration with that student to draft some of her poetry, and Ed used our readers' theater texts to generate his own readers' theater. Two students also often used versions of model texts as a way to begin their own texts. Examples of this method are Tricia's use of teacher modeled writing for a book of poetry, and Ruth's use of the *Sideways Stories from Wayside School* (Sachar, 1985) as a model for her text about our classroom follies. Joseph, a very prolific writer who rarely used models for his text, reported that writing was not very difficult for him, and that he did not have difficulty with coming up with ideas. When describing his idea generation strategy he reported that he will "sit back and think for, like, five minutes, and then I just start to write." Stan, also, rarely used explicit models for his texts, but did not have strong backup strategies for maintaining engagement. He sometimes expressed anxiety about not being able to complete texts that he started. As a general rule, students who had a model for the first attempt at a new piece of writing expressed greater interest in continuing, and less anxiety about the process.

Amount of text produced. Students varied in how much text they were able to produce in a given amount of time, ranging from over twenty published pieces (Joseph) to zero (Stan). Students were conscious about how much they produced,

either expressing pride in their accomplishments, as in Ruth's pride when she came to get her third writing notebook after filling two, or Stan's frustration after working on a piece for several weeks: "I just have to finish this one. I want to put it over there (pointing toward the publishing library.)."

Self-awareness of engagement strategy use. Students also varied in how aware they were of their drafting processes, and how they would start writing again once they had exhausted the idea that had generated the first amount of text. Teacher observation revealed that students displayed variation in their use of strategies that would help them prolong the engagement phase—strategies such as the use of invented spelling, moderating how neat their handwriting was, and relocating oneself to places in the room that were less distracting. Three of five students who were able to adjust their requirement for a nice appearance to their texts—e.g., they used invented spelling and did not mind writing in a sloppy manner—were able to produce significant amounts of text. One student (Ed) was less concerned about these issues, yet still did not produce much text. Another student (Stan) was very worried about these issues and did not produce much text. He required significant teacher monitoring of his text production, teacher suggestions, and offers to type dictated work to overcome impasses.

Re-engagement strategy use. Students varied in their use of strategies for re-engaging once the engagement phase had broken down—examples included the authors referring back to the original authorial intent of the piece as a source of inspiration for what comes next; sitting back and thinking; re-writing previously written text to regain momentum; and talking with others for new ideas.

Student interviews revealed a range of complexity in the writers' conceptualization (authorial intent) of their initial ideas. Well-conceived initial ideas explicitly, or implicitly, contained the seeds for expanding the initial idea into larger and more complex text, and the author's intentions were more clearly articulated early on in the process. For example, early in September, Ed enthusiastically began a story based on the trade book, *Two Bad Ants* (Van Allsburg, 1988), but after two sentences he was stuck. When asked what his plans or intentions were for the rest of the piece, he could only respond with a shrug. In this instance, Ed's initial idea did not extend beyond the initial flash to include story elements that would bring the story to conclusion. While serving to motivate him to begin writing, this idea was not sufficiently thought out to carry him beyond the very initial stages. As a contrast, Ruth loosely modeled her writing on mystery stories after reading some *Jigsaw Jones* mysteries. Interviews with Ruth revealed that she was able to quickly generate additional details out of her initial idea in response to questions. In her case, the initial idea was sufficiently well conceived, or her understanding of the narrative structure was well developed enough, to allow her to generate a lot of material out of the one idea. Even if all of the details were not yet clear in her mind, she was able to use that initial idea as a tool for generating more ideas, since they could be formulated to fit into the larger framework of her initial idea.

Joseph, in contrast who wrote prolifically, often did not have a sense of the story elements that he wished to include. However, he often had a strong sense of authorial intent, and used a *what next* format of writing as a form of discovery. For example, almost all of Joseph's stories had a funny twist to them as witnessed by

some of his titles: *Grandmas in SWAT Training, The Adventures of Bear and the Squirrel,* and *The Boy and the Monster.* When he was stuck, Joseph often referred back to his intentions as an author, usually to entertain and surprise, in order to develop new material and continue writing. New ideas came from thinking within these frameworks of authorial intent as witnessed by this exchange between Joseph and me, where Joseph thinks of new ideas based on his attempt to make the monster character funny:

> Teacher: ...Another idea that I liked was this idea about the broccoli, and studying up on the monster and finding out what his weakness was. Where did that idea come from?
>
> Joseph: I was just thinking in my head because I hate broccoli so much that maybe he wouldn't like broccoli, too.

Re-engagement was also aided by a willingness to seek out help from a variety of sources—sometimes the teacher, but most often from previously read texts, or from other students. Students developed their own menu of choices for how to re-engage with the text they were writing. Besides conversations with the teacher, these ways ranged from primarily speculative and generative conversations with peers (Joseph), to a combination of conversation and referral to modeled texts (Tricia, Ruth, and sometimes Ed), to little attempt to seek out help (Stan). These strategies, when coupled with a strong sense of authorial intent as outlined above, could significantly aid the writer in overcoming the constraints of re-engagement.

"I love writing! I can't wait to start a story and find out what's going to happen!"
--Joseph

"It (writing a story) is like making legos or something...if you don't have the right piece, you have to put together another piece of it, and <u>then</u> you'll make the right piece."
--Stan

"Thinking of ideas is hard because you always have these big, extra ideas, and once you get a new idea it kind of eliminates it (the other idea) from your head...and sometimes you have to take away ideas that won't work!"
--Stan

Revising. Notably underrepresented in both the writing samples and the transcript data was a concern for revising previously written text. Students rarely talked about changing their ideas in response to what they had written, and only occasionally about changing what they had written to better fit their ideas. Joseph's response, quoted above, was emblematic of the kind of thinking that occurred during the reflection stage: "I love writing! I can't wait to start a story and find out what's going to happen!" For Joseph and others, writing was a voyage of discovery, characterized by a "what next" format of writing, as described by Sharples (1999). Stan differed from the others in that he saw writing as a kind of design project, in which pieces had to be created for specific purposes in order to accomplish specific goals. In contrast to most others, Stan saw the construction of new text as sometimes calling into question old text: "...once you get a new idea it kind of eliminates it (the other idea) from your head...and sometimes you have to take away ideas that won't work!" His thinking, however, was in the minority. As a general rule, these writers proceeded through the creation of text in a "what next?" manner, with writing being

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primarily a voyage of discovery. Interestingly, Joseph was the most prolific writer in the study, and Stan rarely finished a piece of writing that he started.

As a point of contrast, two writers—Tricia and Ruth—revised several pieces based on a growing sense of the awareness of an imagined reader. Tricia reported that she re-read a memoir about how her sister and she played in the woods and tried to have it "make sense" and "be more interesting for a reader." She added details into the piece about the setting, and added more details about the characters to the opening in order to increase reader understanding and interest. In a book of poetry, Tricia re-read to "see if I really did want all of those (words)." Similarly, Ruth added in details to improve the sense of a topsy-turvy world she is trying to present in her story based on the mystery genre, *Rosie and the Case of the Missing Peanut Butter,* such as this detail about how she imagines her dog, Rosie, would talk to her:

> "...so it's kind of funny how we (Rosie and the human main character) talk.
> We get to talk back and forth and I get to think about what it would be like for
> Rosie to talk, like...'Do I get some cheeriooooooos?' because she liked
> cheerios and she kind of howls."

Despite these examples of revision that emerged from fiction and poetry, revision in non-fiction texts was generally more complete than revision for fiction texts, or poetry. When writing in report formats, and in a scientific explanation assignment, all five students, to varying degrees, consciously revised their work based on their intention to make their ideas clearer and more interesting for an imagined reader, in some cases changing the organization by grouping like topics under the same heading (Ruth and Tricia), by re-arranging information to create a more logical

flow (Ruth, Stan, Tricia, and to a small degree, Joseph), or in the way Tricia chose to add a comparison between an unknown (e.g. stellar gases compressing to form a star) and a known (e.g. a bully tightening his fist).

Planning. Despite the relative lack of revision, reflective thinking was not absent in these writers. Reflective thinking tended to manifest itself as planning for new text, and sometimes as a prelude to beginning a draft. Through mini-lessons scattered throughout the period of study, we developed planning frameworks (both written and verbal) for fiction and non-fiction text so that ideas could be explored before committing them to text (See Appendix D: Story Planning Form.) Two of the four students (Ruth and Tricia) extensively used these written planning sheets before drafting, as well as verbal rehearsals with other students. These two students also used the planning sheets when they were stuck for new ideas, referring back to them so they could remind themselves of their original idea for the text. Joseph preferred verbal rehearsals with friends prior to drafting. Towards the end of the study period, Joseph (who was a social planner) found that the written planning forms could be valuable tools, when used in conjunction with conversations with friends. On more than one occasion, Joseph indicated that he "forgot" to go back and check their initial planning forms, though, after the initial drafting began. Ed began to use written planning sheets somewhat toward the end of the period covered by this study, although Ed required teacher intervention to begin planning. Stan rarely used written planning forms or verbal rehearsals with peers, although he enjoyed talking about his proposed work with the teacher, and also enjoyed telling the teacher what to write on

his written planning form. Stan also used completed written planning forms as a basis for dictating stories for the teacher to type.

Integrating new and old text. Students varied in how much they used reflective strategies (planning, re-reading, and re-rethinking) when faced with integrating old and new text. Ruth and Tricia both reported going back to review their old ideas as a way to help them generate new ideas. Tricia described using old text to help her envision new text in this way:

> Teacher: I'm curious here....when you got done with this nice, quiet poem
>
> called *Gently*, what made you decide to write one called *Hard*?
>
> Tricia: I was thinking, maybe like, that one was going to be called *Blizzard*,
>
> and it was going to be whirling and twirling, and before that would
>
> happen, first I was thinking that maybe it would get harder, so I wrote
>
> that and called it *Hard*."

Stan intended his story about an alien teacher to have some surprises. He described the upcoming events in a linear fashion that emphasized a tight narrative structure that would complete the story and provide a cataclysmic, heroic ending to his story. Verb tense in the interview indicates the transition from previously written text to proposed text: "Bob jumped into one of the ships and he blasted one of the ships with its laser. And then he's going to find the self-destruct button and then he's going to push it and jump on out and all the other ships are going to be knocked out."

Sometimes, however, writers would simply add on to the existing narrative without much reflection about what had happened previously. Writers' descriptions of what they did while writing suggested that thinking of "what next" can become an

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end in itself. Examples of this "what next" strategy were quite abundant throughout the interviews, as in Joseph's description of how he comes up with new ideas after he as run out of old ideas:

> Teacher: So how do you come up with ideas?
>
> Joseph: "…I stop and think for awhile…like…what am I going to write
>
> about?"
>
> Teacher: So where did that idea come from (referring to a story that had just
>
> been written?)
>
> Joseph: Ummm…I don't know…I just make 'em up.

Or this exchange between Tricia and me early in the period covered by this study:

> Teacher: So it seems like you are taking all of the ideas you have up in your
>
> head and you're putting them down. Is that right?
>
> Tricia: I'm thinking about all the information I know.
>
> Teacher: That's a good way to start. Have you thought about how to organize
>
> this information?
>
> Tricia: Oh…not really.

In some of the instances listed above, further reflection does not occur beyond the question, "What next?" Rather, writers are focused on getting the next idea so that new text can be generated. How it all fits together is of secondary importance. The danger in this kind of "what next" thinking, of course, is that the parts will not relate to each other in ways that are understandable to the audience. An exchange with Ed illustrates the difficulties young writers face when they follow the "what next" strategy without trying to integrate the new text with the old text. In this exchange, Ed

uses "what next" thinking to come up with a laundry list of cool ideas that he has put together into a pastiche of events without a central theme. Using an original idea from *Sideways Stories from Wayside School* (Sachar, 1985) mixed in with elements of *The Magic School Bus Inside the Human Body* (Cole & Degen, 1990), Ed has imagined a classroom of students being forced to abandon the school because of a monster. During verbal planning with the teacher, he next imagines the monster to be a house that will swallow the children as they leave the school. As they are in the stomach of the house, they notice a cellar door, which they open and find a graveyard filled with skeletons, who begin to dance around them. The following exchange illustrates how difficult reflective thinking is when ideas begin to form in the young writer's mind:

> Teacher: So it sounds like you have two (stories), now. You have the skeleton
>
> one and the house one. Which one are you going to write about now?
>
> Ed: The school one.
>
> Teacher: So what's the hardest thing about writing?
>
> Ed: Just getting all the other details in and I have to save them for another

story.

> *Reflective self-monitoring and re-engagment.* Mature writers monitor

themselves and periodically reflect on whether they are making sense, or if they need to change their ideas and presentation. In general, the writers in this study did not use breaks in engagement to reflect on the quality of the text or the original ideas. Instead they stopped to reflect when they ran out of ideas. After reaching an impasse, writers typically re-read varying amounts of text—some as little as a sentence or two up to

the entire text–before adding new text. Reflection was a way to re-engage with writing, rather than as a way to improve text.

   Managing genre constraints. Sharples (1999) argues that writers must negotiate the constraints imposed by genre when they write. Genre provides limits and frameworks for ideas, and informs rhetorical choices. These constraints, Sharples argues, can help writers generate new ideas, or create new rhetorical structures to place ideas into. Writers in this study had varying degrees of knowledge about the constraints of the genres in which they were writing, and used these constraints with varying degrees of success. Knowledge of fictional narrative genres ranged from the sophisticated to little genre awareness. Stan used his understanding of the "genie in the lamp" narrative to craft a surprise beginning and ending to his story. Ruth wrote in a mystery genre, using her knowledge of the necessity for clues to inform her writing choices. Likewise, Ruth, Tricia, Ed, and Stan used their knowledge of non-fiction genre to help them get ideas for, and organize their non-fiction writing. Although fiction was very difficult for Ed, his extensive reading in non-fiction genre helped him realize what was missing from his explanation about how flies walk on ceilings, and helped him plan for new text. In this section of transcript, we are discussing Ed's proposed use of pictures, especially close-up pictures that he is drawing, to help explain the process flies use to walk on ceilings:

   Teacher: And where is the major sticky sap?

   Ed: Maybe I could even make it a little closer look up on this…so I could

      make a bigger one, the feets, the sticky sap, and the hairs.

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Later in the interview Ed explains how his picture, with labels, will help the reader understand the process. He explicitly describes how he wants to make his text look and sound like non-fiction text:

> Teacher: So are you going to make this (the location of the sticky sap) clear from the picture
>
> Ed: Yeah. Because I'm going to even put details down there.
>
> Teacher: Great. I think that you have to have some details down there.
>
> Ed: Yeah. Because if you have a picture, you have to have some details if you do a closer-up.
>
> Teacher: Yes. And you have the idea to put the sticky sap down there.
>
> Ed: Yeah. Because if you just look at a fly, you don't know where the sticky sap is, or the hairs, or a little closer look up of the eyes.

In the above section, Ed relied on genre specific knowledge of how non-fiction text looks and sounds. His knowledge of genre helped him make decisions about where to place his illustrations, and what kind of information a "closer up" (close up) illustration requires. As a result, Ed, who often had difficulty generating text, was able to imagine future text, and make decisions about what information was more appropriate for a "closer up" situation.

Transcript Derived Categories

Two categories of thought emerged as important to the writers that were not identified through an analysis of the theoretical literature. Transcript data suggested that the writers in this study thought about their reasons for writing. Writers spontaneously talked about what writing meant to them, and about why they wrote.

Analysis of transcript data revealed a second category: articulation of ideas. As I studied the recordings and transcripts of our conversations, I was struck by how some students were able to articulate their ideas quite completely, enter into exploratory and speculative conversations, ask questions of themselves and me, and verbally identify plans for their future writing. Other students were less likely to do this. While generally students changed over time from being less articulate to being more articulate, by the end of our study period there was still a significant difference in how completely students could articulate their thoughts.

Reasons for writing. Transcript data showed that all five reported liking writing—with four of the five indicating writing was a highly desirable activity. One student, Stan, reported that he liked to write, but that he got frustrated sometimes, too, with how little he was able to produce. This experience muted his enjoyment. Many students expressed a desire for others to hear their writing, emphasizing a social component to the writing process. Stan expressed frustration with how long one of his pieces of writing was taking: "I just *have* to finish this one…I want to put it over there…(pointing toward the student writing library.)" Ed, who published very rarely, also expressed a strong interest in being known as a writer: "Since I got started on the monster book, I got started into making poems. I'm going to make a *whole book* of poems, and maybe I could give some to my friends!" Joseph's funny stories were well read by other students, and served to inspire many to write sequels to his work. Three students (Joseph, Ruth, and Tricia) brought their writing notebooks home with them to write in or transcribe previously written stories onto the computer.

A high degree of interest in writing appeared to help motivate writers to continue through the difficult parts of writing. While being especially enthusiastic, Joseph's comment, quoted earlier, was shared by four of the five writers in this study: "I *love* writing!" When asked if she liked to write, Tricia replied, "I *love* to write. I got two more notebooks that I have at home!" Similar comments were voiced by Ruth and Ed, whose mothers each independently told me at parent-teacher conferences that their child wanted to be an author.

Articulation. Transcribed conversations revealed intriguing patterns to our conversations, beyond their content. Some students were more articulate and verbal about their writing (Ruth, Tricia, and Stan) than were others (sometimes Joseph and Ed). Students who were especially articulate conversationalists often offered ideas beyond the questions that I asked, asked questions of me or of themselves as writers, and/or were able to articulate authorial intentions much more freely than those who were less articulate. An extended conversation with Ruth illustrates how she was able to use my questions as a way for her to think through, or further explain, her ideas about the mystery story she was writing. In this passage, Ruth thinks out loud, but with a great amount of detail that was not required to simply answer the question:

> Teacher: What could Rosie do that would sort of point the finger at Claire?
>
> > (This was in reference to a traditional "red herring" ploy of mystery fiction.)
>
> Ruth: She could...ummm...One day Claire is going to wear this shirt that is brown, but instead she's going to have honey on toast, but it had a spill

mark on the brown shirt that looked like peanut butter and so Rosie

pointed it out to me..."

Teacher: Oh yeah...I can see it...Rosie points it out to you and says, "Hey,

look, there's the peanut butter and there's who did it!" That would be

perfect.

Ruth: And then, the third chapter is going to be this thumping noise, and I see

these peanut butter tracks and the thumping noise gets louder and

louder, and then finally I find Rosie in her kennel, the peanut butter

can stuck on her head!

This type of extended, detailed, sometimes speculative talk was common for

Ruth, Tricia, often Stan, and, later, for Ed when he was working within genres that

were more familiar to him. On the other hand, others in the class, including many

who did not participate in the study, often answered in short phrases, or did not offer

details beyond a short answer to the question. These conversations were not provoke

speculation about future text, nor did they immediately offer insights into what the

author was intending on doing. The absence of conversation was difficult to interpret,

yet was clear from my interviews with other students in the class.

Summary

Student thinking closely resembled that predicted by theoretical models

(Bereiter & Scardamalia, 1987; Sharples, 1999). Students tended to focus their

thinking on what text to produce next and where to get their initial ideas, rather than

on text improvements like revising and editing. Students tended to reflect on their text

when they ran out of ideas. When they reflected, students tended to think about how

they could recapture writing momentum, rather than how to improve ideas or text. Student engagement was much higher for those who were able to do one (or several) of the following: begin with a complex initial idea that allowed; use peer conversations to generate, or validate, new ideas; overcome the mechanical difficulties of writing and spelling; have a high positive attitude towards the actual act of writing, rather than just toward the final product of writing. Students who could verbalize their ideas, tended to be more detailed and prolific writers than those who were not as verbally articulate.

Limitations

This study has several limitations. First, as a series of case studies these results cannot be generalized to show the thinking of young writers beyond the narrow sample of students that participated in the study. Second, there is no guarantee that this study describes the thinking of this sample of students later in the school year. These interviews were conducted at a specific historical moment—early in the year during my third year of teaching in the regular education classroom. Student thinking tends to reflect the instructional program offered to them (Bradley, 2001; Corden, 2003; Wray, 1993). Furthermore, the results of this study imply that student thinking is not static over time, but that students develop their thinking in relation to writing, and a dialog about writing choices. As a result, a different study at a later time would likely yield different results with the same students, even within the context of my own classroom.

Third, this research reveals that student conference interviews varied greatly in how articulate, and speculative, students were. This research also suggests that peer

conversations are an important locus for talk about writing. This research did not collect data from those conversations. New information about student thinking might have been revealed if I would have recorded and transcribed students during peer conversations.

Finally, the interview technique (as part of the normal conversation about writing) offered a unique window into the thinking of these young writers because it allowed me to explore what appeared to be the most important issues that each writer was facing at the moment they were writing. Inherent in this flexibility, however, are several problems. First, the choices of questions were highly dependent on my initial *read* of the writer's needs and interests. Yet I was aware early on that my ability to *read* the situation needed improvements. As I learned, and adjusted my techniques, it is quite possible that I gathered different information over time. Second, these interviews were not structured interviews, asking the same questions of different people. Consequently, different issues were explored through different conversations with different people. Essentially, the only commonality among the interviews was my desire to help students begin to articulate their own concerns, and for me to begin to understand their thoughts and needs as writers. This lack of commonality makes comparisons between interviews difficult, if not impossible.

Implications

I learned much from this study that will help me make instructional decisions. This study suggests several opportunities for teachers to help students develop their writing expertise, and new directions for research in the acquisition of writing expertise for young writers. What follows is an overview of the implications of this

research for how teachers can help young writers become better thinkers and writers, as well as suggestions for future research.

Implications for the Craft of Teaching

"What next?" writing, planning, and the importance of the initial idea. As suggested by theoretical work on writing (Bereiter & Scardamalia, 1987; Sharples, 1999), the young writers in this sample primarily used a "what next?" type of writing, expending more of their writing energy on drafting text based on a stream of consciousness, rather than on improving text through revision or improving ideas through reflection. Essentially, most students began with an initial idea for writing and then developed this initial idea using a "what next?" strategy, meaning that the writer would add to, or expand, the initial idea by answering the question—"What next?" Sometimes writers broadened this question to include a concern for what an audience might require, or for how the writer might better innovate on a modeled text. Rarely did the young writers in this study use writing to transform their thinking, or their thinking to transform their writing. These more advanced steps seemed too difficult for them to accomplish.

This research suggests that several factors about the initial idea greatly influenced both the amount of text produced and the quality of the writer's reflection about his or her text. More prolific, reflective writers tended to have a "larger" initial idea that could be developed beyond the initial sentences of the piece to include ideas that could be used in the middle and even the end of the future text. These ideas were either available to the writers from the beginning of their writing (Ruth, Tricia, and sometimes Stan), or they were easily extrapolated from the initial idea as the piece

progressed (all five writers.) Furthermore, more reflective writers were also more articulate in general about their intentions, or were able to speculate more freely about possible directions for their work. Writers who could articulate their intentions clearly, or were able to speculate about possible future text got stuck less often, and had ways to re-engage once they reached an impasse. Finally, writers who referred back to their initial ideas when they reached an impasse were more likely to overcome that impasse, and were also able to generate text that fit with an overall theme of the writing.

These findings suggest that teachers can assist student writers' development by helping them at the initial idea stage. Any strategies, models, and lessons that teachers can give students about how to articulate their intentions prior to writing could greatly increase writing engagement and aid writers in being able to develop early reflective practices. This research corroborates the research of others (Saddler, et al., 2004; Scardamalia, et al., 1984; Troia & Graham, 2002) by suggesting that teaching writers verbal and written planning procedures might help them develop stronger initial ideas, which can be used as the basis for expanded writing projects. Furthermore, teacher modeling and encouragement of student talk about their writing might help students develop the crucial ability to develop and articulate intentions for their piece of writing. This research suggests that developing this ability to articulate intentions is a long-term process requiring many opportunities for practice. Finally, teachers can model for students how to use the initial idea as a framework for generating additional ideas once an impasse is reached, and writing has stopped. Developing a set of queries for students to use when they reach an impasse might

help them reattach to the initial idea, or intention, of the text. Queries such as these might scaffold re-engagement practices that will help young writers more reflective: What is my topic? What did I just write? What is my goal for this piece? What do I need to do next to complete my goal?

Fostering an effective writing community. This research is consistent with the findings of other researchers that learning often occurs best in a collaborative environment, where student talk is encouraged, rather than discouraged (Cazden, 2001; Coles, 1995; Kasten, 1997; Ketch, 2005; Parratore & McCormack, 1997; Styles, 1989). Writers often sought out classmates for various reasons: as a source of inspiration for where to go next, as an initial audience for partially completed work, as a source of expert help on text improvements like editing, and as a source of speculative talk about possible directions for the work when writing had ceased. While not studied in this research project, anecdotal observations indicate that three of the five student writers in this project made extensive use of peer networks for all, or some, of the reasons listed above. These writers produced significantly more text than the two writers who chose to write more independently.

As a practical matter, teachers can help students form a writing community by providing students with a place and time for these conversations, and by encouraging them to happen in productive ways. Time can, perhaps should, be left for students to share their work with others before the completion stage, so that students can get numerous opportunities to get feedback from peers about writing choices, and for speculative talk about future writing choices. On the other hand, teachers need to be mindful that, since writing is hard work, talking can become a fast paced substitute

for writing, and peer talk can sometimes decrease writing production (Fox, 2001). Teachers will need to develop explicit routines for peer share time, perhaps even jointly (teacher and student) derived protocols for how and when students can share their work as well as questions for them to use when sharing. Finally, helping students who are either more reserved or private share their work might be necessary. As noted above, two students (Stan and Ed) might have benefited from sharing their work with others on a more regular basis, yet they rarely, if ever sought out others with which to share. Teachers need to be aware of individual differences and needs when setting up a peer-assist program. Interestingly, both of these writers were ones who got easily derailed, and found it difficult to re-engage.

Reflection and engagement. While generally the more reflective the student was, seen primarily through the strength of the initial idea, the more the student was able to write. However, teachers must realize that sometimes students with exceptionally strong initial intentions might actually suffer writer's block as a result of these detailed intentions. In effect, the strength of a student's initial idea can actually exceed his or her abilities to generate the text that is envisioned. As noted above, Stan often had quite strong initial ideas, yet he generated very little text over the course of the year. Some of Stan's lack of productivity stemmed from his frustration with his feeling that he was not able to fulfill those strong intentions.

Implication for Future Research

Peer conversations. This study suggests that peer interactions might be a powerful place for students to make their initial ideas more concrete, and to speculate on what could be written next. Because these interactions occurred outside the

context of the data gathered for this project, the project reveals little about the nature of conversations that occurred between peers. Further research that explores the topics and quality of discussion between peers might help researchers understand the decision making processes of the students as it occurs outside the influence of the teacher, and might help teachers understand when peer talk is productive or unproductive use of class time. Furthermore, understanding how students articulate, and justify, their ideas to peers might help researchers understand the cognitive terrain in which writing decisions are made.

Planning and thinking protocols. This research highlighted the importance of the initial idea in the writing of young students, and the reflective use of those ideas during the drafting process. Further research could explore ways to help writers make the initial idea stronger through making it more explicitly understood by the writer him/herself. One way to do this is through planning protocols, as suggested by Scardamalia, et al. (1984). As a teacher, I explored the creation of written planning documents that were modeled on general story elements we used for reading. Reasoning that students' writing could benefit from using the same format for planning narratives that they used for analyzing narratives, I developed a common planning/analyzing structure. While not reported here, anecdotal notes suggest that, with some practice, students found this planning form to be very useful. Little is known, though, about how students actually used the pieces, and what they thought about as they were using them. In addition, as students became stuck in their writing, some referred back to their original authorial intention to help them plan the next stage of their writing. What effect, if any, would thinking protocols that mimic more

mature thinking have on student reflection at this crucial stage of the writing process? Research that developed thinking protocols, implemented them, and described student use of these protocols to generate, and reflect on text might help researchers better understand the thinking processes of students.

Models. Some students effectively used model texts to help them generate new text, and to make their writing decisions. Model texts came from various sources—other students, teacher written model texts, and trade books. If, as this research suggests, the initial idea for writing is very important for young writers, then instruction in how to use model texts to generate a more complex, detailed, and complete initial ideas might be quite helpful for young writers. More research that seeks to understand the relationship between models and a writer's decision making process could help teachers develop instruction in how to use a model that fits children's needs.

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Appendix A: Using Research Questions to Develop a Line of Thinking

Nudging to Say More:
- Could you say more about that?
- What do you mean by...”
- Could you explain more what you mean by...?

From Knowledge about what good writers do
- Have you planned out your first draft?
- What's the focus of your piece?
- What kinds of revisions have you made?

Questions about Writing Strategies
- How are you going to do this work?
- What strategies are you planning to use to do this work?
- How are you planning to get started with your draft?

From My Prior Knowledge of Students
- Have you done...(what was talked about earlier)?
- How did you...(choose an area that was difficult)?

Connections to Mini-lessons
- Have you tried out what we talked about in the mini-lesson?

About Student Decisions
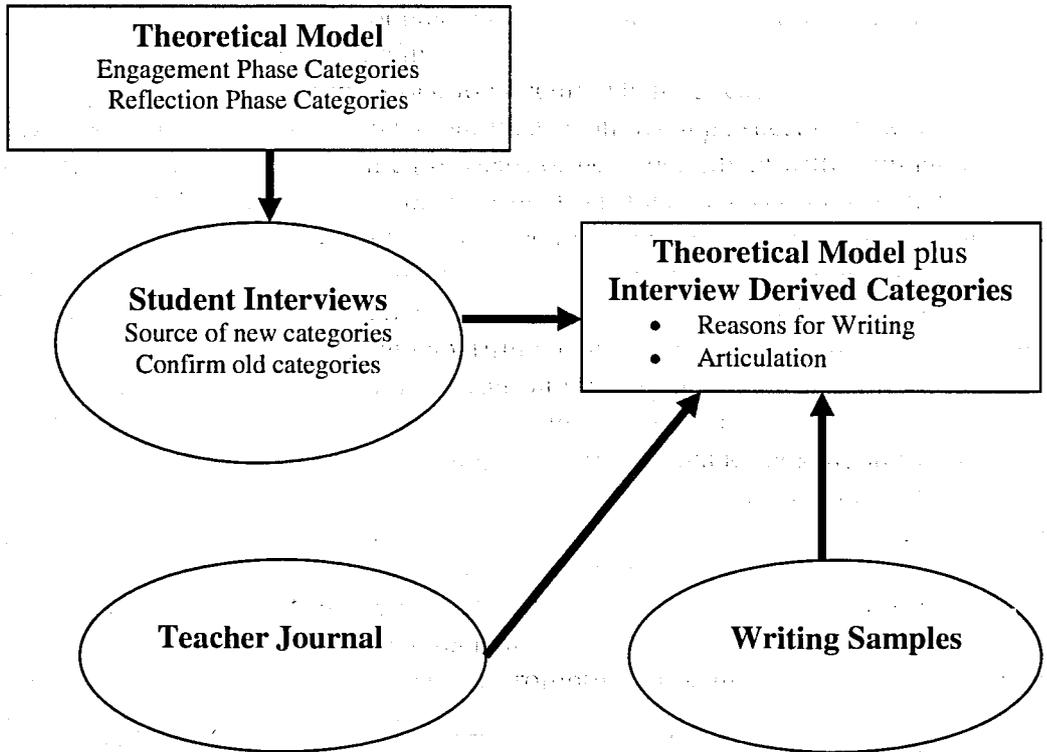- Why did you...?

Conference Process

First part
- Get student talking
- Get on the line of thinking by reading student writing and asking questions
- Decide what to teach student
Second part
- Give feedback
- Teach
- Nudge student to try it
- Link conference to independent work

Theoretical Model
Engagement Phase Categories
Reflection Phase Categories

Student Interviews
Source of new categories
Confirm old categories

Theoretical Model plus
Interview Derived Categories
- Reasons for Writing
- Articulation

Teacher Journal

Writing Samples

Appendix C: Summary of Data by Student and Category

Engagement Phase	
Constraint Category	Analytic Question(s)
Initial focus of writing during drafting	**Stan:** uses sophisticated knowledge of story structures and his own interests; easily derailed throughout as a result of focus on spelling, and difficulty with letter formation, and general distractibility; ideas extremely complete—can dictate quite readily, genre knowledge good—except for explanation **Joseph:** uses models early on, then ideas that are funny (as the result of audience feedback), creation of own "genre"; not easily distracted (sits back and thinks about what next with original intent—funniness—in mind); varying completeness, mostly initial idea sets tone for piece, and then what next fits new material to that tone **Tricia:** clear ideas for what to do, intent known at all times in various genre; not easily distracted—refers back to intent and uses models; initial idea is sophisticated, but not always complete—uses what next to generate more text **Ruth:** sophisticated initial ideas based on intent for piece—funny or odd—or modeled text—Wayside School—or genre—explanations; not easily derailed—what next and refers back to initial intent; beginning idea fairly complete, but sometimes quite idiosyncratic—not as much audience awareness. **Ed:** modeled texts to start, gets small idea that strikes his fancy; easily derailed—initially letter formation, lack of ideas, and distractibility—later, cursive helped letter formation; initial ideas are incomplete and not well thought out, jumps at a small idea, and then gets stuck, unless it is in a genre that he is familiar with—readers' theater, or explanation format

Self-awareness during drafting	**Stan:** intention is often known ahead of time—funny or twist; vague knowledge that writing is difficult, but not known why or how to overcome this—some knowledge later that ideas are there, but needs dictation to get them out; no easy re-thinking, main focus is on getting it out—can re-think out loud though—and articulates how difficult this process is.
	Joseph: intention is often to be funny for an audience of buds—making funny books, so plot and art related—sometimes just for pleasure of finding out what will happen; knows it is fun to write and imagine new ideas, and that new ideas come from "thinking" about them—what next; pauses at an impasse and thinks what next in relation to intent, not much re-thinking of previous material.
	Tricia: intentions are genre related, publishing, make writing as good as she can; knows how she gathers information and organizes information, how to get new ideas from modeled text, revising for cool words; re-thinks as a way to make it look more like book language, as a means to communicate with reader—writing is cool
	Ruth: intentions sometimes clear—reader orientation later—sometimes idiosyncratic, does not publish a lot of pieces; knows how to get new information, how to produce a lot of text—what next but often in relation to initial idea and audience effect, and craft of saying something well; rethinks plan with me quite a bit, criteria are to improve the fit between problem and solution, or to improve organization
	Ed: early on, none, later a sense of audience of friends—did not publish much if at all, though; knows to look for initial idea and where he can get idea, can use modeled text by the end to find missing parts (NF), easily stuck here, though, as self-knowledge of drafting process is not clear; NF evidence of rethinking for audience effect, otherwise not well integrated text, additive, just able to get words down.

Re-engagement	**Stan:** difficult re-engagement, not real strategies to help here, does not use other people to help, teacher prompts
	Joseph: sits and thinks—often reattaches to original intent in additive way, uses friends to help with ideas
	Tricia: uses friends to help encourage, looks to model texts, reattaches to strong initial idea, re-reads to get up a head of steam
	Ruth: re-reading and reattaching to original intent, sometimes talking to others, but not usually, what next
	Ed: teacher prompts, sometimes friends, reattaches to intent, but not very often, re-reading and reference to model text (NF, this was Ed's most mature writing to date.)

	Reflection Phase
Constraint Category	Analytic Question(s)
Planning	**Stan:** topic is known ahead of time generally through a twist or funny theme that shows cleverness; planning not complete—initial idea brings him forward; does not plan during drafting when stuck or otherwise; future text is what next based on plot twists on initial idea for text **Joseph:** topic is something funny, rarely a model; initial planning is to sit and think, talk to a friend to try out ideas—no written planning; planning during drafting is verbal with friends to help get over impasses; future text is related to past text and related to initial idea **Tricia:** topic comes from prior knowledge, modeled text, conversations, strong initial idea; planning is some webbing and list making, talking to others; during drafting will create new categories for NF; future text is related to initial idea and missing categories **Ruth:** topic comes from funny, or modeled text that is twisted in some way, from life; plans by thinking, listing, webbing, sometimes talking through with a friend, but not usually; during drafting refers back to initial idea—for NF refers back to initial categories and thinks about what to add or take away; future text oriented toward initial idea, audience effect **Ed:** topic comes from modeled text often not very complete, just one small idea that caught his eye or imagination; planning not very organized; during drafting—no evidence, except some thinking based on NF model; no organized way of thinking about future text for fiction—NF has idea of what reader needs to know.

Revising	**Stan:** no evidence of revising; rethinking text features will occur through conversation, but not independently (too hard to recopy??); text improvement based on searching for vivid description and plot that is surprising (not retrospective, though)
	Joseph: no revising; rethinking does not occur, except getting somewhat interested in editing; text improvement is based on editing
	Tricia: revising is re-reading on word level, later thinking about what reader needs, wants; rethinking occurs during re-reading and later, through understanding of audience needs; text improvement related to audience needs, descriptive language, ideas about what genre should "look like."
	Ruth: revises through thinking out loud, willing to go back and reconceptualize old ideas, but less willing once it has been committed to paper—sophisticated use of verbal planning to revise old ideas; rethinks ideas based primarily on planning, or on categories in NF text, some moving around old text to fit new categories; text improvement is better fit between problem-solution, text parts, readers' needs
	Ed: revising does not happen much, except in for reader reasons in shorter informational piece; rethinks during planning stage, but only with teacher help—on word level, not macrostructural level; text improvement is writing more, or finding a word that is a "good" word
Integrating old and new text	**Stan:** integration? Very little, but erases when he does this, very little recopying; verbally integrates problem-solution, revisions have to fit into limited space so recopying doesn't occur
	Joseph: matches new and old text thematically, but not retrospectively; thinking? No thoughts expressed, criteria inferred—that new text advances initial idea in some way, or is pleasing to a reader
	Tricia: integration refers back to initial idea and wants new text to make sense—recognizes that this is difficult, willing to recategorize NF text; criteria based on models, readers needs for sense, flow with previous text
	Ruth: integration uses re-reading, audience needs, model texts; will re-think on a macrostructural level as well as a word level
	Ed: integration not considered, additive, unless on NF piece, then based on model text and knowledge of genre; thinking based on model text, otherwise based on what next

Self-monitoring and re-engagement	**Stan:** reflection occurs when he wants to add twists (based on overall intent), knows that he wants to achieve an overall goal (this is difficult to accomplish); successful if pieces fit together, has interesting things to tell reader, or sounds like a story; has difficult time beginning to write again
	Joseph: reflection occurs when he reaches impasse or wants to check out ideas from friends; successful when friends like his ideas, or new idea fits in with original intent; begins writing after impasse has been bridged
	Trisha: reflection occurs when runs out of ideas, or starts something new; successful when original intent is satisfied, or an interesting new idea pops into her head; begins writing again when new information comes in mind or can satisfy original intent
	Ruth: reflects when runs out of things to say, or wants to add on something interesting to reader or self; successful when reattaches to original idea, looks like published work; begins when new idea is present and can be satisfied that it is germane or interesting
	Ed: reflects when is at an impasse, run out of ideas; successful when reengages—not related to macrostructure; begins by teacher prompting, or sometimes by encouragement from others
Genre (Macro-structures)	**Stan:** understands macrostructures—sophisticated initial ideas although little revision on these; genre constraints sometimes difficult to manage—too many sophisticated ideas can stop Stan
	Joseph: understands story structures, but focuses on plot over craft; manages genre constraints by using knowledge of some well-known genre (monster story, etc)
	Tricia: understands many macrostructures—NF, fiction, and poetry; uses knowledge of genre constraints to generate some new ideas (differences between fiction and non-fiction)
	Ruth: macrostructure knowledge high and is using these later in the project—beginning, middle, and end—NF categories/chapters with headings; uses knowledge of genre constraints to help generate and organize text (mystery, NF)
	Ed: understands story structures, but intermittently uses them (readers' theater and NF, yes—story, no); used genre constraints to generate text and organize text (reader's theater and NF), or not (almost all of his other work)

Additional Categories	
Constraint Categories	Analytic Questions
Reasons for Writing	**Stan:** not clear why he writes—to get ideas down on paper, because he has an urge to be creative, to display knowledge, publish **Joseph:** writes for fun, gains stature with friends, interested in seeing where the ideas take him **Tricia:** writes to inform readers, create books for publication, display knowledge, interest in getting ideas down on paper **Ruth:** interested in getting ideas down on paper, creative process, interesting reader, publishing work **Ed:** little sense early on, although has a sense of the bizarre and wants to get this out, later interest in genre (reader's theater, poems, and NF)
Articulation	**Stan:** responds to questions with detailed talk, very clear and precise with language and sentences; brings up issues on his own, elaborates, rarely brings up issues on his own **Joseph:** responds to questions with short answers, does not elaborate much early on, later becomes somewhat more speculative: brings up editing issues and descriptions of what writing means to him,text-wise, not much **Tricia:** responds to questions with details, asks questions, gives additional details, speculative; brings up issues on own, offers ideas about writing process **Ruth:** responds to questions with detailed responses, speculative, exploratory, willing to revise and rethink on the fly; brings up issues on her own, willing to talk about her work and ask questions, offer thoughts freely **Ed:** responses early on were short, later became more descriptive, talked about intention for piece and parts that he liked; brought up issues on own, especially things that he liked, does not ask questions

Story Map

1. Offense (Main Character)
Who is the main character?

4. Field (Setting)
Where/when does the story take place?

3. Defense (Problem)
Who tries to stop the main character?
What special defense does s/he use?

2. End zone (Goal)
What does the main character want?

Plays (Events)
What are the important plays (events) that help the offense reach the end zone?
REMEMBER: In interesting games, the defense throws the offense for a loss sometimes!

5. Beginning. How does the offense start? How does the defense react?

6. Middle. What are the important plays (events) along the way?

7. End. Does the offense reach the end zone? What happens at the end of this story?