

DESCRIBING COMPREHENSION: TEACHERS' OBSERVATIONS OF
STUDENTS' READING COMPREHENSION

BY

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ABSTRACT

Teachers' observations of student performance in reading are abundant and insightful but often remain internal and unarticulated. As a result, such observations are an underutilized and undervalued source of data. Given the gaps in knowledge about students' reading comprehension that exist in formal assessments, the frequent calls for teachers' observational data to fill these gaps, and the paucity of research on teachers as assessment instruments, this study sought to learn more about the knowledge teachers gain about students' comprehension through embedded observation.

This research was framed by a transactional conception of reading and informed by cognitive and sociocultural studies of reading comprehension. It was guided by two questions: 1). What do teachers notice about students' reading comprehension? 2). How do they articulate what they observe and interpret?

Data were derived from a three-phased set of semi-structured interviews conducted with ten study participants, teachers employing a transactional strategic instructional approach in grades two through five. Quantitative and qualitative analyses resulted in a comprehension framework that organizes teachers' observations into three categories: stance, technique, and interpretation. The three categories are comprised of nine observed states and twenty-seven ranges with definitions and exemplars derived from the data. Teachers' observational methods are characterized as a real-time data processing system in which dimensions of comprehension are articulated as moments, patterns, and trends.

Implications for teachers, professional development and public policy are discussed. First, a comprehension framework, drawn from participants' observations of student comprehension, is offered to teachers as a tool for reflecting on and organizing knowledge of students gained through embedded observation. Multiple forms of collaborative inquiry are suggested to support teachers' interpretation and use of observational data to inform instruction. Finally, active support for teachers' local and continuous knowledge construction and a greater appreciation of the complexity and value of the data teachers generate through embedded observation are considered essential to the implementation of data-based instruction.

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CHAPTER 1

INTRODUCTION

Statement of the Problem

This study examines teachers' observations of students' reading comprehension. Its purpose is to shed light on the processes of observation and interpretation teachers employ while interacting with students as they read. Observation is defined as a naturalistic method of inquiry in which the human being is the research instrument (Guba & Lincoln, 1981). It subsumes three methods of data collection: participant observation, informant interviewing, and enumerations and samples (McCall & Simmons, 1969, as cited in Guba & Lincoln, 1981). This study is based on the belief that the teacher is the "primary agent of assessment" in a child's education (International Reading Association and National Council of Teachers of English Joint Task Force on Assessment, 1994) and that a great majority of the data teachers collect, especially regarding reading comprehension, are observational (Meisels & Piker, 2001).

Teachers' observations of students' reading comprehension are abundant (Meisels & Piker, 2001; Hall & Webber, 1997; Paris, Paris & Carpenter, 2001; Stiggins and Bridgeford, 1985) and insightful (Johnston, Weiss, & Afflerbach, 1990), but often remain internal and unarticulated (Hall & Webber, 1997). As a result, such observations are an underutilized and undervalued source of data (Johnston & Costello, 2005; Stiggins, 2002). However, when teachers are given a framework for reflection, the resulting articulated observations constitute a body of data that effectively describe students' thinking and inform instruction (Afflerbach, 1992).

The conceptual framework of teachers' knowledge that undergirds this study incorporates notions of teaching and assessment as a reflective practice: as science, as art, and as craft (Broadfoot and Black, 2004; Eisner, 2003; Schwab, 1983; Shulman, 1986; Schon, 1992). Shulman (1986) says that teachers' knowledge comes in the form of propositions and statements or theories to be demonstrated which are the result of formal research and "wisdom in practice." His notion of "wisdom in practice" is similar to ideas put forth by Schon's (1992) "knowing-in-action," Dewey's (1910/1997) "reflective thought," and Cochran-Smith and Lytle's (1999) "knowledge-in-practice." Though there are differences among these terms, in general, they are used to represent knowledge that teachers construct as a result of experience and reflection: the interplay between internal and external, explicit and implicit theoretical knowledge and theory of action. They each attempt to explain the epistemological and phenomenological aspects of "on the job" knowledge construction through "reflective practice" (Greene, 2000).

In Clark and Peterson's (1986) review of the research on teachers' thought processes, planning, decision-making, judgment, implicit theories, expectations, and attributions are identified as aspects of the construct. Studies in this field seek to understand how teachers make sense of and act in the complex situations that are characteristic of their everyday practice. They are motivated by findings regarding the positive relationship between teacher knowledge (Goodman and Watson, 1977) and teacher decision-making (Borko, Shavelson, and Stern, 1981) on student learning. Teachers' content knowledge, categorized by Shulman (1986) as subject matter, pedagogical, and curricular knowledge, is implicit in all aspects of teachers' thought

processes. Teachers' knowledge of individual students – what they know and how they learn (Hiebert, Gallimore, and Stigler, 2002) is subsumed by each of the content categories in Shulman's framework. Teachers' observations, in general, are emblematic of the complex and dynamic relationship between teachers' content knowledge and knowledge of students.

In the field of assessment, teachers' observations may be categorized as formative. That is, observation is a formative assessment tool when it provides teachers with information that serves to modify instruction and promote learning (Black & Wiliam, 1998; Rea-Dickens, 2001). Even though formative assessment is considered one of the most important instruments for improving teaching and learning (Black & Wiliam, 1998; Rea-Dickens & Gardner, 2000), little is known about the vast amount of observational data collected and processed by teachers (Duke, 2005). In the realm of reading research and policy, where disagreement about assessment seems to be the rule, there *is* consensus about the limitations of current formal instruments of reading (Sweet, 2005; Pearson & Hamm, 2005; Murphy, 1998). Three of a larger list of problems cited by the Rand Reading Study Group (Sweet, 2005) of available assessment instruments are: (1) their inadequate representation of the complexities of reading comprehension; (2) their bias toward underlying assumptions of the dominant language and culture group (Johnston, 1984); and (3) the uselessness of the data they generate for teachers. In ten years of research on exceptional and not so exceptional elementary literacy teachers, Pressley (2005) reports, "we have not found one instance where a classroom teacher used standardized test data to make instructional decisions about a student" (p. 311).

Meisels & Piker (2001) conducted a survey to find out what assessment tools teachers used to assess early reading. They found observation to be the most common methodology, but guidelines for observing, sparse. They suggest, "more detailed instructions to provide teachers with an understanding of why certain types of information should be observed rather than others" (p. 32). In a study of teachers' assessment of literacy learning, Johnston, Weiss, and Afflerbach (1990) found that the primary source of knowledge about students for all teachers, regardless of their teaching context or knowledge about literature, was observation of student behavior and student talk.

Even though research verifies their abundance and importance, little is known about the quality, process, and content of teachers' observations of students' reading comprehension. If teachers are the primary assessors of students, and if instructional decisions about reading are based on teachers' understanding of and response to the idiosyncrasies of students' ways with text, then it is important to know more about the nature of teachers' daily observations and interpretations of students' reading comprehension. This inquiry is framed by two questions: What do teachers notice about students' reading comprehension? How do they articulate what they observe and interpret?

Justification for the Study

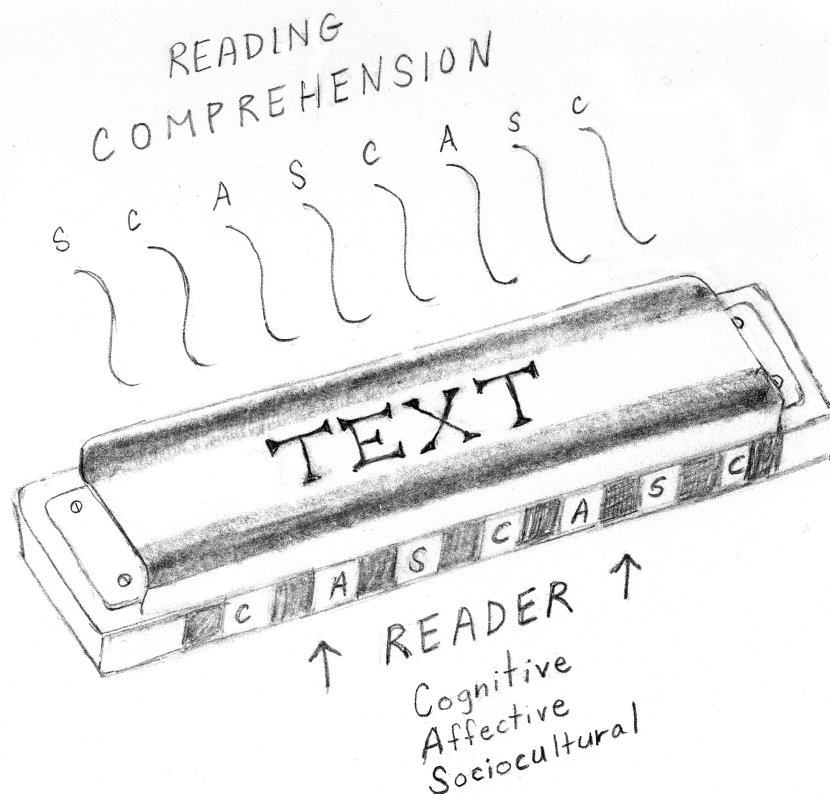
Defining Comprehension

Reading is a uniquely human experience that allows us to communicate with distant others. To read and comprehend a text is to commence an intellectual, emotional, aesthetic, and social process. Drawn from the constructivist paradigm, Eleanor Duckworth's (1987) exuberant phrase "the having of wonderful ideas," speaks to a view of learning as a process marked by particular moments of discovery when what was previously unknown or unclear takes on new meaning or relevance. In this sense, discovery does not refer to a finding or invention that is new for the community at-large, but rather to that which is novel for an individual learner. Reading comprehension too, is a process of discovery, different for all readers by virtue of their experience, social relations, habits of mind, and emotional fabric. By reading and comprehending, people create intellectual, emotional, and cultural products to enrich their personal, professional, and civic lives. Readers clarify, revise, and extend what they already know. They savor the beauty of language and marvel at its power. They think. They feel. They question. They change.

My conception of comprehension is conveyed by the image of a harmonica (see Figure 1). Tones are produced when a harmonica player inhales or exhales through the openings that lead to reeds inside the instrument. The quality of sound created is dependent upon the construction and quality of the harmonica and upon the experience of the player. In much the same way, a reader inhales and exhales as they engage with text. Meaning is shaped by the content and quality of the text and by the

reader's experience. Reader and text mingle and merge to construct meaning. This dynamic exchange of "air" represents the transactional nature of the reading process (Rosenblatt, 1936). As tonality, emotion, and style yield musical variety, three dimensions of human engagement, the cognitive, socio-cultural, and affective/aesthetic account for diversity in creation and interpretation of a text. Like the harmonica, whose tones are often played in unison to great effect, aspects of reading within and among these dimensions are orchestrated and intertwined. Thus, reading comprehension is the harmonic rendering of thinking, feeling, experience, and social interaction.

Figure 1: Conception of Reading Comprehension



Comprehension Instruction

Comprehension instruction informed by a socio-cognitive conception has been termed transactional strategies instruction (Pressley & El-Dinary, 1992). This approach acknowledges the transaction between reader and text and the harmonic interplay between cognitive, social, and affective aspects of reading for meaning. Instruction guided by this conception implies a shift from the traditional I/R/E (initiate, respond, evaluate), (Cazden, 1988) pattern of classroom discourse where teachers' questions prompt discussions and teacher talk accounts for most language produced in the classroom. In a transactional strategic approach, students' thinking is at the center of the curriculum. Teachers think-aloud as they read to demonstrate cognitive, affective, and critical response to text. Instruction includes direct explanation and reflections about what, how, and why a particular strategy is used in order to promote students' metacognition and self-regulated comprehension. Teaching follows a release of responsibility framework (Vygotsky, 1978) by scaffolding students' engagement (Bruner, 1956) and offering opportunities for guided practice. Instruction is responsive and flexible (Pressley & El-Dinary, 1992). Speaking, writing, and listening are important tools for the development of thinking and response to text. Time for student talk is frequent with opportunities before, during, and after reading to think-aloud or engage in open-ended literate conversations with members of the class. Written responses are also evident in jottings (a written form of think-aloud) and in more developed pieces.

Judith Langer's (1995) work on envisioning literature, an elaboration of Rosenblatt's transaction theories regarding the dynamic relationship between a reader

and a text, offers teachers a framework for thinking about a reader's interpretive journey within this instructional context. She identifies four stances readers take in the process of "envisionment building." The first stance, "being out and stepping into an envisionment," is what a reader does when they form initial impressions using prior knowledge and surface features of the text. Stance 2, "being in and moving through an envisionment," describes the way a reader becomes more immersed in the "text-world" created by the author using knowledge of the self, the text, and of others. Stance 3, "stepping out and rethinking what one knows," is when a reader uses what they have learned from the text to expand their knowledge. It represents a shift from the use of prior knowledge to understand the text-world, to thoughts about how the text impacts or changes a reader's thinking. The fourth stance, "stepping out and objectifying the experience," is when the reader reflects or analyzes the reading experience or the literary text. The complex conception of comprehension and process based methods of instruction presented here demand the use of assessments reaching beyond traditional content-based literature exams.

Assessing Comprehension

Teacher observation is frequently identified in the literature as a way to assess students' reading comprehension (Clay, 1991; Fountas & Pinnell, 2001; Johnston, 1997; Goodman, 1996; Valencia, 2007; Hilden & Pressley, 2007). This emphasis is justifiable given teachers' close relationships and proximity to the many aspects of students' lives. In this view, assessment is "less a technical matter of developing accurate measuring instruments" and more a social process (Johnston & Costello,

2005, p. 258). Much like reading, assessment may be understood as a multi-dimensional interpretive process where dimensions of comprehension mirror dimensions of assessment.

Because instruction focuses on comprehension processes that students can carry forward to other texts, correct answers to teachers' questions about a particular text are no longer a sufficient measure of comprehension. Assessment requires teachers' attention to students' activation of prior knowledge, self-questioning, metacognition (Sweet, 2005), predicting, determining importance, visualizing, and inferring (Pressley & Afflerbach, 1995), a few among many other reading strategies. So much about students' comprehension is made evident during complex language-rich classroom interactions. This places great demands on teachers who are highly engaged participants in the very processes they seek to observe and interpret.

Checklists and anecdotal notes suggested as tools for observational data collection (Clay, 1991; Fountas & Pinnell, 2001; Valencia, 2007; Miller-Powers, 1996) imply a relationship between observation and the creation of a cumulative written record. As important as a written record is, most of what a teacher observes is not recorded (Valencia & Place, 1994; Carini, 1986). Instead, observations are processed for immediate response, stored in a teacher's memory for reflection and future action, disregarded, or forgotten. Observations are so embedded in the processes of teaching and learning that teachers find their form and substance difficult to describe (Hall & Webber, 1997).

The limited "technology" available to teachers for assessing reading comprehension may be due in part to the paucity of research looking closely at

teachers themselves as legitimate assessment instruments. In the literature, teachers' observational assessments are referred to as "informal" because they are not generalizable. Johnston and Costello (2005) suggest the lack of authority associated with observational data is due to the absence of a textual record, and because "they are the purview of teachers, mostly women, and they are not normally in the language of mathematics" (p. 263).

Duke (2005) says the gaps in knowledge about students' comprehension that exist in formal assessments of reading, about engagement, attitude, prior knowledge, and metacognition are the very gaps teachers try to fill every day. She asserts that even if a comprehensive system of assessments could be developed to capture all the dimensions of reading, it would not be practical to administer them. Duke reminds us, "The burden will fall on teachers to use informal means and everyday observation to supplement our measures in the many types of text, domains, and situations that our assessments fail to tap," and calls for "an active program of research and development on teachers as assessors" (2005, p. 103).

Purpose of the Study

Despite this call, state and federal education policy legislates accountability testing, progress monitoring, and data-driven instruction, mandates that divert attention and resources away from research and development of teachers as assessment instruments. Steeped in the discourses of behaviorist learning theory and database management, *No Child Left Behind* (NCLB), *Race to the Top* (RTTT), *Response to Intervention* (RTI), teacher evaluation systems employing value-added formulas, and special education regulations require teachers to set narrow learning

goals and measure outcomes quantitatively. In this paradigm, monitoring reading progress is reduced to graphing accuracy and fluency rates or tracking movement through text levels. Comprehension, deemed difficult to measure, is inferred from the predictive value of a student's calculated fluency rate, represented by a narrow assessment of comprehension, such as retelling, or signified by performance on a benchmarked text. Rather than develop and promote teachers' observational data as a way to capture and understand the most complex aspects of comprehension, current public policy forces teachers to operate under such a constrained notion of what constitutes data that it effectively removes their knowledge from official consideration. This impoverished view of inquiry marginalizes teachers' understandings of students, of curriculum, of teaching and learning, and diminishes the power of observational data to function formatively. Pressley and Hilden (2005) remind us, "science that informs and transforms the education of teachers is going to be concrete, in the form of images, or at least imaginable from verbal descriptions" (p. 310). This is also true for the data teachers use to inform instruction and transform student learning. To be of use, data must provide teachers with descriptions of students at work in relation to specific challenges. Tests whose results are reduced to a raw score or percentile rank do not provide the concrete images and descriptions of student performance teachers need most to make informed decisions about instruction.

Given the complex conception of reading that informs current comprehension instruction and the frequency with which *teacher observation* is identified as a method for assessing the most test-resistant aspects of reading, it is surprising so little research focuses on teachers as assessment instruments. The purpose of this study is to learn

more about assessment of reading comprehension from a teacher's perspective in the realm of practice where "design and intention collide with chance" (Shulman, 1998, p. 519). How do teachers use their "human judgment to create bridges between the universal terms of theory and the gritty particularities of situated practice" (Shulman, 1998, p. 519)? How do teachers make sense of the complexity and unpredictability of their students' processes of reading for meaning? What do they notice about students' reading comprehension? How do they articulate what they observe and interpret? By studying teachers' observations, I hope to give form, voice, and authority to the knowledge they construct about students' reading comprehension.

CHAPTER 2

REVIEW OF THE LITERATURE

Reading Comprehension

Historical Perspective

Current conceptions of comprehension are informed by diverse disciplines of study: cognitive science, psychology, sociology, linguistics, cultural studies, literary criticism, and composition (Gee, 2000; Alexander & Jetton, 2000; Wilkinson & Silliman, 2000; Marhsall, 2000; Guthrie & Wigfield, 2000; Pressley, 2000; Snow, 2002). A convergence of perspectives among thinkers in these disciplines has contributed to an expanded view of what it means to read and comprehend. In the 1950s however, driven by behavioral psychology, reading was explained in narrow terms of stimulus/response theory. Based on task analyses of reading (Rosenshine, 1980), instruction was designed to provide opportunities to practice identified sub-skills. It was believed that if, for example, students practiced and could successfully identify the main idea or sequence a series of events, they could apply these skills to their reading of continuous text. Based upon this theory, publishers produced basal readers complete with scripted teachers' manuals, workbooks, teaching charts, and assessments. In 1977, the Educational Product Information Exchange Institute reported, "95% of what is done in classrooms can be attributed to commercially prepared materials" (as cited in Durkin, 1978-1979, p. 523.) Publishers justified the technical control their programs exerted by claiming that teachers did not have the knowledge necessary for teaching reading. This pejorative assumption has contributed to the "deskilling of teachers" (Shannon, 1989) and loss of professional authority.

In preparation for an observational study of comprehension instruction, Durkin (1978-1979) searched the literature for a working definition of comprehension. Representative of thinking at the time, she cites Bormuth's (1969) definition - "a set of generalized knowledge and acquisition of skills which permit people to acquire and exhibit information gained as a consequence of reading printed language" (p. 50) - as one of the better ones. Without much else to build upon, Durkin defined comprehension instruction and comprehension application for her study respectively as, "Teacher does/says something to help children understand or work out the meaning of more than a single, isolated word," and "Teacher does/says something in order to learn whether previous instruction enables children to understand the meaning of connected text not used in that instruction" (p. 488). Even with such an open definition to guide her analysis of what qualified as comprehension instruction, she observed almost none. Rather, she found teachers mentioning texts, giving assignments, checking, or interrogating students for assessment purposes.

In the 1970s, cognitive psychologists began looking at ways people solve problems. Olshavsky (1976-77) was among the first to apply this idea to reading. Thus began a wave of studies focusing on reading as a cognitive problem-solving process. Pressley & Afflerbach (1995) conducted a meta-review of cognitive-processing studies of reading comprehension that employed think-aloud and verbal protocol methodology. These investigations focused on proficient readers and yielded categories of strategies used before, during, and after reading such as constructing a goal, predicting, activating prior knowledge, determining importance, self-monitoring, self-questioning, visualizing, hypothesizing, making inferences, and drawing

conclusions. This body of work provided the field with a vision for teaching comprehension.

Studies testing the efficacy of training in the use of strategies such as summarization (Palincsar and Brown, 1984), inference (Dewitz, Carr, & Patberg, 1986), and self-questioning (Rosenshine, Meister, & Chapman, 1996; Wong, 1985) followed. In a review of strategies proven to produce memory and comprehension gains, Pressley, Johnson, Symons, McGoldrick, & Kurita (1989), cite summarization, mental imagery, story-grammar, question-generation, question-answering, and inference strategies as most effective and instructionally efficient. Reciprocal teaching, a mode of instruction based upon Vygotskian notions of scaffolding and teaching in advance of competence was used as a method for teaching bundled strategies such as summarizing, self-questioning, clarifying, and predicting in the context of an actual reading task. In a review of research on reciprocal teaching, Rosenshine & Meister (1994) report effect sizes on comprehension of .32 when a standardized test was the outcome measure and .88 when a researcher-developed tool was used. This discrepancy demonstrates what happens when assessments are conceptually incompatible with instruction. Standardized tests do not capture dimensions of development embodied by Vygotskian principles of learning.

Prior Knowledge

In this section I review literature that describes the cognitive, sociocultural, and affective dimensions of prior knowledge as it relates to reading comprehension. Prior knowledge in the cognitive domain of reading comprehension research is described in

terms of schema theory. Schemata are networks of mental structures that incorporate and organize one's general knowledge of the world (Anderson & Pearson, 1984). The concept of schema is attributed to Bartlett (1932) who studied subjects' recall of culturally unfamiliar text. With repeated readings, he found their retellings contained less information, more intrusions and disambiguations (a reader's attempt to make a match between the text and their existing schema to construct meaning). Bartlett concluded that memory is not a process of simple retrieval, but rather an active process of construction involving an individual's entire knowledge system. While Bartlett's ideas were rebutted for decades, they were revisited in the 1970s termed as frames (Minsky, 1975), scripts (Schank & Abelson, 1977) and schemata (Anderson and Pearson, 1984) and have become central to modern elaborations of schema theory and consequent constructivist conceptions of knowledge acquisition. Schemata are characterized as networks of connections between high-level summary concepts within which exemplars or other ideas fit, an umbrella under which related ideas are gathered. These networks are dynamic. That is they are subject to reorganization through processes of assimilation and accommodation (Piaget, 1977).

In reading comprehension, prior knowledge relates to domain specific knowledge – what is known about the particular content in a text; knowledge of text structure and genre – what is known about form and conventions; socio-cultural knowledge – beliefs and cultural experiences that shape one's habits of mind; and knowledge of discourse – expected linguistic and communicative patterns (Dole, Duffy, Roehler, & Pearson, 1991). In general, research reveals a direct relationship between levels of prior knowledge and comprehension at literal and inferential levels

for children and adults (Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989; Brown, Smiley, Day, Townsend, & Lawton, 1977) and characterizes activation of prior knowledge as mostly automatic, in contrast to the other reading strategies that can be consciously controlled (Pressley, 2000).

Afflerbach (1990) studied the effect of prior knowledge on expert readers' strategies for construction of main idea statements. His experiment confirmed Johnston & Afflerbach's (1985) finding that readers are more likely to make initial hypotheses or automatically construct main idea statements when reading a text with familiar content, but employ strategies of draft and revise, topic/comment, and list, with unfamiliar text. Other studies investigated the relationship of prior knowledge to inferential thinking. Given the notion that a text is never fully explicit, Anderson, Reynolds, Shallert, & Goetz (1977) examined the effect of experience on readers' interpretation of text. Physical education and music students were asked to read two intentionally ambiguous passages. One could be interpreted as a prison break or wrestling match, the other about card playing or music rehearsal. The authors conclude that prior knowledge plays a role in inferential elaboration as when readers "read between the lines" about characters' motives or mental states and predict outcomes or events. They claim dominant high-level schema, a reader's predominant orientation or perspective, can "cause a person to give one interpretation to a passage without even considering other possible interpretations" (Anderson et al., 1977, p. 371).

Anderson, Reynolds, Shallert, & Goetz (1977) draw three conclusions from this study relevant to instruction. First, a breakdown in comprehension may be

attributed to deficits in knowledge rather than in "linguistic skill narrowly conceived." Second, a reader may have difficulty activating relevant schema or lack the flexibility needed to adjust to a different knowledge structure when the first proves inadequate. Third, nearly one-third of the recall protocols (the retellings of study participants) did not reveal readers' underlying interpretations. Although "slots" were appropriately filled and enough elements of the text were accounted for in retellings to suggest a literal understanding, retelling did not reveal whether a reader thought the passage was about a prison break or wrestling match. The finding that content schemata matching (as measured by retelling) does not provide sufficient insight into a reader's comprehension is interpreted by the researchers as having important implications regarding prior knowledge and assessment when "gaps" in knowledge that may be viewed as "blemishes" may actually be indicative of a very "different point of view." Their data also suggest instruction focusing on literal recall may cause students to believe it is wrong to bring their prior knowledge to bear on a text, and best to, "play it safe, to read word by word and line by line" (Anderson et al., 1977, p. 378). This speculation was given credence by a student participant of an inference and question answering training study (Hansen & Pearson, 1982) who said, "I didn't know it was okay to use my head to answer questions" (p. 21). These studies found that struggling readers benefited more from explicit strategic training than did more proficient readers and call attention to the metacognitive dimension of comprehension which I will address later in this review.

A study by Steffensen, Joag-Dev, & Anderson (1979) attempted to isolate cultural schemata as a variable in text comprehension by asking American and Indian

(natives of Asia) participants to read passages about American and Indian marriage customs. Reading rate, recall of text elements, and text modifications were assessed in relation to culturally familiar concepts. All variables were positively correlated. Studies of culture in the cognitive domain, like this one, attempt to quantify the effect of cultural schemata on reading comprehension by treating culture as an independent variable (Cole, 1985). Cognitive psychologists consider culture an aspect of prior knowledge and view it as a network of domain specific knowledge structures associated with comprehension in a cause and effect relationship. Cole warns that such an approach "precludes analysis of change . . . of the intimate mechanisms that transform culture into cognition" (p. 147). He suggests that without an integrative view of cognition, cross-cultural psychology, and anthropology, each field is "trapped in its own set of phenomena, sealed off methodologically from the other" (p.148). Cole goes on to say that Vygotsky's work creates the necessary bridge between the study of culture, cognition, and cognitive development.

Vygotsky's socio-cultural or socio-historical work attributes psychological development to the mediating effect of culture and social interaction. He says, "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (1978, p. 83). He explains that higher psychological functions move from an interpsychological plane when intellectual functions are supported externally by a more experienced learner, to an intrapsychological plane when an individual internalizes the processes. Vygotsky coined the phrase "zone of proximal development" which he describes as, "the distance between the actual developmental level as determined by independent

problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). He asserts, "the only 'good learning' is that which is in advance of development" (p. 89). Bruner uses the term "scaffold" (1985, p. 25) to conceptualize the dynamic support given to a learner by a mentor or teacher that allows an individual to function in advance of their development.

How do these theories inform our understanding of the socio-cultural dimensions of prior knowledge in relation to reading comprehension? They tell us that the cultural dimension of prior knowledge in reading comprises much more than a one for one match between "cultural" concepts located in a text to "cultural" concepts in a reader's schema. Vygotsky's theories expand the notion of schema from conceptual knowledge about culture to abstract psychological processes associated with a culture or community of practice: ways of seeing the world, ways of feeling the world, ways of thinking about the world, and in turn, ways of reading and interpreting a text. If learners grow into the intellectual life of those around them, every aspect of their social and cultural life has implications for the way they read and interpret text.

For example, in an in-depth ethnographic study of the literacy practices of an Amish community, Fishman (1988) found six identifiable abilities that count as reading: to choose and discriminate among texts; to read written directions; to recall what is read; to memorize what is read; to synthesize within or across texts to draw conclusions that are in accordance with community beliefs; and to empathize with characters for the purpose of "explicitly or implicitly drawing morals to one's own life" (p. 134). She also found two skills that do not count as reading: literary

appreciation and literary criticism. That is, the Amish do not read to notice literary technique or analyze its components. Rather than objectify the text, they appreciate its instructive and empathic power and "find the connection between what is written, what is felt or believed, and what should be done" (Fishman, 1988, p. 137). In this community of practice, (Fish, 1980) interpretations are made by consensus and are talked about as how "we" would read a particular text. Fishman (1988) says, "minds exist not in social or cultural vacuums but in interpretive communities" (p. 167).

To explain the aesthetic/affective dimension of prior knowledge, I draw on the reader response theories of Louise Rosenblatt (1995). Rosenblatt proposes that readers engage with text on a continuum of purpose, from efferent – reading to abstract or analyze information or ideas in a text, to aesthetic - "to live through" a text to experience it artistically and emotionally. Rosenblatt says, "An intense response to a work will have its roots in the capacities and experiences already present in the personality and mind of the reader" (1995, p. 41). Thus, an individual's emotional experience can be understood as prior knowledge in the affective domain. Additionally, reading can broaden one's emotional experience, expanding emotional schema, by giving form to a reader's "nebulous emotions."

Metacognition

Flavell (1976) defines metacognition as "one's knowledge concerning one's own cognitive processes and products" including, "the active monitoring and consequent regulation and orchestration of these processes" (p. 232). Brown (1980) associates this reflective state of mind with Vygotsky's ideas about the development of

thought from automatic and unconscious to active conscious control. In the fields of cognitive and developmental psychology, interest in metacognition marked a research shift from training studies to promote learning to those focused on instructing participants to extend their own learning (Brown, Campione, and Day, 1981), or learning how to learn.

In reading comprehension, metacognition refers to: (1) what one knows about one's cognition; (2) one's awareness of understanding or break down - or as Brown says, "knowing when you know and when you don't know," and (3) the repertoire of strategies one employs to repair comprehension when a gap in understanding is noticed. Paris and Jacobs (1984) describe the reasoning associated with children's reading awareness of comprehension in three skill categories: evaluation – appraisal of the task and of one's cognitive ability; planning – selection of actions to reach goals; and regulation – monitoring and redirecting one's efforts. Additionally, Paris and Jacobs say this kind of reasoning is informed by declarative, procedural, and conditional knowledge. Declarative knowledge is knowledge about a domain or "knowing that." Procedural knowledge is "knowing how," (Bruner, 1972).

Conditional knowledge is knowing when and why to apply strategies. Metacognitive readers are described as planful and flexible, as opposed to mechanical, though Baker and Brown (1984) point out that strategic or planful behavior is required when a text presents moderate challenge, or a "triggering event." If it is too easy, processing is not conscious; if it is too difficult, the reader gives up.

Reading strategies associated with comprehension monitoring are setting purposes or goals for reading, self-questioning, paraphrasing and summarizing,

integrating prior knowledge with content, and evaluative actions such as making, confirming or revising predictions or assumptions. Compensatory strategies for regulating or repairing comprehension are rereading, backward and forward searching, slowing of reading rate, self-questioning, connecting text with prior knowledge, and comparing main ideas with details (Haller, Child, and Walberg, 1988). In a quantitative synthesis of metacognitive intervention studies, Haller, Child, and Walberg (1988) report an effect size of .71, one of the largest in educational research. This body of work strongly supports the claim that reading comprehension can be taught.

In the early stages of metacognitive research, Brown (1980) acknowledged the challenge of studying the phenomena in children who are less conscious of their mental processing, less able to be introspective, and less able to exert conscious control over their cognitive activity. The field faced the methodological challenge of externalizing the mental events of metacognition through various procedures: interviewing readers retrospectively, inserting questions in text to document readers' strategic behavior, training participants to think-aloud using "on-line" verbal protocols, presenting subjects with ambiguous or incomplete text to observe their "fix-up" strategies, and asking readers to assume a teaching role in order to externalize the strategies they are able to employ (Garner, Wagoner, and Smith, 1983). It is interesting to note that, although the same methodological challenges (compounded by the demands of the busy classroom) exist for teachers, informal observation is frequently recommended as a way to assess students' cognitive and metacognitive processes, (Pintrich, 2002) though little attention has been paid to how they do it.

Teacher Knowledge

Teachers' Conceptions of Comprehension

Ironically, studies of teachers' conceptions of reading comprehension and decision-making conducted in the 1970s and 1980s reveal more about systemic constraints on teachers' thoughts and decision-making processes than on the thoughts and decisions themselves. Since the 1940s, test makers, curriculum developers (mostly in the form of basal text book authors and publishers) and administrators enforcing the use and pacing of specific programs have exerted technical control of reading curricula and instruction in the United States (Duffy, Roehler, & Putnam, 1987; Shannon, 1983; 2007; Paris, Wixson, Palincsar, 1986; Richardson, Anders, Tidwell, & Lloyd, 1991). Master developers provided teachers with scope and sequence charts, scripted teachers' manuals, grade level readings, workbooks for skills practice, and unit tests to monitor progress for the purpose of controlling teacher behavior and improving instructional quality.

The reification of comprehension, (Shannon, 2007) the belief that the reading program *is* reading – effectively usurped teachers' authority over instruction and assessment in their classrooms, short-circuiting processes of knowledge construction (Darling-Hammond, 1994) and instructional decision-making. This is evidenced by findings contained in the final report of a four-year research project designed to determine the relationship between teachers' conceptions of reading and their instructional practice. Duffy and Anderson (1982) found that, "teachers' content of instruction was more a result of the directives of the materials than the judgments of the teacher" (p. 41). In a similar study of teachers' concepts of reading and

instructional decision-making, Richardson, Anders, Tidwell, & Lloyd (1991) conclude, "although they used the basals somewhat flexibly, these materials still governed the teachers' thinking about the teaching of reading" (p. 579). Additionally, in an article analyzing the relationship between instructional decision-making and basal reading textbooks, Duffy, Roehler, and Putnam (1987) state, "although effective reading instruction demands independent decision-making, many elementary teachers do not feel free to make decisions. Expectations for how the basal textbook is to be used are a major factor in contributing to this situation" (p. 364). Constraints placed on teachers' instructional decisions through curricular control have parallel effects on teachers' knowledge of students.

Teachers' Knowledge of Students' Comprehension

Programmed instruction exerts similar constraints on teachers' knowledge about students' comprehension because of the control it places on student behavior and engagement. Johnston, Weiss, and Afflerbach (1990) studied teachers' descriptions of students' literacy development in more or less controlled instructional settings to learn about the knowledge teachers bring to bear on their evaluations of students. Though all teachers mentioned classroom observation as a method of assessment, they found that teachers who had more knowledge of literature and taught with fewer external restraints such as those imposed by basal readers and extensive high-profile testing systems, relied more heavily on observations of student behavior and talk about books, and offered more detailed descriptions of students.

Of particular relevance to a study of teachers' observations and interpretations of students' development is what Pat Carini (1979; 1986; 2000; 2001) refers to as the visibility of the child. She describes the child as "maker" whose natural inclination is to create and interact with his or her environment and reminds us of a fundamental relationship between the range of possibility for engagement afforded to a child in a given environment and the degree to which a child's development is observable. Therefore, to study teachers' observations of reading comprehension, it is important to ask, to what extent is a child's thinking made visible in a particular teaching context?

Teachers' conceptions or theoretical frameworks also affect what they notice and how they interpret what they observe. Conducted in the field of mathematics instruction, the Cognitively Guided Instruction (CGI) research project (Carpenter, Fennema, Peterson, & Loef, 1989) sheds light on how teachers' knowledge of descriptive research on children's thinking (cognitive strategies for solving addition and subtraction problems) impacted their instructional decisions and knowledge of students. In a four-year classroom-based case study of one teacher who participated in the CGI professional development (Fennema, Franke, Carpenter, & Carey, 1993), researchers observed her listening closely to students and questioning them about their thinking as they constructed, reflected upon, and explained solutions to problems. The researchers discovered rather than use the cognitive framework hierarchically to design progressively challenging problems for students to solve (as a guide for a scope and sequence) as expected, the teacher used it as a tool for analyzing and understanding the complexity of children's thinking.

In the field of reading, Duffy (1993) studied the effect of an on-going site-based professional development project on teachers' conceptions of comprehension and instruction. Participants received new information about human cognition, knowledge construction, strategic thinking, and in-class support from the researchers but were not given a set of instructional materials to follow. Instead, they were expected to create their own instructional program. Duffy analyzed change in teachers' conceptions of strategies instruction and devised a nine-point continuum describing the recursive process of growth he observed.

The nine points are summarized as follows: Point 1: Confusion and Rejection; teachers insisted that they needed the basal program. Point 2: Teacher Controlled the Strategies; the teachers, not the students, did the generative thinking. Point 3: Trying Out: Teachers introduced and named strategies, explained why they were important, but did not relate one strategy to another or help students apply strategies in context in a flexible, adaptable manner. Point 4: Modeling Process into Content: Teachers employed think-aloud, related strategy use to a text, but students were not aware of why or when to use strategies other than during instructional time. Point 5: The Wall: Teachers reached a level of frustration when they realized that demonstrating strategies was not enough, they had to provision and support meaningful application of reading strategies. They "resisted embracing the complexity of strategy instruction" (p. 115) and searched for commercial programs that would simplify implementation. Point 6: Over the Hump: Teachers understood a larger purpose for strategies. They contextualized work in authentic goals, problem solving, or production of a real product and focused on students' overall sense-making

strategies. Point 7: I Don't Quite Get it Yet: Still believing there was "a right way to do" strategies, teachers resisted taking authority for decision-making. Point 8: Creative-Inventive: Teachers took authority for making instructional decisions based upon their knowledge of students' needs and understood the importance of authentic applications of strategies. They tolerated ambiguity and accepted complexity. A Point 8 teacher is quoted as saying, "Nobody, nobody can make a better decision than me for these kids right now at this point." Point 9: No teachers were observed at point 9 and no name was given. It was intentionally left open to represent the emerging and dynamic nature of the process of becoming an expert strategies teacher. Duffy's findings point to the cognitive, social, and affective demands a strategic approach places on teachers and to the increase in knowledge they construct about students.

Afflerbach (1993) devised a framework called STAIR (System for Teaching and Assessing Interactively and Reflectively) to assist teachers in using what they observe and know about students' reading. The framework elicits a teacher's hypothesis, sources of information supporting their hypothesis (observations), and ideas for instruction to address the problem. After instruction, the teacher is asked to reflect on his or her original hypothesis and new sources of information, thus the framework guides them through a recursive process of observation, theory-building, action, and reflection. While the framework seems like a useful tool for intentionally linking assessment with instruction, no information beyond a basic description of its use is available in the literature.

More recently, Hilden & Pressley (2007) studied the challenges teachers face when learning to teach reading comprehension strategies. Among concerns about professional development, instructional decision-making, choice and availability of appropriate texts, challenges with particular students, classroom management, time for the curriculum, and timing of the curriculum, were questions about informal assessment. Though teachers felt they made improvements in instruction, they were not as confident about their knowledge of students. As one teacher stated, "I'd be hard pressed to give an accurate assessment of where they are" (p. 65). The researchers suggest in order to individualize instruction, teachers collect anecdotal evidence of students' strategy use by observing them talking about texts or by listening to them think-aloud. They call for further research into "accessible, quick, informal, easy to interpret forms of assessment" (p. 65). Given the multiple dimensions comprising current conceptions of reading comprehension and the range of instructional approaches they demand, a call for quick and easy forms of comprehension assessment may not fill the existing assessment gap. Instead of developing new forms of assessment *for* teachers, it is time to look at forms of assessment inherent to teaching used *by* teachers. It is time to lean into the complexity of teachers' observations of reading comprehension.

Conclusion

Reading comprehension is a complex human experience. So, too, is observing and assessing reading comprehension. This belief is affirmed by the methodological and measurement challenges described by researchers in almost every study of comprehension I have reviewed. Considering the multidisciplinary research base that

informs the field of reading comprehension, the vast and unpredictable nature of students' engagement and response to text, and the essential role teachers play in making sense of this complexity, it is important to look closely at the data teachers generate about students' reading comprehension through embedded observation.

CHAPTER 3

METHODOLOGY

The Researcher's Perspective

The focus of this study is teachers' observations of students' reading comprehension. My interest in the phenomenon of how teachers come to know their students as readers and describe their comprehension emerged from my work as a reading/teacher consultant at the elementary school that was the setting of this study. My teaching at this school followed an inclusion model. That is, rather than "pull" students out for extra help in reading, my work with them took place in their regular classrooms, typically during three fifty minute periods per week. Classroom teachers and I planned and taught collaboratively. We shared responsibility for students in need of extra support.

During the four years before commencing this study, I worked at various times with almost all of the school's seventeen regular classroom and special education teachers. These collaborations led to many informal assessment conversations during which we shared observations about students' reading comprehension. Noting the exploratory nature of these conversations, I was intrigued by their process: recalling and reflecting on interactions with students, finding words to express what was noticed, and interpreting or drawing conclusions about the observations discussed. To make sense of the "transactional heat and light," Bomer's (1998) apt term for the zone between teachers' explicit instruction and student learning, we were doing the work of epistemologists, cognitive psychologists, philosophers, linguists, literary theorists, sociologists, and ethnographers, trying to describe students' thinking. The tentative

and hypothetical quality of the content of these conversations both unnerved and interested me. While searching for words to express what I observed about students, I questioned the usefulness of the language associated with cognitive strategies instruction - distilled from the research and disseminated to teachers - (i.e., *Seven Keys to Comprehension; Strategies That Work*) for describing the complex language and thinking we were privy to during class.

At school, I often heard teachers dismiss their observations of students' comprehension as too subjective, their interpretations as too tentative or hypothetical. I wondered, how, as highly engaged participant observers (of student talk, writing, drawing, constructions, or performances), do teachers infer the underlying processes of students' reading comprehension. I wanted to know more about this elusive and challenging aspect of teachers' work. While pondering the dimensions and untapped potential of observational data, I heard teachers and administrators at school routinely lament the absence of tools for assessing reading comprehension. The relationship between this locally stated need for better comprehension assessment, my interest in teachers' observational processes, and my belief that teachers were best situated to assess comprehension, led to the design of this study.

Beginning my 24th year of teaching in 2008-09, I continued to work full-time while conducting my research. The value of access is inseparable from being a teacher-researcher. My interest in and capacity for teacher-research has grown as a result of a seventeen year (and still running) association with the Rhode Island Writing Project (RIWP), a local affiliate of the National Writing Project (NWP). A core belief of RIWP/NWP is that teacher-leaders who participate in research, development, and

implementation “are our greatest resource for educational reform” (NWP website).

When I set out to pursue my doctorate, I did so with the intent of researching an issue that was meaningful to my teaching practice. I wanted to take full advantage of my dual position. As a teacher in the school that served as the site of this study, I brought an insider's view of work underway. As a researcher, I brought a systematic approach to inquiry.

The questions that frame this study emerged from challenges articulated by the faculty at my school as they were learning about and beginning to implement a transactional strategic approach to teaching comprehension. It was my hope that the research findings would have relevance to our practice. The questions guiding this research are: What do teachers notice about students' reading comprehension? How do they articulate what they observe and interpret?

School Context

The school, located in a suburban community in northern Rhode Island, serves an economically and ethnically diverse student body in grades two through five. At the time of this study, it was in year five of restructuring its approach to teaching reading from a basal program to an individualized literature-based readers' workshop model, a mandate for all elementary schools in the district. The principal, also a Rhode Island Writing Project teacher-consultant, vigorously supported this mandate by organizing multiple opportunities for on-site collaborative professional development. Teachers were cautious about the curricular shift, but open-minded, appreciative, and welcoming of the on-site support for implementation.

One of the first steps toward restructuring was to take stock of books and supplies necessary for workshop teaching. Teachers relinquished sets of books previously stored in classrooms and shared among grade level clusters. Existing multiple copies and newly purchased titles of trade books were reorganized into a centrally located leveled-library for guided reading and book clubs by the school's previous reading teacher and parent volunteers. For two years, this collection was housed in a small conference room. At the same time, classroom libraries were expanded to provide for a broader range of reading levels and interests. The leveled text collection was later moved to a classroom dedicated to instructional resources and reorganized using the Fountas and Pinnell A to Z leveling system (Fountas & Pinnell, 2005). The new book room also housed professional texts and a collection of picture books for strategies instruction. Additionally, it served as office space for the two reading teachers, as a meeting place for professional development sessions, and occasionally as a location for small group instruction.

Each year, through planned budgeting and fund-raising, the book room and classroom libraries grew. The two reading teachers were responsible for ordering multiple copies of new titles for the whole school collection. For example, during one year money was dedicated for purchase of nonfiction resources. Book selection was guided by topics studied in science. Classroom teachers were responsible for ordering single copies for in-class independent reading libraries. Other instructional materials provided by the school were blank notebooks for students' reading response journals and sticky notes for jotting. Most classrooms had rugs marking a meeting area, overhead projectors, and easels.

The Degrees of Reading Power (DRP) assessment, administered district-wide at the elementary level in the fall, was used as a screening tool. All students scoring at the fourth stanine or below were given the Developmental Reading Assessment (DRA). Both tools were used to fulfill assessment obligations associated with the state's required Personal Literacy Plan (PLP), a progress monitoring document for students identified as reading "below grade level." The DRA served to inform instruction through teachers' analysis of running records, responses to comprehension questions, a metacognitive survey, and brief reading history. In 2007-08, the school began administering the *Fountas and Pinnell Benchmark Assessment System* (2007) to all students in fall and spring to determine independent and instructional reading levels. Analysis of running records and answers to comprehension questions served to guide instruction. Students with PLPs were assessed more frequently with these tools. Retellings, student response journals, teacher made tests, and teacher observation were identified on PLPs and in general practice as classroom-based assessments of reading comprehension.

All teachers of reading were expected to employ a transactional strategic approach in a workshop format, a highly interactive instructional environment that places student thinking at the center of the curriculum. Students regularly talked and wrote about their reading, therefore, teachers in this setting had access to a large amount of observational data. Their access to the dimensions of students' reading comprehension, as previously conveyed in Figure 1, allowed me to study the process and content knowledge they brought to bear on their observational assessments.

In general, the school culture promoted teachers' serious consideration of students' individual modes of learning, strengths, and needs. When I began teaching at this school, the faculty's interest in each student and collaborative attempts to describe students' thinking processes were striking. This attribute was emblematic of the observational and interpretive processes I wished to study.

Participants

Participants for this study were drawn on a voluntary basis from faculty who taught reading at this school. Eleven teachers volunteered; two second, one third, three fourth, one fifth, one reading, and three special educators. One participant transferred to another school, leaving a sample size of ten. The sample size, though small, is representative of a collegial, communicative environment of teachers within a small elementary school that fosters attention to students' individual needs. At ten, it is large enough to provide variety in teachers' age, professional training, and experience. Although a larger more diverse sample might allow for more generalizability of findings, this sample is representative of small elementary school faculties.

I solicited participant involvement in June 2008. First, I presented an outline of the proposed study to my principal and asked if I could present it to the Professional Learning Community (PLC), the committee at school that discusses professional learning opportunities and other school-wide initiatives. After presenting my research question and purpose to the PLC (Appendix A), I had the opportunity to present the same information to the staff during our last faculty meeting of the year. At this meeting, the principal distributed a survey seeking teachers' interests in professional

development for the 2008-09 school year. Because of the principal's belief in the power of on-site professional development and the importance of teacher-research, she included participation in my study as an option and indicated she would provide release-time for some of the estimated four hours of data collection per teacher.

Pre-Study Professional Development

In 2004-05, five years before commencing the study, teachers at the school received a copy of *Guiding Readers and Writers Grades 3-6: Teaching Comprehension, Genre and Content Literacy* (Fountas & Pinnell, 2001). They were expected to read and process the book independently and refer to it as a guide for setting up the different elements of reading workshop: focused mini-lessons, independent reading, guided reading, and book clubs. Many teachers followed the first twenty days of sample mini-lessons for launching independent reading, reading response journals, and conferences. In 2005-06, the principal tapped into resources offered by RIWP, and with a teacher consultant from within the school, co-facilitated an Embedded Institute, an on-site teacher-centered study of reading and writing based on the writing project Summer Invitational Institute model.

In subsequent years, further professional development regarding reading comprehension strategies was discussed and planned by the PLC, then presented to the faculty for approval. In 2006-07, two years prior to the proposed study, all teachers in the school participated in a shared reading of *Strategies That Work* (Harvey & Goudvis, 2000). Discussions of each chapter in section one took place during faculty meetings throughout the year. This portion of the text describes the research base for

a strategic approach to comprehension instruction, a framework for teaching in a workshop setting, instructional concepts and strategies such as release of responsibility and think aloud, a discussion of degrees of metacognition, and suggestions for text selection for explicit instruction and guided practice.

In 2007-08, a plan for study and application of the first three chapters in section two (making connections/accessing prior knowledge, questioning, visualizing and inferring) was devised by the PLC. Meetings devoted to planning for instruction and looking at student work were organized for each strategy. The other reading teacher and I were responsible for planning and facilitating these meetings attended by all teachers in the school. A total of six half-day sessions per grade level were scheduled during the school day about every six weeks from November through May. At planning sessions, a framework for release of responsibility was used to support the design of lessons that incorporated clear definitions of terms used, read-alouds and think-alouds, guided, and independent practice. Teachers browsed the book room collection of illustrated books for anchor texts to use for strategies instruction. The other reading specialist modeled a think-aloud and written response to text. For example, while studying questioning, she read *Martin's Big Words* to the group, thinking aloud and inviting others to respond by jotting questions, much as she would with students. Giving teachers time to experience this explicit and responsive approach to strategies instruction was quite powerful. For example, one exclaimed, "Doing this helps me really understand what my kids must feel like when I ask them to do it!" Another said, "I didn't realize my students could ask the questions."

After each planning meeting, teachers engaged their students with lessons about the strategy of focus. Some of this instruction was done with in-class support from the reading specialists. In preparation for the next meeting, teachers selected samples of student work to serve as the focus for a close study of comprehension. Using a protocol based on the Descriptive Review developed by the Prospect Center and the Collaborative Assessment Conference developed by Project Zero, we set out to look at student work. Our goals were:

- to learn more about individual student's reading comprehension by looking at concrete evidence of their understanding.
- to construct common language about teaching and learning of comprehension strategies.
- to gain insight into development of our students as readers across grade levels.
- to reflect on what we notice and to generate ideas about how to use this information to shape our daily practice (implications for teaching).

The other reading specialist and I facilitated this process. One of the first challenges we faced as we attempted to look at comprehension through samples of student work was deciding what to bring to the table. The dilemma of making comprehension visible in a form that we could "look at" became evident at our first meeting. Other questions followed. Does the work show what the student was thinking or what they expected their teacher wanted them to think? Are the invitations for response too narrow to allow for meaningful student engagement? With how much independence was the work produced? What relationship does the release of responsibility have to assessment? What are we missing by only looking at writing

and drawing? Student talk about books was so rich, but so difficult to capture. This experience heightened my interest in teachers' observations and helped shape my research question.

Procedure

Data Collection

This study is naturalistic in the sense that teachers worked with students in their classrooms as they typically would. No instructional intervention took place. Data collection was done through interview and observation. All actions except the interviews would have taken place in the regular reading program at this school. The data for analysis were drawn from the interviews.

Data collection took place in three phases (Table 3) between January 2009 and May 2009. Before commencing the study, a meeting was held for all participants to review the schedule, focus, purpose, and procedures of each phase, and to answer questions. Phase-one interviews were conducted during two small group meetings. Phase-two and three interviews were conducted with individual participants. Phase-one took place within a two week window in January; phase-two, within a two week window in March. Classroom observations of lessons and follow-up interviews for phase-three took place for all participants in May. Total time commitment for each participant was about four hours. The principal arranged for two days of substitute teacher coverage to release teachers from their classrooms for interviews of about an hour each. Additional interview time was scheduled before and after school.

Using a semi-structured interview method, I collected teachers' retrospective observations of students' comprehension. All phases were voice recorded; phase-two and three were transcribed. Procedures for eliciting teachers' observations about students' comprehension were based upon the conceptual framework of comprehension that undergirds this study. The reflective framework (Table 3.0) organized interview questions into three categories: (1) within the text, (2) beyond the text, and (3) about the text, based on categories of response in the Fountas & Pinnell Assessment System (2007). The framework echoes the idea that assessment, like reading, is an interpretive act.

In each phase, questions were asked from each level to obtain teachers' observational and interpretive data in the cognitive, affective, and socio-cultural dimensions of comprehension. This structure was used to ensure that data collected in each phase contributed to discovery regarding the research question. Though similar in structure, the three phases were designed to capture distinct aspects of teachers' day-to-day assessment processes. Questions asked of two small groups of participants during phase-one (Appendix B) addressed conceptions and dimensions of comprehension. Each group was asked the same set of questions, with follow-up questions responsive to the direction of the conversation. By eliciting general perceptions and experiences about teaching reading comprehension in a collegial format, phase-one interviews clarified the dimensions of teaching this study sought to investigate for participants and created a sense of comfort for subsequent interviews.

Table 3.0 Reflective Framework and Data Collection Timeline		
Phase 1	Phase 2	Phase 3
January - 2 weeks Focus groups	March - 2 weeks Interviews	May - 2 weeks Observations and interviews
Within the Text		
Conceptions of Comprehension	Conceptions of Comprehension	Conceptions of Comprehension
Beyond the Text		
Cognitive	Cognitive	Cognitive
Affective/Aesthetic	Affective/Aesthetic	Affective/Aesthetic
About the Text		
Socio-cultural	Socio-cultural	Socio-cultural

Phase-two interviews with individual teachers (Appendix C) were based on student work selected by participants from their classes. Its purpose was to elicit and capture teachers' observations and interpretations of students' comprehension processes that come to mind when looking at student work outside of instructional time. Interviews were not limited by this work, and in fact, teachers talked freely about other classroom experiences as thoughts came to mind. Phase-three interviews with individual teachers (Appendix D) were framed by a classroom observation of a lesson selected and conducted in normal fashion with their students. I observed, took notes, and voice recorded (but did not transcribe) these lessons to contextualize the observations about students' comprehension teachers later shared with me during follow-up interviews. Similar to phase-two, interviews were not limited to these lessons. Because questions were posed to spark memories of and invite reflections

about students' reading comprehension, during all phases of the interview process, I posed follow-up questions (Seidman, 2006) to probe for more information or specificity, by asking, for example, “Can you tell me more about . . . ,” or “Can you be more specific?”

Data Analysis

In this section, I explain the parameters of the data, the unit of analysis, the methods of analysis, and report the inter-rater reliability for the coding system.

Parameters of the Data

The open-ended conversational interview style generated data beyond the scope of this investigation. In addition to sharing observations of student comprehension, teachers freely expressed opinions about teaching and assessing comprehension, discussed shifts over time in methods of instruction, puzzled through problems with specific students, and talked in great detail about the literature their students were reading. Therefore, after listening to the recordings three times to make notes of first impressions, and again to transcribe each of the twenty phase-two and three interviews, the following definition of observation was used to comb the transcripts for excerpts to include in the data for analysis: an utterance that describes, analyzes, or evaluates an aspect of individual or group reading comprehension (Table 3.1). Henceforth, all analysis and discussion of data are in reference to this subset of the phase-two and three interview transcripts.

Table 3.1 Definition of an Observation	
Observation	An utterance that describes, analyzes, or evaluates an aspect of individual or group reading comprehension.

Unit of Analysis

The unit of analysis for this study is the collective set of participants' observations. Two-hundred-fifty-nine observations drawn from phases-two and three data collection comprise the data. The open-ended interview approach yielded data sufficiently broad and multi-dimensional for analysis to shed light on the two research questions: What do teachers observe about students' reading comprehension? How do they articulate their observations and interpretations?

Table 3.2 Research Questions and Data Sources	
Research Question	Data Source
What do teachers notice about students' reading comprehension?	Data from phase 2 and 3 interviews.
How do they articulate what they observe and interpret?	Data from phase 2 and 3 interviews.

Method of Analysis

Introduction.

Both qualitative and quantitative methods were used to analyze the data. The qualitative analysis was guided by the two questions that frame this study. Methods of

pattern and content analysis were used. These methods were appropriate for fulfilling the aim of this study for three reasons. First, these analytic processes mirror the epistemological stance assumed by teachers-in-action. Though the current analysis was a slow and painstaking academic pursuit (its action-oriented classroom counterpoint highlights the temporal challenges teachers face), it echoes the pattern seeking nature of teachers' interpretive work. Second, pattern and content analysis yielded an organizational framework of teachers' observations, providing a systematic view of the data. Because one of the purposes of this study was to give form to teachers' disperse observational data, this analytic approach was appropriate. Third, the analysis served to describe the data in "depth and detail, holistically and in context" (Patton, 2002, p. 55). Findings were defined and linked closely with familiar classroom images, rendering them more useful to practitioners (Pressley and Hilden, 2005).

Quantitative analysis of the data yielded frequency counts of observation categories, observed states, and articulation codes. This served to consolidate the data and to provide a view of distributions within the organizational framework. Distributions indicated patterns of what teachers notice and how they process what they notice across different dimensions of comprehension. Distributions also served as a way to check the efficacy with which the coding system sorted the data into distinct and separable categories.

Question one.

To carry out the qualitative analysis in relation to question one, I began by identifying core indigenous concepts (Patton, 2002), terms familiar to teachers in the

setting reflecting the content contained in the data. Next, I employed recursive analytic processes of convergence, to see what content fit together, and divergence, to flesh out categories with details that serve to describe them (Guba, 1981). Multiple readings of the 259 observations yielded initial impressions and tentative codes. Many were initially given multiple codes such as questions/infers, claims/significance, and visualizes/connects. This overlap reflects the multidimensional nature of comprehension and the difficulty of analyzing it atomistically (Afflerbach & Cho, 2009). Subsequent readings of the data yielded another layer of code: observations of students' strengths, gaps, and construction of knowledge. These dimensions were ultimately useful for analyzing nuance within other coded categories, but because of their relevance to all learning, they did not sufficiently differentiate teachers' observations of comprehension. Coding, recoding, consolidating, and refining the categories continued until seventeen codes capturing clearly identifiable qualities remained. To establish the separability of the categories, I evaluated them for their internal and external homogeneity. Patton (2002) describes these criteria respectively as "the extent to which the data that belong in a certain category hold together or 'dovetail' in a meaningful way," and "the extent to which differences among categories are bold and clear" (p. 465).

The overall structure for the organizational scheme was inspired by observable qualities of a musical performance: stance, the position a player assumes in relation to the music, to their instrument, and to the audience; technique, the skill and dexterity with which a player handles their instrument; and interpretation, the depth of understanding and emotion a player conveys. Thus, three dimensions serve to

organize teachers' observations of students' reading comprehension in reference to question one: *stance*, *technique*, and *interpretation*. These terms will be defined more specifically in relation to the data in chapter four.

Question two.

To carry out the qualitative analysis for question two, the same set (259) of teachers' observations of students' comprehension were analyzed. A method similar to the one employed for question one was used: reading and rereading the data, coding and refining codes, searching for patterns or themes in relation to the way teachers process and articulate their observations. In this analysis, observations were viewed more broadly to identify patterns in the way teachers capture, retain, and communicate data about students' reading comprehension. Three articulation categories were drawn from the data: *moment*, *pattern*, and *trend*.

Inter-rater Reliability

To establish inter-rater reliability, three people were trained in the coding system. Participants were two certified reading/teacher consultants with more than twenty years of teaching experience (one of whom was a study participant), and a former teacher with a Master's Degree in Bilingual Education. To train the coders, I presented an overview of the comprehension framework and a review of the charts for each observed state containing descriptors, ranges, and examples. Six observations were analyzed together to provide guided practice. Charts remained in view for reference as the remaining forty-four data points were coded independently. Using a

percent agreement formula of number correct/number coded, the inter-rater reliability was 87 percent.

CHAPTER 4

FINDINGS

This study examined teachers' observations of middle elementary school students' reading comprehension. Its intent was to construct a conception of comprehension assessment grounded in the realities of classroom life by analyzing what teachers notice about comprehension as they interact with students. An underlying purpose was to develop a tool for reflection that teachers might use to develop self-awareness of the data implicit in their teaching of reading comprehension. It was framed by two questions: What do teachers notice about students' reading comprehension? How do they articulate what they observe and interpret?

In this chapter I will introduce the findings for questions one and two separately, then present them together in greater detail within the organizational framework that resulted from the data analysis for question one. I will end with a summary of findings and closing remarks.

Results

Introduction

Interpretations of the data in relation to questions one and two speak to the central purpose of this study: to construct a conception of comprehension assessment grounded in the realities of classroom life. These analyses shed light on what teachers notice about students' comprehension and the way in which they, as assessment instruments, internalize and process data generated each day in their classrooms,

across weeks, months, and finally a full school year. Because the resulting organizational scheme offers promise as a heuristic for teachers' observational practice and reflection, it became apparent as the most relevant reading of the data. In the following section, to clarify definitions and overall frequencies of the results for questions one and two, brief overviews of each set of findings are presented separately first. These overviews are followed by an integrated and detailed presentation of results for questions one and two. The integration serves both practical and conceptual purposes. Because all 259 data points were analyzed for both questions, it makes sense to consider one in light of the other, both to spare redundancy and to present multiple dimensions of the observations in the fullest possible context. Within the text to follow, study participant quotes drawn from the transcript are identified with tags, such as (Z2.4.2). This tag, for example, references the participant by initial of pseudonym assigned (Z), interview phase (2), page of the transcript (4), and sequence of the data point on that page (2). Each interview transcript was paginated separately and numbering for data points began anew for each page.

Overview of results for question one.

The organizational framework resulting from this analysis is comprised of three comprehension categories, nine observed states, and twenty-seven ranges. The first category, *stance*, is defined as the affective, socio-cultural, or cognitive position a reader takes in relation to a text. The second category, *technique*, is defined as strategies a reader applies to construct, monitor, or synthesize information or ideas. The third category, *interpretation*, is defined as information, ideas, or emotions a

reader takes away from a text. Table 4.0 contains an overview of the comprehension categories and observed states resulting from the analysis of data for question one. It can serve as a text map for the combined results section that follows.

Table 4.0 Overview of Organizational Framework		
Category	Definition of Category	Observed State
Stance	The affective, socio-cultural, and/or cognitive position a reader takes in relation to a text.	Expectation for meaning
		Engagement
		Analytical
		Critical
Technique	Strategies applied to construct, monitor, and synthesize information or ideas.	Access prior knowledge
		Monitor
		Synthesize
Interpretation	Information, ideas, or emotions taken away from a text by a reader.	Literal
		Abstract

Quantitative analyses were carried out to yield frequency counts of observations. Distribution of comprehension categories across the data are shown in Table 4.1.

Table 4.1 Distribution of Comprehension Categories		
Category	Total	Proportion
Stance	97	.37
Technique	95	.37
Interpretation	67	.26
Total	259	1.00

Overview of results for question two.

Observations of *moment* describe dimensions of comprehension revealed at a particular point in time in the reading of a particular text. They convey a specific interaction during which an aspect of comprehension is made visible to the teacher. Observations of *pattern* indicate an aspect of comprehension noticed repeatedly. *Patterns* may be noted within one reading interaction, over the reading of an extended text, or across multiple texts. Observations of *trend* indicate a change or difference in a particular aspect of student comprehension. These categories convey the temporal (chronological) and dynamic quality of teachers' observations. Definitions of articulation codes are presented in Table 4.2.

Table 4.2 Definitions of Articulation Codes	
Articulation Code	Definition
Moment	An observation of an aspect of comprehension referencing a specific interaction with one or a group of students with a particular text at a particular moment in time.
Pattern	An observation of an aspect of comprehension that references its repeated occurrence.
Trend	An observation referencing a change in an aspect of student comprehension.

Quantitative analyses were carried out to yield frequency counts of articulation codes. Distribution of articulation codes across the data are shown in Table 4.3.

Table 4.3 Distribution of Articulation Codes		
Articulation	Total	Proportion
Moment	114	.44
Pattern	118	.46
Trend	27	.10
Total	259	1.00

Overview of combined results.

In the results section that follows, findings from question one are integrated with those from question two. For reasons previously explained, both coding systems will be employed in the context of the organizational framework that resulted from the first analysis. In separate sections for each of the following comprehension categories, *stance*, *technique*, and *interpretation*, you will find: 1) an overview of the comprehension category and its observed states and ranges; 2) a table displaying observed states and ranges; 3) elaboration and further explication of the ranges for each observed state, including integrated identifications of articulation codes (*moment*, *pattern*, or *trend*); 4) a table with characteristics and examples of ranges; and 5) a summary of the data presenting frequency charts of observed states and articulation codes within each category.

The main categories, *stance*, *technique*, and *interpretation* were assigned their sequence in the organizational framework based on the logic that reading for meaning depends on the quality of one's initial stance, and depth of interpretation depends on one's stance and technique. The presentation of results within each main category in the following section reflects the hierarchy of the coding system, from category, to observed state, to range. The presentation alternates between textual and visual

representation to assist the reader in locating a particular result within the larger organizational scheme.

Combined Results

Stance.

Stance, the first category of teachers' observations, is defined as the affective, socio-cultural, and/or cognitive position a reader takes in relation to a text. The four observed states are *expectation for meaning*, *engagement*, *analytic*, and *critical*. Data were analyzed and coded to further differentiate ranges within each observed state of *stance*. For example, within *expectation for meaning* there are four ranges. Ranges are consolidated in Table 4.4.

Table 4.4 Ranges Within Observed States of Stance				
Stance: Observed States	Range			
Expectation for meaning	Passive	Budding	Text-Based	Reader- text-based
Engagement	Fragile	Emerging	Deep	
Analytic	Graphic	Semantic/ Syntactic	Structural/ Conceptual	
Critical	Text	Author	World	

Expectation for meaning.

The first observed state of *stance*, coded *expectation for meaning*, includes teachers' observations regarding the extent to which students view the process of reading as a transaction and demonstrate a constructive, interactive stance. The ranges of *expectation for meaning* are *passive*, *budding*, *text-based*, and *reader-text-based*.

Table 4.5 provides definitions, characteristics, and examples of each range of *expectation for meaning*.

Table 4.5 Definitions and Examples of Stance / Expectation for Meaning		
Category		
I. STANCE		
Observed State		
A. EXPECTATION FOR MEANING		
The extent to which students view reading as a transaction and demonstrate a constructive, interactive stance.		
Range	Characterized by observations of readers who . . .	Examples from the data
Passive	Read without expectation for construction of meaning. Little evidence of transaction between reader and text.	<i>I think what concerns me most is what Deanne is doing. Reading, stopping here, not knowing what it said at all. (L2.6.2)</i>
Budding	Read with expectation for construction of meaning when external support or prompt invites transaction.	<i>For some children, still in second grade, I'm stopping at the end of the sentence and saying, what was that sentence about? (L3.5.3)</i>
Text-based	Read with expectation that meaning resides exclusively in the text.	<i>They'll say, it didn't say that in the text. (S3.3.1)</i>
Reader-text-based	Read with expectation of transactional process for construction of meaning. Construct interpretations through intertextual and interpersonal connections.	<i>They make comments about the picture based on what they read. That shows us that they are thinking while they're reading. (S2.4.2)</i> <i>* See note in body of paper.</i>

Passive expectation for meaning.

In the data, observations describing *passive expectation for meaning* are characterized by readers who decode, but offer little or no response to text and do not demonstrate a constructive meaning-making stance. For example, one teacher describes a *moment*. “I patted his head and said, what are you doing in here? What

are you thinking? And he just shrugged his shoulders” (N2.6.1). Another observes a *pattern*. “I don’t think she loves to read and I think it’s because she’s missing the message. She’s concentrating on starting on the first word and getting to the last word on the page” (L3.4.4).

Budding expectation for meaning.

Budding expectation for meaning refers to observations that describe students who read to construct meaning, but do so mostly with external support. In the following excerpt, a teacher reenacts and comments on a *pattern* of instructional interactions with a student, who with prompting, knows that a response is expected. She says,

. . . okay, that sounded great sweetheart, but what did it say? And in the beginning of the year, many of them do just look at you like, I don’t know. What are you asking me for? And so I think the first thing is just an awareness of the whole intent of reading . . . and then I notice, the third or fourth time we’re reading, [they say] “I know Mrs. L., you’re going to ask me what happened.” So I know that they’re starting to recognize that at least when they’re with me that they have to do it. [Imitating what a child thinks] Oh boy, I have to think about what it says . . . And I’ll look at Deanne and ask her something, even just, tell me what you learned on that page, or what do you think about that, or just say, ‘say something’ and she has these big brown eyes and she’d look at me and she’d go, “I’ll read it again.” (L3.5.2)

Text-based expectation for meaning.

Text-based expectation for meaning refers to observations that describe literal readers who believe that meaning resides solely in the text. Many of the observations in this range were identical to the example of *pattern* cited on Table 4.5: “It didn’t say that in the text.” The following teacher describes a group’s expectation that meaning in a social studies text book is found in one particular location, without further reading

or thinking needed. In this observation of *pattern* she says, “They are used to finding the answer to a question in one paragraph, to find it there literally rather than rereading, or reading on and synthesizing it” (Z3.4.2).

Reader-text-based expectation for meaning.

Reader-text-based expectation for meaning is characterized by teachers’ descriptions of readers who demonstrate a growing tendency to respond or talk back to a text. They take a more active stance in the transaction. In the following observation of *trend* a teacher notices a change in a student’s stance from acknowledging only what the text says, “He’s so literal,” to expressing insight and being more comfortable stating his personal reactions to the story. “Before he would just mimic exactly what the book would say. Now he is starting to give his own reactions and say how he felt about it” (F2.2.3). Observations that indicate a more fully formed reflective and transactional conception of reading are, because of the more sophisticated processing and content they contain, included in the categories *technique* and *interpretation*.

Engagement.

The second observed state of *stance*, coded *engagement*, includes teachers’ observations regarding the duration and depth of a reader’s entry into a text-world. The ranges of *engagement* are *fragile*, *emerging*, and *deep*. Table 4.6 provides definitions, characteristics, and examples of each range of *engagement*.

Table 4.6 Definitions and Examples of Stance / Engagement		
Category		
I. STANCE		
Observed State		
B. ENGAGEMENT		
The duration and depth of attention for entry into a text-world.		
Range	Characterized by observations of readers who . . .	Examples from the data
Fragile	Are not engaged in text world. Exhibit avoidance techniques. Are highly distractible; have difficulty self-selecting or sticking with books.	<i>The littlest sound, they're off. They can't get comfortable in their seat. They're fiddling with something, or just turning pages. (N3.8.1)</i>
Emerging	Read and express interest in a particular topic, genre, author, or series. Demonstrate change in interest and/or attention for reading.	<i>He always gravitates toward the <u>Geronimo Stilton</u> and the <u>Captain Underpants</u> and I'm thinking I can remember at the beginning of the year it was always <u>Magic Treehouse</u>. (N2.4.1)</i>
Deep	Are immersed in text world; unaware of noise around them; lost in a book. Do not want to be disturbed. Read widely. Are animated in response to text. Have self-propelled reading lives.	<i>I'll look around and watch them and they are so into that book that anything can be going on around them. Or they will be taking it home because they'll say, oh you told me the book club meeting is on Thursday so I took it home and did it in my reading log. (B3.8.1)</i>

Fragile engagement.

In the data, observations of *fragile engagement* are characterized by techniques for avoidance of reading, distractibility during reading time, and difficulty self-selecting or sticking with books. For example, many teachers note physical signs of distractibility and avoidance of reading as exemplified by the *pattern* of *fragile engagement* noted in table 4.6. Another teacher conveys different *patterns* of *fragile engagement*.

Some kids will ask to go to the bathroom or ask to do anything to escape the room . . . Often times they don't have 'just-right' books. They're trying to fit in with the crowd and they think people are noticing what they're reading, but they're not. Their head is down. Just discouraged. Lethargic. (S2.6.2)

The subtle but salient distinction between an observation of *fragile engagement* and *passive expectation for meaning* is evident in teachers' observations regarding student's difficulty sustaining reading, despite other evidence of active processing, construction of meaning, and response to text.

Emerging engagement.

Emerging engagement is characterized by observations of readers who express narrow interest in a particular topic, series, author, or genre. For example, one teacher observes a *pattern*.

There's a boy in second grade who strongly favors nonfiction. If he's reading nonfiction, he wants to call you over and show you everything he's learning. If you put fiction in front of him, his head is down and it takes a lot of prompting. Sometimes he won't even read for us. (S2.5.3)

Emerging engagement is also characterized by changes in animation of response, as expressed in this teacher's observation of a *trend*. "Vera, who I never see get too excited about reading, is reading *May Amelia*, and is just enraptured with it" (F2.9.4).

Deep engagement.

Deep engagement is characterized by observations of readers fully immersed, often described as being lost in a book, sometimes to the extent that they are unaware of noise around them. For example, one teacher conveys a few patterns.

I can see they're into the book. If somebody drops a pencil, they're not looking over there. They're not fidgeting in their seat. If you call their name, they

don't look up right away, or if you ask them a question, they can't answer you because they are just so focused in the book. (N3.7.2)

Deep engagement is also characterized by visible enthusiasm and animation of response. For example, this teacher describes a *pattern* evident during meetings of a particular book club.

They are very engaged in this book. Every meeting, they come with something they really loved about each chapter. I think they asked that question of each other each time. What was your favorite part? They loved when Wilbur did a back flip. (Q3.3.2)

Another teacher observes a *pattern* of *deep engagement* as she says, ". . . seeing them reading on their own when they start to laugh" (Q2.11.2). Observations in this range also describe students who are self-propelled readers and whose interest, enthusiasm, and choice encompass a wider selection of books, authors, genres, and or topics. For example, this observation of *moment* conveys a reaching out for new texts.

I know the *Winn Dixie* group, some of them have borrowed an extra *War With Grandpa* and an extra *Everything on a Waffle* book because it wasn't only their book club book they were excited about, but they also wanted to read the others. (N3.6.3)

Another feature of this range of engagement is reaching out to other readers as exemplified by this observed *pattern*. "They recommend their book to other students, or ask you for more books in a series or another book by an author you've read aloud" (B2.11.1). Lastly, *deep engagement* is represented by the desire of a reader not to be disturbed as in the following observed *pattern*. "There are kids who can't wait to finish a book, or they groan when you say boys and girls we have to put our books away because we have to do something else" (B2.11.1).

Analytic.

The third observed state of *stance*, coded *analytic*, includes teachers' observations of the focus of students' awareness and examination of a text's constituent parts. The observed states of an *analytic stance* are *graphic*, *semantic/syntactic*, and *structural/conceptual*. Table 4.7 provides definitions, characteristics, and examples of each range of *analytic*.

Table 4.7 Definitions and Examples of Stance / Analytic		
Category I. STANCE		
Observed State C. ANALYTIC		
Awareness and examination of a text's constituent parts.		
Range_	Characterized by observations of	Examples from the data
	readers who . . .	
Graphic	Notice and consider the impact or purpose of visual/graphic features of a text.	<i>She said the arrow helps you understand that the bottom closes up. (L3.4.1)</i>
Semantic/ Syntactic	Notice word choice, meaning, and or sentence structure and consider the effect on their ability to visualize or fully sense an image.	<i>They were saying this would make a great movie because the author writes to make it so you can see it. (F3.7.3)</i>
Structural/ Conceptual	Notice and analyze organization of ideas in a text.	<i>He was able to go back and say this one is a timeline and so basically, he's mapping it out. (N2.9.2)</i>

Graphic analytic.

In the data, observations in the range of *graphic analytic stance* are characterized by descriptions of students who notice visual text features and consider their purpose or impact on a reader. For example, one teacher conveys a *moment* when a particular student attended to a graphic feature. "He said good thing they did it

[the drawing of a blue-ring octopus] in color” (L3.4.1). Another recalls a similar *moment* of graphic analysis. “She asked the question, why do some authors choose chapter titles, not numbers?” (N3.10.3).

Semantic/syntactic analytic.

A *semantic/syntactic analytic stance* is characterized by descriptions of readers who notice word meanings, word choices, and sentence structures. Some observations indicate students’ emerging awareness of how these writerly moves affect the purpose and tone of a text. For example, this teacher observes a *moment*. “Kate did say the author was descriptive and poetic. She was definitely paying attention to the language of the story” (B3.3.4). A *semantic/syntactic analytical stance* is also characterized by a reader's attention to sentence structures as in the following observed *moment* about students’ difficulty understanding the dialogue because of its style. “There was a part in *Maniac Magee* which confused them. They didn't know who was speaking” (Z3.7.2).

In this range, teachers’ observations also describe students' awareness of how language in a text helps them visualize or sense images. In this observed *moment* of *semantic analytic stance* one teacher says, “We were reading *A Day in the Desert* and I read the first paragraph and they said, the author started with setting and there's a sensory burst on that first page” (F2.3.1). Another describes a *pattern*.

They were starting to notice author's craft a lot with the mind movies. They would talk about it especially when they were doing artful artist. They tried to really pull the passages that helped them paint a picture in their head. (Q3.2.4)

Still another shares a *moment* when a student considers the effect of Patricia MacLachlan's descriptive language as he "takes a walk with a line" in a written response to *Baby*. About this *moment* she says,

He chose this line. '*The night I woke to hear the rain turn to ice, the sound like rocks against the roof and windows.*' And he wrote, 'This sentence means a lot to the setting because it really described what's happening outside. The author must have put a lot of work into that section because it was so descriptive. I picture it perfectly and I could predict the power would go out. (B3.8.4)

Structural/conceptual analytic.

A *structural/conceptual analytic stance* refers to observations regarding students who notice and deconstruct the organization of a text. For example, this teacher describes a *moment of structural analysis*.

She came up to me and she had the triangle drawn and was trying to map it out. That's how she was doing her jotting. We got to the top of the mountain she called it. She wanted to see where the turning point was. She didn't call it the turning point. She called it the peak of the mountain and then she used the word closing. (N2.9.2)

Another teacher describes this *moment of analysis*. "They even started talking about different authors' techniques like cliff-hangers. One of the chapters she said I feel like he left me on a cliff, like I wanted to know more" (Q3.2.4).

The following teacher describes a *pattern* of a second grader's conceptual analyses of books.

She has us create Venn diagrams for her and chooses two books she wants to compare on her own. She did Abraham Lincoln and someone else. She compared the similarities and differences. Then she compared Barack Obama to someone else and made the graphic organizers all on her own. (S2.5.1)

Finally, another teacher describes a *moment* with a student whose reading response characterizes both a *structural* and *conceptual analytic stance* as he realizes the emotional circle around which the family in the book *Baby*, has traveled.

He wrote a wonderful response at the end of the story. He answered a question, how did Sophie's time with the family help them. He said it was the family connecting; it was the one thing that they needed, and that it was like the circle coming together. (B3.2.1)

Critical.

The fourth observed state of *stance*, coded *critical*, includes teachers' observations regarding readers' emotional response, opinion, or critique of a text. The ranges are *text*, *author*, and *world*. Table 4.8 provides definitions, characteristics, and examples of each range of *critical*.

Table 4.8 Definitions and Examples of Stance / Critical		
Category I. STANCE		
Observed State D. CRITICAL The focus of emotional response, opinion, or critique.		
Range	Characterized by observations of readers who . . .	Examples from the data
Text	Demonstrate an emotional response, express opinions or critique ideas or information contained in the text.	<i>Robert was talking about how the mother leaving Sophie there was a selfless decision. He said she could have just left Sophie to suffer too, but she gave her to Larkin's family. When she came back to pick her up she could have made a better decision. (B3.8.1)</i>
Author	Demonstrate an emotional response, express opinions or critique choices made by the author.	<i>She asked, 'Why do you think the author chose for this character to do that?' (N3.10.0)</i>
World	Demonstrate an emotional response, express opinions, or critique ideas or information represented in a text about the world.	<i>We read about Rosa Parks so there was some really strong stuff in their letters to me about how they felt and physically I could see it when I read it the first time. You could just feel that they were so uncomfortable, that their bodies were tensed. (Q2.2.3)</i>

Text critical.

In the data, observations in the range of *text critical* capture readers' feelings or opinions about ideas conveyed through a text. This teacher observes a *moment* when students stated their opinions about characters and their situations.

We were reading *Loser* with one group and we were talking about different teachers and how this teacher was not a good teacher for Zinkoff and a student says, 'I think that one was a pretty good teacher for Zinkoff because he needed structure and she was strict and firm with him.' (F3.2.3)

She continues, "Then another says, 'Well, she shouldn't have been teaching at all. She didn't like children so why would anybody go into that career? The principal shouldn't have allowed her to be in the school'" (F3.2.3).

Author critical.

Author critical refers to teachers' observations of readers' opinions about the choices an author makes. For example, the following teacher observes the *moment* when a student questions the author for the way a particular story begins, considering its audience. "She was reading, *Everything on a Waffle* and asked, 'Why would the author open the story in such a way that it comes right across that the parents may be dead? Why would they do that in a children's book?'" (N3.6.1). Another teacher observes a pattern of an *author critical stance*.

Sometimes they don't like the endings of books. You can see the disappointment and some kids are very vocal about it, saying the author should have ended this way or that. Or they like to rewrite the end of the stories themselves. (S2.5.2)

World critical.

World critical refers to teachers' observations of readers who respond strongly to real world events or phenomena as represented in a text. For example, one teacher recalls a *moment* when a student faces the horror of slavery as conveyed in a picture book about the life of Henry Brown, a slave who mailed himself to freedom. "There's a student in second grade who is reading *Henry's Freedom Box*. She couldn't believe things were happening and she had to keep telling me, 'Can you believe this happened?'" (S2.4.3). Another teacher noticed a similar *moment* when reading *Pink and Say*.

Well in the beginning they were laughing. They thought it was really silly, but then they started to see how serious the book is and they were pretty devastated when they both ended up in Andersonville and they realized they ended up hanging Pink, and Say went on to live a very happy life. Their mouths were hanging open. They were really depressed. You could just see it in their faces and body language or the fact that they were so quiet. (Z2.5.2)

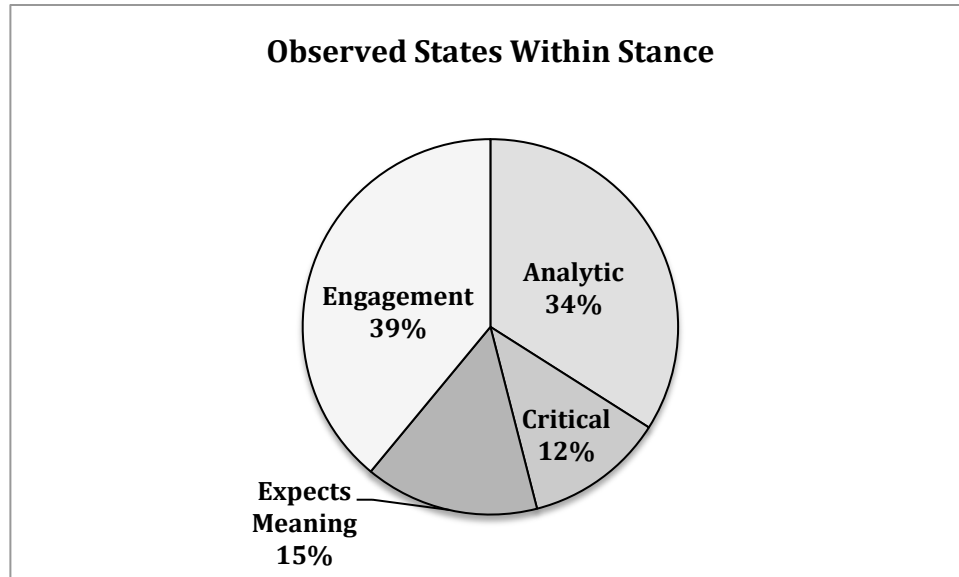
Summary of stance.

These findings identify, characterize, and organize teachers' observations of *stance*, the positions readers take in relation to text. Teachers describe students' developing conceptions of reading for meaning, levels of engagement, and use of analytic and critical lenses. Teachers' observations in this category contain descriptions of how students process and respond to text.

Distributions of teachers' observations among the observed states of *stance* (Table 4.9 and Figure 2) provide a view of teachers' access and/or attention to its multiple dimensions. From least to greatest, they are *critical* (.12), *expectation for meaning* (.15), *analytic* (.34), and *engagement* (.39).

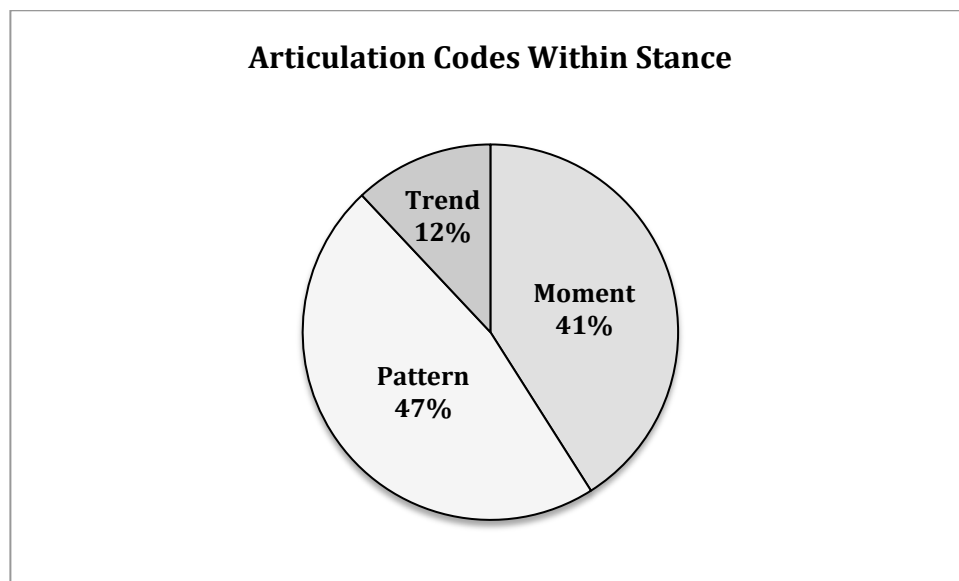
Table 4.9 Distribution of Observed States: Stance			
Category	Observed States	Total	Proportion
Stance	Expectation for meaning	14	.15
	Engagement	38	.39
	Analytic	33	.34
	Critical	12	.12
Total		97	1.00

Figure 2: Observed States Within Stance



Frequencies of articulation codes within *stance* are shown in Figure 3. Note the relatively even distributions among *moments* and *patterns*, and the low incidence of *trends*.

Figure 3: Articulation Codes Within Stance



Distributions of articulation codes within *stance* by observed state are presented on Table 4.10.

Table 4.10 Distribution of Articulation: Stance by Observed State										
Stance	Expects meaning		Engagement		Analytic		Critical		Total	
Articulation	#	Prop.	#	Prop.	#	Prop.	#	Prop.	#	Prop.
Moment	4	.29	9	.24	20	.61	7	.58	40	.41
Pattern	8	.57	22	.58	12	.36	3	.25	45	.47
Trend	2	.14	7	.18	1	.03	2	.17	12	.12
Total	14	1.00	38	1.00	33	1.00	12	1.00	97	1.00

Of interest here are differences in the way teachers articulate content and process-heavy indicators of comprehension. Overall, content heavy indicators, such as *analytic* and *critical* are more frequently articulated as *moments* (.61, .58). Process-heavy indicators of comprehension, such as *expects meaning* and *engagement*, are more frequently articulated as *patterns* (.57, .58).

Technique.

Technique, the second category of teachers' observations, is defined as the degree to which students apply strategies to construct, monitor, and synthesize information or ideas. The three observed states are *access prior knowledge*, *monitor meaning*, and *synthesize*. Data were analyzed and coded to further differentiate ranges within each state of *technique*. For example, within *access prior knowledge* there are four ranges. Ranges are consolidated in Table 4.11.

Table 4.11 Ranges Within Observed States of Technique				
Observed States	Range			
Access prior knowledge	Gap	Weak	Bridged	Strong
Monitor	Partial		Active	
Synthesize	Simple		Complex	

Access prior knowledge.

The first observed state of *technique*, coded *access prior knowledge*, includes teachers' observations regarding the degree to which readers call upon relevant knowledge and experience and apply it to deepen their understanding of text. The ranges of *access prior knowledge* are *gap*, *weak*, *bridged*, and *strong*. Table 4.12 provides definitions, characteristics, and examples of each range of *access prior knowledge*.

Table 4.12 Definitions and Examples of Technique / Access Prior Knowledge		
Category		
II. TECHNIQUE		
Observed State		
A. ACCESS PRIOR KNOWLEDGE		
The degree to which readers access and apply prior knowledge to construct meaning.		
Range	Characterized by observations of readers who . . .	Examples from the data
Gap	Indicate a distance or disconnect between personal knowledge and experience and ideas presented in a text, or do not activate what they know.	<i>I know with Aldo Applesauce, I had only one student who moved to a new school. He didn't bring a lot of that into the story when we were talking about it, which kind of surprised me. (Q2.10.2)</i>
Weak	Access prior knowledge in literal ways, but do not apply it to make deeper sense of text. Connections may divert attention away from text or be weak and cause some confusion.	<i>I find that most of my students' connections are superficial. Their connection doesn't help them understand the text as well. Some say, I have a dog too and the dog has a minor part in the story. (Q2.4.3)</i>
Bridged	Access appropriately significant prior knowledge. Apply prior knowledge to deepen understanding of a text when given support.	<i>He does make a lot of connections, but he does need a person to talk them through with him. (S3.1.2)</i>
Strong	Access prior knowledge to analyze, interpret, and/or to understand emotional aspects of text or self with independence.	<i>When he was talking about <u>Commander Toad</u> he was kind of amazed. He said this is a harder book for me. But he said I can understand it because I know some things about Star Wars. And I can also understand it because I know some of the words. They are similar but funny. He didn't know the word pun. (H3.2.3)</i>

Gap in access to prior knowledge.

In the data, observations describing *a gap in access to prior knowledge* are characterized by a distance or disconnect between readers' knowledge and experience

and ideas presented in a text. For example, one teacher describes a *moment* when she noticed variations in students' access to prior knowledge during a read-aloud. She explains,

We were reading an alphabet book about Rhode Island and that's something you would assume all kids could relate to because we all live in Rhode Island. Some kids could tell you how many times the bug had been changed and what it wears at Christmas and there were other kids going, "I don't know what you're talking about. A blue bug?" (S3.4.3)

Another teacher observes a *pattern* of a gap in *access prior knowledge*.

I have one child who has difficulty understanding fictional text, particularly if it is about family. I don't think she is ready to connect with the one big happy family that we see in books at this age level. I think there is some pain there. (H2.5.3)

Weak access to prior knowledge.

Weak access to prior knowledge refers to observations that describe readers who access prior knowledge that matches an aspect of a text literally or tangentially. They do not, however, use their knowledge as a springboard for inferring meaning or deepening understanding. One teacher uses a hypothetical example to illustrate an observed *pattern*. "It's just that literal piece. Alfred's sister is evil. My sister is evil too. It seems like it has to be stated in black and white for him to connect to it. The inferring, I don't see" (N.2.4.2). Another dimension of *weak* range of *access to prior knowledge* is represented by observations of students whose meaningful but too frequent connections, divert attention away from the text. For example, this teacher describes a *pattern*.

I'm thinking about one kid who is so busy trying to make those connections. Raising her hand to talk about them prevents her from really understanding the story. Every time she stops to make a connection that is not significant, it stops the flow of what's happening in the story and then it's hard to get back into the story. (Z2.7.1)

Bridged access to prior knowledge.

Bridged access to prior knowledge refers to observations that describe readers who access appropriately relevant prior knowledge but whose connections are recognized by teachers as in need of support to meet the inferential demand of the text. For example, while talking about her students' reading of *Maniac Magee*, one teacher observes a *moment*.

They usually think about Martin Luther King and Rosa Parks and they know these historic African American figures, but in this book it was much more on a personal level so they had a hard time trying to connect, thinking well of course the families eat the same things, and why is he thinking that there is anything different about them. (Z3.2.1)

Another teacher describes a *moment* when she helped bridge the gap between students' prior knowledge and experience and events and ideas in *Charlotte's Web*.

Someone connected about having gone to a fair, a kind of petting zoo. They made a connection but they needed a little help molding it to the story. I asked how is that the same as for Wilbur? How can you understand from his point of view? And they said there were other animals there but not for a competition. So they could see how a competition made poor Wilbur sitting there nervous. (Q3.4.1)

Strong access to prior knowledge.

Strong access to prior knowledge refers to observations that describe readers who access appropriately significant prior knowledge or experience and apply it to analyze, interpret, or understand emotional aspects of the text and/or about themselves. The following teacher identifies a *pattern*, then describes a particular *moment* of a student's *strong access to prior knowledge*.

There's one student who has really strong background knowledge on everything and he would have to explain certain things the others didn't understand. Like he could explain a stampede to the kids. He had a strong understanding of Native Americans and why they would trade. One of the

things they wanted to trade were animal skins and he explained what hides were. (S2.3.2)

Another teacher observes a particular *moment* of connection.

When Mara was talking about Amanda Beal in *Maniac Magee* she could really understand how Amanda was obsessed with her books, about keeping them neat and keeping them nice and returning them on time. She really connected with that character because she feels the same way so she completely understands it. (Z3.1.2)

This teacher recalls the *moment* in a discussion of *Baby*, when a student tapped into his knowledge of philosophy.

Robert talked about Ghandi and the actions of Ghandi. So here we had this very philosophical point of view. He said actions are more powerful than words. The teacher in the book said words were so powerful, so that's when he brought in Ghandi's action. (B3.6.2)

Monitor.

The second observed state of *technique* coded *monitor* includes teachers' observations regarding the extent to which students notice confusion and apply strategies such as self-questioning, rereading, reading on, or visualizing to construct, or repair meaning. The ranges of *monitor* are *partial* and *active*. Table 4.13 provides definitions, characteristics, and examples of each range of *monitor*.

Table 4.13 Definitions and Examples of Technique / Monitor		
Category II. TECHNIQUE		
Observed State B. MONITOR/REPAIR		
The extent to which readers note confusion and apply strategies such as self-questioning, rereading, retelling, or visualizing to construct or repair meaning.		
Range	Characterized by observations of readers who . . .	Examples from the data
Partial	Do not apply strategies to construct/repair meaning without assistance. May ask questions, but do not actively seek answers.	<i>When he is questioning it is more of, 'Why are they doing that?' but not reading for the answer. (N2.2.2)</i>
Active	Ask salient questions of text. Apply strategies to construct/repair meaning with independence.	<i>If she doesn't understand, she goes back and she rereads. (N2.6.4)</i>

Partial monitor.

Partial monitor technique refers to observations that describe readers who notice comprehension breakdown but require intervention to construct or repair meaning so they can move on. For example, this teacher observes a *pattern* in a student who stops frequently to ask for help clarifying or filling in background knowledge.

He asks a lot of questions. A lot of clarifying questions. If something doesn't make sense to him, he wants to know why or what. He will not read on until every question he has is answered. He requires a lot of conversation to satisfy his questioning. (L2.9.2).

Another teacher observes a *pattern* among a group of students who are aware of their uncertainty but have no way of proceeding.

I think when they have questions at the beginning of a book they think they're not a good reader because they are confused. They say they hate the book or

are confused and want to give up, but I teach them sometimes it has to unfold. Sometimes they have to read on. (Z2.5.1)

Active monitor.

Active monitor technique refers to observations that describe readers who notice comprehension breakdown and apply strategies for repair with greater flexibility, self-awareness, and independence. Note the two following examples of *pattern*. The first is observed of a group. "We have students who stop periodically throughout the story and check out the picture to confirm that what they've understood makes sense" (S2.4.2). The second is observed in one student. "I have a student who does a lot of rereading and she'll tell me she does it because she didn't understand" (Q2.8.3). Still another teacher describes a *moment* of an *active monitor* in action. "She initiated a closer look at the dialogue because she noticed her comprehension breaking down. She was confused and interested in solving that problem" (Z3.11.1).

Synthesis.

The third observed state of *technique*, coded *synthesis*, includes teachers' observations regarding the extent to which students process information from a text or other sources to make logical predictions, substantiated claims, or draw logical conclusions. The ranges of synthesis are *simple* and *complex*. Table 4.14 provides definitions, characteristics, and examples of each range of *synthesis*.

Table 4.14 Definitions and Examples of Technique / Synthesis		
Category II. TECHNIQUE		
Observed State C. SYNTHESIS The way in which information from a text or ideas from other readers are combined to make logical predictions, claims, or theories.		
Range	Characterized by observations of readers who . . .	Examples from the data
Simple	Make short-range predictions or conclusions. May or may not provide evidence.	<i>They go around and ask, what do you think is going to happen next? (F1.9.3)</i>
Complex	Make predictions, claims, or theories that integrate complex information / data sources. Consider multiple perspectives. May revise thinking.	<i>[About Bud, Not Buddy] It's a tough book to understand and they'd listen to somebody else and go oh yeah, now I get it. (F2.10.1)</i>

Simple synthesis.

In the data, observations describing the *technique* of *simple synthesis* are characterized by short-range predictions or claims. Many observations in this range describe the general frequency with which students predict a subsequent event or action similar to the example in Table 4.14. This cluster is also represented by the following specific observation of a *moment*.

The chapter ended and they heard the garage door go up and the voice said, who is going to help me with the groceries? And then all the hands go flying up. Well, I think Jean is going to distract her mother by bringing the groceries in while Randall cleans. And another one is saying, no Randall is going to go out the window. It was so interesting. They were making these predictions. (F2.5.1)

Complex synthesis.

Complex synthesis refers to observations that describe students who process information to make long-range predictions, draw conclusions, or construct a new understanding or insight. For example, in this *moment*, the following teacher observes a group of students as they work through initial ambiguity in the book *Baby*. About one student in the group, she says,

We'd only read two chapters and the comments that Melissa were making and the thought that went into her predictions about who the baby could be or who she thought the little passages at the beginning of some of the chapters were about [were impressive]. She thought that could have been the baby remembering someone and she hadn't read more than two chapters. (B2.1.1)

Complex synthesis is also represented by teachers' observations of readers who integrate information gained through a greater span of text. For example, while reading *Bud Not Buddy*, this teacher observes the *moment* when,

Some of their predictions were way off. Then they'd read the next chapter and go oh yeah and they'd see what was happening. Especially at the end when they found out he was the grandfather and not the father. That was like a light bulb going off in their head. (F2.6.2)

Another teacher observes a *moment of complex synthesis*.

We've been doing a lot with historical fiction and the freedom train. We read a couple of books and finally one of the boys realized that it was the color of their skin that separated the blacks from the whites. He had missed it for a while, and then he went, oh and finally made that connection. It was kind of an ah-ha moment. (S2.4.1)

Another dimension of *complex synthesis* is the consideration of multiple perspectives. For example this teacher recalls this *moment*.

Blake said, 'I agree with Tess after listening to her explanation and it contradicts my original thoughts.' So they actually went back into the book and they reread this particular piece and talked about their individual thoughts at that time. And I can't remember what made Tess think whatever she was thinking. (N3.3.4)

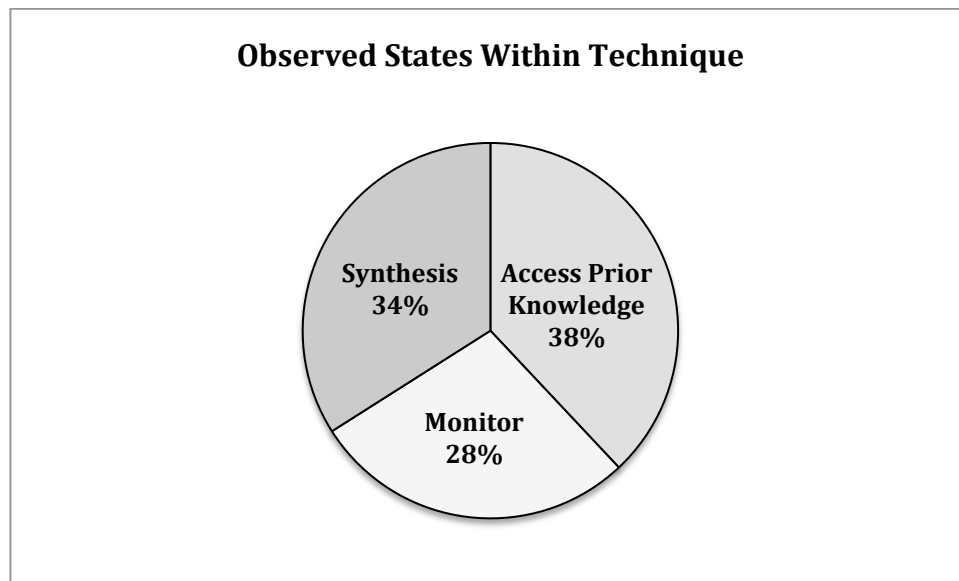
Summary of technique.

These findings identify, characterize, and organize teachers' observations of *technique*, strategies readers apply to construct or repair meaning. Teachers describe the degree to which students access prior knowledge, the extent to which they note confusion and apply strategies such as self-questioning or rereading, and the way they synthesize ideas and information. Teachers' observations in this category contain descriptions of how students process and respond to text.

Distributions of teachers' observations among the observed states of *technique* (Table 4.15 and Figure 4) provide a view of teachers' access and/or attention to its multiple dimensions. From least to greatest, they are *monitor* (.28), *synthesis* (.34), and *access prior knowledge* (.38). Note the fairly even distributions among observed states in this category.

Table 4.15 Distribution of Observed States: Technique			
Category	Observed States	Total	Proportion
Technique	Access prior knowledge	36	.38
	Monitor	27	.28
	Synthesis	32	.34
Total		95	1.00

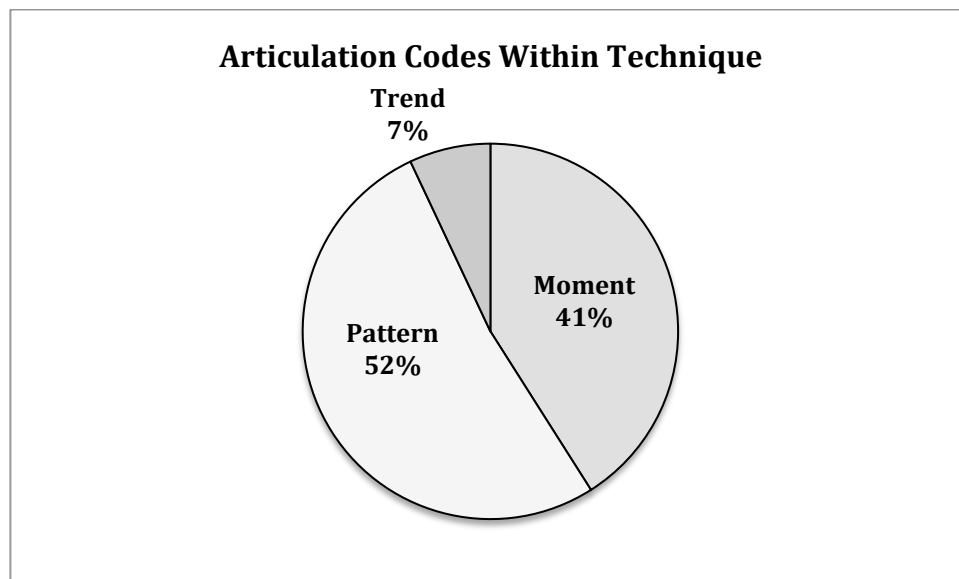
Figure 4: Observed States Within Technique



Frequencies of articulation codes within *technique* are shown in Figure 5.

Note the relatively even distributions among *moments* and *patterns* and the low incidence of *trends*.

Figure 5: Articulation Codes Within Technique



Distributions of articulation codes within *technique* by observed state are presented on Table 4.16.

Table 4.16 Distribution of Articulation: Technique by Observed State								
Technique	Access prior knowledge		Monitor meaning		Synthesis		Total	
Articulation	#	Prop.	#	Prop.	#	Prop.	#	Prop.
Moment	19	.53	3	.11	17	.53	39	.41
Pattern	14	.39	22	.82	13	.41	49	.52
Trend	3	.08	2	.07	2	.06	7	.07
Total	36	1.00	27	1.00	32	1.00	95	1.00

Of interest here are differences in the way teachers articulate content and process-heavy indicators of comprehension. Observations of *monitors meaning*, a process-heavy indicator of comprehension, are more frequently articulated as *patterns* (.82). Articulations of *access to prior knowledge and synthesis*, dimensions of comprehension that clearly merge ideation and process, are more evenly distributed between *moments* (.53, .39) and *patterns* (.53, .41).

Interpretation.

Interpretation, the third category of teachers' observations, is defined as information, ideas, and emotions readers take away from a text. The two observed states are *literal* and *abstract*. Data were analyzed and coded to further differentiate ranges within each state of *interpretation*. For example, within *literal* there are three ranges. Ranges are consolidated on Table 4.17.

Table 4.17 Ranges Within Observed States of Interpretation			
Observed States	Range		
Literal	Just the facts	Sequences	Gets the gist
Abstract	Significance/ Motive	Emotional tone	Theme

Literal.

The first observed state of interpretation, coded *literal*, includes teachers' observations regarding readers' understanding of information that is stated explicitly in a text. Ranges of *literal interpretation* are *just the facts*, *sequence*, and *gets the gist*. Table 4.18 provides definitions, characteristics, and examples of each range of *literal*.

Table 4.18 Definitions and Examples of Interpretation / Literal		
Category		
III. INTERPRETATION		
Observed State		
A. LITERAL		
Information understood by readers that is explicitly stated in a text.		
Range	Characterized by observations of readers who take-away . . .	Examples from the data
Just the facts	Basic story elements and/or information.	<i>She's very literal. She gets the facts right but doesn't go beyond that. (L2.2.1)</i>
Sequence	Events/ideas in the order they occurred or were presented.	<i>I had a student who I thought would have done a better job [summarizing] but in places flip-flopped the order. (Q2.3.2)</i>
Gets the gist	The most important ideas in a text.	<i>I did have the group at some point write a summary and they did very well. They were able to sift out what's important. (F2.5.2)</i>

Just the facts.

In the data, observations describing *just the facts* are characterized by readers who understand basic elements contained in a work of fiction or information stated in nonfiction at a literal level. For example, one teacher observes a *pattern* among students.

For the most part my students' literal understanding is decent. They get the story. They are able to talk about characters, setting, and problems that are happening and how they're working to solve them. So I think for the most part they get the literal part of the text. (Q2.3.1)

Another aspect to *just the facts* observations are teachers' indications of students who are exclusively literal readers, also indicative of a *text-based stance*. In the following examples of observed *patterns* one teacher conveys, "I am comfortable with his literal understanding, but not beyond that" (N2.2.4). The other says:

One will start to read and anything that is in the text she can recall and tell you. She 's very literal. She has the facts right. . . . Hypothetically, the decorator crab sticks seaweed onto his shell, but why is it called a decorator crab? I don't know. How would I know that? . . . And the other child would go, 'I get it. That's so funny.' (L2.2.1; L3.7.1)

Sequence.

The range of *sequence in literal interpretation* refers to observations that describe readers' conveyance of the order of events or information in a text. For example this teacher describes a *pattern* in a student's understanding of sequence in *Charlotte's Web*. "She had trouble with sequencing. I think overall she knew what was happening but there was definitely some confusion at points knowing when something happened" (Q3.1.4). Another teacher observes *patterns* related to sequence.

The overall sequencing was about right. I don't remember them actually having significant things out of order . . . They might not be able to retell a story in sequential order but they can give you other details. They may need some prompting. If they're really strong readers they can tell you in a-b-c order. (S2.2.3)

Gets the gist.

The range of *gets the gist* refers to observations about readers who prioritize and summarize ideas in a text. For example, this teacher recalls a particular *moment* when students' drawings revealed their difficulty distinguishing important from interesting information.

I said draw one of the main events that happened and some of the kids really needed some guidance on what the main thing was. They wanted to zone in on what was their favorite part versus what was the main event. (S2.2.1)

The following observation of *moment* describes differences among a group of students in regard to *gets the gist*.

I was just amazed when I looked at the summary. It was complete and thorough. It was sequential. But she was just one of five. The others, some of them struggled a little more. Some of them missed a few things that should have been included. (Q2.4.2)

Finally, another teacher observes a *pattern* of *gets the gist* among a group of students.

"We talk about summarizing and I think this group was able to narrow down the key points of a chapter. They weren't just spitting back everything. They were really picking out the key ideas" (B3.2.3).

Abstract.

The second observed state of *interpretation*, coded *abstract*, includes teachers' observations regarding ideas readers infer or intuit from a text. The ranges of *abstract*

interpretation are *motive/significance*, *emotional tone*, and *theme*. Table 4.19 provides definitions, characteristics, and examples of each range of *abstract*.

Table 4.19 Definitions and Examples of Interpretation / Abstract		
Category III. INTERPRETATION		
Observed State B. ABSTRACT Ideas readers infer or intuit from text.		
Range	Characterized by observations of readers who . . .	Examples from the data
Motive/ Significance	Explore the reasons why characters (or subjects of a text) do what they do. (What moves them.) Explore implications of details or events.	<i>They asked, why do you think Mars Bars asked him over? (Z3.8.1)</i>
Emotional tone	Explore/understand characters' emotions.	<i>He asked, how do you think Larkin feels about Sophie showing up? Do you think Rebel has a soft side? (B3.5.2)</i>
Theme	Extend beyond the text to understand unifying ideas or life lessons.	<i>One of them tried to come up with an author's message which was showing deeper understanding. They were talking about trust and not giving up and they were themes in the book. They raised it on their own. (Q3.2.1)</i>

Motive/significance.

In the data, observations describing *motive/significance* are characterized by students' explorations of deeper meaning of characters' actions, specific details, or events. For example, this teacher observes a *moment* in a book club discussion of *Maniac Magee* when students interpret the motivation for a character's decision.

One of their questions was, why doesn't Jeffrey want to go to Mars Bars' house? The kids talked about how he had already said that he was tired of losing people and that after what had happened to Grayson, he was so

distraught and distressed and just couldn't bear to be attached to anyone else and be left again. (Z3.1.1)

Another teacher observes a *moment* of unfolding understanding of the dad's *motive* in *Baby*.

One of the things they raised a lot was why Dad warned Larkin not to get attached or not to love her and I think [at first] until they got to know the whole story, some of them were able to figure out that it's because they lost the baby but others had to wait a few more chapters to see how dad was behaving. Then they were the ones who said Dad warned her not to fall in love with the baby, but he's falling in love with her. They picked up on that. (B3.1.1)

This teacher observes the *moment* when a student interprets the significance of a detail. "Allen said she did rock, paper scissors because that's what she remembered most about Dad, his hands. He was mentioning something about how much Sophie liked Dad's hands" (B3.4.4).

Emotional tone.

Emotional tone refers to observations that describe students' understanding of affective dimensions of text. For example, this teacher observes the *moment* when a student's perception of Sophie's emotional state at the end of *Baby* is revealed. She says, "[He said] Papa was the one who healed the most because he didn't like Sophie at first but he was the saddest when she left" (B3.8.1). The following *moment* of students reading *Charlotte's Web* exemplifies the multi-faceted nature of comprehension and response to text as students simultaneously infer Wilbur's emotional state and interpret a motive for planning his day. This is also framed by their *deeply engaged stance*.

They would talk about the characters and become really emotional. Like some were crying when certain things in the story were happening. Someone asked the question, why would he [Wilbur] schedule his day? And it became a whole

discussion of how he was feeling and he didn't want to feel that way so he kept himself busy. They said it's because he doesn't want to be lonely, feel bored, or scared. So they were thinking in the head of the pig in a sense; they were trying to figure out the characters' emotions and their emotions and how it plays into the story. (Q3.2.5)

Theme.

Theme, the last range of the observed state of *abstract interpretation* refers to observations that describe students' understanding of unifying ideas or life lessons implied by a text. For example, this teacher describes the *moment* in a book club discussion about *War With Grandpa*. She says,

One student asked, what do you think Peter learns about war? One of the kids said it's not fun. The rest of the kids realized that it's important to work through your problems and that family is more important than any room could be. (B2.5.2)

During a small group discussion of *Red Dog*, another teacher observes the following *moment*. "They were very upset that the dog is not going to have any freedom now. It's always going to be tied up or chained. They got talking about quality of life and is it worth it" (B2.6.2)? Some observations describe how students misunderstand a book's message or theme. For example, this teacher recalls a *moment* when reading *Stargirl*.

They didn't make the connection between how people are unique individuals and you should be proud of your individuality and you shouldn't fall into that whole peer pressure thing. At the end of the story a lot of them said, oh it's good she changed. Now she can fit in. (Z2.9.1)

Summary of interpretation.

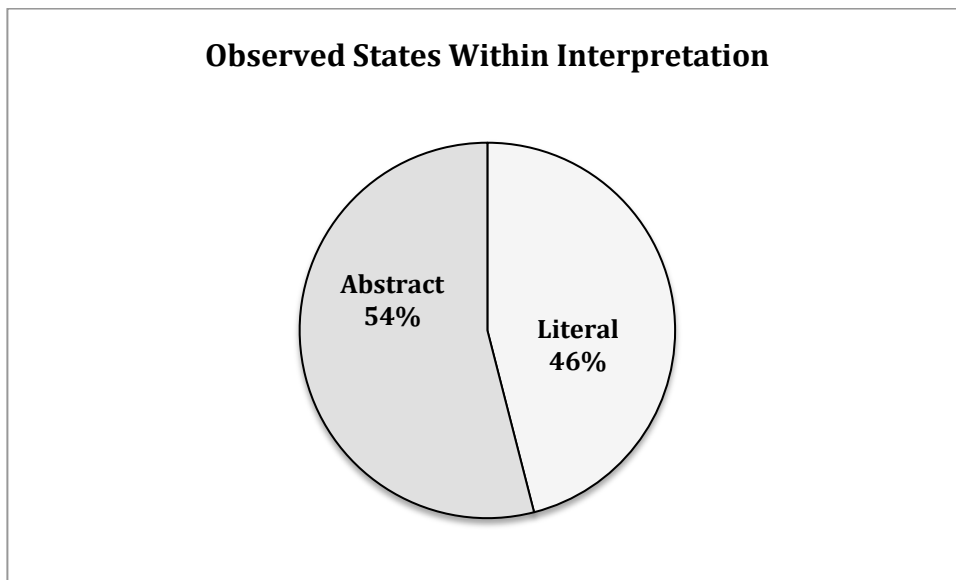
These findings identify, characterize, and organize teachers' observations of *interpretation*, the range of information, ideas, and emotions readers take away from a

text. Teachers describe what students understand about what is explicitly stated in a text. They describe what students infer or intuit through abstract reasoning, such as *motive, significance, emotional tone, and theme*.

Distributions of teachers' observations among the observed states of *interpretation* (Table 4.20 and Figure 6) provide a view of teachers' access and/or attention to its multiple dimensions. From least to greatest, they are *literal* (.46) and *abstract* (.54).

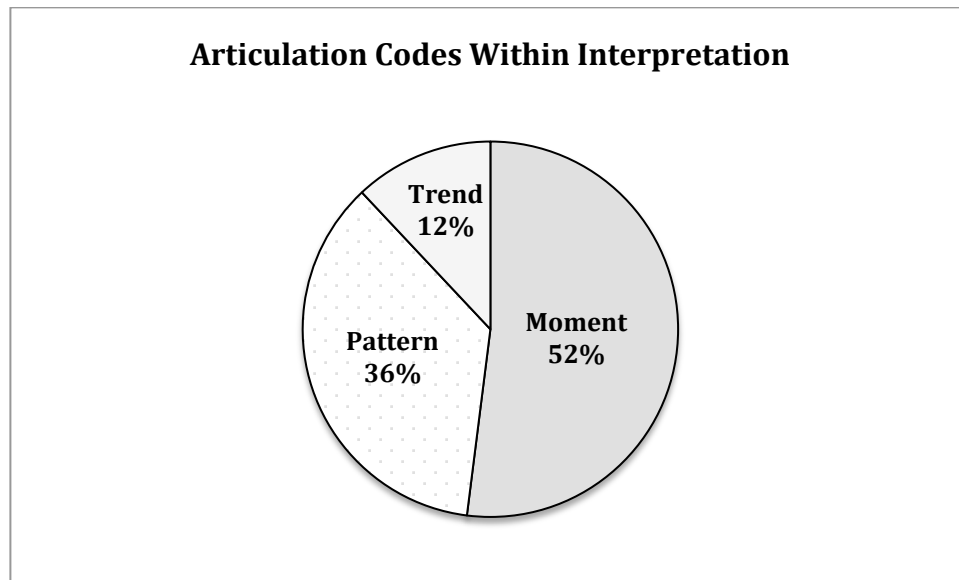
Table 4.20 Distribution of Observed States: Interpretation			
Category	Observed States	Total	Proportion
Interpretation	Literal	31	.46
	Abstract	36	.54
Total		67	1.00

Figure 6: Observed States Within Interpretation



Frequencies of articulation codes within *interpretation* are shown in Figure 7. Note the relatively even distributions among *moments* and *patterns*, and the low incidence of *trends*.

Figure 7: Articulation Codes Within Interpretation



Distributions of articulation codes within *interpretation* by observed state are presented on Table 4.21.

Interpretation	Literal		Abstract		Total	
Articulation	#	Prop.	#	Prop.	#	Prop.
Moment	4	.16	30	.83	35	.52
Pattern	23	.71	2	.06	24	.36
Trend	4	.13	4	.11	8	.12
Total	31	1.00	36	1.00	67	1.00

Of interest here are differences in the way teachers articulate text-based observations (*literal*) and reader-based (*abstract*) observations. Observations of *literal* comprehension are more frequently articulated as *patterns* (.71). Observations of *abstract* comprehension are more frequently articulated as *moments* (.83).

Summary of Findings

I close this chapter with a summary of findings. To facilitate this summary, I begin with three sets of charts previously distributed throughout the results section, now consolidated to provide an overview. This is followed by a review of the consolidated data that includes indicators of the separability of the coding system and my final remarks.

Consolidation of Data

The following three sets of tables provide an overview of the results for questions one and two. The first, Table 4.22, contains the full organizational framework of comprehension categories, observed states, and ranges. The second set includes Table 4.23, which provides distributions of observations by comprehension category and observed state, followed by Table 4.24 indicating distributions of observations by comprehension category across the entire data set. The third set includes Table 4.25, which contains distributions of articulation codes by observed state, followed by Table 4.26 indicating distributions of articulation codes across the entire data set.

Table 4.22 Organizational Framework of Comprehension Categories			
Category/ Definition	Observed States	Definition	Range
Stance The position a reader takes in relation to a text.	Expectation for meaning	The extent to which reading is viewed as a transaction and to which the reader interacts with text to construct meaning.	Passive
			Budding
			Text-based
			Reader-text-based
	Engagement	Duration and depth of attention and meaningful entry into a text-world.	Fragile
			Emerging
			Deep
	Analytic	Awareness of a text's constituent parts, textual, literary features or conceptual structures, (concrete or abstract) as objects for consideration or discussion.	Graphic
			Semantic/Syntactic
			Structural/Conceptual
	Critical	The focus of emotional response or critique.	Author
Text			
World			
Technique Strategies applied to construct meaning	Access prior knowledge	The degree to which a reader accesses and applies prior knowledge.	Gap
			Weak
			Bridged
			Strong
	Monitor / Repair	The extent to which strategies such as rereading, retelling, self-questioning, prioritizing and visualizing are used to monitor or repair meaning.	Inactive
			Active
	Synthesis	The extent to which information from a text or ideas from other readers (multiple perspectives) are combined to make/revise logical predictions, substantiated claims or theories.	Simple
Complex			
Interpretation Information, ideas, and emotions taken away from a text by a reader.	Literal	Information understood by a reader that is explicitly stated in a text.	Just the facts
			Sequences
			Gets the gist
	Abstract	Ideas and feelings a reader infers or intuit.	Motive/Significance
			Emotional tone
			Theme/Draws threads

Table 4.23 Distribution of Comprehension Category by Observed State			
Category	Observed States	Total	Prop.
Stance	Expectation for meaning	14	.15
	Engagement	38	.39
	Analytical	30	.32
	Critical	12	.12
Total		94	1.00
Category	Observed States	Total	Prop.
Technique	Access prior knowledge	36	.38
	Monitor	27	.28
	Synthesis	32	.34
Total		95	1.00
Category	Observed States	Total	Prop.
Interpretation	Literal	31	.46
	Abstract	36	.54
Total		67	1.00

Table 4.24 Distribution of Comprehension Category Across Data Set		
Category	Total	Prop.
Stance	97	.37
Technique	95	.37
Interpretation	67	.26
Total	259	1.00

Category	Observed State								Total	
Stance	Expects meaning		Engagement		Analysis		Critical			
	#	Prop.	#	Prop.	#	Prop.	#	Prop.	#	Prop.
Moment	4	.29	9	.24	20	.61	7	.58	40	.41
Pattern	8	.57	22	.58	12	.36	3	.25	45	.47
Trend	2	.14	7	.18	1	.03	2	.17	12	.12
Total	14	1.00	38	1.00	33	1.00	12	1.00	97	1.00
Technique	Access prior knowledge		Monitor meaning		Synthesis					
	#	Prop.	#	Prop.	#	Prop.				
Moment	19	.53	3	.11	17	.53			39	.41
Pattern	14	.39	22	.82	13	.41			49	.52
Trend	3	.08	2	.07	2	.06			7	.07
Total	36	1.00	27	1.00	32	1.00			95	1.00
Interpretation	Literal		Abstract							
	#	Prop.	#	Prop.						
Moment	4	.16	30	.83					35	.52
Pattern	23	.71	2	.06					24	.36
Trend	4	.13	4	.11					8	.12
Total	31	1.00	36	1.00					67	1.00

Table 4.26 Distribution of Articulation Code Across Data Set		
Articulation	#	Proportion
Moment	114	.44
Pattern	118	.46
Trend	27	.10
Total	259	1.00

Indicators of Separability

I began this research project with the benefit of knowing, as an insider, what it is like to observe reading comprehension. I knew how much I learned about a student's understanding, processing, and engagement by hearing them wonder why Charlotte compared Mr. Zuckerman to a bug, interpret the symbolism (without being asked) of the peanut butter and jelly sandwich in *Loser*, or cry at the end of *Pink and Say*. This kind of knowledge about students is not delivered in a box at the end of February or June. It is not available for purchase from an outside source. It is a hard earned, coming-to-know, a felt-sense (Perl, 2004) that seeps in slowly and deepens with time spent in the presence of active readers. It is from this position of "knowing" that I began the work of analyzing teachers' observations of students' reading comprehension for this study. The distinct coding categories I devised for organizing the data are as much a reflection of my own experience observing comprehension, as they are a product of my detailed and close analytic reading of other teachers' observations.

The in-depth analysis of the data for question one resulted in a three-tiered organizational system of categories, observed states, and ranges (Table 4.22, p. 91). This system accounts for the breadth, variety, and specificity found in teachers' observations of students' reading comprehension. The three main coding categories, *stance*, *technique*, and *interpretation*, reflect the multiple lenses through which teachers observe students as they interact with text. Definitions of *stance*, *technique*, and *interpretation*, and the accompanying exemplars included in the results section of this chapter delineate boundaries between the angles of inquiry or questions teachers

bring to bear on their observational processes. For example, *stance* asks, what is the reader's relationship to the text? *Technique* asks, what strategies does the reader use to construct meaning? *Interpretation* asks, what ideas or information does the reader take-away from a text?

The subordinate codes (observed states) make even further distinctions by identifying finer variations between observations of comprehension within each category. For instance, within *stance*: Do they read with an expectation for meaning? What is the depth and duration of their engagement? Do they read and analyze a text's features? Do they ask critical questions? Finally, the analysis for question one is carried out to the level of range where twenty-seven codes capture nuance within observed states such as the focus of a reader's analytic stance, or degrees of efficacy of a reader's access to prior knowledge.

The quantitative analysis of data for question one reveals close to even distributions of observations among the main categories. For instance, *stance*, *technique*, and *interpretation* captured .37, .37, and .26 percent of the data, respectively. These and similarly even distributions among most of the observed states indicate a balance of teachers' attention to the multiple layers of reading comprehension and the effective separability of the coding system.

The analysis of the data for question two sought to learn more about teachers' data processing and articulations. It resulted in three codes: *moment*, *pattern*, and *trend*. These codes indicate differences in the amount of processing associated with each observation. For instance, processes of storage and analysis are implied through

the revelation of *moments*. Processes of analysis and interpretation over time are implied through the revelation of *patterns* and *trends*.

The quantitative analysis of data for question two indicate an even distribution across the data between articulation codes of *moment* (.44) and *pattern* (.46) but only ten percent (.10) coded as *trend*. Within each category, differences are noted in the way observations with codes of *moment* and *pattern* are distributed between particular observed states. For example, in *stance*, observed states of *analytic* (.61) and *critical* (.58) are more frequently coded as *moment*, while *expects meaning* (.57) and *engagement* (.58) are more frequently coded as *pattern*. These distributions point to differences in the way teachers attend to ideational indicators of comprehension such as *analytic* and *critical* versus process-heavy indicators of comprehension such as *expectation for meaning* and *engagement*.

Closing Remarks

When each subset of data related to question one is consolidated into a single framework, (Table 4.22, p. 91) a full body portrait of teachers' observations is drawn. Place this portrait beside the findings from question two regarding teachers' articulations and an image of a powerful system for collection, storage, management, analysis, and interpretation of data emerges. These findings are a reflection of the complexity and capacity of teachers' internal data processing. The scope of the data speaks to the multiple theoretical frames that inform study participants' instructional practices and to the dimensions of student performance on which they focus. The specificity of the data speaks to the close attention these teachers bring to bear on the

complex layers of engagement, reading for meaning demands. The research itself speaks to the importance of opportunities for teachers like me to study the practices they know well, but have little time to contemplate. It was, by no small measure, knowledge-in-practice (Cochran-Smith & Lytle, 1999) that guided me through this analysis and allowed me to capture the depth and complexity of teachers' thinking.

CHAPTER 5

CONCLUSIONS

Introduction

The purpose of this descriptive study was to examine and give voice to what teachers in a transactional strategic instructional setting perceive about students' comprehension through embedded observation. My desire was to account for the insight teachers gain as they interact with students and texts in their language-rich classrooms and to use their articulations to build a practice-based conception of comprehension assessment.

Motivation for this investigation came from three sources. First, it grew out of concern expressed within my school by teachers about the absence of tools for assessing comprehension. Given current public policy focus on quantitative assessment schemes, it's no wonder teachers consider what they "come to know" about students' comprehension through interaction and observation, too ephemeral to really count. Cognitive strategies, modes of response, and points of literary analysis made explicit during instruction are difficult to tease apart, analyze, interpret, and articulate when students internalize and operationalize these processes in less controlled, more socially complex contexts. Checklists and rubrics offer insufficient representations of the multi-dimensional, intertwined performances teachers witness.

Teachers' concerns about comprehension assessment led to a second motivation for this study -- my interest in the intellectual pyrotechnics they perform while engaging in embedded observation. Teachers simultaneously observe students

in action, analyze and interpret their observations, and implement and revise instructional plans. They perform these complex cognitive tasks while attending to everything in their classrooms from mundane requests for Band-Aids to critical social-emotional cries for help. Considering the problems researchers face when analyzing the complexities of reading comprehension in the comfort of a study, the diverse fields that inform a transactional strategic approach to reading instruction (language acquisition and development, cognitive processing, reader response, literary analysis, composition, sociocultural theories of learning), and the challenge of integrating these perspectives into a coherent conception of instruction and assessment, I wondered, how do teachers do it all in the “transactional heat and light” (Bomer, 1998) of their classrooms?

My third motivation was political. It seemed important to make teacher observation, “the black box” (Black & Wiliam, 1998) in the realm of reading comprehension, visible, to provide some balance to education policy that legislates restrictive definitions of evidential data and methodology in research and assessment. With this study, by giving teachers’ observations voice and form, I hoped to call attention to the challenging work teachers engage in daily as they gather, analyze, and interpret the complex qualitative data that is alive in their classrooms.

Thus, I asked, what do teachers notice about students’ comprehension? How do they articulate what they observe and interpret? What follows is a discussion of my findings, their significance and implication for teachers, for professional development, and for future research. I close by considering the limitations of this study and by offering a further remark.

Discussion

The abundance of information conveyed by participants in this study about students' comprehension confirms previous findings (Meisels & Piker, 2001; Hall & Webber, 1997; Paris, Paris & Carpenter, 2001; Stiggins and Bridgeford, 1985) of teachers' reliance on processes of embedded observation - their perception and analysis of classroom activity - as an assessment tool. This study also confirms the current hypothesis that, more specifically, teachers in a transactional strategic instructional setting gain extensive knowledge about students' reading comprehension through embedded observation. The analysis of teachers' articulations (descriptions of students' comprehension) accounts for the content of their observations in great detail. Furthermore, it reveals dimensions of teachers' interpretative practice that can be characterized as a *real-time* data processing system.

This discussion follows a sequence similar to the presentation of findings in chapter four: an overview of the framework, followed by a section for its main categories: *stance*, *technique*, and *interpretation*. Each of these four sections is framed by a question that locates points of significance regarding what teachers notice about students' comprehension, respectively: *Overview of the Comprehension Framework: What do teachers see?*; *Stance: What is missing?*; *Technique: What is everywhere but hard to see?*; *Interpretation: What is most important?* As in the previous chapter, insights drawn from the analyses of data for questions one and two are integrated as they become pertinent to the discussion. To conclude the discussion, I draw ideas together to articulate a conception of teachers' observational assessment of reading comprehension.

Overview of the Comprehension Framework: What Do Teachers See?

The comprehension framework located on Table 4.22 (p. 91), the graphic representation of qualitative findings for question one, captures the unique perspective of teachers in highly interactive, language-rich classroom settings as they observe comprehension. The teachers, upon whose observations the framework is built, are representative of a larger pool of reflective practitioners (Shulman, 1986) in similar student-centered environments. In this section, I will present an overview of the framework's conceptual source and content.

First, the framework identifies large differentiated conceptual chunks of comprehension drawn from teachers' observations and organizes them into three categories inspired by parallel dimensions of a musical performance: *stance*, *technique*, and *interpretation*. The framework's performance-based conceptual source reflects the synchronous play of these dimensions during reading: the way they resonate to varying degrees in the context of different texts, social settings, purposes for reading, and modes of communication, rendering them more or less salient to an observer. The idea of salience, what is most noticeable or important to teachers as they observe, accommodates notions of comprehension as a non-unitary (Duke, 2005) and dynamic phenomenon and explains how discrete dimensions of reading rise to the top of a performance at different times. Because of its variability, this conception points to the preeminence of a human observer over a proxy (a pencil and paper test) as the primary assessor of a reader's comprehension. The framework's musical roots also hint at cycles of action and reflection inherent to any considered performance. They call to mind the fluid processes of participation, observation, and reflection in

which teachers engage. They honor the real-time challenge teachers face as they interact with students about text (read, think, listen, speak, write, draw) while also observing and analyzing students' complex performances. They depict times when in the midst of these interactions, teachers pause and ask themselves, "What just happened here? What does this mean?" while the music plays on.

Second, what teachers in this study observe about students' comprehension is found in the form and content of the comprehension framework (Table 4.22, p. 91). It captures the breadth, variety, and nuance of teachers' embedded observations. The breadth of teachers' observations are indicated by the three categories they encompass: *stance*, *technique*, and *interpretation*; their variety by the nine observed states identifying dimensions within each category; their nuance by the twenty-seven ranges that further differentiate what teachers notice about student performance within these dimensions.

These findings suggest that implicitly and/or explicitly, teachers draw on multiple conceptions of comprehension to make sense of what they observe. The dimensions of comprehension described by teachers align with cognitive, socio-cultural, and literary theories of reading. Teachers look through a prism of lenses to capture the many facets of comprehension just as Pressley and Afflerbach (1995) combine "the scope of reader response theory with the specifics of modern cognitive theories" (p. 87) to form a theory of constructive responsivity. It is telling of the complexity of comprehension, that the researchers, whose synthesis of verbal protocol studies led to the dissemination of knowledge about cognitive strategies to educators, also draw on multiple theoretical frames to describe comprehension.

In addition to the influence of teachers' theoretical knowledge upon what they see, the lenses they use to observe comprehension appear to be honed by experience. Each tier of the framework (category/observed state/range) describes the ways they delve deeper to observe variety and subtle nuance in student performance, noticing gaps, breakdowns, levels of support, and constructions of knowledge - - qualities visible only to those who spend as much time interacting with young readers (on the ground with kids) as elementary school teachers do. As previously stated, nine observed states and twenty-seven ranges are noted in the data. To place the significance of this finding in context, imagine a fourth grade teacher in this setting who observes a student reading *Shilo*. For example: *He compared Marty's internal conflict to the yin-yang symbol and explained the metaphor to the class. . . He realized how complicated Marty's problem was and that there was no easy answer. Later I noticed him rereading the beginning of a chapter. He said he was confused about where Marty was. . . When I told the class it was time for lunch, he didn't hear me. He just kept on reading.*

In the midst of a few interactions, this teacher observes her student's analytic stance, deep engagement, self-monitoring strategy, and literal and abstract interpretation. Consider the cumulative effect of "kidwatching" (Goodman, 1985) day-after-day over the course of a year on a teacher's knowledge of a student's comprehension and the full portrait his or her observations may comprise. Consider too, the effect of kidwatching over the course of a career on a teacher's resources for noticing variety, depth, and subtle difference in students' comprehension. As a result of interacting with hundreds of young readers, teachers construct personal collections

of observed moments - - images of comprehension in action. They draw on their internalized images and theoretical conceptions of reading comprehension to make sense of what they observe as students read for meaning, merging theory and practice.

Teachers' observations are evenly distributed across the three main categories of the framework (stance, .37; technique, .37, interpretation .26, respectively). These even distributions suggest teachers' balance of attention to students' conceptions of reading (*stance*), the skills and strategies they use to process text (*technique*), and ideas, information, and emotions they take away from it (*interpretation*). Such balance might not be found in observations of comprehension drawn from a different group of teachers in a different instructional setting where, for example, students' answers to teachers' questions alone, in traditional I/R/E fashion (Cazden, 1988), might be used to assess comprehension, -- most likely only yielding knowledge of what readers take-away from a text.

The instructional setting in which this study took place can also explain the breadth, variety, and nuance of teachers' observations. A transactional strategic instructional approach in a reader's workshop format places great demands on teachers' subject-matter knowledge. The quality of instruction and assessment that takes place in classrooms is dependent on teachers' broad theoretical and operational understanding of reading. Teachers must have knowledge of comprehension strategies, metacognition and schema theory, literary elements, analytic tools, and approaches to developing interpretations through reader response. Readers' workshop positions teachers to author the path of instruction and assessment in their classrooms (Atwell, 1998; Calkins, 2000). With this authority, they are able to create

environments in which instruction and comprehension assessment are conceptually and epistemologically congruent. This is in stark contrast to the mismatch associated with assessments driven by psychometrics over theories of reading (Duke, 2005) such as word recognition or fluency, used because they are well correlated to comprehension.

In any instructional setting, comprehension can only be observed indirectly. If reading is thinking, its outcome, at least initially, exists only “in your head.” So just what are teachers “seeing”? Pearson and Hamm (2005) refer to the ephemeral quality of comprehension as its “residue.” They compare it to what Plato saw of the shadows in the cave of reality. Regarding capture of this slippery construct, James Marshall (2000) says,

. . . any response to literature, whether viewed as passive or active, will remain largely invisible to those studying it until it is represented by the reader in some verbal or material form. A reader's response to literature, in other words, is never directly accessible: It is always mediated by the mode of representation to which the reader has access (e.g., talk, writing, drawing) . . . One reader's response to literature, then, can never be studied apart from the medium in which it appears, and the response itself must be understood as shaped by the conventions of that medium. (p. 382)

Indeed, teachers in this study gain access to students' comprehension through many texts, contexts, and modes of communication. In the data, teachers reference over sixty books (Appendix E). They describe conversations about these books as they take place in different social contexts: whole class, small guided-reading and book club groups, or one-on-one independent reading conferences. Teachers refer to insight gained about comprehension through student writing that includes jottings, notes, charts, summaries, response journals, essays, and reports. They reference student drawings of settings, characters, and important and significant events. They

describe students' physical movement and gesture. But the most frequently referenced mode of communication is talk, the most elusive form of expression to study.

The range of teachers' observational data highlights the significant role they play as interpreters of student comprehension. No other "assessment instrument" is better situated to make sense of how and what students understand and feel as they read, than the teachers with whom they talk. Without the freedom for students to express thoughts and feelings in dialogue with a teacher or other readers, their response is often reduced to "saying what they think the teacher or test wants to hear," a concern voiced by participants of this study, and opportunities for teachers to observe constructions of knowledge and novel thoughts are diminished. Without background knowledge about students gained through interpersonal relations, formal assessments typically yield little insight into the unique transaction that takes place between a particular reader, a particular text, at a particular *moment* in time. Teachers (as assessment instruments) are responsive and flexible enough to capture students' idiosyncratic engagements.

Stance: What is Missing?

As previously discussed, teachers use multiple lenses to observe and interpret what they see in students' comprehension. In the findings, teachers' observations are organized into three main categories: *stance*, *technique* and *interpretation*. Within the category of *stance* - - the position a reader takes in relation to a text - - teachers notice most about students' *expectation for meaning*, *engagement*, and *analytic* thinking. In this section I discuss findings that reveal a dimension of *stance* teachers notice less

frequently. Quantitative and qualitative results point to teachers' observations of students' *critical* reading as an under-represented dimension. Observations of students' *critical* reading constitute fifteen percent of the data in the category of *stance* and four percent across the entire dataset. This is the lowest frequency of all observed states. It is the weak representation of critical observations in the data that makes them significant.

To discuss this finding, it is important to note that definitions of observed states and characterizations of ranges contained in the results section of this study are derived *from* the data. Thus, a *critical stance* is defined as: a reader's focus of emotional response, opinion, or critique. The ranges of critical observations are differentiated by a reader's object of attention. For example, in my analysis I found teachers observing students who question the intentions of an author: "They asked why would they do that in a children's book?"; judge an idea conveyed by a text: "She said that was a mean thing for Maniac to say, but thought he didn't mean to be mean."; or question the way things are in the world: "She asked, 'Can you believe this happened?'" in response to *Henry's Freedom Box*. Such distinctions between a reader's critique of author, text, or world, drawn from the data, are similar to those more familiar categories of a reader's connection to self, text, or world. While these codes serve to organize data in this study that present slightly critical edges, they do not sufficiently represent qualities of critical literacy, as they are known in the field at large.

To frame the qualitative questions these findings raise about teachers' critical observations and to provide a broader point of reference for this discussion, I present a

brief definition of critical literacy drawn from the literature. Critical pedagogy embodies goals of teaching toward democratic values of equity and social justice and includes plans for and taking of social action. In classrooms, this means teachers and students pose problems, question the status quo, discover new identities, and actively seek alternative paths for the “way things are in the world” (Bomer & Bomer, 2001; Shor, 1999). Teaching those at the bottom to interpret personal and communal issues in relation to inequality and power and to devise actions to remedy inequality requires an intentional shift in discourse. Shor (1999) states:

The position taken by critical literacy advocates is that no pedagogy is neutral, no learning process is value-free, no curriculum avoids ideology and power relations. To teach is to encourage human beings to develop in one direction or another. In fostering student development, every teacher chooses some subject matters, some ways of knowing, some ways of speaking and relating, instead of others. Their choices orient students to map the world and their relation to it. (para. 55)

Teaching critical literacy requires moving beyond the traditional literary discourse for interpreting authors, texts, and the world, toward a discourse adjusted for critiquing or questioning texts through lenses sensitive to fairness and injustice, power relations, voice and silence, multiple perspectives, race and class, for example, with intentions of reorienting the world toward equality (Bomer & Bomer, 2001).

This definition serves to qualify the relationship the *critical* observations from this study have to critical literacy. I analyzed and coded teachers’ observations of students’ reading comprehension as *critical* (though they might more aptly be named judgments) because of their emergent critical quality and the potential they offer for further development of students’ critical stance (Bomer & Bomer, 2001), but it is important to ask, why are observations of critical reading so sparse? One explanation

is that students in these classes read critically, but their teachers don't notice. Given the abundance of observational data teachers contribute to this study - - their range and dimensionality - - it is unlikely that teachers would not also have observed and shared students' critical thoughts (regardless of teachers' awareness of them as critical or knowledge of critical pedagogy as formal study). A more likely explanation is that students are not "tooled up" to read through a critical lens. In the data, although teachers' observations contain references to student language that is clearly appropriated from instruction to analyze literary dimensions of text like *mind movies*, *sensory bursts*, and *timeline structure*, there is no evidence of an equivalent common critical discourse. Like cognitive strategies, literary response, and interpretation - - critical literacy must be explicitly taught; student-teacher partnerships in critical thinking must be formed. If this were the case, a shared language of critical literacy would likely have also made its way into teachers' descriptions of students' comprehension.

Why don't teachers develop critical reading as explicitly as they develop students' other reading lenses? Possibly, because teaching critical literacy is to teach against the grain of power, a risky stance to take in an educational system that operates to control instruction in top down fashion -- from federal, state, and local administration, and finally to teachers and students. Shor (1999) says,

Some indication of just how high the stakes are in doing critical teaching can be seen in the enormous official attention devoted to questions of reading, writing, and the canon. So much controlling administration and testing directed to regulating literacy makes language use and instruction into pillars of the status quo. (para. 46)

Indeed, critical tools are left out of official documents mapping literacy curricula. In the more than thirty years since standards have been generated, none of the versions with which I am familiar (New Standards, RI GLE/GSE, or the newly adopted Common Core State Standards), articulate a vision for critical literacy. Though there is room in these standards to incorporate critical teaching, to find a teacher who does so is to find one with a strong personal commitment to liberatory education (Freire, 1970,1993), one who is willing to take an uncommon stance and to teach an uncommon core.

Beyond its absence from documents of curricular standards, compare the sparse mainstream access to professional knowledge about critical literacy to the vigorous streams of professional literature, basal readers, and instructional packages through which information about cognitive strategies flows: *Mosaic of Thought* (Keene, 2007), *Strategies that Work* (Harvey & Goudvis, 2007), *Guiding Readers and Writers* (Fountas & Pinnell, 2001), *Seven Keys to Comprehension* (Zimmerman & Hutchins, 2003), *Read 180* (Scholastic). Though there are many resources about critical literacy for teachers who seek them: *Teaching Literacy for Love and Wisdom: Being the Book and Being the Change* (Wilhelm & Novak, 2011); *Nurturing the Peacemakers in Our Students: A Guide to Writing & Speaking Out About Issues of War & of Peace* (Weber, 2006); *For a Better World: Reading and Writing for Social Action* (Bomer & Bomer, 2001); and *Rethinking Schools* (rethinkingschools.org) - - are a few examples - - there is no institutionally sanctioned track for integrating these resources into the curriculum.

While it is possible that teachers in this study lack a critical stance personally, or avoid it professionally (Wollman-Bonilla, 1998) it is unreasonable to attribute its absence solely to their personal beliefs, knowledge, or choice. In light of the political and social pressures limiting teachers' engagement in critical pedagogy, it is more reasonable and more important to ask: Why is critical literacy in public schools marginalized when its goals are emancipatory and democratic?

Technique: What is Everywhere But Hard to See?

In this section I discuss findings about teachers' observations of *technique*, the execution of reading for meaning. Technique is implicit to comprehension, as it is to any performance. It resonates throughout one's reading, like a pedal tone - - a bass note sustained throughout a song that is at times imperceptible. What makes a reader's technique more or less perceptible or of concern to an observer can be explained by the cognitivist distinction between a strategy and a skill. In this view, a strategy is planful, procedural, purposeful, intentional, and conscious and can involve the use of step-by-step procedures or heuristics, more general approaches to problem solving. A skill is defined as automatic, habitual, routinized, and unconscious (Afflerbach, Pearson, & Paris, 2008; Alexander & Jetton, 2000). This distinction is critical, since strategies and skills are frequently conflated in instructional language.

To place this distinction in a worldly context, consider a performance by Jascha Heifetz of the Tchaikovsky Violin Concerto, a virtuoso and a technically challenging piece. (It exceeded the abilities of the soloist for whom it was written, Leopold Auer, in 1878.) Heifetz's technique is so flawless, so reliable, so deeply

engrained in his mind and body, it seems to disappear. Such a flawless performance - the kind he is remembered for - has the effect of moving the audience, (confident of his technique even in the midst of a tightrope act) into the realm of awe and emotion and wherever else the music takes them (except perhaps for other violinists who will also try to analyze his technique). Now imagine the same piece played by a relative novice. The audience might have much to say about the technical dimensions of the performance: difficulty with intonation, bow control, fingering speed. The challenge of the music in relation to the skill of the player makes essential technique, (in its absence) evident to a listener.

How does this relate to the current study of teachers' observations of reading comprehension? First, it depicts the way in which teachers use their personal knowledge of students and expert knowledge of comprehension to analyze the technique of a reader's performance. In more proficient readings where strategies are internalized, teachers draw on a fabric of shared experience with students, woven over time with knowledge of books read, subjects studied, favorite topics, family relationships, friendships, emotional triumphs and challenges. They use this knowledge to infer skillful, essentially invisible dimensions of students' reading. For example, there are many observations in the data when teachers attribute a reader's insight to something they know about a student's personality or experience. In *Maniac Magee*: "Jesse understands Amanda Beal's care of books because she feels exactly the same way about her books and her things." In *Baby*: "Her father is not in the picture and although it's not a sibling as in the book, she understood that kind of loss."

Second, when teachers observe readings of texts that offer students new challenges, technique may be more noticeable. For example, in the data, teachers see students reread a portion of text that is confusing (“He rereads Commander Toad to understand the puns”), check a visualization with an illustration (“Can sidewalks be made of wood?”), or make Venn diagrams to compare and contrast American presidents. Though such vivid evidence of comprehension strategy use is not always perceptible, when it is, it is significant that teachers have front row seats for students’ performances and are able to capture their strategic tool use through direct observation.

There are also examples in the data when students’ technique or comprehension monitoring actions are evident to teachers, but their purposes are not so clear. For instance, two teachers working with the same student describe the same behavior: He stops frequently to ask for clarification about information in readings. It seems he can’t read on if a point of confusion or question of curiosity lingers in his mind. Both wonder aloud: Why does he do this? What does he need? Is it a problem or strength at this point in his development?

The uncertainty these teachers (and others in this study) express while describing and interpreting students’ reading behaviors could be seen as an indication of their ill-informed or weak assessment of comprehension. To the contrary, I believe their questioning is evidence of an appropriate tentative inquiry stance. First, as previously stated, it is not easy to capture and interpret the residue of comprehension. It would be a misrepresentation of what can be known about another reader’s processing through any means of assessment for a teacher to state his or her findings

in absolute terms. Rather, what renders a teacher a sophisticated assessment instrument is his or her ability to capture dimensions of comprehension missed by standardized tests and the potentiality to consider alternative explanations of the dimensions observed. Second, a reader's comprehension is not a fixed commodity. It varies as text, social context, and purposes for reading change. Qualification of context is necessary for conclusions about comprehension to be meaningful and purposeful for instruction. Teachers observe, describe, and flexibly consider contextual variables.

Findings regarding how teachers articulate what they observe about students' comprehension indicate a model of continuous embedded assessment, an on-going construction of knowledge about students. Across the entire dataset, .44 of teachers' observations are *moments*. Forty-six and ten percent are *patterns* and *trends*, respectively. This fairly even distribution between *moments* and *patterns* suggests the existence of a "hidden" real-time data processing system. The data teachers collect from day-to-day are stored, analyzed, and interpreted over time to yield performance theories or working conclusions. Teachers store *moments*, descriptions of the here and now, in wait and see mode, until they gather enough evidence to consolidate into a *pattern* and thus, articulate their understanding more conclusively. Teachers' speculative posturing is reflective of the on-going interpretative processes in which they engage. It is this interpretative work itself that makes the data teachers collect most meaningful to them and most useful for informing instruction in the short and long term. This proposition raises epistemological questions about the imposition of

traditional psychometric standards and quantifications of reading for meaning on teachers' classroom assessment processes.

As Mike Rose says,

The mother of big ideas in contemporary school reform is the belief that we can capture dynamic phenomena like learning or teaching with a few numerical measures. This is the logical fallacy of reification, and the last century of psychological science is filled with unfortunate examples, as Stephen J. Gould trenchantly observed in *The Mismeasure of Man*.

[Washington Post, posted 12:30 PM ET, 10/20/10]

It is significant that observational assessment offers much more space for interpretation and insight than most diagnostic instruments grant teachers. In a discussion of dynamic assessment, a method based on Vygotskian principles of teaching and learning currently used and studied in the field of second language learning, Lantolf & Poehner (2004) explain the psychometric concern with differences in the amount of support given to subjects during administration of a 'mediated learning experience'. In response to the psychometric critique, Lantolf & Poehner state,

For Vygotsky, improvisation and creativity are essential to providing appropriate forms of mediation in the ZPD (Newman & Holzman, 1993), while measuring a child's performance provides little more than 'a purely empirical establishment of what is obvious to persons who just observe the child and adds nothing new to what is already known through direct observation (Vygotsky, 1998: 205). This gets at the fundamental purpose behind and meaning of assessment: for Vygotsky, the task is not to *measure* but to *interpret* the child (Vygotsky, 1998: 204). (p. 66)

Ironically, forms of assessment that *measure* rather than *interpret* progress are required when a child's approach to learning presents as puzzling to a teacher, when his or her development falters, and special education services are sought. In such cases, a teacher might turn to a problem solving team seeking deeper understanding of

a child's behavior, perception, thought and language, physicality, or social and emotional engagement. In this forum, teachers are required to present their "findings" about students quantitatively. By privileging this reductive approach to assessment, qualitative descriptions like those documented in this study are often neglected. Insight teachers gain by observing students as they engage in reading by talking with them about what they do to solve a particular problem, or what they think and feel about a particular text, become sidebars to dimensions of progress that can be counted, narrow though they may be.

Another point of significance in the findings regarding how teachers articulate what they observe is the low incidence of *trend* (.10) across the data. The most frequent dimension of comprehension about which teachers noted and described change was *engagement* (.18), in the category of *stance*. Comments about students' attention, desire, interest, pleasure, and choice were most common. This could mean changes in attitudinal or process-based dimensions are easier to observe over time than changes in ideation. Teachers might need to engage in closer analyses of students' response to text to identify more nuanced indicators of change in dimensions such as *abstract interpretation* or *analytic stance*. The finding of fewer *trends* could also be attributed to the short window of data collection (between March and May). Transformation in comprehension might happen at a slower pace and need to be studied over a longer period of time. Or finally, it could be because participants were asked to draw observations from their general practice, not about one particular student, change over time was difficult to see. The breadth of data this research design offered might have been at the expense of narrow data necessary for tracking change

over time in individual readers. Regardless of its reason, this finding indicates an area for future study, which I will discuss later in this chapter.

Interpretation: What is Most Important?

Findings in the category of interpretation reveal differences in how teachers articulate what they observe about students' *literal* and *abstract* comprehension. First, descriptions of students' literal interpretations indicate teachers' use of internalized benchmarks of key or essential ideas in any given text to evaluate students' comprehension. Rather than articulate or cite specific details from a text understood by a student, teachers make general, more conclusive statements. Teachers' observations of literal understanding of narrative text, for example, are conveyed in general terms referencing students' attention to literary elements, important information, or sequence of events as in comments like, "They get the story. They are able to talk about the characters and setting, problems that are happening and how they're working to solve them, so I think for the most part they get the literal part of the text" (Q2.3.1). Rarely, and only within the context of comprehension breakdown, do teachers cite specific ideas from a specific text to describe students' literal comprehension.

Indeed, eighty-four percent of observations in the observed state of *literal* are coded as *patterns* and *trends*, collectively. This means that as teachers observe students' reading, over time, they collect, analyze, and interpret evidence of their capacity for understanding at the literal level. Teachers' pattern analyses result in evaluative statements indicating students' general strengths and weaknesses noted

across texts such as: “He gets the gist.” “I’m very comfortable with her literal understanding.” Teachers also make distinctions between students who understand at the literal level but do not interpret more abstract ideas from their reading. They often do so with concern, referring to their thinking as “low level” comprehension. This suggests that although teachers consider literal understanding important, it is not their end goal for instruction, but rather a point from which to march onward and upward.

This finding is significant when considered in light of the historic focus of standardized assessments on literal and simple inferential levels of comprehension. It raises the question, why do teachers in this study aim beyond the relatively narrow scope of such tests? Perhaps they believe it is better (for the sake of improved test scores) to teach beyond the test than to it. Or perhaps knowing the failure of such tests to capture the most intellectually challenging and aesthetically enriching aspects of reading, these teachers assume a professional responsibility for countering their negative effect. It is also possible when teachers are protected from the ubiquitous pressure to raise test scores and are instead encouraged to engage students in deep learning over test preparation (as the principal did for the teachers in the school under study), their conceptions of comprehension and goals for students broaden and deepen. As standards and accountability programs are applied at large with a heavy hand, it is important to consider the possible *positive* effect of local resistance to the intensified use of standardized tests as measures of success.

Indicative of teachers’ deep and nuanced conceptions of successful reading are the abundance of observations in which they revel in the details of students’ creative and insightful interpretive *moments* in their classrooms. In contrast to the finding that

eighty-four percent of observations of *literal interpretation* are articulated as *patterns* and *trends*, in the observed state of *abstract*, eighty-three percent of observations are coded as specific *moments*. In these *moments*, teachers convey student response in great detail by placing their utterances in textual context. When teachers describe students' *abstract* understanding or insight, they do so with specificity, citing titles and scenes of books, merging them with ideas and feelings students convey at particular points in texts. During my interviews with teachers, I witnessed them search their memories for moments or events in a text during which students shared insightful interpretations. For example, an observation in the data begins like this, as a teacher tries to locate such a *moment* in *Maniac Magee*:

There was one section where Grayson said to Maniac about, he said something to Maniac about, I'm trying to think, one of the students took it the wrong way. Grayson was angry. Was Grayson angry? Grayson wasn't mad at him but they really . . . I'll have to go back to that part. They looked at it and they didn't get the fact that Grayson had bought him some stuff for his room. Oh, the part when Grayson dies and they're at the wake and Maniac's talking out loud and he's saying something like, someone had new sneakers and Maniac said, oh Grayson could never have afforded that . . . (Z3.10.1)

The observation continues with the teacher's interpretation of what one student understood at this *moment* in the text:

and someone had said, I don't think he meant to be mean to Maniac because he knows that he can't afford - but deep inside the person [the reader] thought that was a mean thing for Maniac to say, but didn't want to believe that Maniac was mean enough to say it. (Z3.10.1)

Another striking example of such synthesis of reader and text in the data is of a teacher who held the nonfiction book, *How Animals Defend Themselves*, in her hand (most did not physically refer to the text during interviews) and read aloud to me,

pausing to insert her students' interpretations at different points in text. Here is an excerpt:

When we got here, Allie stuck her tongue out. She pretended she was scared and she stuck her tongue out . . . so then the kid that read this paragraph, Cara wiggled her body like a snake. Well, what do you know, we get, I think Sara pretended she was putting stuff on herself, but then we get - oh here's the copycat. Oh here's another thing with this child. I got 'gross, the cut throat finch.' Somebody at one point said, wow, I get it now. It was this kind of comprehension. It was hard for them to understand this idea. I think Allie was the only one who got it. The monarch butterfly is poisonous. The viceroy butterfly, it never says it's not poisonous. It says the viceroy butterfly looks a lot like the monarch so birds stay away from both kinds. So I did ask the question, Do you think the viceroy butterfly is poisonous? It was hard for them to think, it isn't poisonous. That's why it needs to look like the monarch. Until, and the same thing here. *[Points to another page.]* Birds don't eat ants but they will eat spiders, so this spider looks like an ant so it won't be eaten. Somebody said, that's a good second grade challenge . . . (L3.3.4)

Teachers weave detailed descriptions of reader and text together to create new narratives, revealing their implicit theories of reading as transaction. This weaving, evident across categories of comprehension where dimensions are articulated as *moments*, can be thought of as a third text: the story of a particular reading of a particular text. Teachers' retellings convey dynamic images of comprehension. They contain a richness of detail and provide a wealth of material from which to draw insight. The time teachers in this study take to tell and reflect on their stories, the detail they include, and the enthusiasm with which they share what is clear and what is cloudy about their students' reading are indicative of the value they place on the active, thoughtful reading that takes place in their classrooms, and the active stance they take as participants and interpreters.

Summary

As Calfee (1993) notes, the word *assess* is derived from the Latin *assidere* meaning to sit beside (and thus assist the office of a judge). From the outset of this study, I believed in the importance of the knowledge teachers gain about students by *sitting beside* them. My hunch was its richness, the problem its obscurity. Teachers in this study capture comprehension in its realest and fullest sense: as a complex, multi-dimensional, and dynamic phenomenon that offers rich opportunity for human engagement and interaction. Analysis of teachers' knowledge of student comprehension provides a conception of comprehension assessment grounded in the realities of classroom life: It is descriptive, narrative, responsive, provisional, cumulative, interpretative, formative, and evaluative. It is as attentive to process as it is to content.

This research presents a way to reconcile the gap that exists between the comprehensive knowledge teachers gain about students' reading comprehension through embedded observation and the weak authority their knowledge is afforded at school. It bridges this gap by organizing teachers' observational data into a coherent framework representing the multiple perspectives that drive instruction and assessment in a transactional strategic instructional setting, giving their knowledge order and image. Cognizant of teachers' "in the moment," stance, I present this framework as a tool for reflection: a way to look back at classroom interactions, to organize the naturally disperse and multi-dimensional data they gather, and to draw meaning from them.

Given the positivist conception of assessment privileged in schools, it is not surprising that teachers themselves discount the value of the knowledge they construct about students. The marginalization of teachers' knowledge is cause for great concern, for it is in each moment spent with students, as those documented in this study, where school improvement resides. Until we lean into the complexity teachers face each day, until we systematically and consistently support reflective practice, until we value the knowledge teachers gain through processes of embedded observation and interpretation, it is a pretense to call for data-driven instruction.

In the next section I will discuss how what I learned about teachers' observations of students' comprehension serves to point the way forward for teachers and for professional development.

Implications

This research confirms the characterization of teachers' observations about students as disperse, abundant, and tacit. The unbounded nature of the classroom sources of teachers' knowledge about students, places great demands on teachers' capacity to capture and process all that is there. This is especially true about information gathered in dialogue with students. Therefore, teachers need methods of study for retrospectively accessing, analyzing, interpreting, and organizing observational data, which by design are gathered "unsystematically" at point of contact with students. Intentional processes for reflection can serve to build teachers' metacognitive awareness of the scope, depth, and limits of their knowledge about students. From this awareness, teachers may gain facility with articulation of

observational data, capacity to draw insight about student performance from these data, and the realization of gaps in conceptions of comprehension and instruction.

This reflective work should, as much as possible, take the long view. This is critical for two reasons: First, because the continuity of the work itself is essential. Reflective work must be viewed as a slow-cooker, a dimension of a school's culture that enhances the knowledge building capacity of the community. Second, for the opportunity it affords teachers to look at student work longitudinally. The finding from this study, of almost no articulations of *trend*, change in student performance, indicates such a need. To notice and name change or development in student comprehension, teachers must construct internalized images of comprehension, perhaps beyond and more nuanced than those captured by this study, images toward which they will teach and observe. Current education policy requiring teachers to graph student progress of comprehension in quantitative terms has given rise to the use of, at best, scored readings of benchmarked texts as proxies for such growth and change. If instead of producing graphs, teachers were also asked to *describe* student progress, to convey detailed images of students' positions, actions, attitudes, strategies, thoughts, and feelings in relation to text complexity, rich language would be the currency of progress monitoring. Such descriptive language, however, can only be born from contemplation of what we hope for our students to do as they develop as readers and thinkers and from close examination of what we actually observe our students doing as they read and think.

It takes an exploratory stance to consider and convey the complexities of reading comprehension. It is significant that the teachers in this study embraced the

opportunity to take such a stance and delve deeply into the knowledge they gain about students through observation, even as they humbly doubted they had much to contribute. Their willingness to share and make vulnerable, knowledge that is typically a closely held aspect of their practice, speaks volumes about their commitment to on-going professional learning. Indeed, a culture of collaborative inquiry was nurtured by the principal of the school years before this study began. Throughout the interview process, it was clear to me that participants valued the time they were given to talk about their practice. Because of what I observed happening when teachers thought aloud about their students for this study, the processes I suggest for professional development are collaborative, based on protocols developed by the Prospect Center (2002). Though other protocols exist for looking at student work and group study (Blythe, Allen, Powell, 1999) I propose four practiced at the Prospect Institute and by many small teacher working groups around the country because I believe they best address the challenge of capturing, analyzing, and interpreting comprehension in action.

First, to assist in the exploration and development of a vocabulary of terms associated with reading comprehension and thinking, I suggest the use of a protocol called *reflection on a word*. This protocol encourages participants to offer definitions, formal and informal, connections, examples, or images related to the focus word. Words may be selected to explore a concept inherent to a body of student work to be studied. They may be selected because their meaning is taken for granted or is obscure. Reflection on a word is frequently used as a preface to other inquiry protocols because of how it functions to build consensus, deepen insight, explore

divergence, stretch conceptions, and locate frequently overlooked dichotomies or tensions inherent in thought and language. Cracking open a dense or seemingly insignificant word collaboratively creates a circle of cumulative insight as one participant sparks ideas for the next. I suggest this protocol because I believe such study, done regularly, could have implications for the meaningfulness of language used to describe reading comprehension among a community of teachers. This is in contrast to calls for standardization of language for comprehension instruction and compression of language for assessment (such as in rubrics) adopted from an outside source without personalization, ownership, or deep understanding of what the language actually means to the community.

Second, a *recollection* is the writing or oral telling of an experience remembered. This protocol lends itself well to a close reading of teachers' collected moments or stories of readings, as they were characterized by this study. Capturing conversational interactions in snapshot or extended story form allows teachers to bring observations to the table for close study without the burden of voice recording and transcribing the actual talk they represent. The act of preparing to present a recollection provides opportunity for reflection, as processes of writing to learn or telling of oral histories are apt to do. Collaborative interpretation of recollections once presented, conducted in rounds with specific guidelines, yield multiple perspectives and offer new strands of meaning for the teller.

Third, a *descriptive review of a child* is a presentation prepared by a teacher and/or a parent, of information about a child organized by the following categories: physical presence and gesture; disposition and temperament; connections with others

(both children and adults); strong interests and preferences; modes of thinking and learning. In preparation for the presentation a teacher works with a facilitator to decide upon a framing question for the review. Typically after the presenter shares his or her portrayal of the child including information regarding illnesses or absences, observations by family and other staff members who may know the child, the chair restates the agreed upon focus question. At this time participants ask questions, offer comments, and dialogue in rounds. After rounds, the chair gathers themes from the discussion and restates the focus question. Responses and recommendations are offered from the review group. Finally, participants evaluate the process itself, with respect for the child, the family, and the teacher. I envision a descriptive review of a child with the particular focus on a child's reading comprehension. Information presented can be organized by the categories comprising the comprehension framework, *stance*, *technique*, and *interpretation*, with ideas for further elaboration, at least during initial attempts at this descriptive work, sparked by the observed states and ranges also conveyed by the framework. I see this protocol as a way to create a comprehensive portrait of a reader which will elicit response, alternate interpretations, ideas for instruction, and revisions and additions to the comprehension framework itself, as insight, ways of seeing readers should always be deepened by the experience.

Fourth, *a descriptive review of a work or collection of work* is best suited for concrete representations of comprehension like writing and drawing. In this protocol the procedure, put briefly here, is to introduce the protocol; reflect on a word that emanates from the work; share first impressions of the work; describe visual elements or paraphrase line by line all ideas conveyed in a written piece connecting what is

stated, to its specific location in the work; locate patterns, recurring images, or connections between parts of the work; and finally describe the child's presence in the work such as voice, style, consistencies, divergences, evidence of knowledge and planning, and evidence of standards (standards the student has for themselves).

The last suggestion for professional development is for teachers to engage in close reading and study of professional literature. This would provide opportunities to expand philosophic, theoretic, and research-based content knowledge. Selections made by the study group might emerge from questions raised during engagement in other inquiry processes. Readings may be chosen to move participants into a new field of study, such as critical literacy or to learn more about an aspect of their practice about which they have read little. This aspect of teachers' professional development would promote a dialectic between practical and theoretic knowledge, and philosophic thought.

Future Research

An area of future research indicated by findings discussed here is to investigate the processes and products of a collaborative inquiry group focusing on dimensions of comprehension that become evident to its participants through observation of student performance. Studying a group formed intentionally around this goal might facilitate learning about how teachers transform tacit knowledge about students' reading comprehension into more explicit knowledge. Possible research questions for this study could be: What happens when teachers use collaborative inquiry tools for reflecting on knowledge gained through observation? Which classroom artifacts are

most informative? How can teachers study classroom talk as evidence of comprehension efficiently and effectively?

Another possible idea for extending the findings from this study is to conduct case study research, gathering teachers' observations of comprehension about a cluster of students over a span of years. An outside researcher, who interviews teachers and observes classroom instruction and interaction, following students through grade levels, could conduct this study. Alternatively, it could be designed as collaborative teacher research project, an inheritance study, where a vertical team of teachers agrees to observe over time, a cluster of students representative of the school community. Such longitudinal studies could provide insight into indicators of change and development in comprehension that may not be apparent in studies of shorter duration, such as the current one.

Finally, it seems worthwhile to pursue in a focused way, the notion of teachers' assessments of reading comprehension as story. Using the protocol for reflecting on recollections, a group of teachers could meet regularly to share stories of reading in their classrooms. Some possible research questions might be, what happens when teachers write and share stories about reading in their classrooms? What insights about students' comprehension do they gain? What insight about instruction and response do they gain?

Limitations

Several limitations of this study must be considered. First, because its participants were self-selected, it could be argued that the generalizability of findings is weakened. This would be a concern if the study were designed to evaluate the range

of observational knowledge among members of the participant group in relation to variables such as years of teaching, certification, coursework, or professional development. The purpose of this study, however, was not to evaluate or compare the quality of observations among participants or to predict the likelihood of other teachers' observant tendencies. Rather, it was to document and make visible teachers' tacit knowledge of students. Therefore, the sample for this qualitative study was drawn purposefully. "Information-rich" (Patton, 2002) participants were funneled into the study by virtue of their position at the school. The school community as a whole was selected for its highly interactive literature-based instructional method, a context associated with teachers' knowledge of students' reading (Johnson, Weiss, & Afflerbach, 1990). If any generalizations can be drawn from this study, they are limited to teachers in similar contexts with similar content knowledge and experience.

Second, the sample size of ten could be considered too small. This might be the case if conclusions were drawn about the predictive value of the findings to teachers at large, but they were not. In qualitative research, sample size is considered in relation to the breadth and depth of data sought. This study aimed to capture teachers' observations of comprehension broadly and deeply. To examine the expanse, variety, and nuance of teachers' observations, it was necessary to limit sample size.

Third, as a teacher-researcher and a faculty member in the school under study, my objectivity could be questioned. Did I bring too much background knowledge of the setting, the participants, and processes of observing comprehension to the analysis and interpretation of the data? This possibility must be considered. Alternatively, my

insider status could be seen as a benefit, my background knowledge of the setting and its participants essential for an in-depth analysis, thus raising the opposite question. Who else is better situated to collect, interpret, and catalogue teachers' knowledge of students for the purpose of creating a framework of comprehension reflective of a teacher's perspective, than a fellow teacher?

Questions could also be raised about my personal investment in the school community and my ability to report findings without bias. Again, I return to the purpose of this study about which I was clear at the outset. My purpose was to document, explain, and organize the scope of teachers' knowledge about students' comprehension, not to judge or evaluate it. What mattered more for the success of this study was participants' trust in me, so they would talk openly about their practice. In return, I used what they shared to paint an honest and respectful portrait of their knowledge of students and to create something *for* teachers that I hope will be of use.

Further Remarks

Predictably, this project heightened my awareness of the ubiquitous and consequential nature of the insight workers in all professions gain about clients through direct interaction. I found stories of doctors' use of observational data to construct medical diagnoses conveyed in a book entitled, *How Doctors Think* (Groupman, 2007). More recently, I noticed an article in *The New York Times* (Feuer, 2011) about P.J. Cullen, president of a small independent bank in Cattaraugus, New York. "Numbers don't tell the story here," he said of a client seeking an \$85,000 loan. "If you know Amish culture, you know his sons work and that everything they earn goes to him until they're 21 or married . . . So he was fine, but none of that shows up

on a credit score” (Cullen, cited in Feuer, p. 27). Decisions influenced by data that live under or beyond the radar of official measure are made wherever you find professionals striving to do what is best for the people they serve. In hospitals, banks, and classrooms, these stories matter because they call attention to the values essential for effective professional practice: attention to individual difference, a broad conception of what counts as knowledge, and the autonomy to use knowledge (broadly conceived) to justify professional decisions.

This project sustained my interest for many years. One compelling reason has been its effect on my teaching. As a result of looking closely at the dimensions of comprehension participants of this study observe and describe, I find myself better able to articulate dimensions of my own students’ comprehension. I hope this research inspires other teachers to reflect and grasp the breadth and depth of insight about students’ reading comprehension that is possible through embedded observation.

APPENDICES

Appendix A

Submitted to faculty of Saylesville Elementary
Susan Vander Does
June 4, 2008

Working Title of Study: *Describing Comprehension: Teachers' Awareness and Articulations of Students' Reading Comprehension*

Question:

What do teachers observe about students' reading comprehension and how do they articulate what they notice?

Purpose and Rationale:

The purpose of this descriptive study is to capture and document teachers' awareness of students' reading comprehension. It will examine the character and substance of teachers' observations and the language they use to articulate their observations.

This study operates under the assumption that teachers function as assessment instruments and are a rich source of data regarding students' reading comprehension. However, because teachers' observations often remain internal, or unarticulated, they constitute an underutilized and undervalued source of data. This study attempts to shed light on the content and processes teachers employ as they "come to know" their students as readers. It hopes to give form, voice, and authority to the knowledge teachers construct about students' reading comprehension.

Participants: Seeking teachers who provide instruction in reading comprehension.

Data Collection:

Data collection will consist of four tiers: three interviews and one observation for each participant. Estimated time commitment for each teacher is four hours.

1. Initial interview with each participating teacher (1 hour)
The purpose of this interview is to learn more about each teacher's conception of reading comprehension.
2. Student work/Interview (1 hour)
Each teacher selects a piece of student work to be used as a "prompt" for talking about student comprehension.
3. Lesson and observation (1 hour)
The researcher observes a comprehension lesson in each teacher's room for the purpose of contextualizing the next interview.
4. Interview about observed lesson (1 hour)
Similar to the second interview, the lessons provide a context or prompt for eliciting teachers' observations of students' comprehension.

The researcher will request permission to voice record interviews and take notes during all data collection sessions. This study will be subject to approval by the Human Subjects Committee of RIC/URI.

Appendix B

Interview Questions: Phase 1
Within the Text: Conceptions of Comprehension
<ul style="list-style-type: none">• When you think about comprehension, what comes to mind?• Why do you think some students comprehend better than others?• In your years of teaching, what have you noticed about the way comprehension is taught?• If you were in charge of the reading curriculum, what would you include?
Within the Text: Cognitive
<ul style="list-style-type: none">• What strategic thinking do you notice?• How does the structure of a particular text influence what strategies readers use?
Beyond the Text: Affective / Aesthetic
<ul style="list-style-type: none">• Can you talk about a time when a student's emotional engagement with the content of his or her reading was apparent?• How can you tell when students get pleasure / displeasure from reading?• React to this statement: A text is a work of art.
About the Text: Sociocultural Dimensions
<ul style="list-style-type: none">• What do you think about the relationship between students' language, cultural experience, and comprehension?• Why do you think students react to text in different ways?• Is there anything else you want to say?

Appendix C

Interview Questions: Phase 2	
Within the Text: Conceptions of Comprehension	
<ul style="list-style-type: none"> • Why did you choose to reflect on this work? • What are your first thoughts about this work? • What surprises you about this work? • What concerns you about this work? • What unexpected thoughts / questions does it raise for you? 	
Within the Text: Cognitive	
<ul style="list-style-type: none"> • What patterns in students' thinking do you notice regarding their . . . • self questioning • literal understanding • sequential understanding • connections to prior knowledge about self, text, the world • inferential thinking • thematic connections – life lessons, so what, big ideas • claims • evidence from text to support claims • divergent thinking • metacognition – awareness of one's reading, prior knowledge, fix-up strategies 	
Beyond the Text: Affective / Aesthetic	
<ul style="list-style-type: none"> • What does this work tell you about students' emotional engagement with text? • Understanding of characters' feelings? • Empathy? • Agreement / disagreement with the text? • Critical stance / critique of ideas or form? • Attention to writerly aspects / authorship • Their attitude toward reading itself? 	
About the Text: Sociocultural Dimensions	
<ul style="list-style-type: none"> • Is the child's prior knowledge visible to you? • What do you notice about the ways your students' language and culture influence their interpretations? 	

Appendix D

Interview Questions: Phase 3	
Within the Text: Conceptions of Comprehension	
<ul style="list-style-type: none"> • Why did you choose to reflect on this work? • What are your first thoughts about this work? • What surprises you about this work? • What concerns you about this work? • What unexpected thoughts / questions does it raise for you? 	
Within the Text: Cognitive	
<ul style="list-style-type: none"> • What patterns in students' thinking do you notice regarding their . . . • self questioning • literal understanding • sequential understanding • connections to prior knowledge about self, text, the world • inferential thinking • thematic connections – life lessons, so what, big ideas • claims • evidence from text to support claims • divergent thinking • metacognition – awareness of one's reading, prior knowledge, fix-up strategies 	
Beyond the Text: Affective / Aesthetic	
<ul style="list-style-type: none"> • What does this work tell you about students' emotional engagement with text? • Understanding of characters' feelings? • Empathy? • Agreement / disagreement with the text? • Critical stance / critique of ideas or form? • Attention to writerly aspects / authorship • Their attitude toward reading itself? 	
About the Text: Sociocultural Dimensions	
<ul style="list-style-type: none"> • Is the child's prior knowledge visible to you? • What do you notice about the ways your students' language and culture influence their interpretations? 	

Appendix E

Titles or Subjects of Books Referenced in the Data Set

Title or Subject	Author When Known
Abraham Lincoln	
Aldo Applesauce	Joanna Hurwitz
America's Story	Harcourt Brace
Animal camouflage	
Arctic: It's Cold Up There	
Baby	Patricia McLachlan
Barack Obama	
Because of Winn Dixie	Kate DiCamillo
Booker T. Washington (bio	
Bound for Oregon	Jean Van Leeuwen
Bud Not Buddy	Christopher Paul Curtis
Canyon Mystery (U)	Fountas & Pinnell Assessment System
Captain Underpants	Dav Pilkey
Charlotte's Web	E.B. White
Commander Toad	Jane Yolen
Everything on a Waffle	Polly Horvath
Fox books	James Marshall
Freedom train	
Frindle	Andrew Clements
George and Martha	James Marshall
Geronimo Stilton	Geronimo Stilton
Get a Horse	Fountas & Pinnell Assessment System
Hatchet	Gary Paulsen
How Animals Defend Themselves	Etta Karner & Pat Stephens
Island of the Blue Dolphins	Scott O'Dell
James and the Giant Peach	Roald Dahl
Janitor's Son	Andrew Clements
King George	Jean Fritz
Komodo dragons	
Lion Witch and the Wardrobe, The	C. S. Lewis
Loser	Jerry Spinelli

Magic Treehouse	Mary Pope Osborne
Maniac Magee	Jerry Spinelli
Martin Luther King	
Martin's Big Words	Rappaport & Collier
Marvin Redpost	Louis Sachar
May Amelia	Jennifer L. Holm
Mouse and the Motorcycle	Beverly Cleary
On My Honor	Marion Dane Bauer
Pandas	
Papa's Parrot (Every Living Thing)	Cynthia Rylant
Penderwicks	Jeanne Birdsall
Pictures of Hollis Woods	Patricia Reilly Giff
Pinballs	Betsey Byers
Pioneer Cat	Hooks and Robinson
President Obama	
R is for Rhode Island Red	Allio & Begin
Red Dog	Bill Wallace
Rosa Parks	
Ruby Lavender	Deborah Wiles
Runaway Mouse	Beverly Cleary
Saving Up	Fountas & Pinnell Assessment System
Shiloh	Phyllis Naylor Reynolds
Sign of the Beaver	Elizabeth George Speare
Skinnybones	Barbara Park
Stargirl	Jerry Spinelli
Tales of a Fourth Grade Nothing	Judy Blume
Trouble With Tuck	Theodore Taylor
Twilight	Stephanie Meyer
Uncle Remus Stories	Harris & Chase
Wall, The	Eve Bunting
War With Grandpa, The	Robert Kimmel Smith
What Does Peace Feel Like?	Vladimir Radusky

BIBLIOGRAPHY

- Afflerbach, P. P. (1990). The influence of prior knowledge on expert readers' main idea construction strategies. *Reading Research Quarterly*, 25(1), pp. 31-46.
- Afflerbach, P. (Ed.) (1993). Reading assessment. STAIR: A system for recording and using what we observe and know about our students. *The Reading Teacher*, 47(3), 260-263.
- Afflerbach, P. & Cho, B. (2009). Identifying and describing constructively responsive comprehension strategies in new and traditional forms of reading. In Israel, S.E. & Duffy, G. G. (Eds.), *Handbook of research on reading comprehension* (pp. 69-90).
- Afflerbach, P. P., Ruetschlin, H., & Russell, S. (2007). Assessing strategic reading. In J. R. Paratore & R. L. McCormack (Eds.), *Classroom literacy assessment: Making sense of what students know and do* (pp. 177-194). New York: The Guilford Press.
- Alexander, P., & Jetton, R. (2000). Learning from text: A multidimensional and developmental perspective. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research*, (Vol. 3, pp. 285-310). Mahwah, NJ: Erlbaum.
- Anderson, R. C., & Pearson, P. D. (1984). A schema-theoretic view of basic processes in reading. In P. D. Pearson, R. Barr, M. L. Kamil & P. Mosenthal (Eds.), *Handbook of reading research* (pp. 255-291). New York: Longman.
- Anderson, R. C., Reynolds, R. E., Schallert, D. L., & Goetz, E. T. (1977). Frameworks for comprehending discourse. *American Educational Research Journal*, 14(4), 367-381.
- Atwell, N. (1998). *In the middle: New understandings about writing, reading, and learning*. NH: Heinemann.
- Baker, L. & Anderson, R. I. (1982). Effects of inconsistent information on text processing: Evidence for comprehension monitoring. *Reading Research Quarterly*, 17(2), 281-294.
- Baker, L., & Brown, A. L. (1984). Metacognitive skills and reading. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 353-394).
- Bartlett, F. D. (1932). *Remembering: A study in experimental and social psychology*. New York: Macmillan.

- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7-75.
- Blythe, T., Allen, D., & Powell, B. (1999). *Looking together at student work*. New York: Teachers College Press.
- Bomer, R. (1998). Transactional heat and light: More explicit literacy learning. *Language Arts*, 76 (1), 11-18.
- Bomer, R. & Bomer, K. (2001). *For a better world: Reading and writing for social action*. Portsmouth, NH: Heinemann.
- Bormuth, J. (1969). An operational definition of comprehension instruction. In K. S. Goodman & J. T. Fleming (Eds.), *Psycholinguistics and the teaching of reading* (pp. 48-60). Newark, DE: International Reading Association.
- Borko, H., Shavelson, R. J., & Stern, P. (1981). Teachers' decisions in the planning of reading instruction. *Reading Research Quarterly*, 16(3), 449-466.
- Broadfoot, P. & Black, P. (2004). Redefining assessment? The first ten years of *Assessment in Education*. *Assessment in Education*, 11(1), 7-27.
- Brown, A. L. (1980). Metacognitive development and reading. In R. J. Spiro, B.C. Bruce, & W. F. Brewer (Eds.), *Theoretical issues in reading comprehension: Perspectives from cognitive psychology, linguistics, artificial intelligence, and education* (pp. 453-481). Hillsdale, NJ: Erlbaum.
- Brown, A. L., Campione, J. C., & Day, J. D. (1981). Learning to learn: On training students to learn from texts. *Educational Researcher*, 10(2), 14-21.
- Brown, A. L., Smily, S. S., Day, J. D., Townsend, M., & Lawton, S. C. (1977). Intrusion of a thematic idea in children's comprehension and retention of stories. *Child Development*, 48(4), 1454-1466.
- Bruner, J. (1956). *A study of thinking*. New York, NY: Wiley.
- Bruner, J. (1985). Vygotsky: A historical and conceptual perspective. In J. V. Wertsch (Ed.), *Culture, communication, and cognition: Vygotskian perspectives*. New York: Cambridge University Press.
- Calfee, R. (1992). Assessment, testing, measurement: What's the difference? *Educational Assessment*, 1(1), 1-7.
- Calkins, L. (2000). *The art of teaching reading*. ME: Stenhouse.

- Carini, P. F. (1979). *The art of seeing and the visibility of the person*. Grand Forks, ND: University of North Dakota
- Carini, P. F. (1986). Building from children's strengths. *Journal of Education*, 168(3), 13-24.
- Carini, P. F. (2000). *From another angle: Children's strengths and school standards*. New York, NY: Teachers College Press.
- Carini, P. F. (2001). *Starting strong: A different look at children, schools, and standards*. New York, NY: Teachers College Press.
- Carpenter, T. P., Fennema, E., Peterson, P. L., Chiang, C., & Loef, M. (1989). Using knowledge of children's mathematics thinking in classroom teaching: An experimental study. *American Educational Research Journal*, 26(4), 499-531.
- Cazden, C. (1988). *Classroom discourse: The language of teaching and learning*. Portsmouth, NH: Heinemann.
- Cochran-Smith, M. & Lytle, S. (1999). Relationships of knowledge and practice: Teacher learning in communities. *Review of Research in Education*, 24, 249-305.
- Clark, C. M. & Peterson, P. L. (1986). Teachers' thought processes. In M. Witrock (Ed.), *Handbook of research on teaching* (pp. 255-296). New York: MacMillan.
- Clay, M. (1991). *Becoming literate: The construction of inner control*. Portsmouth, NH: Heinemann.
- Cole, M. (1985). The zone of proximal development: Where culture and cognition create each other. In J.V. Wertsch (Ed.), *Culture, communication, and cognition: Vygotskian perspectives*. New York: Cambridge University Press.
- Darling-Hammond, L. (1994). Performance-based assessment and educational equity. *Harvard Educational Review*, 64(1), retrieved from www.edreview.org/harvard on 2/27/04.
- Dewey, J. (1910/1997). *How we think*. Mineola, NY: Dover Publications.
- Dole, J. A., Duffy, G. G., Roehler, L. R., & Pearson, P. D. (1991). Moving from the old to the new: Research on reading comprehension instruction. *Review of Educational Research*, 61(2), 239-264.
- Duckworth, E. (1996). *The having of wonderful ideas and other essays on teaching and learning*. New York: Teachers College Press.

- Duke, N. (2005). Comprehension of what for what: Comprehension as a nonunitary construct. In S. G. Paris & S. A. Stahl (Eds.), *Children's reading comprehension and assessment* (pp. 93-104). Mahwah, NJ: Erlbaum.
- Duffy, G. G. (1993). Teachers' progress toward becoming expert strategy teachers. *The Elementary School Journal*, 94(2), 109-129.
- Duffy, G. G., Roehler, L. R., Putnam, J. (1987). Putting the teacher in control: Basal reading textbooks and instructional decision making. *The Elementary School Journal*, 87(3), 357-366.
- Durkin, D. (1978-1979). What classroom observations reveal about reading comprehension instruction. *Reading Research Quarterly*, (14)4, 481-533.
- Eisner, E. W. (2003). Artistry in education. *Scandinavian Journal of Education*. 47(3), 373-384.
- Fennema, E., Franke, M. L., Carpenter, T. P., & Carey, D. A. (1993). Using children's mathematical knowledge in instruction. *American Educational Research Journal*, 30(3), 555-583.
- Feuer, A. (2011, December). The bank around the corner. Retrieved from www.nytimes.com/2011/12/25/nyregion on 12/25/2011.
- Fish, S. (1980). *Is there a text in this class?* Cambridge, MA: Harvard University Press.
- Fishman, A. (1988). *Amish literacy: What and how it means*. Portsmouth, NH: Heinemann.
- Freire, P. (1970/1993) *Pedagogy of the oppressed*. New York: Continuum.
- Flavel, J. H. (1976). Metacognitive aspects of problem solving. In L .B. Resnick (Ed.), *The nature of intelligence* (pp. 231-236). Hillsdale, NJ: Erlbaum.
- Fountas, I. & Pinnell, G. S. (2001). *Guiding readers and writers, grades 3-6: Teaching comprehension, genre, and content literacy*. Portsmouth, NH: Heinemann.
- Fountas, I. & Pinnell, G. S. (2005). *Leveled books, K-8: Matching texts to readers for effective teaching*. Portsmouth, NH: Heinemann.
- Fountas, I. & Pinnell, G. S. (2007). *Fountas and Pinnell benchmark assessment system*. Portsmouth, NH: Heinemann.

- Garner, R., Wagoner, S., & Smith, T. (1983). Externalizing question-answering strategies of good and poor comprehenders. *Reading Research Quarterly*, 18 (4), 439-447.
- Gee, J. P. (2000). Discourse and sociocultural studies in reading. In M. K. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research*, (Vol. 3, pp. 195-208). Mahwah, NJ: Erlbaum.
- Goodman, Y. (1985). Kidwatching: Observing children in the classroom. In A. Jaggar & M.T. Smith-Burke (eds.). *Observing the language learner* (pp. 9-18). Urbana, IL & Neward, DE: National Council of Teachers of English and International Reading Association.
- Goodman, Y. (1996). *Notes From a kidwatcher: Selected writings of Yetta M. Goodman*. Portsmouth, NH: Heinemann.
- Greene, M. (2000). The question of standards. *Teachers College Record*, 91(1), 9-14.
- Groupman, J. (2008). *How doctors think*. New York, NY: Houghton Mifflin.
- Guba, E. G. & Lincoln, Y. S. (1981). Effective evaluation: Improving the usefulness of evaluation results through responsive and naturalistic approaches. San Francisco, CA: Jossey-Bass.
- Guthrie, J. & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research*, Vol. 3 (pp. 403-424). Mahwah, NJ: Erlbaum.
- Hall, K. & Webber, B. (1997). A study in teacher assessment at key stage 1. *Cambridge Journal of Education*, 27(1), 107-123.
- Haller, E. P., Child, D. A., & Walberg, H. J. (1988). Can comprehension be taught? A quantitative synthesis of "metacognitive" studies. *Educational Researcher*, 17(9), 5-8.
- Hansen, J. & Pearson, P. D. (1982). An instructional study: Improving the inferential comprehension of good and poor fourth-grade readers. *Report CSR-TR-235*, 35 pp. ERIC, Accession Number: ED21531.
- Harvey, S. & Goudvis, A. (2000). *Strategies that work: Teaching comprehension to enhance understanding*. Portland, ME: Stenhouse.
- Hiebert, J., Gallimore, R., & Stigler, J. (2002). A knowledge base for the teaching profession: What would it look like and how can we get one? *Educational Researcher*, 31(5), 3-15.

- Hilden, K. R. & Pressley, M. (2007). Self-regulation through transactional strategies instruction. *Reading & Writing Quarterly* (23), 57-75.
- Himley, M. (Ed.) (2002). *Prospect's descriptive processes: The Child, the art of teaching & the classroom & school*. VT: The Prospect Center.
- International Reading Association and National Council of Teachers of English joint task force on assessment (1994). *Standards for the assessment of reading and writing*. Newark, DE: International Reading Association.
- Johnston, P. (1984). Prior knowledge and reading comprehension test bias. *Reading Research Quarterly*, 19(2), 219-239.
- Johnston, P. (1997). *Knowing literacy: Constructive literacy assessment*. Portland, ME: Stenhouse.
- Johnston, P. & Afflerbach, P. (1985). The process of constructing main ideas from text. *Cognition and Instruction*, 2(3/4), 207-233.
- Johnston, P., Weiss, P., & Afflerbach, P. (1990). *Teachers' evaluations of teaching and learning in literacy and literature*. (Report Series 3.4). Albany: State University of New York, Center for the Learning and Teaching of Literature.
- Johnston, P., Afflerbach, P., & Weiss, P. (1993). Teachers' assessment of the teaching and learning of literacy. *Educational Assessment*, 1(2), 91-117.
- Johnston, P. & Costello. (2005). Principles for literacy assessment. *Reading Research Quarterly*, 40(2), 256-267.
- Keene, E. O. (2007). *Mosaic of thought*. NH: Heinemann.
- Langer, J. (1995). *Envisioning literature: Literary understanding and literature instruction*. NY, New York: Teachers College Press.
- Lantolf, J. P. & Poehner, M. E. (2004). Dynamic assessment of L2 development: bringing the past into the future. *Journal of Applied Linguistics* 1(1), 49-72.
- Marshall, J. (2000). Research on response to literature. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R Barr (Eds.), *Handbook of reading research*, (Vol. 3, pp. 381-402). Mahwah, NJ: Erlbaum.
- Minsky, M. (1975). A framework for representing knowledge. In P.H. Winston (Ed.), *The Psychology of Computer Vision*. New York: McGraw-Hill.

- Meisels, S. J. & Piker, R. A. (2001). *An analysis of early literacy assessments used for instruction*. (Tech. Rep. No 2-1013). Ann Arbor: University of Michigan, Center for the Improvement of Early Reading Achievement.
- Murphy, S. (1998). *Fragile evidence: A critique of reading assessment*. Mahwah, NJ: Erlbaum.
- National Writing Project. *About NWP*. Retrieved from <http://www.nwp.org/> on 1/21/12.
- Olshavsky, J. E. (1976-1977). Reading as problem solving: an investigation of strategies. *Reading Research Quarterly*, 12(4), 654-674.
- Palincsar, A. S. & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, 1(2), 117-175.
- Paris, S. G. & Jacobs, J. E. (1984). The benefits of informed instructions for reading awareness and comprehension skills. *Child Development*, 55(6), 2083-2093.
- Paris, S., Paris, A., & Carpenter, R. (2001). *Effective practices for assessing young readers*. (Tech. Rep. #3-013). Ann Arbor: University of Michigan, Center for the Improvement of Early Reading Achievement.
- Paris, S. G., Wixson, K. K., & Palincsar, A. S. (1986). Instructional approaches to reading comprehension. *Review of Research in Education*, 13, 91-128.
- Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods, 3rd Edition*. Thousand Oaks, CA: Sage Publications, Inc.
- Pearson, D. P. & Hamm, D. N. (2005). The assessment of reading comprehension: A review of practices – Past present, and future. In S. G. Paris & S. A. Stahl (Eds.), *Children's reading comprehension and assessment* (pp. 13-69). Mahwah, NJ: Erlbaum.
- Perl, S. (2004). *Felt sense: Writing with the body*. Portsmouth, NH: Heinemann.
- Piaget, J. (1977). *The development of thought: Equilibration of cognitive structures*. New York: Viking Press.
- Pintrich, P. R. (2002). The role of metacognitive knowledge in learning, teaching, and assessing. *Theory into Practice*, 41(4), 219-225.
- Pressley, M. (2000). What should comprehension instruction be the instruction of? In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research*, (Vol. 3, pp. 545-562). Mahwah, NJ: Erlbaum.

- Pressley, M. (2002). Conclusion: Improving comprehension: A path for the future. In C. C. Block, L. B. Gambrell & M. Pressley (Eds.). *Improving comprehension instruction: Rethinking research, theory, and classroom practice* (pp. 385-399). Newark, DE: International Reading Association.
- Pressley, M. & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. Hillsdale, NJ: Erlbaum.
- Pressley, M. & El-Dinary, P. B., Gaskins, I., Schuder, T., Bergman, J. L., Almasi, J. & Brown, R. (1992). Beyond direct explanation: Transactional instruction of reading comprehension strategies. *The Elementary School Journal*, 92(5), 513-555.
- Pressley, M. & Hilden, K. (2005). Commentary on three important directions in comprehension research. In S. G. Paris & S. . Stahl (Eds.), *Children's reading comprehension and assessment* (pp. 13-69). Mahwah, NJ: Erlbaum.
- Pressley, M., Johnson, C. J, Symons, S., McGoldrick, J. A., & Kurita, J. A. (1989). Strategies that improve children's memory and comprehension of text. *The Elementary School Journal*, 90(1), 3-32.
- RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Santa Monica, CA: Washington, DC: RAND Education.
- Rappaport, D. (2001). *Martin's big words*. New York: Hyperion Books.
- Rea-Dickins, P. (2001). Mirror, mirror on the wall: Identifying processes of classroom assessment. *Language Testing*, 18(4), 429-462.
- Rea-Dickins, P. & Gardner, S. (2000). Snares and silver bullets: Disentangling the construct of formative assessment. *Language Testing*, 17(2), 215-243.
- Richardson, V., Anders, P., Tidwell, D., & Lloyd, C. (1991). The relationship between teachers' beliefs and practices in reading comprehension instruction. *American Educational Research Journal*, 28(3), 559-586.
- Rose, M. (2010, October 20). The threats to school reform . . . are within school reform. *The Washington Post*. Retrieved from <http://voices.washingtonpost.com> on 9/10/2011.
- Rosenblatt, L. (1936/1995). *Literature as exploration*. New York: The Modern Language Association of America.

- Rosenshine, B. (1980). Skill hierarchies in reading comprehension. In R. J. Spiro, B. C. Bruce, & W. F. Brewer (Eds.), *Theoretical issues in reading comprehension: Perspectives from cognitive psychology, linguistics, artificial intelligence, and education* (pp. 535-554). Hillsdale, NJ: Erlbaum.
- Rosenshine, B. & Meister, C. (1994). Reciprocal teaching: A review of the research. *Review of Educational Research*, 64(4), 479-530.
- Rosenshine, B., Meister, C., & Chapman, S. (1996). Teaching students to generate questions: A review of the intervention studies. *Review of Educational Research*, 66(2), 181-221.
- Rumelhart, D. E. (1980). Schemata: The building blocks of cognition. In R. J. Spiro, B. C. Bruce, & W. F. Brewer (Eds.), *Theoretical issues in reading comprehension: Perspectives from cognitive psychology, linguistics, artificial intelligence, and education* (pp. 33-58). Hillsdale, NJ: Erlbaum.
- Scates, D. E. (1943) Differences between measurement criteria of pure scientists and of classroom teachers. *Journal of Educational Research*. 38(1), 1-13.
- Schon, D. A. (1992). The theory of inquiry: Dewey's legacy to education. *Curriculum Inquiry*, 22(2), 119-139.
- Schwab, J. J. (1983). The practical 4: Something for curriculum professors to do. *Curriculum Inquiry*, 13(3), 239-265.
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. New York, NY: Teachers College Press.
- Shank, R. & Abelson, R. P. (1977). *Scripts, plans, and understanding: An inquiry into human knowledge structures*. Hillsdale, NJ: Erlbaum Associates.
- Shannon, P. (1983). The use of commercial reading materials in American elementary schools. *Reading Research Quarterly*, 19(1), 68-85.
- Shannon, P. (1988). *Broken promises: Reading instruction in twentieth-century America*. Granby, MA: Bergin & Garvey.
- Shannon, P. (2007). *Reading against democracy: The broken promises of reading instruction*. Portsmouth, NH: Heinemann.
- Shor, I. (1999). What is critical literacy? *Journal for pedagogy, pluralism & practice*. 4(1). Retrieved on 9/5/2011 from <http://www.lesley.edu/jppp/4/shor.html>

- Shulman L. S. (1984). The practical and the eclectic: A deliberation on teaching and educational research. *Curriculum Inquiry*, 14(2), 183-200.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.
- Shulman, L. S. (1998). Theory, practice, and the education of professionals. *The Elementary School Journal*, 98(5), 511-526.
- Snow, C. (2002). *Reading for understanding: Toward an R & D program in reading comprehension*. Santa Monica, CA: Rand.
- Steffensen, M. S., Joag-Dev, C., & Anderson, R. C. (1979). A cross-cultural perspective on reading comprehension. *Reading Research Quarterly*, 15(1), 10-29.
- Stiggins, R. J. (1985). Improving assessment where it means the most: In the classroom. *Educational Leadership*, 43(2), 69-74.
- Stiggins, R. J. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan*, 83(10), 758-765.
- Stiggins, R. J. & Bridgeford, N. J. (1985). The ecology of classroom assessment. *Journal of Educational Measurement*, 22(4), 271-286.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. 2nd ed. Thousand Oaks, CA: Sage.
- Sweet, A. P. (2005). Assessment of reading comprehension: The RAND reading study group vision. In S. G. Paris & S. A. Stahl (Eds.), *Children's reading comprehension and assessment* (pp. 13-69). Mahwah, NJ: Erlbaum.
- Valencia, S. (2007) Inquiry oriented assessment. In J. R. Paratore & R. L. McCormack (Eds.), *Classroom literacy assessment: Making sense of what students know and do* (pp. 3-20). New York: The Guilford Press.
- Valencia, S. W. & Place, N. A. (1994). Literacy portfolios for teaching, learning, and accountability: The Bellevue literacy assessment project. In S. W. Valencia, E. F. Hiebert, & P. P. Afflerbach (Eds.), *Authentic reading assessment: Practices and possibilities* (pp. 134-166). Newark, DE: International Reading Association.
- Vygotsky, L. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

- Weber, C. (2006). *Nurturing the peacemakers in our students: A guide to writing and speaking out about issues of war and peace*. Portsmouth, NH: Heinemann.
- Wilhelm, J. D. & Novak, B. (2011). *Teaching literacy for love and wisdom: Being the book and being the change*. New York, NY: Teachers College Press.
- Wilkinson, L. & Silliman, E. (2000). Classroom language and literacy learning. In M. L. Kamil, P. G. Mosenthal, P. D Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 337-360). Mahwah, NJ: Lawrence Erlbaum Associates.
- Wollman-Bonilla, J. E. (1998). Outrageous viewpoints: Teachers' criteria for rejecting works of children's literature. *Language Arts*, 75(4), 287-295.
- Wong, B. (1985). Self-questioning instructional research: A review. *Review of Educational Research*, 55(2), 227-268.
- Zimmerman, S. & Hutchins, C. (2003). *7 keys to comprehension: How to help your kids read it & get it*. New York, NY: Random House.