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by

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2004

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**Interactions between Teachers and Students with Learning**

**Disabilities in General Education Classrooms**

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**Interactions between Teachers and Students with Learning  
Disabilities in General Education Classrooms**

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**Interactions between Teachers and Students with Learning Disabilities in  
General Education Classrooms**

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Traditionally, research on students with disabilities has focused on an individual difference model. More recently however, to elucidate the conditions and contexts under which students develop academically and socially, researchers have begun to call for models of study that employ a sociocultural theory perspective. Sociocultural theory is based on the notion that children learn through participation in social contexts. Accordingly, the type and amount of contact - most importantly the “talk” - that takes place between the teacher and the student seems to have strong implications for academic and social success at school. This relationship is particularly important for students with disabilities.

The purpose of this study was to contribute to an understanding of the interactions between general education teachers and students with learning disabilities as they relate to participation in the learning community of the general education

classroom. Qualitative methods were used to guide the observations and analyses of four fifth-grade teachers and three target students in each classroom, one student with a learning disability, one low-achieving student, and one average-achieving student, over a two-month period. Data collection included discourse analysis of interactions between teachers and target students, interviews with teachers, and teachers' self-reflections throughout the study.

Results indicated that teachers had a higher rate of interactions with students with LD than with other target student groups. However, despite the amount of time that teachers spent talking to students with LD, the quality of most interactions, in terms of their ability to increase learning, was judged to be low. In addition, while teachers reported that they learned more about the target students and became more attuned to their individual needs during a trial intervention, classroom observations and analysis of classroom talk demonstrated that teachers did not change either the quantity or quality of interactions with students with LD. A model for understanding the teacher negotiation of LD students' integration into the learning environment was developed and supported by the following themes: teacher beliefs, classroom practice, student response, and teacher perception of student success. The value of teacher-student interactions in terms of both student outcomes and teacher motivation to work with students who struggle to succeed are discussed.

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## CHAPTER ONE: INTRODUCTION

Teacher: Tony what can you tell me about 1820?

Tony: No answer

Teacher: Tony, what can you tell me about 1820 [a little louder]? Whose notes are those, Tony, because that doesn't look like your handwriting? [walks over to his desk]

Tony: [smiles and covers his face with his hands]

Student: Why are you looking around? You have them [whispers]

Teacher: You're looking at them [notes]. So what can you tell me about 1820...[waits] Tony?

Tony: [shakes his head to indicate he doesn't know]

Teacher: Can you remember *anything* I told you about 1820? Hmm. Do you think if you had paid attention when I was talking you might be able to tell me something about 1820?

Tony: [shakes his head yes]

Teacher: I think so too. Anna. What can you tell me about 1820?

The teacher in the excerpt above was conducting a whole class review from notes the class had taken in her fifth-grade general education social studies class. The student, Tony, had a learning disability in reading, writing, and math and, according to the teacher, he functioned approximately three to four years below grade level and had trouble staying on task at times. In an interview that preceded my classroom observations, she told me that she liked the student. She reported that he invited her to every one of his after-school basketball games and that she attended them occasionally. She considered him to be a hard worker who was motivated to succeed. She talked about grading his assignments based on effort and on extending deadlines when he needed it. The above interaction took place during my first observation in this classroom. It is notable that the student did not say anything. Perhaps he did not need to because the teacher said it all. She doubted that he had the notes. He had the

notes. She doubted the notes were actually his. They were his. She told the student and the class that if he had paid attention he would have known *the* answer. After spending several minutes engaged in this “discussion” with the student and the rest of the class as they looked on, the teacher continued with the lesson. When she asked another student to respond and the next student gave the correct answer, I think we, the students and I, were all relieved. This interaction is typical of some classrooms but not of others. What can be learned from describing this disappointing exchange or others that are more promising?

The above interaction does not give us enough information to understand why the teacher made the decision to interact with this student in this way on this occasion. It is difficult to tell if this interaction displayed characteristic behavior on the part of the teacher and the student, or if the teacher engaged in interactions similar to this one with all of her students. Finding out how this teacher’s thoughts and values as well as the contextual influences of her classroom and school influenced the decisions she made in terms of this individual student would seem useful if improvements are to be made in how teachers interact with their students. Studying talk in classrooms provides a unique opportunity not just to identify patterns, but to allow us into the day to day realities of teaching. However, talk does not stand alone, and making assumptions about interactions without identifying the circumstances in which they are embedded may overlook features that are critical to our understanding. In this light, the purpose of this study was to describe interactions that occurred between general education teachers and students with learning disabilities (LD), with

an emphasis on the role of the teacher in integrating these students into the learning environment of the classroom.

### ***Using Socio-cultural Theory to Study Interactions***

The study of teacher-student interactions lends itself to a socio-cultural theory perspective because of its emphasis on the dialogic nature of meaning making (Wells, 1999). To understand the conditions and contexts under which students develop academically and socially, researchers have increasingly begun to call for models of study that employ a sociocultural theory perspective (see Gallimore, 1996; Hicks, 1996; Mehan, 1998; Pugach, 2001; Wells, 1999). Sociocultural theory is based on the notion that children learn through participation in social contexts. Influenced strongly by the writings of Vygotsky, sociocultural theory is founded on the premise that “human mental functioning is inherently situated in social interactional, cultural, institutional, and historical context” (Wertsch, 1991, p. 86). Learning cannot, therefore, be understood by an examination of the individual alone. In Vygotskian theory, learning occurs first on the social plane (interactions with others) and then on the psychological plane (within the child; Vygotsky, 1978). Furthermore, the development of higher order mental processes is specifically facilitated by interactions with a more knowledgeable other in language-rich social environments (Wertsch, 1991; Wertsch & Rupert, 1993).

### ***Relationships between Teachers and Students***

The interactions that occur in classrooms are embedded in larger relationships between teachers and students. Thus, relationships are a critical feature in the

negotiation of learning. Research on relationships tends to focus on the affective components of interactions in the context of the relationship between the teacher and student and builds on the notion that teachers' knowledge and understanding of students and their response to students' social as well as their academic needs are mediated by the teacher-student relationship (Pianta, 1999). According to Pianta, Hamre, and Stuhlman, "relationships with adults are like the keystone or linchpin of development; they are in large part responsible for developmental success under conditions of risk and – more often than not – transmit those risk conditions to the child" (2003, p. 204). Students with LD are at risk for school failure by the very nature of their disabilities and thus relationships with teachers appear to be particularly important for them.

In the classroom, relationships seem to influence a teacher's ability to provide appropriate instruction through the use of caring encounters (Noddings, 1984, 1992). Caring, in Noddings' terms, is not a personality trait but an action in which the teacher becomes involved by truly listening to the student in order to identify not only his or her learning needs, but the factors that contribute to those needs in a particular situation. With this information, the teacher can formulate an appropriate response, based on the teacher's goals for learning but also on what the student needs in that moment. The caring cycle is completed by the recognition by the cared for of the caring shown, in the form of a smile, a nod, or perhaps, a correct answer (1992).

Goldstein (1999) has proposed a merging of sociocultural theory and the study of relationships that emphasizes how the quality of the teacher-student relationship

influences a teacher's ability to scaffold learning in the zone of proximal development (ZPD; Vygotsky, 1978). According to Goldstein, the extent to which teachers are able to meet students in their ZPD is dependent on teachers' abilities to engage in caring encounters with them. However, as the title, *The Challenge to Care in Schools* (Noddings, 1992) implies, given the demands on teachers and students in schools and in life, engaging in successful caring encounters with students, particularly those with learning difficulties, can be a daunting task.

### ***Teaching Students with LD in General Education Classrooms***

This study was not about what it is like to be the student. It was about what it is like to be the teacher. The passage of P.L. 94-142, The Education for All Handicapped Children Act of 1975 or IDEA, and subsequent amendments in 1997, have brought increasing numbers of students with LD into general education classrooms for part or all of the school day. Inclusion is a model that focuses on students with and without disabilities learning together in the same classroom. Teachers are challenged, and many are ill prepared to help this diverse group of learners access the general education curriculum in their classrooms (Crockett & Kaufmann, 1998; Hammill, 1993).

There is a growing body of research that describes the challenges and failures, as well as some of the successes, of meeting the needs of students with learning disabilities in general education classrooms (e.g., Baker & Zigmond, 1995; Crockett & Kauffman, 1998; Schumm, et al., 1995; Snell, 1998). Because it is commonly agreed that students with LD will require extra help to be successful in general

education classrooms, many studies have focused on the ways in which teachers modify planning and instruction to accommodate these students (see Fuchs & Fuchs, 1998; Scott, Vitale, & Masten, 1998). Unfortunately, findings suggest that students with LD struggle in typical classrooms that deliver primarily whole class instruction designed for average learners (Baker & Zigmond, 1995; McIntosh, Vaughn, Schumm, Haager, & Lee, 1993). Furthermore, even teachers who are willing to have students with LD in their classes and are identified as being effective inclusion teachers, are not likely to modify their teaching practices for individual learners (Fuchs & Fuchs, 1998; Scott, Vitale, & Masten, 1998; Schumm & Vaughn, 1991; Schumm et al., 1995).

### ***Why Study Talk?***

Obviously, there is a need to implement effective instruction for students with disabilities and identifying techniques for improving the ways in which teachers support these students to promote learning is important (e.g., Swanson, Hoyskyn, & Lee, 1999; Vaughn & Schumm, 1995). Talk is just one of many features of instruction that have the potential to influence learning. However, different from many teaching techniques, classroom talk is not only an instructional strategy, a tool to assist students in learning academic concepts, it also embodies the social system of the classroom (Cazden, 1988). According to Hicks, “Discourse is an inherently social process that mediates, indeed partly constitutes, the teaching and learning that take place in classrooms” (1996, p. 61). Therefore, the type of talk that is valued, the ways in which students and teachers exchange personal or academic information, and the



opportunities for participation that are afforded to students, are dependent on, but also direct the interactions that take place. In this apt quote, Gee (1999) encapsulates the meaning of language use in specific contexts.

Language has a magical property: when we speak or write we craft what we have to say to *fit* the situation or context in which we are communicating. But, at the same time, how we speak or write *creates* that very situation or context. It seems, then, that we fit our language to a situation or context that our language in turn, helped to create in the first place (p 11).

It is not surprising that the type and amount of contact - most importantly the “talk” - that takes place between the teacher and the student seems to have strong implications for social and academic success at school (e.g., Goodenow & Grady, 1992; Juvonen & Wentzel, 1996; Solomon, Watson, Batistich, Schaps, & Delucchi, 1996). This relationship is particularly important for students with disabilities (Keogh & Speece, 1996; Swanson, et al., 1999; Vaughn, Gersten, & Chard, 2000).

Relatively few studies have explored the role of teacher-student interaction in the learning of students with LD in general education classrooms (e.g., Chow & Kasari, 1999; McIntosh, et al., 1993; Jordan & Stanovich, 2001). This line of research provides inconsistent findings regarding the amount and nature of talk that occurs between teachers and students with LD in general education classrooms, although most researchers provide evidence that teachers struggle to meet the needs of these students. Recently, results from several studies that have attended to the influence of interactions between teachers and students with LD on student learning in science and math have begun to highlight the challenges of assisting some students to access the curriculum while maintaining a high standard of learning for average and high

achieving students (e.g., Baxter, Woodward, Voorhies, & Wong, 2002; Palincsar, Magnusson, Collins, & Cutter, 2001). Studying classroom talk seems to provide a unique opportunity to reveal the problems and potential solutions for meeting the needs of diverse learners in general education classrooms.

### ***Developing the Study***

In light of the increasing amount of time that students with disabilities spend in general education classrooms, there is much to be learned from studying further the nature and effects of interactions between the general education teacher and students with disabilities. What are a teacher's perceptions of her students and how do those influence the decisions she makes regarding students with LD? How does a teacher's teaching style influence learning? How do school and classroom context influence the integration of the student into her classroom? These were the initial questions that guided the development of this study. Although they do not appear in this form, they informed the methods for data collection and analysis that I describe in Chapter 3.

Pianta and colleagues (2003) noted that analyzing interactions in-the-moment is necessary to describe teacher-student "behavior loops" (p. 204) or interactions. However, elucidating how teacher characteristics and perceptions influence these behavior loops requires in-depth study because of the need to include contextual and personal influences in the analysis. Therefore, studying interactions in context is a recursive process that requires the researcher to alternate between a focus on the micro meaning of individual interactions and the macro meaning of the larger situation in which the interactions are embedded. By linking data from teacher

interviews and self-reflections with transcripts from classroom observations, this study was designed to contribute to an understanding of the ways in which teachers negotiate learning for students with LD through interactions. I approached my study as a qualitative data collection and analysis to address the following research questions.

1. How much time do teachers spend interacting with students with and without disabilities in general education classrooms?
2. How can we describe the quality of the interactions between the general education teacher and students with and without disabilities?
3. What are the factors that contribute to differences among student-teacher interaction across classrooms?
4. Is it possible to change the quality of interactions between general education teachers and students with disabilities?
5. Is there a relationship between the quality/quantity of interactions and a teacher's sense of ownership for the learning of individual students?

### ***Organization of the Dissertation***

Having presented my rationale for the study as well as my research questions in this chapter, I move in Chapter 2 to a review of relevant research literature. In Chapter 3, I describe the design and implementation of the study. In Chapters 4 and 5, I first report and then discuss the findings of my analyses. Limitations and implications for practice and future research are also included.

## CHAPTER TWO: LITERATURE REVIEW

This literature review is divided into five sections: (1) sociocultural theory and the study of teacher-student interactions, (2) students with disabilities in general education classrooms, (3) relationships between teachers and students, (4) the power of talk in classrooms, and (5) studying classroom in context. In the first two sections, I provide the theoretical basis for my study and a background on the participants of interest, students with learning disabilities in general education classrooms. I next outline relevant research on teacher-student relationships and classroom interactions. Finally, I describe the relevance of studying classrooms in context and provide a rationale for the use of a trial-intervention in this study.

### **Socio-Cultural Theory and the Study of Teacher-Student Interactions**

In socio-cultural theory, learning occurs through the social interaction of individuals that is embedded in a larger social context (Wertsch, 1991). Cognition does not occur in isolation and therefore, to make sense of how people learn, we must not overlook the influence of the individuals involved in learning situations, their cultural and historical backgrounds, and the settings in which learning takes place. In Vygotskian theory, learning occurs on two planes: first on the social plane (interactions with others) and then on the psychological plane (within the child; Vygotsky, 1978). Furthermore, learning is mediated by tools or signs, one of the most important of which is language.

Through language use, learning is negotiated from interactions between a less experienced learner and a more knowledgeable other (e.g., parent, teacher, peer; Wertsch, 1991; Wertsch & Rupert, 1993). Learning, therefore, is a collaboration in which the players must attempt to coordinate their communication. That is, for each interaction, messages that are sent should take into consideration the needs of the listener, and in turn, the listener “must try to imagine what meanings the sender is likely to be trying to communicate on this particular occasion” (Wells, 1987, p. 5). As an interaction progresses, understanding is negotiated through the contributions of the participants, including such conversational moves as requests for help, elaboration, and rephrasing (Wells, 1987, Wertsch, 1991).

In the classroom, the most notable interactions occur between teacher and student and between student and student. Acknowledging the importance of student-student interactions, I have chosen for this research to focus on the interactions that occur between the teacher and the student. Because of her position as the leader of the class, the teacher influences not only her communication with students, but also that which occurs between students while part of her class. In addition, as the more knowledgeable other, the teacher plays a large role in helping the learner prosper in the Vygotskian “zone of proximal development,” (ZPD) which is defined aptly by Wells (1999) as “a window of potential learning that lies between what he or she [the student] can manage to do unaided and what he or she can achieve with help” (Wells, 1999 p. 296). In a large classroom representing a diverse population of learners, it is

no small task for the teacher to meet students in their individual ZPDs so that learning can take place.

To complicate matters further, Wertsch and Rupert (1993) remind us that the interactions between the teacher and student are not isolated in the quest for knowledge building, but depend heavily on cultural and contextual mediators such as value and authority. For example, in the classroom, there is generally a high value placed on using culturally sanctioned language, learning strategies, and behavior. As a result of the factors that have identified them for a special education program (i.e., low academic performance, poor social skills, behavior problems), students with LD may trail behind their non-disabled peers in identifying and employing these tools. Accordingly, the access to and employment of culturally defined mediational tools (most importantly, language) were important to Vygotsky in his work with students with disabilities (Gindis, 1999). In his conceptualization of disability, Vygotsky saw a “sociocultural developmental phenomenon”(Gindis, 1999, p. 335) rather than a biologically based deficiency that needed to be “fixed.” To understand and assist students with disabilities, Vygotsky first sought to get to know the individual compensatory strategies of a student and second, to recognize the cultural manifestations of the disability. Developing this deep understanding of the individual would thus guide the teacher to meaningful interactions that are informed by the student’s existing strengths and particular needs for the development of mediational means. Perhaps one reason that students with disabilities in general education classrooms do not often reach their academic potential is because general education

teachers lack this “deep” understanding. In other words, teachers may not be successful at teaching students whom they do not know well and for whom they have not taken responsibility.

The process of learning is first, dialogic, dependent on communication with others; and second, it is situated, dependent on the context in which that communication occurs (Wells, 1999). Because of its inherent dialogic and situated nature, the study of learning in sociocultural theory lends itself to inquiry that encapsulates both the communication between individuals and the context within which learning takes place. The focus of this research was the process by which a teacher interacted with students with LD, within the context of a general education classroom to develop their academic, cultural, and social knowledge.

## **Students with Disabilities in General Education Classrooms**

### ***Historical Background***

Designated instruction for students with disabilities began in 1975 with the passage of P.L. 94-142 (The Education for All Handicapped Children Act of 1975), later referred to as the Individuals with Disabilities Act (IDEA). IDEA mandated that school districts provide a free and appropriate education for children with disabilities and included the following key components: (1) Each child must have an individualized education program (IEP) with annual goals and instructional objectives; (2) Education should take place in the least restrictive environment; (3) Parental involvement was required in the decision-making processes and systems for appeal were established; (4) Racially and culturally bias free assessment procedures

must be used; and (5) Instructional programs could be established only after using multiple assessment procedures.

The number of students qualifying for special education services doubled over the next ten years (Will, 1986), largely due to the increase in students labeled as learning disabled, and the discussion of how and where these students would be educated came to the forefront (Hammill, 1993). In 1997, critical amendments were made to IDEA, which brought forth further interest in the least restrictive environment (Crockett & Kauffman, 1998), and mandated in many school districts an increase in the time that students with disabilities spend in the general education classroom.

Although definitions vary, it is commonly agreed that inclusion is a model for delivering services to students with disabilities emphasizing instruction that is provided in the general education classroom with non-disabled peers (e.g., Crockett & Kauffman, 1998; Vaughn & Schumm, 1995). Inclusion in this sense does not preclude students from being “pulled-out” to receive specialized instruction. However, in inclusion, general and special educators collaborate either by planning together or by co-teaching so that students with disabilities are maximally integrated into the general education classroom. While the theory behind this provision is not generally questioned, the specifics of implementation remain under consideration, with researchers most commonly leaning towards a combination model (pull-out and inclusion) that would allow students to receive services along a continuum from less to more restrictive, the decisions for which would be made on an individual basis



(e.g., Baker & Zigmond, 1995; Crockett & Kauffman, 1998; Fuchs & Fuchs, 1995; Vaughn & Schumm, 1995).

While the discussion of appropriate placement continues, these students, particularly those with mild/moderate disabilities and behavior problems remain in general education classrooms for most or all of the school day. Therefore, regardless of one's position on inclusion as an "issue" in education, the children who are currently being educated in general education classrooms need to be included in ways that support them both academically and socially.

Unfortunately, while the political and public attitude toward disabilities has changed dramatically over time, especially in the last 25 years, the perceptions of teachers who are responsible for teaching these students have remained surprisingly stable (see for review Scruggs & Mastropieri, 1996). In their review of 28 studies from 1958 to 1995, Scruggs and Mastropieri found that even though about two thirds of general education teachers supported the idea of integrating students with disabilities into general education classrooms, far fewer were willing to teach these students in their own classrooms.

### *Accommodations*

It is commonly understood that students with special needs will require adaptations (i.e., modifying or altering instruction, assignments, materials, behavior management techniques) in order to succeed in general education classrooms. In theory, in order to carry out an adaptation, "the teacher formulates judgments about the success of previous lessons for individual students and, based on those judgments,

adjusts subsequent teaching strategies or goals to enhance learning” (Fuchs & Fuchs, 1998 p. 23). However, findings from studies that examined both perceptions and use of adaptations to meet the needs of students with disabilities in general education classrooms suggest that teachers see most adaptations as more desirable than feasible (e.g., Schumm & Vaughn, 1995; Scott, Vitale, & Masten, 1998). While teachers believe certain adaptations would be helpful for students with special needs, they do not feel that they are practical to implement within the confines of the general education classroom. Teachers are most likely to implement adaptations that require minimal planning and that can benefit the whole class (i.e., repeating instructions, allowing extra time to complete assignments) and they are least likely to use adaptations for individual students (i.e., alternate materials, individual instruction; Baker & Zigmond, 1990; Baker & Zigmond, 1995; McIntosh, et al, 1993). There is also a common finding that most teachers are not willing to plan differentially for students with disabilities. This may be due in part to teachers’ perceptions of the roles of teachers and students in general education classrooms. For example, teachers may feel that it is not “fair “ to the other students in the class (Schumm et al., 1995) or that students with LD should be able to handle the same work as other students if they are to be placed in a general education classroom (Vaughn & Schumm, 1994). Overall, findings suggest that for the most part, general education teachers do not make enough adaptations or use teaching strategies that would facilitate the effective integration of students with disabilities into general education classrooms.

### ***Teaching Students with Special Needs in General Education Classrooms***

There are several reasons why teachers struggle to meet the needs of students with disabilities in general education classrooms. Broadly speaking, the themes that are repeated include the teacher's need for the following: (1) more time to plan for students with disabilities; (2) more training in teaching techniques that are effective for students with disabilities; (3) additional personnel (i.e., additional support staff, more special educators to co-teach in general education classrooms); (4) adequate materials at a variety of levels; (5) smaller class sizes; (6) and consideration for the severity of students' disabilities (e.g., Scruggs & Mastropieri, 1996). Absent from these well-documented needs is an underlying factor that may be instrumental in the successful integration of students with disabilities into general education classrooms. Teachers need to feel responsible (either psychologically or through means of accountability) for the learning of students with disabilities while in the general education classroom. Without this feeling of ownership, teachers may be able to discount the progress (or lack of progress) of students with disabilities.

In an earlier pilot study (Boardman, 2001), I interviewed and observed general education teachers regarding their integration of students with LD into the learning community of their classrooms. When asked about the progress of her student with LD, one teacher began talking about the progress this student had made in the special education resource classroom. In a study in which teachers learned a new reading strategy (Coleman, Boardman, Woodruff & Vaughn, 2002), the following dialogue occurred in an interview.

Interviewer: Is the strategy working for all of your students?  
Teacher: Yes. My students are really reading for meaning now.  
Interviewer: Is it working for your special education students?  
Teacher: Oh...[long pause] no. They don't do very well with it.

These examples are indicative of the thinking that impacts the experiences of students with disabilities when they enter the general education classroom. For students with disabilities, undefined goals for learning as well as precarious status relative to non-disabled peers may be displayed not only in the way teachers talk about their students but also in the ways in which they talk with them.

Although a small number of studies have examined the relationship between teacher characteristics and the use of adaptations, the impact of teachers' perceptions of ownership has been largely unexplored. Findings suggest that teachers who are more supportive of inclusion (Bender et al., 1995), teachers with high teaching efficacy (Bender & Ukeje, 1989), teachers who maintain high academic expectations for all students (Fuchs, Fuchs, & Phillips, 1994), and elementary school teachers (McIntosh, et al., 1993; Schumm, et al., 1995) make the most adaptations for students with disabilities. It is possible that teachers with these characteristics are putting forth more effort to plan for and to implement instruction that is appropriate for individual students because they feel a responsibility to teach all of the students in their classroom.

## **Relationships between Teachers and Students**

### ***The Study of Relationships***

In order to describe the decisions that teachers make in relation to specific students in the classroom, it is useful to include a discussion of relationships - the feelings, beliefs, actions, and interactions that occur between individuals (e.g., Goldstein, 1999; Goodenow, 1992; Noddings, 1992; Pianta, 1999; Pianta, et al., 2003). When asked to talk about a student, teachers do not generally give isolated reports of student data. What they do instead is to describe the relationship that they have with that student and how that relationship plays out in the classroom (Pianta, 1999).

To understand the teacher-student relationship, I begin with the student. The student is a system of sorts with behavior organized across motor, cognitive, and emotional aspects of development. Further a student cannot be understood by evaluating just behaviors (e.g., academic functioning) without consideration of the specific demands of the context of interest, in this case school, and the child's reaction to those demands. Teachers are systems as well, and accordingly, their actions and beliefs and how they interact with particular students are the result of multifaceted experiences that must also be considered. The interaction of these two systems – teacher and student – with all of their complexities, ultimately defines the teacher-student relationship (Pianta, 1999).

There is a large and growing body of research in the area of relationships, based primarily on attachment, motivation, and sociocultural theory (for reviews, see

Davis, 2003; Pianta, et al., 2003). Despite the developments in the study of relationships, there is little research on student-teacher relationships for students with disabilities (Murray & Greenberg, 2001). The studies that exist focus on the social networks of students with disabilities (e.g., Wenz-Gross & Siperstein, 1997; Vaughn, Elbaum, Schumm, & Hughes, 1998, Vaughn, Elbaum, & Schumm, 1996) and perceptions of teacher-student relationships from the perspectives of students, (Murray & Greenberg, 2001; Morrison, Laughlin, Smith, Ollansky, & Moore, 1992) and teachers (Cook, 2001; Cook, Tankersley, Cook, & Landrum (2000). To illustrate, in a recent and comprehensive review of the literature in this area, Davis (2003) states that, “future studies need to explore whether and how supportive relationships can protect *marginalized* student populations or contribute to resilience” (p. 224, emphasis added).

In terms of students without disabilities, teacher-student relationships influence school related outcomes such as competencies with peers (e.g., Harter, 1996; Howes, Matheson, & Hamilton, 1994; Wentzel, 1994), motivation and bonds with school (e.g., Goodenow, 1992; Goodenow, 1993; Juvonen & Wentzel, 1996; Wentzel, 1998), academic success (e.g., Birch & Ladd, 1996; Wentzel, Weinberger, Ford, & Feldman, 1990), and adjustment to school (e.g., Lynch & Cicchetti, 1992). Teacher characteristics such as teachers’ attachment history with their own parents (Kesner, 2000), having a positive outlook in general and a concern for others (Edwards & Kern, 1995), personalities and classroom experience (e.g., Clarridge &

Berliner, 1991; Fisher, Kent, & Fraser, 1998), and beliefs about student ability and behavior (e.g., Muller, Katz, & Dance, 1999) influence teacher-student relationships.

For example, Pianta, Steinberg, and Rollins (1995) found that students in kindergarten who were retained or referred for special education services were in relationships with teachers characterized by greater conflict (from the teacher's perspectives) than students who were at high risk but who were not retained or referred. In another study of the teacher-student relationships of 26 elementary school teachers reporting on 400 students, Pianta (1994) found that relationships (from the teacher's point of view) could be divided into six types: dependent (excessively reliant), positively involved (warmth, communication), average-functional, dysfunctional (low involvement, anger, annoyance), angry, and uninvolved. Students' classroom behavior varied according to the relationship group they were placed in by the teacher. Further, relationship types varied across classrooms according to teacher characteristics. For, example, less competent teachers often had a high proportion (at least 50%) of relationships in the negative categories.

Although Pianta found that teacher characteristics were more likely to predict relationship types than certain risk categories for students such as socioeconomic status or school readiness, there is evidence that student disability also influences teacher-student relationships. In a study of 70 inclusive teachers who were asked to categorize students in the following categories: attachment, concern, indifference, and reject, Cook, Tankersley, Cook, & Landrum (2000) found that after controlling for achievement, students with LD in general education classrooms were over-

represented in the concern, rejection, and indifference categories. In other words, without representation in the attachment category, certain students with LD are likely to receive more attention and opportunities to learn (concern), others will be given up on (rejection), and still others will be ignored (indifference). Teachers' reasons for nominating students with LD in the indifference category included that these students didn't "stand out" and were thus easy to overlook and that they did not know how to meet the needs of many students with LD in the general education classroom. The rejection relationship was determined by a nomination to the following question, "If your class was to be reduced by one child, whom would you be relieved to have removed?" (p. 208). As a large number of students with disabilities fall into the rejection and indifference categories, it is likely that many will receive insufficient or inappropriate opportunities to learn in general education classrooms. Contrary to Pianta's (1994) findings, Cook and colleagues noted that categorization of students with LD seemed to depend more on student characteristics than on other contextual variables such as teacher experience, training, in-class support, and class size. Although more research is warranted in this area, it appears that a combination of teacher characteristics and relevant student characteristics determine the relationships between individual students and teachers. These relationships have the potential to impact a student's success or failure in school.

### ***Teacher Expectations***

As noted above, teachers' relationships with students are influenced by their beliefs about students. Although teacher expectation literature does not generally



emphasize relationships as a construct (e.g., Good & Brophy, 2000), teacher expectations seem to be a powerful aspect of teachers' belief systems that have the potential to influence their actions in the classroom (e.g., Brophy & Good, 1970; Jussim & Eccles, 1995; Snyder, 1984). Many researchers believe that teacher expectancies are related to the perpetuation of negative stereotypes, prejudices, and inequalities in education and in other social institutions (e.g., Fiske & Taylor, 1984; Hamilton, Sherman, & Ruvolo, 1990; Snyder, 1984). Furthermore, low achieving students (Good, 1981; Madon, Jussim, & Eccles, 1997; Smith et al., 1998) and students from stigmatized groups such as students with disabilities (e.g. Clark, 1997) seem to be particularly vulnerable to the negative influences of teacher expectations. For example, in a study of teacher response to learning disability, Clark (1997) found that LD, as a label, was a predictor of teacher expectations over and above individual characteristics such as performance, IQ, and effort. In a review of the literature, Good (1981) also documented that many teachers exhibit differential treatment to students they perceived to be either high or low achieving. In numerous studies, Good and colleagues found such variability as seating low achieving students farther away from the teacher or the group, calling on and praising less frequently low achieving students, providing less feedback to low achieving students, and demanding less work and effort. Similar findings have been reported by Allington (e.g., 1980, 1983) in his research on the differential treatment of students in low and high reading groups.

Some researchers, who have criticized teacher expectation effects (see for example Brophy, 1983), emphasize the importance of instruction and contend that

sound instructional practices outweigh the effects of teacher expectations. Indeed the amount and quality of instruction is arguably the most important factor in predicting student outcomes (e.g. Vaughn et al., 2000; Wang, Haertel, & Walberg, 1990). However, it may be difficult to disentangle the effects of high teacher expectations from the effects of good instruction. If a teacher employs intensive instruction at an appropriate level that is challenging and interesting, it might be hard to convey anything other than high expectations to her students. For example, a study of how teacher beliefs affect lesson planning, students showed greater academic achievement when their teachers held strong beliefs about the importance of student work habits and appropriate classroom behavior than when they did not (Fuchs, Fuchs, & Phillips, 1994). In addition, these teachers spent more time planning for instruction than did teachers who did not have the same high expectations. Indeed the research on effective teaching consistently shows that academic achievement is enhanced by teachers who have high expectations for students (e.g., Goodenow & Grady, 1992; Wentzel, 1994). Research on teacher expectations contributes to an understanding of how teacher beliefs influence classroom practice and suggests that expectations that teachers hold for students become imbedded in the relationships that are formed in the classroom.

### ***Improving Teacher-Student Relationships***

While there are student characteristics that might predict future outcomes (e.g., attention deficit hyperactivity disorder), relationships with teachers can act as a protective factor against those risks (Pianta, 1999):

...[The] less mature organism is tethered to a more mature organism (usually the parent) that is responsible for its development and survival. In this way, how this relationship develops and influences the child is biased toward input from the adult. The asymmetry inherent in child-adult relationship systems places a disproportionate responsibility on the adult for the quality of the relationship. (p. 73)

As children spend more time at school, relationships with teachers take on the above qualities, especially for students who do not have supportive relationships at home (Lynch & Cicchetti, 1997). Pianta (1999) highlighted the importance of finding ways to enhance the teacher-student relationship. From an attachment perspective, this includes nurturing the affective part of the relationship, from a motivation perspective there is a focus on effective instruction, and from a sociocultural perspective the emphasis is placed on the combination of the two factors with a particular consideration for the teacher-student dyad (Davis, 2003). Regardless of the focus of intervention, allowing teachers to identify their relationships with students, namely by talking about them, may be a necessary starting point (Pianta, 1999). As aspects of the relationship are identified, appropriate interventions can be implemented that will help teachers meet the needs of their students.

Increasing contact with students in general (Pianta, 1999) and creating a positive classroom climate (e.g., Howes, 2000; Ritchie & Howes, 2003) can positively influence teacher-student relationships. Examples of ways to increase contact are to decrease teacher-student ratios through class size (McGivern, Gilman, & Tillitski, 1989) or grouping practices (Lou, Abrami, Spence, & Poulsen, 1996; Vaughn, Hughes, Moody, & Elbaum, 2001); plan time to listen to students through

the use of student-teacher conferences during class (Kroeger, et al., 2004; Palincsar, et al., 2001); to limit or thoughtfully plan for transitions (e.g., Gartner & Lipsky, 1990) so that, for example, a student with LD does not come and go in the middle of a lesson; and to attend to school organization, culture, and climate (see Pianta, 1999, for discussion). Issues of classroom climate will be discussed in the next section.

Although my study did not attempt a comprehensive intervention to improve teacher-student relationships, one of its contributions was to provide space for teachers to explore their relationships with their students with LD over a period of time. By revealing their relationships and learning more about their students, I hoped to connect teachers' perceptions of individual students with their actions in the classroom to describe how teachers' relationships influenced the experiences of students with LD.

### ***Community in Classrooms***

Perhaps at the root of engaging in positive relationships with students is the notion of classroom community and just who is actively included. The research on effective teaching consistently demonstrates that academic achievement is enhanced by teachers who create a supportive classroom environment (Goodenow & Grady, 1992; Wentzel, 1994). The conditions for a positive classroom environment are generally defined as a classroom that features acceptance, respect, choice, warmth, support, and that promotes deep understanding and excitement about learning (e.g. Glasser, 1993; Kohn, 1996; Stone & Rottier, 1996). If a community is "a social organization whose members know, care about and support one another, have

common goals and a sense of shared purpose and to which they actively contribute and feel personally committed” (Solomon, et al., 1996, p. 719), then a positive classroom climate may have at its core the feeling that the members are part of a community.

At the individual and school level, a sense of community has been positively associated with feelings of school belonging and commitment (Goodenow, 1993), school liking, empathy, and self-esteem (Solomon et al., 1996), and with academic motivation and achievement (Goodenow & Grady, 1992; Juvonen & Wentzel, 1996). In addition, teachers’ perceptions of students in general (Babad, Bernieri, & Rosenthal, 1991; Tal & Babad, 1990), and students with disabilities in particular (McIntosh et al., 1993; Schumm & Vaughn, 1992) affect the way students feel about each other. Therefore, while the teacher is responsible for including students with disabilities into the academic and social structure of the classroom, she also plays a large role in how students with disabilities are accepted by their peers.

Social skills competency (prosocial communication skills including language, nonverbal reactions, and attitudes; Haager & Vaughn, 1995) appears to influence students’ acceptance in general education classrooms (see Vaughn, Elbaum, & Boardman, 2001). In a meta-analytic review of the social skills deficits of students with LD, Kavale and Forness (1996) found that 75% of students with LD were perceived as having social skills deficits. Because students with LD are more likely to have social skills deficits, as a group they are vulnerable to rejection by their

classmates (Haager & Vaughn, 1995; Stone & LaGreca, 1990; Vaughn, et al., 1996) and their teachers (see Bryan, Bay, Lopez-Reyna, & Donahue, 1991; Bryan, 1997).

In addition to the problem that students with disabilities are at-risk for not being accepted into the classroom community, acceptance (if it does occur) is not enough for most students with disabilities to succeed in general education classrooms. Studies have repeatedly shown that students can be well accepted, but still not prosper academically (Baker & Zigmond, 1995; Fuchs, Roberts, Fuchs, & Bowers, 1996; Schumm & Vaughn, 1992). This line of research suggests that teachers must not only be accepting of students with disabilities but take measures to ensure that they are active members of the community (i.e., by providing appropriate adaptations or having high expectations).

### ***The Importance of Caring***

The relationship that enables the teacher to include a student with disabilities into the classroom community as an active participant may be facilitated by the extent to which the teacher cares for the student. Noddings (1992) described caring as a “connection or encounter between two human beings” (p. 15). Caring in her view, is not a personality trait, but an action one engages in. Two critical features of a caring encounter are (1) the caring person must be engrossed in the interaction and (2) the recipient must acknowledge that caring has taken place. Noddings (1984) asserted that the caring interaction is either validated or made meaningless by the acknowledgment by the cared for. In the classroom, this acknowledgment might be a nod by the student, a smile, or evidence that he or she has learned. However, it is

likely that students who are not used to being a member of the general education classroom might misinterpret or simply not recognize the caring attempts of the teacher (Noddings, 1992).

Goldstein (1999) connects Noddings' ethic of care (1992, 1995) and Vygotsky's theory of learning as rooted in social relationships (e.g., Wertsh, 1985, Vygotsky, 1978; Wells, 1999). She asserts that attending to a student's learning needs in the zone of proximal development (Vygotsky, 1978) is a function of a successful caring relationship. That is, through thoughtful interactions, the teacher and the student construct the ZPD in specific learning situations (Goldstein, 1999).

While the bulk of literature on caring in schools is theoretical (e.g., Goldstein, 1999; Noddings, 1992, 1995), findings from several recent studies suggest that caring seems to make a difference for students (Baker, 1999, Battistich, et al., 1997; Wentzel, 1997). For example, in a study of middle school students' perceptions of caring (Wentzel, 1997), students described teachers who care as "demonstrating democratic interaction styles, developing expectations for student behavior in light of student differences, modeling a 'caring' attitude toward their own work, and providing constructive feedback" (p. 415-416). Within this paradigm of caring, Wentzel found that the degree to which students perceived their teachers to care about them was related to the pursuit of prosocial and social responsibility goals and academic effort. In a study of at-risk elementary age students, Baker (1999) found that students who expressed more caring and supportive relationships with teachers were more satisfied with school. The conditions for caring outlined by Noddings are relevant to this

discussion because they highlight just how much effort on the part of the teacher it takes to build trust with certain students and how difficult it may be to continue to care when they do not respond.

## **The Power of Talk in Classrooms**

### ***The Importance of Interactions***

Relationships are often understood in terms of interactions that occur, and often the terms are used interchangeably (e.g., Davis, 2003). For the purpose of my study, it is perhaps more appropriate to view interactions as one aspect of the teacher-student relationship and an important vehicle through which that relationship, and its subsequent outcome for students, can be observed.

Teachers spend much of their school days talking to and with children. When we think back on our own school experiences and the kinds of things teachers talked about, we are reminded of teachers telling students what to do and when to do it, managing behavior, assessing understanding by listening to children, presenting information, providing feedback, and using talk to scaffold understanding (Mercer, 1995). Cazden (1988) describes several features of classrooms that highlight the utility of talk. First, curriculum is enacted through interactions and serves to connect the cognitive and social domains of learning. Second, classrooms are busy and fast-paced, and the majority of talk that takes place is controlled by the teacher. Third, because classroom talk is usually public (others are either part of or privy to interactions that take place between the teacher and individual students) and participation is expected, spoken language becomes an important aspect in the



development of one's individual identity. While students with disabilities are not likely to succeed without appropriate instruction and adaptations, the enactment of the instruction and adaptations that is so essential as well as their social status occurs through talk. For example, a teacher may provide an excellent description of a difficult to understand concept in science. However, if a student is not used to listening, her words may go unnoticed. What does the teacher do to engage a student in the conversation? Do her questions encourage deeper processing or instill fear in those afraid that they may not know the *correct* answer? How do the other students perceive a student who gives an incorrect response to a teacher's question?

Careful study of the ways teachers and students interact, or engage in verbal exchanges together, can shed light on both what happens during learning activities as well as why events occur as they do in individual classrooms. To be sure, talk cannot usually be separated from instruction, and in many cases, it is instruction. However, the focus on talk allows us to analyze how understanding is negotiated. The utility of studying talk in classrooms is further articulated by Wells:

Discourse is a means, not an end in itself, and verbal information is valued not for the correctness of the way in which it is formulated but for its use as a means towards the achievement of some larger purpose. What we need to attend to, therefore, in order to understand the role of talk in the classroom, is not so much the talk *per se*, as the contribution it makes to the activities in which students engage in the "lived-in world" of the classroom, the actual structures of participation, and the function that talk performs – along with other semiotic systems – in mediating the goals of these activities (Wells, 1999, p. 231-232).

Having introduced the importance of the study of interactions in classrooms, I am not going to review the large body of research in this area, but instead will focus on research in the area of talk between teachers and students with disabilities.

### ***Interactions between General Education Teachers and Students with Disabilities***

The interactions between teacher and student have been a key instructional variable in effective instruction. The type and amount of contact that takes place in this dyad seem to have strong implications for student motivation, sense of belonging, and achievement in classrooms (e.g., Goodenow & Grady, 1992; Juvonen & Wentzel, 1996; Solomon, et al., 1996; Wentzel, 1999). This relationship is particularly important for students who may not easily blend in to the classroom structure because of language, cultural background, or learning differences (e.g., Casteel, 1998; Delpit, 1995; Good & Brophy, 1974; Roberts, 1996). Relatively few studies have explored the role of teacher-student interactions in the learning of students with disabilities.

The studies that exist focus almost exclusively on describing the frequency and nature of interactions. While findings from this body of research are inconsistent, in general, they suggest that interactions with teachers may fall short in providing the assistance students with disabilities need to succeed in the general education classroom. In terms of frequency, several studies report that students with disabilities receive more initiations from teachers than their non-disabled peers (Chapman, Larsen, & Parker, 1979; Forness & Esveldt, 1975; Thompson, Vitale, & Jewett, 1984). However, these additional initiations are often negative in nature (i.e., warnings regarding behavior, calling attention to following rules). Other studies report that teachers in general

(McIntosh, et al., 1993) and teachers who hold beliefs about disability as being an unchanging characteristic of the student (Jordan & Stanovich, 2001) tend to interact less with students with LD. There are also studies that find no differences in the amount of interactions with students with and without disabilities (Alves & Gottlieb, 1986; Chow and Kasari, 1999; Richey & McKinney, 1978). Many of these researchers interpret their findings to represent undifferentiated instruction in which teachers treat all students the same.

The picture becomes even more complex when the nature of interactions is documented. For example, while teachers give both more criticism and more praise to students with disabilities (Bryan 1979), they also ask fewer questions and give less feedback (Alves & Gottlieb, 1986; Bryan, 1974, 1979). Still, there is also evidence that students with disabilities get more help from general education teachers (Thompson, et. al, 1984). While these studies *document* how talk is negotiated between the teacher and students with disabilities, they are restricted in their ability to *explain* these relationships. Perhaps one reason for the inconsistency in the aforementioned studies is the limited evaluation of the impact of contextual variables (e.g., nature of a student's disability, teacher training and philosophy towards students with disabilities, school support, or access to resources) that might vary by teacher. For example, McIntosh and colleagues (1993) looked at the interactions of 60 teachers across grade levels (elementary, middle, and high school), but did not compare teachers within grade levels to each other. While these studies provide important information about teacher and student interactions, additional research that

includes not only how student groups differ from each other, but why teachers differ would help determine which contextual variables (including but not limited to teacher characteristics) are more likely to encourage appropriate interactions with students with disabilities.

In one study that combined interview data with classroom observations in inclusive classrooms, Jordan and Stanovich (2001) found that (1) teachers who held “interventionist” beliefs (that is, teachers who saw themselves as instrumental in the success of their included students, p 45), engaged in more interactions with all of their students than teachers who did not hold those beliefs, (2) more frequently engaged in lengthy interactions with students with disabilities that promoted a deep understanding of content, and (3) in those classroom engaged more with students with disabilities and low achieving students than with students who were average achieving. This study provides support for the influence of teacher beliefs on the interactions with and outcomes for students with disabilities.

### **Studying Classrooms in Context**

Supported by the construct of sociocultural theory, I first outline the importance of context and describe my rationale for combining discourse analysis with teacher perception data in the study of the integration of students with LD into the general education classroom. I then describe the basis for the trial intervention that I implemented in an attempt to connect teachers to their student with LD.

### ***Using Theory to Design a Research Study***

In this apt quote, Gee (1999) encapsulates the meaning of language use in specific contexts:

Language has a magical property: when we speak or write we craft what we have to say to *fit* the situation or context in which we are communicating. But, at the same time, how we speak or write *creates* that very situation or context. It seems, then, that we fit our language to a situation or context that our language in turn, helped to create in the first place (p 11).

Socio-cultural theory challenges us to study students and teachers as individuals embedded in circumstances unique to each classroom (Wells, 1999). To do this, research needs to include not only what happens in the classroom, but also why and how it happens. In their review of research on classroom context, Turner and Myer (2000) set forth a progression of topics that have been the focus of student-teacher interaction research in classrooms. Among the topics are process-product research, the use of observation tools, teacher perception studies, and methodology. Current research methods for studying teacher-student interactions are informed by the process-product research of the 1970s and 1980s that focused on making connections between teacher behaviors and student academic outcomes. A classic in this line of research, Brophy and Good (1970) examined student-teacher interactions among elementary school teachers and found that teachers engaged in higher quality interactions with students for whom they held high expectations and praised these students more frequently when they performed as expected. The opposite was true for students for whom they held low expectations. This study of teacher expectations, and

others like it, focused on correlates between teacher behavior and student outcomes but offered only limited information about the processes behind teacher actions.

Other attempts to explore classroom context are seen in research using teacher attitudes, particularly how teacher perceptions influence decision-making (e.g., Fuchs, Fuchs, & Phillips, 1994). A potential weakness of teacher perception studies is that many are done in the absence of classroom observations. Therefore, the “why” and perhaps the “how” can be understood as reported by the teacher, but limited data are available in this approach to link perceptions to actual teaching practices (Jordan & Stanovich, 1997). Similarly, teachers are often asked to report what they do in the classroom (see Scott, Vitale, & Masten for review, 1998). For example, teachers are asked to detail the different modifications that they use to teach students with disabilities in their classrooms. Again, it is possible that a mismatch exists between modifications that teachers say they use and those that are actually implemented in the classroom (Good & Brophy, 2000).

In order to capture the interactions that occur in classrooms, observation instruments (e.g. Brophy & Good, 1970; McIntosh, et al., 1993; Trickett & Moos, 1974) have been created that attempt to capture the context within which learning takes place. Discourse analysis is a specific observation method in which the observer codes the speech acts that occur. The analysis reveals patterns, rules, and processes that guide learning and instruction that may be missed by more holistic forms of observation. Methods for doing discourse analysis vary, and it is commonly agreed that there is no one correct way to analyze talk, but that data collection and analysis

should be situation specific and guided by the nature of the research questions (Gee, 1999; Fairclough, 1992).

Despite the difficulty in training researchers to code reliably what is observed in classrooms as well as focusing observations so they are sensitive enough to pick up valuable information, these measures are useful tools that add much to the study of teacher-student interactions. Turner and Myer (2000) also noted the increasing use of qualitative methodology and ethnography to study classrooms. These methods increase the researcher's ability to document a more thorough representation of what takes place in classrooms by gathering detailed descriptions of classroom activities (often through video- or tape-recording) along with memos (Strauss & Corbin, 1998) or notes that allow the researcher to add personal insight into observation records. A downside of the more detailed qualitative methods is that they are time consuming, often preventing the study of large numbers of teachers. In addition, data collection and analysis must be subject to the standards of trustworthiness (Lincoln & Guba, 1985) to minimize potential bias that can be due to the researcher's personal involvement in data collection and analysis.

### ***What Does an Intervention Tell Us about Discourse Practices?***

The most obvious reason to do an intervention study is to test the effectiveness of that intervention. As stated earlier, a potential problem of this line of research is the focus on the product of the intervention (e.g., improvement in achievement) instead of on the processes involved in carrying out the intervention. With a growing body of research embracing a sociocultural perspective and the

influence of interactions among members of learning communities, there is value in focusing on contextual factors that surround the implementation of an intervention. In their examination of “levels of inquiry” in writing research, Bereiter and Scardamalia (1983) outline *theory-embedded experimentation*. According to these researchers, in most studies, theory is not needed to understand or interpret results. However, in theory-embedded experimentation, “research consists of testing a theoretical construction by testing its empirical implications” (Bereiter & Scardamalia, 1983 p. 14). Therefore, procedures may be the same for studies in which the efficacy of an intervention is being tested and for which the processes behind the intervention are being studied, but the focus of analysis will differ. The intervention in this study is used to explore the relationship between how teachers interact with students and their level of involvement or attention to students’ learning. *Progress monitoring* has been selected as a way to attempt to change the way teachers interact with students with disabilities by making them more active in attending to the learning needs of these students.

Progress monitoring incorporates many of the components of Curriculum Based Measurement (CBM; Deno, 1985). Teachers and researchers have used CBM as an assessment and teacher tool to track student progress, usually in skill mastery, by making goals, charting progress, calculating and analyzing slopes, and making instructional decisions based on how well a student is moving towards achieving his or her goal (Deno, 1985; Fuchs & Fuchs, 1999). One of CBM’s strengths is its ability to impact instructional decision making (Fuchs & Fuchs, 1999) when implementation



criteria are met. Because some of the standardized procedures for CBM may not be practical in general education classrooms, I have chosen to use an informal version of CBM, often referred to as *progress monitoring*. In progress monitoring the basic components of CBM remain the same, but teachers are free to choose individual goals and measurement systems that might not meet the more strict criteria of CBM. Progress monitoring is an appropriate vehicle in which to track change in teacher-student interaction because it requires teachers to pay close attention to the achievement of target students, to measure and analyze progress, and to make instructional decisions based on students' progress.

### **Conclusion**

In this chapter I have outlined the progression of ideas that contributed to the planning and implementation of my study. I began with a sociocultural theory perspective and an interest in the influence of teachers on the integration of students with disabilities in general education classrooms. Research on relationships and interactions provided a background for the dimensions that would be the focus during the design of my study and interpretation of my results. Based on sociocultural theory, discourse analysis and the in-depth qualitative study of teachers and classrooms were an appropriate way to investigate my areas of interest. In the next chapter I outline the methods that I used to collect and analyze my data.

## CHAPTER THREE: METHOD

The purpose of this study was to contribute to an understanding of the interactions between general education teachers and students with learning disabilities in the context of participation in the learning community of the general education classroom. Mehan (1998) suggested that the types of questions asked in the study of social interactions in education, for example, how a teacher takes ownership for student learning in the classroom, are best answered through the use of in-depth naturalistic study of classrooms. To this end, I approached my study as a qualitative data collection and analysis to address the following research questions.

1. How much time do teachers spend interacting with students with and without disabilities in general education classrooms?
2. How can we describe the quality of the interactions between the general education teacher and students with and without disabilities?
3. What are the factors that contribute to differences among student-teacher interaction across classrooms?
4. Is it possible to change the quality of interactions between general education teachers and students with disabilities?
5. Is there a relationship between the quality/quantity of interactions and a teacher's sense of ownership for the learning of individual students?

In order to investigate the complex nature of teacher-student interactions, data sources combined (1) observations of teacher-student interactions during classroom activities; (2) interviews with teachers; and (3) teachers' written reflections over the course of the study.

## ***Participants***

*Participant selection.* While the focus for analysis in this study is the teacher, student-teacher interactions must involve the teacher and her entire classroom. Therefore, during the selection of participants (teachers and students), I considered contextual factors that influenced the classroom as a unit such as teaching experience, number of students with disabilities, and acceptance of students who are low achieving.

After receiving approval from the Institutional Review Board at the University of Texas at Austin and the Office of Accountability in the Austin Independent School District, I selected four fifth-grade teachers and their classes to participate. As is common in qualitative research (Miles & Huberman, 1994), I used a purposive sampling process to select classrooms that met the selection criteria and were identified as potentially informative cases.

Fifth-grade was selected for several reasons. First, in most schools fifth-grade is the last year of elementary school and upon leaving, students will attend middle school. Middle schools are usually large and students have several different teachers every day. Students with disabilities tend not to be monitored as closely in middle school and are likely to receive fewer adaptations (e.g., McIntosh, et al, 1993). Therefore, the extent to which fifth-grade teachers are able to help students with disabilities become active participants in the general education classroom may be instrumental in preparing them for middle school. In addition, as of 1999, the yearly achievement scores (the TAAS in Texas as of this writing) of students with

disabilities were aggregated with the scores of students without disabilities.

Therefore, general education teachers may feel an increased pressure to meet the needs of all of their students, but may find this challenge particularly difficult as the curriculum in fifth-grade becomes more rigorous and requirements require deeper understanding of concepts presented (Texas Essential Knowledge and Skills, 2000). One potential drawback of choosing fifth-grade is that in some schools, students did not remain with the same teacher all day, but “switched” teachers for social studies or language arts, for example.

Four classrooms whose teachers expressed (1) a willingness to participate in the study and to share their thinking and teaching, (2) had between two and six students with disabilities who were included in general education for at least 50% of the school day, and (3) had a mean score of three or higher on the Classroom Climate Scale (see below) were selected for participation in this study.

I met with seven teachers initially to assess their willingness to participate and observed each classroom for a one-hour initial screening, using an adapted form of McIntosh et al.’s Classroom Climate Scale (1993) to compare teacher and student academic and social behavior across classrooms. I used 20 Likert scale items from the Classroom Climate Scale (sample question? Does the teacher monitor on-going student performance? 5 = Most of the time, 4 = frequently, 3 = occasionally, 2 = seldom, 1 = never) and three structured observation questions (sample question: What adaptations does the teacher make for students with special needs?). See Appendix A for the adapted form of the Classroom Climate Scale used in this study. Each

classroom received a mean Classroom Climate Score (negatively phrased questions were reverse scored). Open-ended questions were used to confirm or reject mean score ratings and to compare classrooms further.

I was unable to find one school with four teachers at the fifth-grade level that met my selection criteria. Therefore, to measure the potential impact of school context on classroom teaching, I chose two teachers in each of two schools. Of the seven initial classrooms, one classroom was eliminated because there was a high number of students who were not proficient in English and the teacher appeared focused on meeting the needs of those learners. Two classrooms with an average Classroom Climate Scale score below three were also excluded from selection. Examples of features of a classroom that would yield an overall mean score of three or lower are that the teacher did not usually respond to student needs, the teacher had not established sufficient classroom management strategies, or there was limited interaction between the teacher and students. In one classroom, students were frequently off-task and in another, students worked solely on independent assignments while the teacher worked with a small group of students on TAAS related activities during the time when students with LD were present in class.

Much has been learned about effective teaching in classrooms. While it is acknowledged that it is difficult to meet the needs of diverse learners in the general education classroom, previous research has pointed to critical factors that influence social and academic success. For instance, using a variety of grouping arrangements such as cooperative groups or pairs, is more effective than using whole group

instruction and independent seat work (Vaughn et al., 2000) during which teacher-student interaction may be low. In order to study teacher-student interactions, teachers and students must interact. Indeed, Baker (1999) was unable to interpret actual teacher-student interactions in her study (and instead was limited to self-reports and surveys) because the interactions between teachers and students that she observed were so minimal. The purpose of my study was to observe how teachers attempted to facilitate the integration of students with special needs into the learning community of the classroom. They were more or less successful in this effort, but participating teachers were selected only if they appeared willing to teach students with disabilities in their classrooms and showed some evidence of effective instructional practices.

*Participants and schools.* Participants were four fifth-grade teachers and three target students in each of four classrooms in the Austin Independent School District. Ms. Berman and Ms. White taught at Carson Elementary and Ms. Raymond and Ms. Franklin taught at Eisenhower Elementary (these names and all other names of participants are pseudonyms).

The four teachers were chosen based on the information that target students spent at least 50% of their day in general education, including at least science or social studies with their homeroom teacher. However, in the middle of the study, Eisenhower switched schedules and students with disabilities were no longer part of the classroom for social studies or science, but spent only a homeroom period and afternoon literature groups in class. The change occurred when a fifth grade teacher (not a participant in the study) left for maternity leave for the last three months of

school and was replaced by a long term substitute teacher whom the other fifth-grade teachers did not feel was qualified to teach the class. A district science “specialist” was available and so there was a quick move to departmentalize so that the long term substitute would be with her homeroom class for a shortened period of the day and the science specialist would teach science to the entire fifth-grade as they rotated through. The participant teachers taught writing and language arts in the rotation during times when the students with LD were in the special education classroom. Social studies was not taught to fifth-graders at Eisenhower for the remainder of the school year.

The participant teachers in this study as well as the other teachers and principal at Eisenhower were relatively inexperienced both compared to the state average and the participating teachers and principal at Carson. Eisenhower had a high proportion of economically disadvantaged students, a large minority population, and a high proportion of students labeled Limited English Proficient (LEP). Both schools received a School Accountability Rating of acceptable for the school year 2000-2001 based on the results of the statewide TAAS assessment, although Eisenhower had lower overall passing rates in both reading and math. See Table 1 for demographic characteristics of the two schools.

**Table 1: Participant School Demographics**

	Eisenhower	Carson	District <sup>a</sup>
School size	841	612	
Racial/Ethnic Composition (%)			
African American	8	9	14
Asian	<1	4	3
Hispanic	88	48	53
White	4	39	30
Other	0	1	0
Economically Disadvantaged (%)	89	48	53
LEP (%)	49	11	15 <sup>b</sup>
Mobility Rate (%)	22	22	21 <sup>b</sup>
Class size (mean)	22	20	19 <sup>b</sup>
Teachers with $\geq 6$ yrs. Experience (%)	54	67	64 <sup>b</sup>
TAAS Passing Rate, 5 <sup>th</sup> Grade, 2001 (%)			
Reading	75	88	88
Math	83	95	92

Note. TAAS data are reported from the Texas Education Agency Web site (“AEIS,” 2001, Campus Reports). All other school, district, and state data are reported from the Austin Independent School District Web site (“AISD,” 2004, AISD Campuses).

<sup>a</sup>District and state means are reported.

<sup>b</sup>State level data are reported because district data were not available.

*Target students.* In addition to teachers, three target students were selected from each classroom: one student with a designated learning disability (LD) in reading, one low achieving student (LA) and one average achieving student (AA). Each student with LD had a current Individualized Education Program (IEP), a learning disability in reading, and received at least reading instruction in a special education classroom. Judgment for choosing both the LA and AA students were made individually by the teachers although they were given the following criteria for selection. For the LA student, teachers were asked to select a student who was struggling to succeed in their class and whom they considered to be low achieving



relative to the other students in their class. For the AA student, teachers were asked to select a student who was a “typical” learner both socially and academically, relative to the other students in their classrooms. In addition, when selecting the LD and LA students, teachers were asked to choose two students with whom they wanted to work more closely. The purpose for having teachers select a low achieving student and a student with disabilities was to analyze differences that occurred due to characteristics unique to students with disabilities such as lower reading level (Fuchs, Fuchs, Mathes, & Lipsey, 2000), special education label, or the amount of time students were out of class receiving special services. Teachers were asked to select two students in each category (for a total of six) and during initial observations, I made the final selection of the three target students for each class based on characteristics and relationships that indicated potentially informative cases.

### ***Measures and Procedures***

Data sources included classroom observations, interviews with teachers, and teachers’ written reflections. The study was conducted over a four-month period from February to May 2001 in several stages:

1. Initial screening of classrooms and selection of teachers
2. Initial interview with teachers and identification of potential target students and observation periods.
3. Three baseline observations (conducted during three consecutive days) in content area classes and wrap-around observations to learn more about the teacher and classroom.

4. Trial intervention with four teachers.
5. At least four observations during implementation of intervention
6. Follow-up observations.
7. Final interview with teachers and target students.

*Interviews.* After the teachers had been selected to participate, they were interviewed three times during the course of the study. Once at the start of the study, after two weeks of implementing the trial intervention, and finally, several weeks after observations had been completed. The purpose of teacher interviews was to explore the beliefs as well as the decision-making processes teachers employed as they attempted to meet the needs of students who struggled to succeed. Most of the questions were designed to probe areas that are relevant to teaching students with special needs and that have been identified in the literature. For example, because lack of support is a recurrent theme (Scruggs & Mastropieri, 1996), teachers were asked if they felt they had the support they needed to teach all of the students in their classrooms. Several questions that elicited informative responses in a pilot study (Boardman, 2001) were also included. A semi-structured interview format was used in which I prepared a set list of questions, but provided probes as necessary to document a more complete representation of the teacher's ideas. Furthermore, as the study progressed, interviews became more individualized according to what I observed in class and also as a means of member checking previous responses from teachers. Questions were both general (sample question: How is teaching going this year? Do you feel you have the resources you need to meet the needs of all of your

students?) and specific to students who struggle (sample question: Tell me about student X [student with LD]. How is he/she doing in your class this year?). The interim interview also included questions about the trial intervention.

The final interview had three purposes. First, it was used to confirm responses from previous interviews and teacher reflections. Second, it was used to detect changes in thinking that occurred as a result of implementing the trial intervention or participating in the study. Third, I asked questions to probe specific events that I had observed in classrooms. I also interviewed teachers informally throughout the course of the study. I wrote field notes as soon as possible following these conversations and added them to interview data. The initial interview protocol and an example of protocols for the interim and final interviews are included in Appendix B.

*The Intervention.* After the baseline observations, I provided a 2-hour inservice training on *progress monitoring* to the four teachers. Borrowing from curriculum based measurement (CBM; Deno, 1985), progress monitoring is a way to formulate goals for specific students, to determine how to measure the goals, to conduct regular “data” collection, and to use the data to inform instructional decisions. For example, a student who does not know his/her multiplication facts may be given a multiplication test one time each week. The teacher tries instructional methods to improve the student’s knowledge, and then assesses the student’s learning. If progress is not satisfactory, the teacher tries other strategies. The purpose of suggesting the use of progress monitoring was intended to help the teacher become more attuned to the learning needs of particular students and in doing so, to make

instructional decisions based on performance data. The intention was that teachers would not continue to employ the same teaching methods if students were not making progress.

Appropriate types of goals were discussed during teacher training and menus of possible intervention strategies were suggested. Teachers were also given the opportunity to share with each other regarding students, goal development, and strategies. At the end of the training, each teacher had identified (1) a goal for two students (LA and LD), (2) strategies to attempt to meet the goals, and (3) a system for monitoring progress. Teachers were asked to collect progress monitoring data at least one time each week for four weeks following the inservice.

After two weeks of implementation, I met with each teacher to follow-up on the progress monitoring by giving feedback to the teacher and providing support as needed. This session also involved brainstorming solutions to problems once data had been collected. For example, the target student with LD in Ms. Franklin's class refused to participate in the initial intervention she attempted so we spent time coming up with alternate strategies.

The purpose of using progress monitoring in this study was not to test the effectiveness of progress monitoring per se, but rather to investigate if interaction quality is improved when a teacher takes responsibility for a student's learning. In this way, this study focused on the processes involved in the enactment of instruction as opposed to focusing specifically on the effectiveness of specific instructional strategies.

*Classroom observations.* Each observation was conducted for the entire lesson (approximately 45 minutes to 1 ½- hours). All observations occurred during a time of day when students with LD were normally part of the general education classroom. In most cases, this was during social studies or science. However, as noted earlier, due to a schedule change partway through the study at Eisenhower, observations were moved from social studies/science block to a morning homeroom/math period because that was a time when students with LD were included and where interaction between the teacher and those students was the most likely to be observed.

The observations had three goals. First, I recorded and transcribed the interactions between target students and the teacher in each classroom. Because the conversations between individuals were essential to the data collection in this study, each teacher wore a lapel recording device that picked up her voice and the voice of individuals with whom she spoke. I used a laptop computer to write notes regarding who was speaking, to record contextual information, and to track the actions of the target students. Second, I attempted to note the actions of the target students throughout the lesson, specifically using a time sampling procedure such that each target student was monitored for seven 1-minute intervals. Time sampling for the three students took 21 minutes (or approximately one third of a lesson). During time sampling, the observer (either I or a trained colleague) first recorded if the student appeared to be on or off-task at the start of the minute and then wrote detailed notes of their behavior for the entire minute. Time sampling was used to focus a portion of the observations on the target students in order to gather detailed information about

their specific actions (including their contact with the teacher) within the context of the lesson. Because one observer is limited in the amount of information she can take in and record, the remaining portion of the lesson was observed more globally but with specific attention paid to the teacher, the target students, and all interactions that occurred between the teacher and the target students. Finally, the Classroom Climate Scale was completed for each observation in order to document the overall structure of the lesson, the actions of the class as a whole, as well as the classroom environment. Teachers received an overall CCS score for each observation and selected individual items were also examined. Specifically, the engagement item was used to track teachers across observations and to compare classrooms. As soon as possible after each observation, I wrote additional memos to record my perceptions about the lesson.

*Development of the observation system.* I was the primary observer. A second observer was used initially to develop the observation system and four of the 39 observations were done by the two of us to check reliability of the classroom climate scale and the field notes. Because the focus of this study was on naturalistic observation of the speech acts of teachers and target students, it was not appropriate to enter the classroom with a predetermined list of coding boxes that could be checked off during observations. I developed a trial system for chronicling classroom activities, the actions of three target students and documenting transactions that would later be transcribed. After the trial observation, I first attempted to transcribe interactions between the teacher and the practice target students. I identified problems

with the note taking system (e.g., the time codes recorded in notes needed to be more easily comparable to that which was captured on the audiotape). I also compared observation notes with my fellow observer for those sessions we both observed. Two additional training observations were conducted until we were consistent and felt comfortable with the observation system.

*Teacher reflections.* Teachers completed reflections after each lesson. In their reflections, they noted if the lesson was a typical one, and responded to the following three questions: (1) Rate the extent to which this student (comparison, low achieving, and LD) met your instructional objectives for [subject area]; (2) Rate the extent to which this student was on-task during class; and (3) Compared to how this student usually does, rate the quality of his/her work today. Teachers responded on a 4-point Likert scale and provided comments in each category. For students with LD and low achieving students, teachers were also asked to comment on how the trial intervention was progressing. Appendix C contains the Lesson Response reflection.

Teachers also completed a final reflection in which they responded to questions similar to those asked in interviews. The purpose of the final reflection was to give teachers another avenue to express their perceptions about their target students as well as their opinions regarding their participation in the study. The final reflection is included in Appendix D.

### ***Data Analysis***

To gain an in-depth understanding of student-teacher interactions, data analysis was carried out in a variety of forms. Transcripts of interactions and

interview data were the primary sources, with observation notes and teacher reflections used to broaden, confirm, or refute findings.

*Analysis of interactions.* Lessons were transcribed, using observation notes to identify speakers and to verify the context in which each exchange occurred. With the exception of initial observations, I only transcribed interactions that occurred between the teacher and one of the three target students. In order to capture the context within which interactions occurred, I transcribed talk before and after the focal interactions (between the teacher and target student) as needed and inserted relevant observation notes into the transcript. I transcribed initial observations more fully and sometimes in their entirety in an attempt to get to know how the teacher interacted with all of the students in her class.

Transcripts were proofread and edited by returning to the audiotapes and observation notes. Although there are many techniques used in discourse analysis, Gee (1999) suggests that transcripts be only as specific as they need to be in order to make sense of the dialogue of interest. Therefore, initially transcripts were very specific, and after several readings, I created a system for transcription that allowed me to identify important information and was also feasible given the number of transcriptions I intended to use in my analysis. For the most part, transcriptions of the words that were spoken with accompanying contextual information from observation notes were sufficient to address my areas of interest. I also included indications of long pauses, more than one speaker speaking at once, and overt actions that



accompanied the talk. For example, if the teacher yelled or whispered it was noted, as was a shoulder shrug intended to convey that the speaker did not know the answer.

Next, individual interactions were identified and separated out. For my data, I identified the beginning of an interaction when either the teacher or a target student initiated contact and the end when the teacher or student indicated that the interaction was over. Therefore, an interaction could involve talk from just one person and include just a few words (e.g., Teacher: Sit down. Student: [sits down]) or could involve a more lengthy discussion (e.g., a teacher works with a small group of students to complete a math problem and there are several rounds of exchanges between the teacher and a target student, including turns from other students in the group) and still be labeled as one interaction. A turn was designated each time a speaker gave input into the interaction either verbally or nonverbally.

Using coding guidelines from researchers interested in classroom interactions (Brophy & Good, 1970, 2000; Wells, 1999), the following steps were taken to code transcripts. First, interactions were coded for function. Similar to the categories in the Brophy-Good Dyadic Interaction System (1970, 2000), interactions were divided into *work-related contacts*, *behavioral contacts*, *procedural contacts*, or *non-work-related contacts*. Interactions that contained more than one function were dually coded. In addition, the person who initiated the contact or volunteered to respond (for students only) was also noted.

Using Wells (1999) function codes as a guide as well as the procedures of open and axial coding (Strauss & Corbin, 1998), I then coded the turns within the

interactions. In grounded theory methodology, the process of open coding is used to identify categories from selected data sources and axial coding is used to make connection between the categories. Categories were assigned and then refined as I went through the transcripts. To establish consistency within the categories and ultimately within the larger turn codes, statements that supported each theme were grouped. After reworking the categories, another researcher familiar with qualitative methods then checked the codes and the supporting excerpts of transcription. If questions arose, codes were again refined.

The analysis of the transcripts was the first step in theory building that eventually led to the central phenomenon and supporting themes. For example, within work-related interactions, there were teacher turns that focused on providing assistance to students. I explored several pathways to make sense of this notion of providing assistance by searching the transcripts and the accompanying field notes for evidence. Could all assistance be one category? Were certain types of assistance more related to completing the task than to dealing with the content of the lesson? Was one type of teacher assistance more likely to result in learning? And finally, did students with LD differ in the types of assistance they received from the teacher and how was that related to their integration into the classroom learning environment?

*Frequency counts.* Frequency counts were established for all coding categories. Technical difficulties (i.e., failed recording of classroom observation), teacher schedules (i.e., absent, another teacher teaching, another subject being taught), and student time in class (i.e., tardy, absent, suspension) resulted in variation

in the number of hours that each classroom was observed as well as the amount of time that target students were present during observations. In order to preserve all transcribed data and still compare interactions, most data from transcriptions are reported in either percentage form or as interactions/hour.

*Analysis of interview data.* In this study, transcripts and interview data were coded separately. Because of the fast-pace and the complex nature of the classroom, Brophy and Good (2000) suggest that teachers are not always cognizant of their actions in the classroom. For this reason, it was important initially for me to analyze interview data (what teachers said) and observation data (what teachers did) separately. Therefore, during coding of interview data, I again used open and axial coding first to name categories and then to group them into larger units. As with the transcript data, measures were taken to ensure that codes were representative of the data.

*Merging the data sources.* Selective coding followed open and axial coding and was used to integrate and refine findings. During selective coding, a central category was created, what Strauss and Corbin (1998) describe as “what this research is all about” (p. 146). The central phenomenon is, in essence, the main idea of the research and serves to link the themes that have been identified throughout the study. During this stage, I used analyses from observations and interview data to make connections between teachers’ perceptions and their actions in the classroom. Additional data sources such as field notes and teacher reflections were used to confirm or refute findings as themes emerged. This discursive coding process was a

key component in addressing the complexities of teacher-student interactions and their repercussions for students with disabilities.

### ***Quality Assurance***

Measures of validity and reliability do not necessarily have equivalents in qualitative research designs (Lincoln & Guba, 1985). Lincoln and Guba used the term trustworthiness to encompass the use of procedures for data collection and analysis that are convincing enough to support the conclusions of the study.

*Credibility.* This aspect of quality assurance refers to the sufficiency of explanation for understanding the phenomena under investigation. I used several methods to establish credibility as outlined by Lincoln and Guba (1985): prolonged engagement, persistent observation, triangulation, and member checking. Prolonged engagement was used so that I had sufficient time to observe students and teachers interacting. In this way I was able to gain trust with the hope that my presence did not distort the participants' actions or restrict their voice in interviews; to attain an understanding of the inner-workings of the classrooms; and to follow-up on ideas as they emerged throughout the study. Persistent observation, or more focused inquiry, occurred during the hour-long observations in which I targeted a specific class time for each teacher and focused on individual students. Furthermore, wrap-around observations of the classrooms during other parts of the day were conducted initially and periodically throughout the study to facilitate a more complete understanding of how teachers functioned in different subject areas or with different groups of students.

Triangulation was used to corroborate findings across data sources, methods, and researchers (Miles & Huberman, 1994). Triangulation in this study was carried out through the analysis of two different data sources, teachers and students, and three types of data collection, observations, interviews, and teacher reflections. Themes that emerged were checked across data source and participant type. When differences in sources could not be explained, further analyses of data were conducted to increase understanding of the identified phenomena.

Finally, member checking was used to substantiate my interpretations of classroom events and interviews. Member checks were carried out in two parts. Ideas that were identified during observations were probed during interviews to gain a deeper understanding. This occurred in some cases for individual teachers and other times for the group of teachers. In addition, ideas that were reported in interviews or reflections were checked with participants to make sure my understanding and interpretations were accurate. By conducting thorough observations, by combining a variety of data sources, and by confirming and/or probing themes with participants, data were responsibly collected and analyzed.

*Transferability.* Transferability is the extent to which the findings in the current study can be extended to other contexts. Goetze and LeCompte (1984) suggested that the criteria for transferability can be met by thoroughly describing and defining the components of the study (e.g., population, contextual factors, units of analysis, and concepts generated). Indeed, I observed four classrooms and each was its own case. By telling the story of each classroom in addition to connecting my

findings across classrooms, the criteria of transferability was met. Future research would extend my findings by studying additional classrooms in similar ways.

*Dependability.* Dependability ensures that the process of conducting research is stable and consistent over time and across researchers. It answers the question: If the study were done again and analyzed in the same way, would the results be the same? It is generally acknowledged (e.g., Goetz & LeCompte, 1984; Lincoln & Guba, 1985; Miles & Huberman, 1994) that due to the nature of the in-depth study of unique situations, the conditions will never be “exactly” the same, and therefore it is likely that findings will not replicate easily. Lincoln and Guba (1985) suggested that meeting the criteria for credibility through thoughtfully constructed and carried out inquiry is sufficient for satisfying the terms of dependability. In addition, wherever possible, findings from my study were confirmed, extended, or questioned by using the results from previous studies in similar areas.

*Confirmability.* This aspect refers to making sure that data collection and interpretation is free from bias. This is particularly important in studies in which one researcher is primarily responsible for all aspects of the study. Brophy and Good (2000) list 17 ways in which bias or errors in classroom observations may occur. I used Brophy and Good’s list as a guide throughout my data collection and analyses and have listed the features that were the most salient in my study: (1) Initial observations or alternatively the most recent observations may cloud overall judgments; (2) logical errors may cause actions to be incorrectly interpreted (sample error: Stern treatment of students demonstrates that they are not cared for by the

teacher.); (3) use of broad categories may distort the meaning of individual actions; (4) overgeneralization of specific situations may occur when one interesting event stands out but is not representative; (5) failure to consider teachers' perspectives or to account for the context may lead to incorrect interpretation; (6) personal bias may influence both data collection and analyses; and (7) lack of consideration for the rapid pace or complexity of classroom events may lead to inaccurate data collection.

I believe that personal bias had the potential to be the most influential of the sources of error in this study and I have detailed my bias below. I have been a special education teacher and co-taught in general education classrooms. Although this "insider" position allowed me to understand many of the complexities of the conditions that I investigated, I was aware of the potential to be overly sympathetic to the students with LD. Furthermore, it was important that I consider the breadth of the job of a general education teacher and the responsibility associated with teaching a large number of students. I also tried to be mindful of not influencing my interpretations by injecting my past experiences with teachers or students into the participant classrooms in this study.

One way to avoid subjective interpretation was to be aware of potential biases. In addition, I shared my coding procedures and findings with other professionals to ensure that I had not clouded the picture as it had been observed. This was done by conducting several observations with another observer and checking reliability on the Classroom Climate Scale, on-task counts, and observation notes. Later, I shared categories and findings as they emerged and confirmed them with other researchers.

Through self-awareness and peer debriefing/auditing, I attempted to acknowledge and limit bias to meet the criteria for confirmability.



## CHAPTER FOUR: RESULTS

The following description of analyses is divided into three sections. I begin with synopses of each teacher's classroom to describe the context within which interactions occurred. Each synopsis includes a description of the teacher's background, classroom arrangement, students, and the activities and teaching. I next present the verbal exchanges that occurred in terms of general characteristics, interactions by teacher, and interactions by student group. After the description of classroom talk, I present the central phenomenon and supporting themes.

### **Classroom Synopses**

In this section I will provide a mini-portrait of each of the four classrooms with an emphasis on the teacher as the leader of the class. There are many ways to measure the complex negotiation of meaning in classrooms. By first presenting a synopsis of each classroom, I hope to set up the context within which the interactions occurred. Classroom interactions are a dance of sorts with the teacher as the leader and as the one who invites participation as well as who orchestrates the type of talk that is acceptable (e.g., recitation, discussion, students are encouraged to ask questions or must to be called on). The students, in turn, help shape what is set forth by the teacher, some being more or less proficient about the rules of discourse in a particular classroom. However, the interactions do not exist in isolation and can only be understood within the larger classroom context. For this reason I present first the mini portraits of the teachers and then a description of the talk that occurred.

Gee presents the notion of a “situation network” where language “simultaneously reflects and constructs the situation or context in which it is used” (Gee, 1999, p. 82) In the classroom, the various aspects of the situation network interact to shape not only the interactions that take place, but the doing, understanding, and culture of the individual classroom. It is through these situation networks, informed by five key areas, that we can first make meaning of the teacher and her classroom, and then use this contextual information to understand how teacher-student interactions influence students with LD. The aspects included in the situation network and which appear in my classroom descriptions are: (1) Semiotic (e.g., textbooks, language, manipulatives), (2) Activity (e.g., lessons, assignments), (3) Material (e.g., place, time, students that are present), (4) Political (e.g., distribution of power, status among teachers and students), and (5) Sociocultural (e.g., feelings, identities, knowledge of the students and of the other aspects within the situation network).

Although I have not organized my synopses in terms of Gee’s aspects, the notion of situation networks helped structure my understanding of the contextual influences in classrooms and such, they are present throughout. For example, a description of the teacher’s usual placement in her classroom undoubtedly speaks to the political aspect of the situation network (i.e., her classroom), although I do not specifically state the aspects each time they occur.

One might notice in the following descriptions, that as with many situation networks, although the particular characteristics of each classroom are those of an

individual teacher and her students, the stories are somewhat typical and not so unlike the stories of teachers that might be encountered elsewhere. In this way, situations are repeated such that they “produce and reproduce institutions and in turn are sustained by them” (Gee, 1999, p. 84). It is my hope that these descriptions and the subsequent analysis of classroom talk will help expand our understanding of what might happen in a general education classroom when students with LD are included.

Following is a description of each teacher and her classroom. The descriptions are organized in terms of (1) teacher background (includes sociocultural and political aspects), (2) classroom arrangement (includes semiotic, political aspects and sociocultural aspects), (3) activities and teaching (includes semiotic, activities, material, political, and sociocultural aspects), (4) students (includes material and sociocultural aspects), and (5) target student with LD (includes material and sociocultural aspects). The interactions that occurred in each classroom will be discussed in a subsequent section.

***Ms. White***

*Teacher background.* Ms White had been teaching fifth grade for 32 years, most of which were spent in the same classroom. She regularly stayed at work until late into the afternoon and worked closely with Ms. Berman, also a participant in this study and one of three fifth grade teachers at the school. She and Ms. Berman shared information about students and frequently engaged in planning and problem solving for both classroom and individual student problems. The two teachers rotated students so that all students in both classes went to Ms. White’s room for science and to Ms.

Berman's room for social studies. Classes were alternated such that students had science and social studies every other day. She frequently participated in workshops and programs to learn more about teaching and enthusiastically participated in this study. Her classes involved many hands-on activities and she used district and personal resources to provide materials, videos, laser disks and filmstrips to support student learning. Ms. White had a B.A. in Biological Sciences and appeared very knowledgeable about the content she taught.

Although Ms. White occasionally expressed frustration with student behavior, she truly seemed to love teaching and worked hard to help all of the students in her classroom learn. She appeared genuinely excited when a student became enthusiastic about something he or she saw under the microscope or learned from an experiment. Ms White reported that she did not make as many adaptations as she felt were necessary or that she would have liked to make. She reported that she offered tutoring for some, provided differentiated materials on occasion, and used specific questioning and reinforcement daily to assist students who needed extra help. She also found it difficult to make time to provide help to struggling students while keeping the rest of the class actively engaged.

*Classroom arrangement.* This crowded class was arranged in three desk clusters with the teachers' desk and worktable to the side of the room. There was a single student desk adjacent to the worktable that housed a student who was moved to a desk cluster for group work. Throughout my observations the single desk was where one of two resource students sat. For many activities, Ms. White moved students

around so they could share materials, see the board, the screen, or the video monitor. Ms. White often commented on the lack of space in her classroom and said that it limited her ability to pull aside small groups of students who might need extra help. As Ms. White put it, “there is no aside in this classroom.”

*Activities and teaching.* Ms. White was observed during science class because that was a time of day when all students with disabilities were present. Science occurred for one hour before lunch and 45 minutes after lunch every other day. Observations generally took place during the first portion of class. For a portion of the study, a student teacher was present in the class, passing out materials and walking around to assist students during individual and group work.

Most classes involved hands-on learning experiences during which students were responsible for their own assignments but worked in small interactive groups. Examples of lessons include making observations using microscopes or prisms, using the scientific method to work through an experiment of mixing reactants to make a new solution, and taking class notes after reading from a textbook or watching a filmstrip.

Students either used an outline provided by Ms. White to record observations, etc. or took notes from an overhead or the blackboard. All procedures were clearly articulated and students were told what they needed to do to succeed. Ms. White frequently talked about expectations before and during an assignment. Ms. White said it was difficult to get a low grade because the work was interesting to students and most completed assigned tasks during class time. All work was graded and handed

back to students. Ms White earned a mean score of 4.07, standard deviation .22, on the Classroom Climate Scale (CCS), the highest score of the four teachers in the study. The Classroom Climate Scale rates teachers and their response to the entire class (using a 1 – 5 Likert scale) on areas such as redirecting off-task behavior, the appropriateness of the lesson and the student engagement. The Classroom Climate Scale is described in more detail in the Method chapter. See Table 2 for a summary of classroom climate scores.

**Table 2: Classroom Climate Scale Scores (CCS) and Engagement for All Observations**

Observations	CCS	Engagement <sup>a</sup>
White	4.07 (.22)	3.78 (.67)
Berman	3.97 (.33)	3.63 (.52)
Raymond	3.35 (.27)	3.70 (.48)
Franklin	3.21 (.32)	2.90 (.88)

Note. Cell entries represent means and (standard deviations).

<sup>a</sup>Engagement was measured from one item on the CCS.

Lessons were interesting and appropriate, but students often went in and out of on-task behavior, perhaps because of the excitement of activities and/or the close proximity to other students in the classroom. Students were brought back from off-task behavior frequently by Ms. White’s call to attention or checks on student work. The students in Ms. White’s class seemed to look to her to remind them to stay on

task and perhaps because of her management style, did not seem to have internalized self-monitoring strategies. However, misbehaviors were mild and most often involved talking to neighbors for a bit or playing with materials. Ms. White was a positive teacher and let students know that she was monitoring learning. She frequently whispered behavior corrections individually to students with an arm on their back or shoulder. This classroom had the highest score for overall student engagement (3.78; see Table 2).

*Students.* Ms. White had 29 students in her classroom, five of whom had a special education label and received resource room services. Fifteen students were Caucasian, eight Hispanic, five African American, and one designated as another ethnicity. See Table 4 for teacher and classroom characteristics. According to Ms. White, her class was a fairly typical fifth grade class with students who were struggling academically as well as a few who were well above grade level. She felt that “as a group, they are not particularly motivated. I would say that this is a very social group. They’re quite difficult to keep on task for any period of time, um they’re not bad children, but they’re just very much into visiting and are easily distracted.”

**Table 3: Teacher and Student Demographics**

Teacher	White	Berman	Raymond	Franklin
Class Size	29	27	26	26
Student Ethnicity				
White	15	12	1	1
African American	5	5	4	0
Hispanic	8	9	20	25
Other	1	1	1	0
Students with Learning Disabilities	5	4	4	4
Number of Years Teaching	32	17	5	2
Areas of Teaching Certification	Elem	Elem, PE	Elem, English 7 & 8	Elem
Education	BS-Biological Sciences	BA-PE	BA-English	BA-Spanish, English

*Target student with LD.* When asked to describe Kevin Ms. White mentioned the lack of support from home and his poor motivation. She stated:

We have frequently commented - his other teachers, the counselor and I - that we just can't find the key to turn him on. So he is a frustrating student to work with. We've had him in tutorial, we've had him work with other people. This is not a new situation as far as him struggling. He is very capable. He can do the work.

She reported that he struggled in the special education classroom as well and received mostly Cs and C-s on his report card. She was not sure of his reading level, but guessed it was probably at the low fourth grade level. Kevin went to the special education classroom for 1 hour and 30 minutes for language arts and was in her class



for math. According to Ms. White, Kevin's greatest problems were his low motivation, lack of responsibility off-task behavior, and low reading ability. When asked what would help him to be more successful in her science class, Ms. White said, "I don't know. I've been trying lots of things." My impression was that Ms. White knew Kevin very well, had consulted with other teachers regarding his performance, and was indeed trying to help him succeed in her class.

***Ms. Berman***

*Teaching background.* Ms. Berman had been teaching 17 years and occupied the class adjacent to Ms. White. As stated earlier, the two teachers worked closely together and Ms. Berman taught the social studies portion of the rotation. Ms. Berman reported that she enjoyed teaching the students with greater academic need and when classes were divided by ability she preferred to work with the lowest group. Ms. Berman also reported that she made adaptations for the whole class and that in general, she did not believe in differentiating instruction although there were cases when she would. When discussing a student with learning disabilities who read at the first grade level, she stated, "I just take whatever she turns in cause she's willing to try...Because she's not going to understand no matter what we do." Rather than adapting lessons, Ms. Berman seemed to prefer providing assistance during the lesson, sending students who needed extra help to the Content Mastery room (during certain times of the day a general education teacher could send a limited number of students with special needs to get assistance), or providing tutoring after school.

*Classroom arrangement.* Desks were clustered with several groups of four and also two long sets of desks facing each other on either end of the classroom. Ms. Berman's desk was off to the side of the room with a large worktable adjacent to it. Occasionally Ms. Berman would sit at the worktable and call students up or hand out materials but most of the time she was in the front of the class or circulating among groups.

*Activities and teaching.* Social studies occurred for one hour before and 45 minutes after lunch. Observations were generally conducted in the first part of the class. A student teacher was in this class for a portion of the study but she sat at a desk grading papers or preparing lessons and was rarely involved in classroom activities. Occasionally a student would ask her a question or show work to her, at which time she would interact with them briefly.

Ms. Berman's class was very structured and lessons generally alternated between whole class introductions or discussions and small group work, often several times during one period. Students worked through the text, studied using text study guides and took chapter quizzes and tests. Although lessons were focused on the social studies curriculum and followed the structure of the textbook, she varied the assignments and closely monitored student work. An example of a lesson is to give the students a practice quiz on the textbook chapter, discuss the answers as a class, and then to do a pair activity where students who did well on the practice quiz studied with those who did not do as well. After the partner activity she would bring the class together to review what they had studied. Her lessons could be characterized as

interesting in a “by the book” sort of way. Expectations were clear and students were aware of them.

Student engagement in her classroom was generally high (see Table 2), although there was usually negotiation of roles and some visiting during small group work. Ms. Berman worked to involve students both during whole class discussions and during small group work, spending time with groups to remind students to participate and to work together and for the most part, they did. Although Ms. Berman could be stern with the students she showed that she wanted to help them learn and provided a structured environment in which they could do so. Ms. Berman had an average Classroom Climate Scale score of 3.97 (see Table 2), demonstrating that she consistently held a high standard for learning in her classroom and worked hard to help students achieve.

*Students.* Ms. Berman had 27 students in her class, five of whom had a special education label. Four left the room for language arts and/or math resource help. Twelve students were Caucasian, nine Hispanic, five African American, and one student was reported as having another ethnicity. Ms. Berman reported that her class was an “...extremely talkative group. Sometimes I feel like I’m teaching to a rock wall, nobody’s listening to me. Very frustrating.” She also noted that students were continually moving in and out of the school. Ms. Berman reported the constant movement along with the large class size disrupted her ability to get to know her students on a personal level.

*Target student with LD.* In her initial interview, Ms. Berman described Brittany as a student who did pretty well in class and would probably be exited from special education services soon. She stated that she did not see her a lot and when deciding which student with LD to select for the study she said, “Let me go with Brittany simply because it would be a chance to get to know her better.” Brittany spent 1 hour and 30 minutes in the special education classroom for language arts and was in an inclusion math class with Ms. Berman and the special education teacher. Ms. Berman noted that Brittany was very friendly but never asked questions during class. She got As and Bs in the special education classroom and Cs in her social studies class. In terms of weaknesses, Ms. Berman noted, “She seems to be in school more for the socializing than the academics so she, I really haven’t found a motivation point for her.” Ms. Berman reported and I observed that Brittany did “not do class work or homework without a lot of prompting.” Throughout the study, Ms. Berman spent a lot of time assisting Brittany with academic tasks and attending to off-task behavior. Brittany also requested help and asked questions frequently during my observations. Ms. Berman was ultimately disappointed in Brittany’s performance and seemed to refine her assessment of Brittany’s ability and functioning in the general education class. For example, at the end of the study there was no mention of exiting Brittany from special education services.

***Ms. Raymond***

*Teaching background.* Ms. Raymond had been teaching for five years. She discussed Bloom’s Taxonomy and Gardner’s Intelligences when talking about the

decisions she made in her classroom and spoke frequently of the individual help she gave so that all students could succeed in her class. She reported that she frequently drove students home after school and attended their extra curricular events. She was in contact with parents whenever possible and was familiar with her students' siblings. She felt that her greatest challenge in teaching this year was "when students don't meet my high expectations because they are not used to being challenged." She reported making adaptations for students with special needs by grading based on effort and not "holding them to the same rigorous criteria and timetable," and by giving the same assignment but modifying the length or complexity.

*Classroom arrangement.* The area of the school in which Ms. Raymond taught had "open classrooms" with two regular walls and a partial wall dividing her classroom from the hallway and a second partial wall adjoining another classroom. Directly across the hallway was the special education resource room. Because of the room placement, there was often a great deal of noise from the other classroom and the students with disabilities moved somewhat freely between the resource classroom and Ms. Raymond's room. Desks were arranged in a large circle around the classroom with an opening at the front of the room where Ms. Raymond usually stood. In the middle of the circle were four student desks that Ms. Raymond used for students she wanted to focus on. On most occasions, an intern from a nearby university was in class. However, the intern usually worked independently at a computer or prepared materials for the teacher. She was never observed working with students.

*Activities and teaching.* Ms. Raymond was observed first during the social studies/science time and after the schedule change (described in more detail in the Method chapter) during a homeroom period. Social studies/science activities were either individual or small group activities although all observations included a large group discussion period lasting 10 to 30 minutes. Activities during home room included a math “problem of the day” with discussion and any of a variety of activities including a teacher read aloud, test reviews, and class announcements.

From my observations, Ms. Raymond preferred a teacher-centered classroom in which she was in control at all times. She often spoke of *her* classroom, doing things for *her*, and what was or was not acceptable in *her* room. Many of the lessons involved Ms. Raymond standing at the front of the class lecturing and asking questions to specific students with the expectation of very specific answers. However, on occasion she allowed students to discuss ideas more deeply. There was a core group of four or five students who often dominated these discussions, although Ms. Raymond would occasionally ask additional students to state their opinions. Students with the wrong answer or those who Ms. Raymond deemed as not paying attention were often berated in front of the class and in most of my observations, time was spent admonishing the entire class for not working hard enough, finishing in time, or generally not doing what was asked of them.

Nevertheless, Ms. Raymond’s lessons usually contained effective teaching strategies such as activating prior knowledge, making connections to the real world, monitoring task difficulty and explaining in a variety of ways to help students

understand the material. During small group work, Ms. Raymond varied between checking in on groups and attending to other matters such as having a private conference with a student outside the room or speaking with a parent or the special education teacher. During that time, students might become off-task, Ms. Raymond would reprimand, and order would once again be restored. Ms. Raymond had a mean Classroom Climate Scale score of 3.35 (see Table 2). She was successful at keeping her class on task with a mean engagement rating of 3.70 (see Table 2).

*Students.* There were 26 students in Ms. Raymond's class, 20 Hispanic, four African American, one Caucasian and one Asian student. There were four students with learning disabilities who left the room for reading and/or math special education resource services and eight ESL students. Ms. Raymond reported that academically, her class was just below an average fifth grade class, "They aren't dynamic academically but they are dynamic character-wise and I would take character any day." She also stated that there were a lot of "tragedies" in her class, including family deaths and poverty. She reported having a good rapport with her students and felt that they were "positive and pleasant with each other."

*Target student with LD.* Ms. Raymond first described that Tony was often off-task during small group work, particularly during literature circles (a time when student groups read and discussed a novel together). She noted that perhaps the reading level, described by her as first or low second grade level, was too difficult and planned to discuss the issue with the special education teacher. She reported that "when it is a lesson and he is sitting at his seat he can stay focused." She described

him as a student who was determined to succeed, never gave up, and put forth a lot of effort in school. She reported that she sometimes attended his after school basketball games. Tony was in the general education class for homeroom, social studies/science, and literature circles for approximately two to two hours and thirty minutes each day. After the schedule change, Tony was with Ms. Raymond only for homeroom and literature circles. As the study progressed Ms. Raymond became less specific, yet perhaps more realistic, about her knowledge of Tony's performance and attempts to assist him, citing that she did not have "the opportunity to keep a consistent check on him." My impression is that Ms. Raymond was usually not focused on Tony during class time. Other than redirecting off-task behavior, she only occasionally assisted him with academic tasks and she appeared not to keep track of when he was with the class and when he was not. For example, on two occasions she asked him a question in front of the class from material that was covered when he was *not* in class.

***Ms. Franklin***

*Teaching background.* Ms. Franklin was in her second year of teaching at the time of data collection. She was young and new to teaching, but communicated a concern for her students. Eisenhower Elementary had a high percentage of ESL students. Ms Franklin had majored in English and Spanish for her undergraduate degree and was currently working on a Master's degree in ESL. She valued a sense of community in her classroom and explained the time she took to foster community among her students. She appeared fair and friendly with her students. During an interview with a student in her class who was asked if Ms. Franklin had ever done



anything special to help him learn, he reported that she would not do that because she was very fair and treated all the kids the same. This was typical of responses from other students in her class. Ms. Franklin reported that she adapted lessons for two of her students with LD by giving them extra time and individual attention.

*Classroom arrangement.* Ms. Franklin kept the overhead fluorescent lights off so that her class was dimly lit by a few lamps and a long string of Christmas lights. Students sat at circular tables and Ms. Francis stood either at the front of the class, sat at her desk, or circulated among the tables. During group work students spread out at tables, on the floor or in the hallway. This arrangement added to the relaxed environment of the classroom but may have also compromised Ms. Franklin's proximity to her students and her ability to monitor student work. Ms. Franklin had an intern from a local university who assisted students during group work and at other times helped the teacher with administrative tasks.

*Activities and teaching.* Ms. Franklin was observed first during social studies/Science (although all but one lesson was social studies) and after the schedule change, during homeroom. Social studies often involved small group work with students reporting back to the class as a group. During a typical social studies lesson, student groups of four or five were responsible for reading a short section from the text book, drawing a picture of the main idea on chart paper, and then reporting back to the class. Although Ms. Franklin asked all students to speak during the reporting period, it was common for only one or two members of a group to participate. Although she would probe the others, they would not respond and she would not hold

them accountable. Ms. Franklin typically did not give much feedback to students during presentation or sharing times.

During Homeroom, Ms. Francis began with a circle sharing time where students were given one minute to share. She would also share a personal story and relate it to social skills (e.g., making decisions or handling frustration). Again, feedback to students was minimal. She never raised her voice and although her students responded readily to her requests, she only occasionally redirected off-task behavior. Engagement, therefore, was fairly low with a mean of 2.90, the lowest of the four classrooms (see Table 2). It was not uncommon for students to visit for five or even ten minutes into the work time before getting started. During the math warm-up in homeroom, Ms. Franklin did not collect or keep a record of student work and often left only one or two minutes to go over the math problems. Several times the problems were too difficult to solve and most students either had the incorrect answer or did not solve the problems at all. In addition, Ms. Franklin was commonly interrupted by other teachers, the counselor, or parent phone calls. The standards of performance and accountability were not as high as in the other classrooms and students seemed to do just enough work to get by, with the low achieving and students with disabilities doing even less. Ms. Franklin's mean Classroom Climate Scale score was 3.21 (see Table 2), also the lowest of the four teachers. The students in Ms. Franklin's class were comfortable and respectful both with each other and with their teacher, but there appeared to be many missed opportunities for learning in this relatively inexperienced teacher's classroom.

*Students.* There were 26 students in Ms. Franklin's class, 25 Hispanic and one African-American. Four students had disabilities and three were designated ESL. Ms. Franklin reported that she had a very understanding group of students who were highly motivated.

*Target student with LD.* When first asked about Ronald, Ms. Franklin made several comments about his lack of regard for school and schoolwork. She felt that he generally did not like the work and did not care how well he did as long as he did not fail. She was not sure of his reading level but thought it was probably at the second grade level. He received 2 hours and 30 minutes of special education instruction for language arts and math. He was with Ms. Franklin for homeroom, social studies/science, and literature circles and after the schedule change only for homeroom and literature circles. The only academic strength she reported was his ability to understand and make connections. He had begun the year mainstreamed for all subjects but had slowly been pulled for more and more special education help when he did not perform in the general education classroom. Ms. Franklin did not seem to know what to do to motivate Ronald and seemed somewhat intimidated by him in terms of confronting him about his performance. During the study, Ms. Franklin implemented a behavior tracking system with Ronald but did not try additional ways of assisting him. She appeared to lack responsibility for Ronald's academic performance in class.

### *A Note on School Differences*

There are several notable differences between the classrooms I observed in the two schools. First, the teachers at Carson Elementary were very experienced. Ms. White had taught for 32 years and Ms. Berman for 17. At Eisenhower Elementary Ms. Raymond had taught five years and Ms. Franklin for two. Eisenhower Elementary School had a higher rate of economically disadvantaged students than did Carson (89% and 48% respectively), and a higher number of students qualifying as Limited English Proficient. Additional demographic characteristics for the two schools are described in the Method chapter.

At Carson Elementary, every observation for each teacher was in her content area subject. Although there were some disruptions, they were usually arranged in advance (e.g., the counselor came to each class one time per month, visiting speakers) and so both teachers and students knew what to expect. At Eisenhower Elementary (Ms. Raymond and Ms. Franklin), the schedule seemed to be continually in flux. The teachers alternated between social studies and science within their classrooms. Sometimes, a social studies unit would last several weeks and there would be no science. Other times subjects would alternate daily. There were also many disruptions to the teaching schedule (e.g., for assemblies, special programs), particularly in Ms. Raymond's room, such that social studies might be 30 minutes instead of 1 hour or cancelled altogether and replaced by language arts. This provided a difficult situation for the students with disabilities because they might find themselves in the middle of a language arts lesson when they would usually be in the resource room. The students

seemed used to these disruptions and took the cue from the teacher in terms of what they would be doing each day. There were also more disruptions during class (e.g., other teachers coming in, phone calls from the office or from parents). Finally, as discussed in more detail in the Method chapter, in the middle of the study, a change was made to departmentalize. In order to observe at a time when students with LD were present in the classroom, observations were switched to a homeroom lesson that involved a math warm up and a variety of other activities including sharing books, read aloud, announcements, homework check, lesson reviews, and circle time. Although there is no measure for the influence of schedule or lesson disturbances, one can assume that the disruption to the continuity of classrooms had the potential to influence learning.

### ***Section Summary***

One of the values of prolonged engagement in qualitative research is spending enough time with subjects to really “get to know” the environment. Each teacher had a unique philosophy, teaching style, as well as a classroom of students who had both group and individual characteristics that likely effected the learning culture. The above descriptions of four fifth-grade general education classrooms are intended to provide a background from which we can begin to understand the decisions that these teachers made about working with students with learning disabilities.

In his discussion of the teacher-child relationship, Pianta (1999, 2003) states that in order to understand the relationship between the student and teacher and how it influences an individual’s learning experience one must have an in-depth

understanding of the teacher in order to accurately describe her behavior during the moment-by-moment interactions that occur daily. With the background from these synopses, I now move to a description of the talk that occurred in the classrooms, in terms of general characteristics, individual teachers, and by student groups.

### **General Characteristics of Classroom Interactions**

In this section I describe general characteristics of classroom talk in terms of the interaction patterns that occurred. The teachers in this study met minimum criteria of teaching proficiency and were selected by their school principals as being proficient at working with students with special needs. In general, they were considered by their principals to be “very good” teachers. However, given the research on classroom talk (e.g., Cazden, 1988), it is not surprising that these “very good” teachers most frequently followed the familiar pattern of Initiation-Response-Evaluation (IRE; Mehan, 1979). The IRE pattern was predominant in whole class, small group, and one-to-one interactions. To a much lesser extent, I observed narrative discourse patterns (Hicks, 1996) that would occur, for example, in a circle-time sharing where students were given more time for an individual contribution and where a response by the teacher was not immediately expected. There were a limited number of occasions in which talk followed a discussion pattern wherein a student turn did not go directly back to the teacher and these occurred almost exclusively in small group situations.

I was interested specifically in the interactions that took place between teachers and their three target students (learning disabled - LD, low achieving - LA,

and average achieving -AA). Therefore, while the lessons were observed in their entirety, the focus of data analysis was the interactions between the teacher and the target students as they occurred in front of the whole class, as part of a small group, or individually. Unless otherwise noted, descriptions include only interactions between teachers and target students

In order to describe the interactions by teacher, it is necessary to first describe the broad categories in which interactions were delineated. Each interaction was assigned a function category to capture the meaning of the interaction as a whole. This portion of the analysis did not focus specifically on the micro-meaning of each word or utterance, but rather on the general meaning of the speaker's words. Similar to the categories in the Brophy-Good Dyadic Interaction System (1970, 2000), function could be divided into four categories: work-related (WR), procedural (P), behavioral (B), and non-work-related (NWR). Because interactions consist of a series of utterances, an interaction can contain more than one function. For example, a teacher might approach a student who was not on-task to give a directive (function = B), but then assist her in completing the assignment (function = W). In this case the interaction would be dually coded with behavioral and work-related functions. Following is a description of each function category and an example for each (see Table 4 for transcription conventions).

**Table 4: Transcription Conventions**

Action	Description
Simultaneous Speech	When two people speak at once, a double slash (“//”) encloses the part of speech that is overlapping.
Interruptions	A double slash at the end of one speaker’s turn and at the beginning of the next speaker’s turn indicates an interruption.
Long pause	Three periods enclosed in parentheses indicate a hearable pause (“(...”).
Inaudible speech	Speech that could not be heard is noted with three asterisks (“***”).
Omitted conversation	Three periods indicates that a portion of the transcript has been omitted (“...”).
Explanatory comments	Words enclosed in brackets (“[ ]”) indicate an explanation of the transcription.

A work-related (WR) utterance involved talk that was related to learning either through the negotiation of understanding of the material to be learned or the negotiation of a task (i.e, how to complete a task). The work-related function represented the highest level of interaction, or the interaction type most likely to result in student learning. As expected, there was great variation among the WR interactions. Many were quick exchanges where the teacher or student were checking in to see if work was correct while others were more in depth conversations regarding concepts or problem-solving strategies. Interactions were not always successful. Occasionally the teacher or student ended the interaction without an indication of



understanding. First, WR interactions ranged in quality from simple task related exchanges to higher level discussions about content that would be associated with new learning about the content being taught. While all WR interactions had the potential to increase learning, the outcome varied depending on the content of the interaction and the how meaning was negotiated by the learner and teacher during the interaction, with input at times from other students involved in the interaction.

WR example: During a science class on observation, the following excerpt was part of a whole class discussion that followed individual work with magnifying lenses.

Ms. White: Okay, who can tell me what they wrote about observations?

Jennie: [raises hand]

Ms. White: Okay Jennie.

Jennie: [reads her paper to class] ‘I saw different things. Smaller things. Just observing with a magnifying glass. There are things I did not see before and there are different characteristics like touching a snail. And you don’t do that with your eyes. You do that with your hands.’

Ms. White: Okay, different characteristics. When you are observing you are going to see more characteristics aren’t you?

In the above example, the student and teacher were sharing an understanding about what was to be expected from the teacher’s question and how the student was supposed to present an answer. The teacher reformulated the student’s response for

the class signaling to both the student and the teacher that the response was correct and valued by the teacher.

The second type of utterance, procedural (P), involved bringing the student to the task but did not yet involve any work-related talk. The teacher was directing a student to open to a certain page in the textbook or to move locations to see the board or a student was requesting a pencil. Although P interactions were often similar to behavioral interactions, the teacher had not deemed the behavior as inappropriate, but instead was assisting the student in *coming to the task*. The following example was representative of P utterances.

P example: The teacher was beginning a note taking sequence in a science class. She had asked students to take out their note sheets from the previous days' lesson.

Ms. White: Kevin if you don't have this paper from the other day, take out a new sheet please.

Std: What's that paper?

Ms. White: 'Microworld lesson notes.' So let's have you put this away for now [pointing to student notebook].

Kevin: But I need one more paper [takes out a blank sheet of paper].

Ms. White: [nods and walks away]

The teacher took time to check to see if this student had the appropriate materials and followed through to make sure that he was prepared to begin the lesson with the rest of the class. Procedural interactions appeared to be effective particularly

at the beginning of the lesson to include students who might otherwise become off-task.

Behavioral utterances involved the teacher attending to student behavior, most often by redirecting the student back to the task. All behavioral utterances were initiated by the teacher and most did not require a response from the student other than to do what the teacher had requested.

Example: Ms. Franklin had just assigned groups and given directions for an assignment in social studies. Julia (AA) was sitting at her table and had not yet gotten up to join her group.

Ms. Franklin: Julia go move your clip [behavior management system] and then go work with your group.

Julia: [goes to move clip and then joins group]

The teachers called attention to the negative behavior by implementing the class-wide behavior management system. A verbal response was not necessary but the student demonstrated cooperation by doing what was requested of her by the teacher.

Interactions that were not related to the lesson of the day were termed non-work related (NWR). Typically teacher initiated interactions involved a teacher asking a student who had finished her work to run an errand. Examples of student initiated NWR interactions included asking the teacher nonsequitor questions during a lesson or requesting permission to call home for a forgotten lunch.

NWR example: The class was working on science fair projects and Jeremy (AA) had finished his.

Ms. Raymond: Jeremy do you know where the workroom is?

Jeremy: [looks at teacher]

Ms. Raymond: Okay, Jeremy [shows him a school map] we are right here. Go back down the hallway past Ms. F's door. Mrs. O is in there and she's cutting out hearts for us. Ask her for some white paper.

Jeremy: [nods and leaves room]

In all, 314 interactions for the four teachers and their target students were transcribed in 39 lessons. Table 5 presents the number and length of target observations (observations during the designated content area) for each teacher. Table 6 presents the total class time for each student and interaction frequency by function. As expected, due to differences among both teachers and students, there was variation in teacher-student interactions for the 12 target students. Overall fifty-seven percent of interactions involved utterances that were work-related (179), 22% behavioral (69), 21% procedural (65) and 6% non-work-related (19). Because 6% (19) of interactions involved more than one function category, the percentage and number of interactions for each category do not equal the total number of interactions.

**Table 5: Number and Length of Observations by Teacher**

Teacher	Number of focus observations	Observed class time in hours	Average observation time in hours
White	9	7.92	.81
Berman	6 <sup>a</sup>	4.38	.80
Raymond	10	7.88	.79
Franklin	10 <sup>b</sup>	7.32	.73

<sup>a</sup>There were 8 target observations but the recording device failed on two occasions in this classroom.

<sup>b</sup>There were 11 target observations and two failed recordings.

**Table 6: Class Time and Frequency of Interaction Functions**

Student	Class Time	WR	B	P	NWR	Total <sup>a</sup>	Combined
White							
Kevin (LD)	6.95	19	11	21	1	49	4
Alex (LA)	7.92	17	13	8	1	39	0
Jennie (AA)	5.95	22	5	2	0	29	0
Berman							
Brittany (LD)	4.38	25	8	2	0	32	6
William (LA)	4.38	11	2	3	1	17	0
Lily (AA)	3.52	5	2	2	0	8	1
Raymond							
Tony (LD)	7.88	15	10	4	4	30	3
Xavier (LA)	6.42	13	5	3	2	21	2
Jeremy (AA)	7.88	13	3	2	6	22	2
Franklin							
Ronald (LD)	5.28	13	7	6	1	28	0
Evan (LA)	7.32	14	3	10	0	26	1
Julia (AA)	6.63	8	1	2	3	14	0

<sup>a</sup>Interactions do not sum to total when interactions contain more than one function. Combined interactions are noted in 'Combination' column.

### ***Section Summary***

The teachers and students that I observed were engaged most often in traditional IRE discourse patterns. Similar to the Brophy-Good Dyadic Interaction System (1970, 2000), I assigned each interaction one or more of four function categories to describe the nature of the talk that occurred. The function categories were work-related (WR), procedural (P), behavioral (B), and non-work-related (NWR). In the next section I describe similarities and variation in interactions in the four classrooms I observed. I then describe in more detail how the function categories varied by student group, with a particular emphasis on interactions that are related to classroom work (i.e., work-related interactions).

### **Interactions in Individual Classrooms**

While teacher talk varied depending on the activities of the day and students reaction to those activities, teachers had their own style and patterns of discourse that became characteristic of their classroom. Following are descriptions of interactions by teacher.

#### ***Ms. White***

As stated earlier, Ms. White taught a hands-on science class and was able to orchestrate several activities in one class (e.g., class review, filmstrip, hands-on experiment, and then a class discussion). Students were often called on by Ms. White to share answers or to read out loud. Ms. White had the highest number of interactions per hour (5.62). Table 7 presents the interactions per hour for teachers

and target students. Ms. White also had the highest number of procedural and behavioral interactions per hour for LD and LA students. However, because of the high number of interactions overall for each target student, she still had a high rate of work-related interactions.

Not surprisingly, one of the results of the emphasis on behavioral and procedural interactions for students with LD and LA students was that Ms. White had a high percentage of teacher initiated comments (80% - LD, 87% - LA, 45% - AA). Table 8 presents the percentages of teacher initiations and student initiated and volunteered responses. The high number of teacher initiations gives a feel for just how much talking was being initiated by the teacher and indeed Ms. White did a lot of the talking in class. However, it is perhaps also useful to isolate interactions that were specifically work-related in order to gauge student participation during learning activities. While student initiations (SI) are important, another form of student initiated participation occurred in which students did not initiate the interaction, but volunteered a response to a teacher-initiated question (SV). For example, in a social studies lesson during a whole class review the teacher asked, "What document was a written request for peace?" In this type of verbal exchange the teacher was asking for a student volunteer. Students raised their hands, the teacher called on someone and then that person attempted a response. A student needed to be recognized by the teacher in order to give an answer, so in that way, the teacher still controlled the interaction, but for the purpose of measuring student participation, I have counted all attempts to volunteer a response as SV.

When student SI and SV are counted during WR interactions, the percentage of student participation is higher for Ronald (LD). That is, while only 20% of all of the classroom interactions between Ronald and Ms. White are initiated by him, during work-related interactions, 37% are SI and when SV interactions are included the number goes up to 47%. In other words, in conversations that involved learning, Ronald initiated almost half of the interactions between he and Ms. White. Most often, SI and SV opportunities in Ms. White's class were to volunteer to answer a question in front of the class or for students to ask for help while they worked on assignments. However, because she made a point of monitoring the work of her students, particularly those who were low performing, students did not need to initiate questions to receive help. Therefore, even when students did not initiate participation, she engaged them by calling their attention to the task or checking on their progress. As was the case with Alex (LA), although he had a very low rate of SI and SV, he still had quite a bit of contact with Ms. White (4.92 interactions per hour). In this way, although the majority of the students in Ms. White's class appeared comfortable asking and responding to questions and wrong answers were readily accepted, she maintained a high initiation rate with her LA and LD students relative to Ms. Berman and Ms. Franklin. Teacher initiations in her class were similar to those in Ms. Raymond's class, but as described later, the interaction pattern was quite different in the two classrooms.

Because small group work was not as common in Ms. White's class (although students were encouraged to – and did - work together during individual



assignments), most interactions occurred either during whole group discussions or one-to-one (see Table 9).

**Table 7: Interaction Functions per Hour of Class Time**

Student	Interactions per hour	WR per hour	B per hour	P per hour	NWR per hour
White -Mean	5.62	2.79	1.39	1.49	0.19
Kevin (LD)	7.05	2.73	1.58	3.02	0.14
Alex (LA)	4.92	2.15	1.64	1.01	0.13
Jennie (AA)	4.87	3.70	0.84	0.34	0
Berman - Mean	4.64	3.34	0.90	0.57	0.16
Brittany (LD)	7.31	5.71	1.60	0.46	0
William (LA)	3.88	2.51	0.46	0.68	0.23
Lily (AA)	2.27	1.42	0.57	0.57	0
Raymond – Mean	3.29	1.85	0.81	0.41	0.54
Tony (LD)	3.81	1.90	1.27	0.51	0.51
Xavier (LA)	3.27	2.02	0.78	0.47	0.31
Jeremy (AA)	2.79	1.65	0.38	0.25	0.76
Franklin – Mean	3.48	1.82	0.57	0.94	0.42
Ronald (LD)	5.11	2.46	1.33	1.14	0.19
Evan (LA)	3.55	1.91	0.41	1.37	0
Julia (AA)	2.11	1.21	0.15	0.30	0.45

***Ms. Berman***

Ms. Berman had an average of 4.64 interactions per hour and high rates of interaction for her LD and LA students (see Table 8). Similar to Ms. White, Ms. Berman began talking when class began and moved through several activities during each class session. The appearance was of a class where much talking occurred both between teacher and student and among students during small group work. Although

**Table 8: Teacher Initiations, Student Initiations, and Student Volunteered Responses for All Interactions and WR Interactions**

Student	TI <sup>a</sup> (all)	SI <sup>b</sup> (all)	TI (WR)	SI (WR)	SV <sup>c</sup> (WR)	SI + SV (WR)
White						
Kevin (LD)	.80	.20	.63	.37	.11	.48
Alex (LA)	.87	.13	.94	.06	.12	.18
Jennie (AA)	.45	.55	.38	.62	.19	.81
Berman						
Brittany (LD)	.47	.53	.52	.48	.15	.63
William (LA)	.88	.12	.73	.27	.36	.64
Lily (AA)	.50	.50	.40	.60	.20	.80
Raymond						
Tony (LD)	.80	.20	.79	.21	.07	.28
Xavier (LA)	.81	.19	.77	.23	.23	.46
Jeremy (AA)	.77	.23	.92	.08	.39	.47
Franklin						
Ronald (LD)	.81	.19	.77	.23	.31	.54
Evan (LA)	.42	.58	.43	.57	.14	.71
Julia (AA)	.43	.57	.75	.25	.50	.75

Note. Cell entries represent proportions

<sup>a</sup>TI = teacher initiated interactions

<sup>b</sup>SI = student initiated interactions

<sup>c</sup>SV = student volunteered responses

**Table 10: Interactions by Group Size**

Student	% Whole Class	% Small Group	% One-to-One
White			
Kevin (LD)	38	6	55
Alex (LA)	56	18	26
Jennie (AA)	76	3	21
Berman			
Brittany (LD)	34	31	31
William (LA)	39	22	39
Lily (AA)	38	38	25
Raymond			
Tony (LD)	67	31	31
Xavier (LA)	71	22	39
Jeremy (AA)	73	38	25
Franklin			
Ronald (LD)	18	25	57
Evan (LA)	19	15	65
Julia (AA)	21	50	29

many interactions were driven by teacher initiated questions, students appeared eager to volunteer responses. Overall, the three target students had a high rate of SI and SV combined (LD - 63%, LA - 64%, and AA - 80%) during work-related interactions (see Table 8). Brittany (LD) had a high number of SI interactions, facilitated both by her personality in the classroom (this student was talkative and eager to participate) as well as by Ms. Berman's frequent monitoring. Ms. Berman often stood close to her desk and came by her table frequently during small group work giving Brittany the opportunity to easily initiate questions in a small group or in a one-to-one setting. In addition, although Ms. Berman often redirected Brittany's behavior, she usually

attended first to behavior and then attempted to give assistance with the lesson, a pattern she maintained for the three target students. Interactions were evenly distributed between whole class, small group and one-to-one, as were the classroom activities (see Table 9).

***Ms. Raymond***

Ms. Raymond had the lowest average number of interactions per hour (3.29) and the lowest number of WR interactions per hour for her student with LD and her LA student (see Table 7). Similar to Ms. White's classroom, Ms. Raymond also had a high rate of teacher initiations (see Table 8) for all three student groups. However, the teacher-student talk in Ms. Raymond's room was surrounded by a great deal of teacher talk in which Ms. Raymond would give mini (and at times lengthy) behavioral lectures that significantly changed the tone of the class when students were asked to participate. The majority of interactions occurred in front of the whole class with Tony (LD) having slightly more one-to-one interactions than the other target students (see Table 9). Ms. Raymond most commonly nominated students during whole class discussions by posing a question with an individual student's name at the end. For example, "What happens if you miss two questions Xavier?" Answer: "You fail." However there were also times when she solicited student questions and opinions such as during a book talk where students were invited to give an informal review of a book they were currently reading. My impression is that students needed to be very alert so that they would know when and how to interact in Ms. Raymond's room.

### ***Ms. Franklin***

Ms. Franklin was soft-spoken and in fact, did not always talk very much during class. She had a low rate of interactions in all functions with the three student types (see Table 7). The slightly higher rate of procedural interactions was a result of an intervention that Ms. Franklin tried with Ronald (LD) and Evan (LA) and most of those took place during a single lesson. Interactions occurred most often when students who had questions or wanted to show work approached and she usually had a small group of students waiting to see her during class (see Table 8). It was common to see the same students gathered around Ms. Franklin across observations. Ms. Franklin had the highest percentage of student initiated responses as well as relatively high SI and SV interactions that were WR (LD – 54%, LA – 71%, and AA 75. %). Ms. Franklin often engaged in one-to-one interactions with Ronald (LD) and Evan (LA), which were usually quick attempts to redirect behavior or check understanding (see Table 9). Despite the high student participation, on many occasions interactions with students were not completed such that Ms. Franklin would move on without a question or problem being resolved. This occurred for both interactions that she initiated and those initiated by students. Although not coded, work related and casual talk among students during activities seemed to be accepted as long as students met minimum criteria for completing assignments.

### ***Section Summary***

Each teacher had her own style of interacting with students that stemmed from the interconnected aspects that made up the situation network of her classroom. While

Ms. White and Ms. Berman talked a lot during class, interacted frequently with students, and moved through many activities during each lesson, Ms. White had a high percentage of teacher initiations while Ms. Berman provided more opportunities for students to initiate questions or volunteer responses. Ms. Raymond spent a larger proportion of class time engaged in recitation and initiated most of the interactions with students. Ms. Franklin preferred a quiet classroom and relied mostly on students to initiate interactions. Nevertheless, regardless of a teacher's preferred pattern of discourse, individual students also influenced the verbal exchanges such that some students were very comfortable participating and others were not. Although teachers were able to orchestrate the type and amount of interactions that occurred to a certain extent, students were also influential participants and infused their own discourse style into the interactions that took place. In the following section I describe the differences in talk that occurred by student group. To look more closely at how classroom talk is related to learning, I will describe in more detail the WR interactions that occurred.

### **Quantity and Quality of Interactions by Student Group**

Having described the general characteristics of classroom talk as well as interaction patterns that occurred in each classroom, I will now move to a discussion of how interactions varied by student group. Up to this point I have focused on the broad function categories of interactions. In this section I describe the broad function categories but now by student group and also provide a more detailed analysis of the WR function in order to describe how the teacher and her students with LD

negotiated learning. Although all three student groups are referenced, throughout the descriptions I have focused on students with LD.

### ***Behavioral and Procedural Interactions***

In all classes, target students with LD had the highest overall rate of interactions and a higher rate of behavioral interactions than did average students. See Table 10 for a summary of student-teacher interactions by student group. In three of four cases, students with LD had a higher proportion of behavioral interactions than did LA students. The student who did not have the highest proportion of behavioral interactions had a great number of procedural interactions (43%), so although the teacher was not specifically correcting behavior, she spent a great deal of time guiding this student to the task (see Table 7 for interaction rates for individual students). On the following typical day, four of eight interactions were procedural during an 8-minute period as Ms. White prepared her student with LD to join a group and begin a science experiment.

1. Ms. White approached the student at a solitary desk removed from student groups and quietly speaks to him.

Ms. White: Sweetie have you not copied these down? This is a bad corner.  
Why don't you//

Kevin: //Is this from yesterday?

Ms. White: No, we did it last week. Okay, if you can't find it, sit in one of those desks over there and copy that red chart down (...). [waits several seconds while student looks through desk for paper]

Ms. White: Go sit down. [*Behavioral*]

2. Ms. White: Kevin have you got your paper headed? I want to move you over to another table but you've got to have your paper ready.

Kevin: [takes out a one inch pencil stub and begins to head paper *very* slowly]

3. Ms. White: Kevin you got your paper headed?

Kevin: Yes.

Ms. White: I'd like to move you over in another minute. Okay. Just a second.

4. Ms. White: Kevin would you bring your stuff honey and move over to this group here? They need another body up here, okay?

Kevin: [takes things and joins group]

Another teacher might have admonished his behavior (i.e., taking a long time to find materials and to head paper), but Ms. White had established a relationship with Kevin in which she often nudged him to cooperate and participate without become outwardly frustrated with his lack of organization, or even lack of compliance. There is one behavioral reference in this series during the first interaction in which she directs him to sit down.

**Table 10: Mean Interactions per Hour by Student Group**

Student Group	Work-related	Behavioral	Procedural	Non-work-related
LD	3.06	1.43	1.35	0.25
LA	2.11	1.00	0.92	0.15
AA	2.00	0.46	0.33	0.38



The remaining students with LD varied in their number of procedural interactions. AA students had a lower overall number of procedural interactions per hour, although each student had two interactions in that category. For the most part, students who were less organized and slow to get started received more guidance from the teacher in the form of procedural interactions.

### ***Non-Work-Related Interactions***

In general, there were very few non-work-related interactions for the three student groups. When students with LD were involved in NWR interactions, they were initiated by the student, most often to ask a question about something not related to class. For average students and occasionally for low achieving students, NWR interactions were initiated by the teacher and usually involved invitations to help out in class. Possibly because students with LD never finished work before other students or were not as well trusted by the teacher, they were not given opportunities such as running school errands or erasing the board.

### ***Work-Related Interactions***

Perhaps of greatest interest is the description of work-related interactions. It is through WR interactions that students are most likely to acquire new information. Furthermore, WR interactions are an important source of information for teachers to form perceptions about how students are fairing academically. For students with special needs who may not complete or turn work in at all, complete work in another setting (i.e., special ed classroom), or turn in a modified assignment, interactions that occur around classroom work are an important way for teachers to evaluate student

progress. In terms of an evaluation of the quality of teacher-student interactions, WR represent the highest quality interaction type relative to procedural, behavioral and non-work related interactions. Further, it would follow that for students, who struggle to succeed in general education classrooms, a high number of WR interactions is better than a low number of WR interactions.

There was a range in the number of WR interactions both within and between groups. In Ms. Berman and Ms. Franklin's classrooms the students with LD engaged in more WR interactions than either LA or AA students. Interestingly, despite the high frequency of WR interactions (the highest frequency of all target students), Ms. Berman was disappointed by Brittany's performance in class. In her final interview Ms. Berman stated, "...I guess maybe I wasn't the one to turn on the light bulb for her. I hope there's somebody down the road that will." In Ms. Raymond's class 50% of the interactions with her student with LD were WR, but there were only a few interactions in which evidence of student understanding was noted. In addition, of 15 WR interactions nine occurred in two of the ten lessons I observed. In eight lessons there were one or fewer WR interactions between Ms. Raymond and her student with LD.

The above examples demonstrate that although counts of general categories (i.e., function categories) are useful in tracking types of interactions, counts alone of broad categories are limited in their explanatory power. In an attempt to more fully describe what happened during work-related interactions, I developed three additional criteria to assess quality. The first criterion for assessing the quality of WR

interactions was to look at interaction initiations. Because asking questions as well as initiating responses while learning promotes a deeper understanding of the material (e.g., Beck & McKeown, 2001; King, 1992) and active learning (e.g., Pressley & Woloshyn, 1995), I first looked at the percentage of interactions in which a student either initiated the interaction (SI; asking a question to the teacher) or volunteered a response (SV; volunteering to answer a question asked by the teacher). A second criterion for assessing interaction quality was to analyze the substance of the talk. Because these were WR interactions, I identified whether interactions contained references to the subject matter being taught in the observed lesson (e.g., math, science, social studies). If course content was discussed, I then assessed whether or not the interaction provided evidence of student learning. That is, did both parties successfully negotiate understanding during the interaction? Finally, interactions were rated according to the nature or purpose of the turns. For example, how often did a teacher nominate a student to speak? Purpose codes were used to describe both teacher and student turns during interactions.

*Student initiated and volunteered interactions.* For WR interactions, I looked not only at questions or comments that were initiated by students (SI), but also at occasions in which teachers asked a general question to the class or a small group and a student volunteered a response (SV). If a teacher asked a direct question to a student and the student responded, that was not considered a SV interaction. Not surprisingly, students with LD initiated their own questions (SI) and volunteered to answer teacher questions (SV) less often than average students (see Table 8). Overall, students with

LD had a low rate of both SI and SV during whole group discussions, and in general, did not talk much in front of the class. When students with LD did respond to teacher questions in front of the class, they were more likely than average or low achieving students to give very short or incorrect responses. Similar findings are reported in special education literature (e.g., Ball, 1993; Baxter, et al., 2002). In addition, students with LD were more comfortable initiating their own questions than answering a teacher initiated question in any situation. Student initiations occurred most often when students with LD were alone with the teacher or in a small group. Of special interest is the two students' with LD who had a combined rate of SI and SV during WR interactions of over 50% (Ronald - 54% and Brittany - 63%).

Initiating more than half the WR interactions suggests that these students were active participants in their learning during those times. Because students with LD were more successful in one-to-one or small group interactions, and these are the interactions most commonly missed in studies that use whole class recording procedures, this finding may indicate that some students with LD are more actively involved during learning situations in general education classes than previously thought. Tony had the lowest percentage of SI and SV interactions (29%). He attempted to raise his hand two times to answer teacher directed questions, once taking his hand down before the teacher called on him, and the other time not responding when he was called on. On the occasions when he was called on to answer (without volunteering), he either did not respond or stated that he did not know the answer. However, in a one-to-one

setting this student initiated several questions throughout the observation period and on those occasions was observed being actively involved in classroom tasks.

Similar to the situation noted above, on the occasions when students with LD or low achieving students were working well, and thus actively involved in a task, they often approached the teacher to show their work or to check understanding. For example, before reading a story in Ms. Raymond's class, students were asked to look up the definitions for several vocabulary words. Tony, who was often off task and rarely engaged in learning tasks, was working diligently to complete this part of the assignment. In this interaction he had just approached Ms. Raymond.

Tony: I found a definition of *Yankee*.

Ms. Raymond: Hmm?

Tony: I found a definition of *Yankee*.

Ms. Raymond: Good. Good. [turns away from student]

Tony: This is the definition of these two words [points to space in margin of story where highlighted words are defined].

Ms. Raymond: That's fine. I'm glad you caught that.

By approaching the teacher, Tony initiated an interaction in which he received positive reinforcement for academic involvement in learning. Because he was not often successful at completing tasks, he may have needed to signal the teacher, perhaps as if to say, 'Teacher, look. I'm doing it!' When things were not going as well, (i.e, students were off-task) low achieving students and students with LD were approached by their teachers and in those cases, if the interactions were WR, they

often were related to completing tasks. The interactions that referenced lesson content, especially those initiated by teachers, often lacked evidence of learning.

Although average students tended to have higher rates of both SI and SV interactions, volunteered and initiated interactions were not always the best indicator of involvement in work. That is, AA students were observed working on assignments whether or not they initiated interactions with the teacher. Low achieving students and students with LD varied to the extent to which they initiated interactions or volunteered responses. While some students with disabilities and LA students spent time bringing their own ideas to bear either in front of the class or in a small group, others were not as successful. In most cases, students with LD both initiated questions and volunteered responses less frequently than did average achieving students.

*Course content references.* Although all students were involved in work related interactions with the teacher, the quality of these interactions varied greatly from task related interactions aimed at guiding the student through an assignment to higher level discussions regarding math problem solving or the results of a science experiment. Each WR interaction was evaluated first for references to content. If there was a reference to content, a judgment was made about the outcome of the interaction. Namely, did the exchange of information appear to result in understanding for the student? Occasionally, additional information from student work or other interactions within an observation provided information regarding a specific interaction, and in those cases, the contextual information was also used to make the evaluation. Although this second judgment is admittedly subjective, it is

perhaps a best guess at student learning in the moment and is not unlike the judgments made by teachers within a lesson.

One of two scores were then assigned to each content referenced WR interaction: (1) *evidence of understanding*, or (2) *lack of evidence*. A *lack of evidence* score was given if a student either did not appear to come to a new understanding, if responses were incorrect or off topic, or if it was unclear from the exchange if new learning had occurred. It is possible that a student would eventually come to understanding, often by another student's response, but if there was no evidence to this effect, an interaction was given the *lack of evidence* code. Table 12 presents the frequencies of WR interactions that contained a reference to content, broken down by those that contained or lacked evidence of understanding. Following are examples of content reference interactions that either contained or lacked evidence of understanding.

WR-Content-Reference-Evidence of Understanding:

Students in this class were completing a work sheet on time zones. William signaled the teacher as she passed by his desk.

William: Ms. Berman I don't get number six. It says San Francisco?

Ms. Berman: Okay, where is San Francisco and what time zone is it in?

William: [looks at sheet] Pacific.

Ms. Berman: Yeah//

William: //Okay, now I get it. [correctly completes problem on his own]

Although the above interaction represented a quick exchange of information, the teacher had given this low achieving student just enough information to solve the problem independently.

#### WR-Content-Reference-Lack of Evidence

During a whole class discussion, the teacher was going over answers to a social studies chapter review.

Ms. Berman: All right. Fight to capture British ammunition that was won by the ‘minutemen’? Brittany?

Brittany: [no response]

Ms. Berman: Which fight was won by the ‘minutemen’? We have the Boston Massacre, the Lexington and Concord Battle, Bunker Hill...

Brittany: Ummm (...).[long pause; puts headband over eyes]

Ms. Berman: Which one?(...) [waits] This was in the movie ‘Johnny Tremain?’ (...) [waits] ‘Minutemen’ would hide shoot and run? (...) [waits] I can’t think of any more hints to give you.

Brittany: Umm (...).[long pause]

Ms. Berman: Okay, you need to look it up then. Trevor?

This interaction took several minutes in front of the whole class. While the student with LD was never able to come up with the answer, the remaining students in the class, in increasing numbers as time passed, squirmed in their seats and raised their hands to answer the question.



**Table 11: Work-Related-Content Referenced Interactions**

Student	Total WR Interactions	WR - Content	Evidence	Lack of Evidence
<b>White</b>				
Kevin (LD)	19	10	6	4
Alex (LA)	17	10	7	3
Jennie (AA)	22	16	13	3
<b>Berman</b>				
Brittany (LD)	25	15	7	8
William (LA)	11	8	7	1
Lily (AA)	5	3	3	0
<b>Raymond</b>				
Tony (LD)	15	11	5	6
Xavier (LA)	13	6	5	1
Jeremy (AA)	13	7	5	2
<b>Franklin</b>				
Ronald (LD)	13	5	3	2
Evan (LA)	14	12	8	4
Julia (AA)	8	5	5	0

Note. Frequencies are reported.

Perhaps one of the most striking findings is that for all target students there was little time spent discussing course content, and those discussions were often not very high level. The interactions in the four classrooms suggest that the focus was on completing tasks and not necessarily discovering and working through new ideas, a phenomenon that is fairly typical (e.g., Staab, 1986) in upper elementary classrooms, but not optimal (e.g., Wells, 1999). It follows that to get by as a student, one must successfully complete the task, often without providing evidence of mastering the material contained in the task. This appeared to be more pronounced for low achieving students and students with disabilities.

Target students with LD had both the lowest percentage of WR interactions that referenced course content and of those interactions (WR-content), they also had the lowest percentage of interactions that demonstrated evidence of understanding. That is, 57% percent of WR interactions contained a reference to course content, and of those interactions, only 50% were judged to contain evidence of learning (see Table 12).

**Table 12: Work-Related-Content Referenced Interactions by Student Group**

Student Group	Content Reference (%)	Evidence of Learning (%)
LD	57	50
LA	65	75
AA	66	84

For the low achieving students and students with LD, there were many interactions where evidence of understanding was not present. In addition, there are two other notable situations that received lack of evidence judgments. First, there were interactions in which it was simply unclear whether or not an understanding was reached. For example, a student might have asked a question to a teacher in a small group but then all additional questions and answers were taken up by the other students in the group. In the end the student had the correct answer on the paper, but may or may not have “known” the information. Below is an example that took place during two related interactions during social studies

Ms. Franklin had approached a group working on summarizing the main idea of a passage they had just read in their social studies text.

Ms. Franklin: What's the big who?

Ronald: Slavery?//

Student: //Conflicts between North and South?

Ms. Franklin: What? [looking at student who said 'North and South']

Student: Conflicts between North and South.

Ms. Franklin: Conflicts between North and South.

The teacher leaves to talk to another group and returns several minutes later.

Ms. Franklin: So what's our who?

Student: North and South.

Ms. Franklin: Okay so you have two who's. Lucky you.

Ronald: North and what? [writing on his paper]

Ms. Franklin: //North and South.//

Students: //North and South.//

A short discussion with the teacher followed by several minutes of talk between students in the group and then a follow-up with the teacher showed that the other students in the group were clear about the main idea after the second interaction. Although Ronald had the correct response written down – and therefore had completed the task – it is not clear that he understood the main idea of the passage.

A second phenomenon occurred occasionally in which a certain amount of learning of students with LD or low achieving students was present but perhaps not as easy to glean as with students of average ability. The following example took place during group work in Ms. White's science class. The students were working in pairs and were attempting to review the characteristics of different microorganisms. The teacher had just approached Kevin's group in the middle of the task.

Ms. White: Okay, would you turn around please and listen to her please?

Okay she's going to tell you again. Turn around and listen to her.

Std: Viruses they're caused by um (...).

Ms. White: So she knows about viruses but can you add anything to that? She knows about viruses but she doesn't know a characteristic.

Kevin: Umm (...).

Ms. White: Think about reproduction.

Std: He just said that. They reproduce.

Ms. White: Now she said one, now can you say another one? [teacher goes to another group].

In this interaction the student with LD never said anything, but the student he was working with (the other student was average achieving) indicated that Kevin had correct information but had offered it before the teacher got there. The teacher did not reinforce or even acknowledge his contribution, perhaps because it was communicated not by the student with LD but by the average achieving student, the one who was supposed to know the answers. Although both students appeared to

struggle with the task, they were each able to provide a bit of correct information. However, the average student was the only one who was given “credit” for her contribution. Throughout this interaction, the student with LD was refocused several times by the teacher and never gave any information – he looked like he did not know much, although analysis of the interaction shows that he possessed a certain level of understanding of the content pertaining to this task.

It is possible that learning looks different for certain students. For example, learning may be masked by off-task behavior, not clearly articulated by the student, or not present on a finished product. Occasionally teachers dealing with large numbers of students may have missed the learning that took place. Teachers also discussed the issue of what learning looked like for students with disabilities. After passing the statewide assessment in math, Ms. White discussed the disconnect between how Kevin performed in class and the results of the test which indicated that at least some learning had taken place. “...We have real difficulty getting him to stay on task or get anything accomplished in math, or the other content areas. And yet, he must have been absorbing some things.” Teachers seemed to have a feel for what learning looks like in class, a mental criteria of components such as appearing to be attentive and involved in task completion during class, turning in assignments, and doing well on tests. If students did not fulfill these criteria, but still showed academic growth, it was confusing to the teacher and perhaps a bit frustrating.

AA students had both the highest proportion of WR interactions that referenced content as well as the highest proportion of interactions that demonstrated

understanding. For two average students, all content referenced interactions contained evidence of learning. For another of the average students, lack of evidence interactions were those in which the student initiated comments that were deemed off-topic by the teacher. Although these interactions did not meet my criteria for evidence of learning, they do indicate that the student was interested in the content and attempting to make connections to her own prior knowledge. The final average student once gave a correct answer but was not able to elaborate on his response and another time volunteered an incorrect answer.

In summary, for students with LD and those who were low achieving, evidence of learning was not always present. Although there were occasions when these students did not express their understanding in a way that was comprehensible to the teacher, it also appeared that there were frequent occasions when these students were not learning the concepts that were presented in the general education classes.

For average students, evidence for learning was exhibited in a variety of ways, the most obvious of which is that the average students in this study were successful at completing tasks. While WR interactions that occurred usually (but not always) showed evidence of learning, there were often few or no interactions during a task. It appeared that when average students were working well, teachers allowed them to do so without much contact. In most cases, average students took it upon themselves to ask for help if they needed it, but otherwise worked independently or with other students without initiating interactions with the teacher.

*Turns within interactions.* The final criteria for assessing the quality of WR interactions was to analyze the purpose of the turns that were taken within an interaction. A turn describes the back and forth participation of an interaction. For example, when a teacher asked a student a question, that was one turn. The student responded (one turn), and then the teacher followed up on the response (one turn). In this exchange, the teacher took two turns and the student took one. Each turn could contain one or more turn codes.

Teacher turns were coded in ten categories. (see Table 13). As expected, teachers spent the most time eliciting responses from students (e.g., Mehan, 1979; Mercer, 1995; Sinclair & Coulthard, 1975). They also spent quite a bit of time assisting students and explaining material. There was variation among individual students and few categorical differences in the purpose of the words that teachers used with target groups of students. Teachers spent more time giving assistance and explaining concepts to low achieving students and students with disabilities. Students with disabilities also received more redirections. In WR interactions, a redirection included directives (e.g., Teacher: Start on number two.) and requests to wait (e.g., Teacher: Jennie I'll get to you in a second.). Average students received the most nominations by the teacher and a higher proportion of repeated responses. Repeated responses included answers that were repeated exactly or reformulated for a small group or the whole class. Nominations and repeated responses, most often in whole class discussions, were both indications by the teacher that a student's response was valued. Two of the four students with LA received a relatively high proportion of

reinforcements and in both cases the teachers indicated that they were attempting to reinforce these students more often. Table 14 lists the three codes with the highest frequencies for each student group.

**Table 13: Teacher Turn Codes for Work-Related Interactions**

Code	Frequency
Request response	109
<i>Information (148)</i>	
<i>Suggestion/opinion (19)</i>	
<i>Do something (14)</i>	
Give explanation/assistance	81
Nominate	48
Redirect/give directive/wait	45
Acknowledge	42
Give reinforcement	42
Repeat/reformulate	39
Task orientation/materials	23
Check understanding	20
Reject	17
No response	13



**Table 14: Most Commonly Used Teacher Turn Codes by Student Group**

LD	LA	AA
Give explanation (45)	Request Response (30)	Request Response (35)
Request response (44)	Give Explanation (26)	Nominate (23)
Redirect (25)	Give Reinforcement (19)	Repeat Response (15)

In terms of student talk in WR interactions, turns were coded in eight categories. The categories and their frequencies are listed in Table 15. The purpose of student speech is similar to that found in other classrooms in which students are either (1) responding to teacher questions (either successfully or unsuccessfully), (2) making a bid to be recognized by the teacher, (3) showing work or asking for help, (4) acknowledging information given to them by the teacher, or (5) not responding. The students in all classes spent the most time answering basic queries from the teacher, often requiring only one or two words. Teachers only occasionally asked students to give an opinion or suggestion or to elaborate on a response, and therefore they did so infrequently, although relative to other responses, average students expressed more suggestions and opinions. Students frequently requested information from the teacher, most often to ask for help.

As with teacher codes, there were few differences between target student groups. Students with LD were more likely to not respond or to give the response *don't know* than low achieving or average achieving students although overall, there

were few occurrences in this category. In most cases, low achieving and students with LD were more likely to ask for assistance from the teacher than were average students. Taken together, all students “fit in” in terms of the type of speech that occurred during interactions, but individual students varied in areas including how often they raised their hand in front of the class, when and how much they approached the teacher to show work, and how often they gave an incorrect response. Furthermore, although students with LD used the same type of speech codes as the other target students, their responses were generally shorter and less articulate than their non-disabled peers. It is likely that these variations contributed to different experiences for these students in class.

**Table 15: Student Turn Codes for Work-Related Interactions**

Code	Frequency
Give information – correct	82
Bid	48
Request assistance	37
Give suggestion	35
Acknowledge	33
Show work	30
Don’t know/no response	20
Give information – incorrect	13

In summary, teachers spent much of their time during verbal exchanges with students requesting short answer responses and giving assistance most often to students with LD. They nominated AA students to speak more frequently and then were likely to repeat these students' responses for the benefit of the class or a small group of students. Students frequently answered the questions asked of them by teachers, often with one or two word responses. Students with LD were more likely to not know the answers to those same questions. Of special note is that in many cases, students with LD and LA students were more likely to ask for assistance from the teacher, indicating that they were attempting to complete classroom tasks and were willing to ask for help.

### ***Section Summary***

Students with LD were involved in more interactions with the teacher than were the other target students in this study. Furthermore, in most cases, students with LD appeared to require assistance from the teacher in order to complete tasks. However, despite the attention they were given in the classroom, interactions did not always result in learning. Many interactions involved behavioral or procedural reminders and redirections as the teachers attempted to facilitate student participation. While many other interactions were work-related in which teachers provided academic assistance, it was less likely for students with LD to show evidence of learning than it was for students in the AA or LA target groups as a result of these interactions. There were occasions when students with LD demonstrated their engagement in learning tasks by asking for help or by volunteering to respond to

teacher directed questions, and some students were more likely to seek contacts with the teacher, but overall, students with LD had lower rates of SI and SV than did the students in the AA group. Interactions appeared to be more indicative of learning (or not learning) for students with LD than for AA students because AA students did not usually require interactions with the teacher in order to successfully complete academic tasks.

### **Teacher Negotiation of Student (LD) Integration into the Learning Environment**

In the previous sections I first provided a mini-portrait of the classrooms with an emphasis on the teacher as the leader of the class, and second, I described the interactions that occurred in classrooms. There are many ways to measure the complex negotiation of meaning in classrooms. In this study, the initial focus was the interactions between teacher and student through the course of a lesson and over an extended period of time. I hoped to observe what was happening during the interactions and then to use contextual information and additional data sources to describe the teachers' role in these events. Over time, I seemed to be gathering support for the teacher's role in the negotiation of her student's integration into the learning environment. I have thus termed the central phenomenon for this study, *teacher negotiation of student integration into the learning environment*. Interactions are a window into a larger experience that can only be fully understood by including the context within which they occur. Therefore, the goal of presenting the central phenomenon and its supporting themes is to connect the interactions to their contexts as well as to connect the themes to one another.

Educators have been increasingly interested in the influence of including learners with special needs into general education classrooms and this is the area of interest that drove the development of this project. Therefore, it is not surprising that this issue emerged from the data collected. One of the questions that might arise from the presentation of these findings is how I define *integration into the learning environment*. First, it is again important to note that in this study I have focused on teachers as my primary unit of analysis. That does not mean that I have excluded information regarding student roles in the classroom, but it shifts the emphasis in an attempt to understand what teachers do in the classroom and how their actions are interpreted. Indeed, the perception of student experience is not left entirely to the teacher. Rather I have attempted to combine teacher perceptions with observations and interpretations to create a model for how teachers negotiated the integration into the learning environment for their students with LD in the general education classroom. Next, in terms of defining *integration into the learning environment*, I borrow from the literature on classroom community. This study does not intend to evaluate the classrooms as communities in the global sense, but rather I used the term classroom community and its inherent features as a guide to determine how well integrated the students with LD were into daily learning activities. Classroom community has been described as “a social organization whose members know, care about and support one another, have common goals and a sense of shared purpose and to which they actively contribute and feel personally committed” (Solomon, et al., 1996, p. 719). One may note that the above definition is described from the point of

view of the participant, in this case, the student with LD. Therefore, it would be important to know what the teacher does to facilitate a student's membership into the classroom community, or for the purpose of this study, what a teacher does to facilitate a student's membership or integration into the learning environment. In a study of inclusion classrooms, teachers (N = 72) were given a survey of eight classroom characteristics and asked to rank order the most important classroom conditions for the successful inclusion of students with disabilities. The two most common highly ranked responses were (1) teachers who take a personal interest in the child and (2) an environment where the student is seen as a valued member (Weiner, 2003). Did the teachers in this study take a personal interest and value the classroom membership of their students with LD and what did that look like in the classrooms?

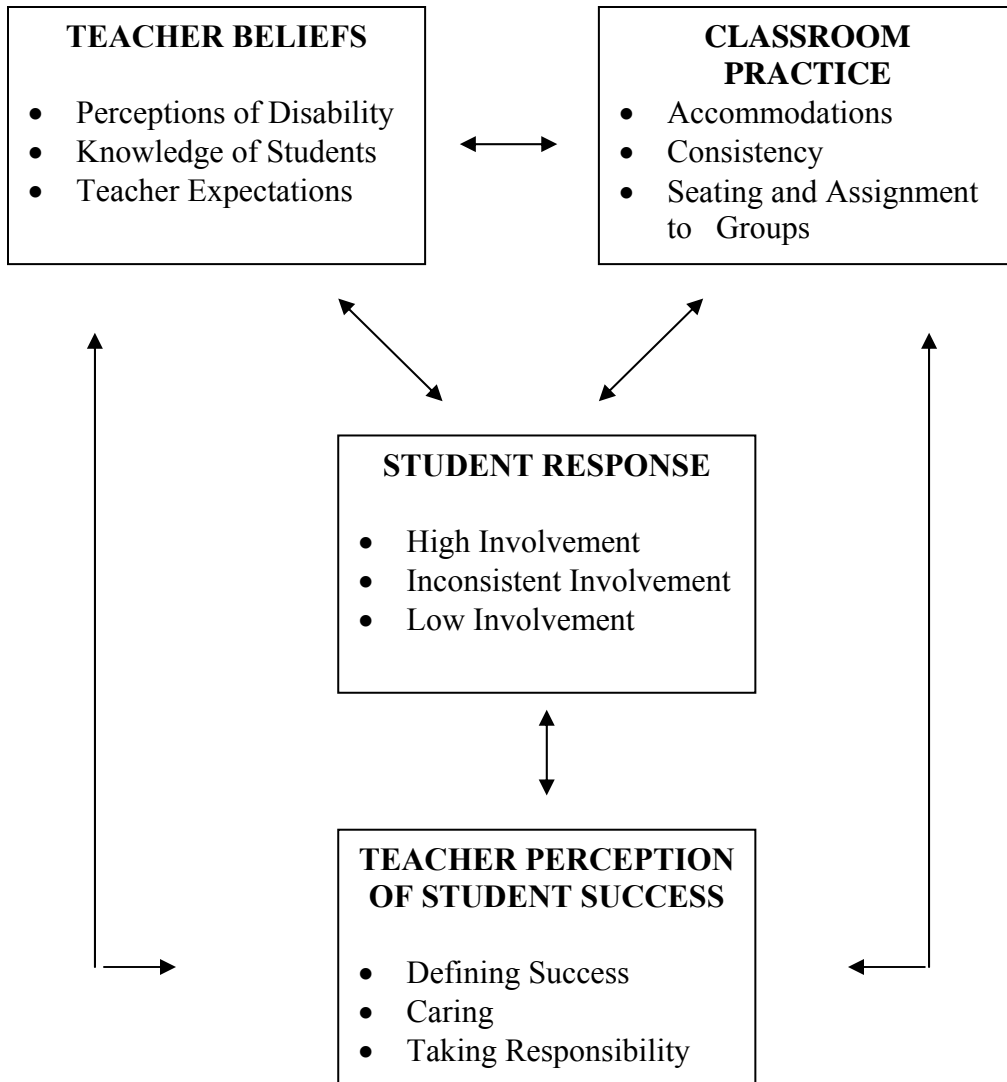
To answer the above question, four dimensions are used to describe a teacher's role in integrating students with LD into the classroom learning environment: (1) *teacher beliefs*, (2) *classroom practice*, (3) *student response*, and (4) *teacher perception of student success*. The first two themes were closely related, with teacher beliefs continually influencing the decisions that teachers made in their classrooms. I next describe the extent to which students with LD were actively engaged or involved in the learning activities of the class. This aspect of student experience focused on student's response to what was going on in the classroom and as such, provided valuable information about how the actions and perceptions of the teacher played out in the classroom. Finally, integration was viewed from the teacher's perspective and in this study, teachers seemed to think about students in

terms of how academically successful they were in the classroom. Teachers' perspectives of success are important in light of research on teaching efficacy (e.g., Smylie, 1985), expectations (e.g., Brophy, 1988, Cooper & Tom, 1984; Good & Brophy, 2000), and caring (e.g., Noddings, 1984, 1992). Figure 1 presents the central phenomenon, the four supporting themes, and the sub themes that will be discussed in the following sections.

*A note about data sources.* In each classroom I observed three target students, one student with LD, one who was low achieving (LA), and one student who was average achieving (AA). While all students were included in data analysis, the model applies specifically to students with LD. Throughout the description of themes, I will note the similarities and differences to the AA and LA students as they pertain to an understanding of the integration of students with LD.

The teachers in this study were involved in creating an intervention for two students, one with a learning disability (LD) and one who was low achieving (LA). The success or failure of the intervention was not as important as its utility in providing the teachers with a means to become more closely involved with individual students and to try to work towards specific goals for them. The intervention was also a way for teachers to discuss their student's successes and failures in the classroom as they related to individual goals set forth by the teacher. Throughout my description of the model, I will refer to the various data sources as they apply to each theme.

**Figure 1: Teacher Negotiation of Student (LD) Integration into the Learning Environment**





## **Teacher Beliefs**

Teachers expressed different beliefs about their students with LD. In most cases their views can be linked to decisions they made about working with students with LD. In this way, beliefs and practice are not separate entities but are reciprocal by nature. The following sub themes demonstrate that teachers perceived their students with LD quite differently than the other students in their class. These differences are described in terms of (1) perceptions of disability, (2) knowledge of students, and (3) teacher expectations.

### ***Perceptions of Disability***

*Available help.* Teachers' perception of special education services and the role of a student's individual disability appeared to influence how teachers planned for students with LD and the subsequent interactions that occurred during class. Teachers believed that their students with LD were getting help from special education services and that they would continue to get help because of their disability. Perhaps because there are a limited number of resources to assist struggling students, special education was an option for all students who failed to achieve. Although teachers were encouraged to refer only students who might qualify, if a student needed extra help and the teacher could facilitate a special education placement, teachers believed this to be a positive thing for the student, regardless of evidence of a disability. In fact, the four target students who were low achieving had all been considered for special education and one student qualified for special education services during the time of the study. Teachers talked about the special education classroom, content mastery (a

tutoring lab available to students with disabilities), and even the help LD students would receive in middle school. Ms. Berman expressed a feeling that was echoed by the other teachers demonstrating that perhaps students with disabilities even had an advantage over low achieving students because they were able to receive extra help:

You know she'll [Brittany - LD] have content mastery more available to her [in middle school] probably and the teachers will be aware. Whereas with someone like [William - LA] if he doesn't step up to the bar by himself or his parents don't have some interaction with the teachers, he's a kiddo that could fall through the cracks very easily because he's just too quiet. But those teachers will be aware of Brittany's learning disability and she'll have more of an advantage from that standpoint I think.

There appeared to be a sense among teachers, that students with LD were getting academic help outside of their classroom, which may have absolved the general education teacher of some of her responsibility for the learning of students with LD.

*Time.* In all cases, teachers did not question the amount of time students were taken out of class (all students received 1 hour and 30 minutes of language arts in a special education classroom and three students received inclusion or special education math), even when they were academically close to grade level. At Carson Elementary School, students with disabilities in reading or writing were in special education for the entire language arts period. According to Ms. White, "Resource is good at that time. I have the whole block for language arts and the special ed kids are not coming and going." Teachers seemed to value the time when students with disabilities were out of the room because it freed up time for them to work with a smaller group of students and they did not have to account for the learning of those students during

that time. Understandably, some teachers also preferred having an entire class without the disruption of students entering or leaving in the middle.

However, having students absent during language arts also contributed to a lesser amount of information teachers had about student abilities. For example, although both social studies and science entailed a good amount of reading, teachers were not as aware of the reading levels of their students with LD as they were of the other students in their class or how reading level might influence a student's ability to be successful at completing particular tasks. Only once did a teacher mention reading level when discussing why a student was off-task during a particular assignment.

Teachers also referred to the amount of time that students with LD were out of the classroom as a factor that limited their ability to get to know their students, to keep track of them, or to make appropriate accommodations for them. When discussing why it was difficult to monitor Tony's progress in class, Ms. Raymond stated:

...within my regular class the spectrum is very high to very low [in terms of ability], um, but I'm with them six hours a day. But monitoring them [students with LD] and seeing them and keeping them in my head is [harder for] Tony and Jessica [another student with LD] who were gone four hours of the day. I just, my mind, I can't keep them in the back of my mind rotating. I know they're with a teacher so I just let it go. Even with that, if he had been in my class more it would have been much different.

Not surprisingly, the two teachers who had the least amount of contact with their students with LD (in terms of contact hours per day), Ms. Raymond and Ms. Franklin, also seemed to take the least responsibility for the learning of their students during the time when they were in class. As Ms. Raymond noted above, when

students were with the class for such a short time each day, it was difficult for teachers to plan for them and in some cases, even to account for them during class.

*Academic influence of the disability.* When teachers discussed strengths and weaknesses of students with LD, they infrequently talked about the academic influence of their disabilities. Although two teachers referenced reading level as a weakness and another referenced poor writing skills, these academic weaknesses were rarely discussed in relation to specific learning occasions. Teachers more frequently talked about poor motivation, not completing work, poor work habits, and not focusing on the lesson. If teachers attributed academic failures and behavior problems to motivation and poor work habits and disregarded a student's disability, it was likely to influence both their willingness to work with a student as well as the ways in which they chose to help. For the three students with disabilities that were close to grade level, teachers attributed academic failure most often to low motivation. "She just doesn't do the work. I think that's her downfall. I think she's capable, it's just that she doesn't." Or as another teacher put it, "He doesn't care about school work. He doesn't like the work usually." Certainly not caring about schoolwork or disliking particular assignments is not a qualifying condition for receiving special education services. It appeared that perhaps teachers did not have enough information about a student's disability to know how it might influence student performance and motivation in the general education classroom. If teachers were not clear about what students were supposed to accomplish in their class, it would be difficult to assist them in doing so.

Teachers' perceptions of students' disabilities influenced the way they perceived their teaching role and subsequently in how students were integrated into classroom learning activities. The availability of help for students with LD in some cases took the pressure off teachers. Second, the amount of time students were out of the class had the potential to remove them both physically and psychologically from the "radar" of teachers. Third, several teachers focused on motivational issues over the academic influence of disability on students' ability to do general education class work, which had the potential to shift responsibility from the teacher to the student.

### ***Knowledge of Students***

One of the factors involved in integrating students with LD into the classroom learning environment was how well informed teachers were regarding the specific abilities and needs of their students. At the start of the study, the two more experienced teachers appeared to have more information regarding academic strengths and weaknesses, and the behavior of their students with LD, and indeed their students were more successful at completing tasks in class, most likely because the teachers were more effective at meeting their individual needs during class. The less experienced teachers appeared less knowledgeable about the functioning of their students or what would need to be done to help them succeed in the general education classroom. However, regardless of the amount of information teachers had at the start of the study, they all seemed to be more knowledgeable after implementing the trial intervention and participating in discussions and reflections throughout the study.

The trial intervention that teachers attempted was illustrative in identifying teacher awareness of student needs as well as teacher response to this information. The intervention also provided a vehicle for discussion because the teachers and I talked about the intervention and the target students after observations, during interviews, and this information was communicated through the teachers' written reflections.

During a workshop on choosing goals and monitoring progress to meet those goals, each teacher was asked to identify a weakness and a goal for their LA and LD students and to come up with an intervention to try. Despite the content of the workshop in which I emphasized academic goals for students, with the exception of one LA student, all goals were behavior oriented. For example, several teachers chose to improve on-task behavior by systematically monitoring specific behaviors. Results would be shared with students to improve student awareness of his or her behavior and the teacher would attempt modifications based on the results. It makes sense that teachers would want students to be on-task. However, once students were on-task, they often required additional assistance to complete assignments successfully and that is perhaps where teachers fell short. Three teachers were successful at compiling information, but they did not make changes based on the results. Ms. Raymond did not implement the trial intervention for her student with LD.

There was no evidence of teacher change in interactions with students with LD based on the interventions, although teachers reported varying degrees of success. There are several possible reasons why I was not able to identify changes in

interactions. First, although teachers increased their knowledge of how students functioned in class, they did not appear to make changes to reflect what they had learned. Similar to what Alvermann and Hayes (1989) found in a study attempting to alter teacher and student talk during classroom discussions, student-teacher interactions appeared very stable over the course of the study. Another possibility is that I did not measure change that occurred. Interactions are sensitive to student, teacher, and contextual variations and additional observations may have been necessary to detect change over time. In several cases teachers talked about changes in their body language or physical presence, areas that were not formally noted in my observations. Alternatively, there is some evidence that teachers may have begun to make changes at the start of the study (prior to implementation of the trial intervention) as soon as target students were selected. Finally, students were also made aware of the intervention. Perhaps students who were more aware of their own actions, worked harder to succeed in class, without requiring additional intervention from the teacher. It is likely that the combination of the above factors contributed to the stability in my measurements of classroom interactions over time.

Nevertheless, the following changes were reported by teachers based on their trial interventions. Teachers reported that they learned more about students and how they functioned in class, that they reinforced behavior more frequently, that students worked harder, and that their grades went up.

In terms of learning about students, all teachers were able to describe more accurately their students' ability at the end of the intervention than at the beginning.

For example, at the beginning of the study Ms. Berman spoke of her student with LD this way. “She really does pretty well. She’s one of the kids who might be exited [from special education services] soon. Possibly this year.” However at the end of the study, despite attaining higher grades, Ms. Berman conceded, “I guess maybe I wasn’t the one to turn on the light bulb for her. I hope there’s somebody down the road that will.” It appeared that after working more closely with Brittany and getting to know her a bit better, Ms. Berman realized that Brittany was not doing as well as she had originally thought. In another classroom, at the beginning of the study Ms. Raymond talked about how hard Tony worked although she noted his off-task behavior. She spoke about him this way, “He’s got a lot of pride in his work. Very determined to succeed. There’s never apathy, I never hear him giving up, very uh, a lot of effort.” And when discussing goals for him in science she said:

I would like for him to, in science, he has a pretty good inquisitive mind and is interested in the experiences. So science, I would like for him to take on other questions that he might have. That would be great. He has the drive, I just think he needs to be told how to do it and he would take off.

During the three initial observations, Tony was observed off-task for most of the lessons and physically out of his seat from 11 to 18 minutes or about one fourth of each lesson. Throughout the study, Ms. Raymond often gave work to the class that was too difficult for Tony and she made a few failed attempts to assist him. When the work was at a lower level and clearly articulated, Tony was indeed on-task and working hard. Although Ms. Raymond did not implement an intervention for Tony, observation data and student progress were discussed on numerous occasions with the



researcher and Tony's on-task behavior improved. By the end of the study when Ms. Raymond was asked about goals for Tony she responded:

I don't think it, specifically talking about Tony, I don't think he grasped what I was try to get... I don't think Tony gets academic knowledge from me, only because I do see him so little of [the] time... When I see him in science and social studies, that's a big concept that everybody's learning at the same pace and with the same expectations, so I would doubt that he got knowledge from me or any form of instructional baseline.

For these two teachers, working more closely with their students with LD resulted in changes in how they viewed their students and perhaps gave them a more realistic understanding of the level at which students were achieving. Although they felt that they had not succeeded in working with these students, they gained valuable information about student performance, information that might have been more useful if they had made changes in their teaching based on what they had learned.

In addition to having a more realistic conceptualization of student performance, teachers also reported getting to know students better throughout the study. After several failed attempts at a trial intervention, Ms. Franklin started a system of student self-monitoring where the student with LD would receive a sticker at the end of a lesson if he had been on task and would accumulate stickers that could be turned in later for a larger "prize." This was an intervention that Ms. Franklin and Ronald came up with over a special lunch with just the two of them that she had planned. Although I did not observe change in teacher-student interactions or student on-task behavior, Ms. Franklin reported getting to know better her student with LD through the process of discovering incentives that this student with low motivation

was willing to work for, thus improving her personal relationship with him. At the start of the study, Ms. Franklin was asked what she thought would help him be more successful in her class. She replied, “I guess I don’t know.” Although she may not have increased her effectiveness in working with him during class, she did seem to become more interested in his success or failure and more aware of his presence. In addition, Ms. Franklin reported working more closely with the special education teacher, through which she discovered differences in performance and behavior in the special education and general education classroom.

In summary, teachers reported that they learned about their students with LD by tracking their behavior. These same teachers did not report making instructional changes other than as one teacher put it, “I may have been a little more aware of them than before the study – checking to see if they’re on task or need redirecting.” In all cases, teachers provided evidence that they had gained knowledge about their students with LD by learning more about them personally or about their functioning in class. In this way, all teachers took a personal interest in students with LD. Unfortunately, my data suggest that despite this increase in information, teachers either chose not to or did not know how to make changes in their interactions based on what they had learned about their students with LD.

### ***Teacher Expectations***

Teachers hold both classroom and individual student expectations. In terms of classroom expectations, teachers held their students to class level standards of behavior and achievement. In two classrooms (Ms. Berman’s and Ms. White’s) where

students were held to high standards of learning, where there was not a lot of unsupervised time, and where teachers closely monitored student behavior, all students including the target students with LD, accomplished more work. Student involvement was measured through on-task behavior, teacher reflections, and evaluations of student work. However, a teacher's expectations for individual students could also supersede classroom expectations. For example, most of the students in Ms. Raymond's class had high rates of on-task behavior and worked hard to complete assignments. However, she appeared to have low expectations for Tony, her student with LD, and in turn, he did not do much work during class. During an interview partway through the study, Ms. Raymond was asked what Tony would need to be successful in class. She replied, "It's hard for me to gauge because whenever he does anything I feel like it's so successful for him because he's starting at such a low rung on the ladder." Indeed, Ms. Raymond appeared to accept anything that Tony did. Perhaps Tony was not able to complete the same work as the rest of the class, but it is likely that he was capable of doing more than what was expected of him.

As was the case with Tony, teacher expectations seemed to influence teachers' ratings of quality of work and on-task behavior. For the two teachers who held lower expectations for their students with LD, there was more commonly a mismatch between their ratings of student on-task behavior and work quality and the ratings noted during my observations.

Ms. Franklin's class provides an example of how the combination of classroom and student expectations influenced the experience for Ronald, her target

student with LD. Ms. Franklin valued classroom community and all students working together and as such, students were generally kind to each other, worked easily together on tasks, and visited quietly throughout assignments. In a school where students often came from impoverished homes, students in Ms. Franklin's class were held to high standards of community. However, she appeared to have relatively low expectations for her class academically during the times that I observed, and while some students appeared interested and motivated, many students produced just enough work to get by. The class was quiet and the atmosphere was relaxed, but not a lot of work seemed to get done. Ronald, the student with LD, appeared to be aware of this and rarely produced work during times when assignments would not be collected. He was receptive to help when approached by the teacher but rarely asked for help on his own. In terms of individual expectations for Ronald, as stated earlier, Ms. Franklin did not appear to have goals or clear expectations for him. On several occasions he was observed during a math warm-up where the teacher wrote problems on the board that students were asked to copy down and solve. Only once during the observation period did Ronald solve the math warm-up problems. When asked about this, Ms. Franklin replied, "Like this morning I had to say something to him three times before he would even start to write the problems. And so it was an issue of him not even doing anything, of him paying attention so that he knows that there was something to do. Which has been a struggle all year."

Ms. Franklin was clearly frustrated by Ronald's refusal to complete the math warm-ups. However, she never held him accountable for completing the work. Over

the course of the study we discussed collecting his work, tracking the number of problems he solved, and even asking him to solve just one of the problems in the warm-up. She never tried the accommodations. It appeared that although Ms. Franklin was frustrated and did give Ronald on-task reminders, she never communicated expectations to him and as a result, he would busy himself when she came by, but still not attempt to solve problems. Interactions during the math warm-up time indicated that Ms. Franklin was trying to get Ronald to work, but not actually helping him to solve the problems. For example typical interactions reminded Ronald to get started working or to redirect him when he was not. “Ronald(...). You’re not doing anything,” Ms. Franklin whispered to him as she passed by his table on one such occasion. During a lesson in which Ms. Franklin was actively helping student groups, going from table to table to work through a problem on probability that the majority of students were struggling with, Ronald participated in small group discussions, answered questions, and correctly solved the problem.

Why did Ms. Franklin not hold Ronald to a higher standard? First, she expected her class to be somewhat independent and self-motivated, something that only some of her students were able to accomplish. Second, earlier in the year there was a question about where Ronald should learn math – in the general education classroom or in the special education classroom. He began the year in general education. When he did not complete work, he was moved to the special education classroom. At this point in the year, he did a math warm-up with the general education class and received additional math support in the special education

classroom. As a result of moving between classrooms and the bulk of math time being in special education, Ms Franklin seemed to relinquish responsibility for him during math – even when he was in her room. At the end of the study after finding out that Ronald had passed the math portion of the TAAS test, Ms. Franklin said, “yeah, I’m really surprised that it was so good. But I didn’t know cause I haven’t been teaching him math.” For 30 minutes each day, Ronald was in the general education classroom during math related activities. Not only was Ms. Franklin unsure if Ronald could do the work but if she regarded herself as “not teaching him math” then it would make sense that she did not hold him to high expectations for either work completion or learning during that time.

Teacher expectations influenced both the experience of the entire class as well as the experience of students with disabilities. While classroom expectations were important, teachers held individual expectations for students with disabilities that influenced time on task and quality of work. As might be expected, the teachers who had higher expectations for students with disabilities were more disappointed when students did not succeed than did teachers who had lower expectations. The two teachers with lower expectations were more apt to deny responsibility for student outcomes, either positive or negative, relying on the special education teachers to be responsible for academic achievement. Low expectations also seemed to indicate that the teacher did not place a high value on whether or not a student completed work or learned the subject matter that was taught. Students appeared to be aware of expectations and adjusted their roles accordingly.

### ***Section Summary***

Teacher beliefs influenced how students with LD were perceived by their teachers and resulted in differential treatment during lessons. Teachers held beliefs about disabilities that may not have led to realistic assessments of student capabilities. Furthermore, teachers varied in their knowledge of specific students and in some cases, may have held inaccurate expectations based on their lack of knowledge as well as their perceptions of disabilities. Teachers who had more accurate information about students and who held higher expectations for all students, tended to be more successful at meeting the needs of their target students with LD. In the next section, I discuss areas of classroom practice, also influenced by teacher beliefs, which had the potential to influence how students with LD were integrated into the learning environment.

### **Classroom Practice**

It is well established that working with students with special needs is challenging for teachers in general education classrooms and creates more work for them (e.g., Baker & Zigmond, 1995; Kauffman & Trent, 1991). The teachers in this study described their relationships with students with LD as positive. Although they expressed frustration, they also commented on the value of working with students with special needs in general and with the target students with LD in particular. Furthermore, students were observed being kind and accepting of the target students with LD, eager to work with them in classroom activities, to visit with them socially, and even to stand up for them in front of the teacher. However, although teachers

reported that their students with LD were members of the classroom community and saw them as being accepted by the teachers and the other students in the classroom, there were factors that called attention to their status as equal and valued members. That is, the students with LD in this study were not typical general education students and as such, their position as members of the learning environment was in question. Stemming from teacher beliefs as well as from the demands that go along with teaching a large group of students, the actions that teachers took in the classroom influenced how students with LD were integrated into the learning activities of the classroom. The following discussion of classroom practice is divided into four sections: (1) accommodations, (2) consistency, (3) seating and assignment to groups, and (4) interactions.

### ***Accommodations***

Teachers differed both in their views about making modifications for students with disabilities and in their practice of making those modifications. In terms of adaptations that teachers made or were willing to make during class, teachers talked about pulling students aside, asking additional questions, and providing individual attention. Adaptations were also discussed in terms of the finished product such as giving extra time, having different expectations, or as one teacher said, “I don’t hold them to my same rigorous standards,” and allowing oral instead of written responses. Teachers also talked about adaptations made outside of class such as providing tutoring or sending students to content mastery to finish assignments, to get help with



reading, or to take tests. One teacher stated that she tried not to make accommodations.

Unfortunately, a teacher's list of accommodations did not always correlate with the accommodations that I observed in class. The teachers with the most teaching experience, Ms. Berman and Ms. White, made more accommodations than the teachers with less experience, and had high rates of interactions with their target students with LD (7.08/hr and 7.05/hr). These included spending more time with the target student with LD to bring the student to task (either by redirecting inappropriate behavior or by assisting the student in task completion) or to explain information. Ms. Berman stated that she tried not to make adaptations for students with special needs but instead tried to treat all students the same. She said, " You know, we tend as elementary school teachers to work with them until they get it." Despite, or perhaps because, of these seemingly opposing views (helping students until they "get it" yet not believing in making accommodations for students with LD), Ms. Berman spent more time with her student with LD than with any other student in the class, most often engaged in work related interactions. However, despite Ms. Berman's ongoing effort to support her student, she felt that her student with LD was not successful. Perhaps giving her student with LD more of what she gave the other students was not enough. However, because of her philosophy about treating all of her students the same, Ms. Berman rarely attempted other types of modifications.

Ms. White communicated her commitment to helping all students learn in interviews as well as in class. She appeared to be aware of students' strengths and

weaknesses and was successful at getting students to engage in learning and to complete science tasks by monitoring them closely and providing additional explanations as needed. However, Ms. White stated that she was not willing to sacrifice the learning of the majority of her class because of the distracting behavior of a few. Therefore, she often separated students who might “cause” trouble, often resulting in those students missing important explanations or not being involved in group tasks. Ms. White consistently integrated her target student with LD into the class as soon as he was chosen as a participant in the study. Although she appeared frustrated at times with Kevin’s off-task behavior, she put forth a great deal of effort to keep him involved and on-task, and she was successful at integrating him into class lessons.

The two teachers with less experience made fewer accommodations for students with LD. Ms. Franklin was the least experienced teacher and one of the few accommodations she listed was giving individual attention. Although she was observed giving Ronald on-task reminders and some assistance during class, she was limited in her ability to design and implement additional modifications. Ms. Raymond rarely made any adaptations for her student with LD. When probed about task difficulty, Ms. Raymond concurred that the work was often too difficult. On one occasion Ms. Raymond attempted to assist her student with LD in a science project. Although she was involved in ten interactions with him during the lesson and he appeared on-task and receptive to her help, he neither came to an understanding about the topics discussed nor did he complete the task they were working on. The first of

the interactions follows. Ms. Raymond approached Tony because he was off-task and then attempted to engage him in a work-related interaction.

Ms. Raymond: Tony, first of all, the stinky feet, get off my table. Second of all, I want to know where is your question? Where is your hypothesis? [Reads what he has written] ‘Question: Does juice freeze into shapes?’ So this is your question, what’s your hypothesis?

Tony: [no response]

Ms. Raymond: [gets distracted and walks away]

Ms. Raymond abandoned this interaction without resolving why Tony did not have a hypothesis. In fact, in the remaining nine interactions she attempted to focus him on the assignment and to assist him, but did not realize until the class was almost over that he did not know what a hypothesis was. Ms. Raymond did not appear to have a clear understanding of what Tony needed to be successful during that one lesson, or in general while he was in her classroom. Therefore, assistance was often not given or was unsuccessful.

Regardless of teachers’ views about accommodations, once students were in class and teaching was going on, teachers focused on getting students through the assignment of the day regardless of their ability (or disability) or the type of task involved, most often attempting to bring them along with the class the best they could. Mehan has described this phenomenon as “getting through” (1998, p. 258). In some cases, teachers ignored inappropriate behavior or perhaps avoided engaging in more difficult content-referenced work-related interactions with students with LD. In

other cases, inappropriate behavior was a signal to the teacher that a student did not know what to do. Most often, teachers seemed to center instruction around the middle of the class while at the same time delivering reminders to the stragglers to open a book, to leave the restroom to join the class, to finish section A before going on to section B, to stop talking to their neighbor, or to pack up and get ready for lunch.

### ***Consistency***

Classrooms with greater consistency both in subject matter and in schedules supported the integration of students with LD into the learning environment. As noted earlier, the subject matter in Ms. Raymond's class changed frequently such that even if I observed during the same time for three days in a row, I was not able to see a project continued across the three days. This was particularly salient for students with LD who would find themselves in class in a subject in which they were not usually present. For example, on one occasion students were finishing work at language arts "centers" that involved a rotation between computer work, story writing, independent reading, and playing board games. Several minutes after explaining the rotations, the time each group would be at their centers and sending groups off to work, Ms. Raymond noticed that the students with LD were milling around. She quickly got out a board game and told them to play for the entire time. Although she eventually included the students with LD in the learning activities, there was wasted time when these students were not integrated into the classroom activities, the board game was too difficult for the students, and they remained as a group for the entire time rather than rotating among the centers. In addition, forgetting that students with LD were

present was a theme in her classroom that was a likely signal that students with LD, as members of the classroom community, were not as valued as the other students in the class.

Students with LD were also more likely to be pulled out of class to speak with the special education teacher, to be part of a group with the counselor, or to meet with mentors. It was not uncommon for the general education teacher to be unaware of where the student with LD was when he or she was not in class. Often a student would return 15 or 20 minutes into the lesson. Although I have no measure of the value of these special groups and indeed LD students were chosen because they were likely to benefit most from the special attention, it took them out of the general education class and disrupted their integration into the lesson of the day.

Finally, students with LD also participated more in classroom activities when the general education teacher was the leader of the class. Guest speakers and student teachers may not have been as attuned to students with LD and were more likely to lose patience when these students did not do what was asked of them. Similarly, students with LD were less compliant with adults with whom they did not have an established relationship.

### ***Seating and Assignment to Groups***

Teachers varied in their ability to make the lessons accessible to students with LD. Because teachers made limited accommodations for students with LD, students were generally left to do whatever the rest of the class was doing in whatever way they could. Group assignment was influential and teachers often mentioned who

students sat near and worked with as important to the amount of work they accomplished. Ms. Berman preferred to allow students to choose their own groups but noted that Brittany “needs to pick a group to work with where she’s got some kids that could, would be willing to help her find answers rather than just giving her the answers, and have some natural teachers in it.” It might be difficult for most fifth graders to independently organize a group with those characteristics. Ms. Raymond often drew names randomly for student groups and on one occasion, Tony was in a group that was off-task and arguing. Apparently the five students in this group were poor readers and the material was too difficult. A portion of the interaction between the students in this group and Ms. Raymond follows.

Student 1: They don’t even want to read.

Ms. Raymond: Well we don’t have to all read. If one person really likes reading they can volunteer to read it.

Student 2: I don’t really like reading.

Ms. Raymond: Well what’s the fairest way to solve it?

Student 3: Then she don’t want to read, she don’t want to read, and he don’t want to read. And she’s already read.

Tony: I can’t read that good.

Student 2: \*\*\*

Ms. Raymond: What I find interesting is that ya’ll are going to argue about who is going to do the reading and you are going to get a zero on this assignment. Or someone can step up to the plate and be a leader and read for

the others and know that everyone is going to listen so that you can accomplish your goal which is to-

Students: //I'll read, I'll read.// [several students at once]

Ms. Raymond: Now we're all fighting to read.

Although she berated the group for not accomplishing the reading task during the lesson, she later admitted that it would have been difficult for them to complete the assignment effectively because of the low reading levels of the members of the group, not all of whom had a special education label. As noted earlier, Ms. White appeared to be very aware of grouping and seating and often moved her student with LD around the room so that he could see the board, the video monitor, or work well in a group. Still, while Ms. White was vigilant in her attempt to make sure Kevin was in an appropriate group or placement in the room, she did not place him in a regular seating assignment. One small but representative result of not having a permanent seat was that Ms. White often assigned row points to students for being on-task, an accumulation of which earned the "winning" row a prize. Because Kevin was in a different row each class, the value of this classroom management system may not have been as important to him. In her attempt to involve Kevin, Ms. White not only put herself in a position in which she was forced constantly to monitor his placement in the room which was quite labor intensive for her, but also, Kevin did not have the identity of having his own seat or group to work with.

While finding the correct placement for students with LD was a continual challenge for Ms. Berman and Ms. White, it seemed to be more of an afterthought for

Ms. Raymond and Ms. Franklin. However, regardless of teachers' practices regarding grouping arrangements, teachers reported that the peers that students with LD worked with and sat near had the potential to positively or negatively influence their work completion in class.

### ***Interactions***

Interactions provided the lens through which I observed teachers negotiating the integration of students with LD into the learning environment of the classroom (the central phenomenon). In that way, interactions served two purposes in this study. First, they were a data source that I used in combination with additional information sources (i.e, observation notes, interviews, teacher reflections) to develop the central phenomenon and supporting themes. As such, interactions are used throughout to provide evidence for the themes that emerged. Second, the characteristics of interactions also became an integral part of the theme, *classroom practice*, because teachers enacted learning tasks through interactions with students.

Although interactions have been discussed in detail in a previous section, I will highlight several of the findings that influenced the integration into the learning environment. Because one of the purposes of including a target student in each classroom who was average achieving was to compare the interactions between teachers and average students to the interactions between teachers and students with LD, I will also include relevant comparisons between student groups.

First, teachers spent more time engaged in interactions with students with LD, although those interactions were most often behavioral or procedural in nature. Still,



the amount of time that teachers spent attempting to increase the participation of students with LD while in the GE classroom is noteworthy. Furthermore, with the exception of Ms. Raymond, who was more negative with her class in general than were the other teachers, the behavioral and procedural interactions were generally not negative or demeaning. Because behavioral and procedural interactions rarely required a response from the student, my impression was that teachers expended a great deal of energy to bring the students with LD along with the rest of the class.

As noted earlier, work-related interactions were not as fruitful when teachers were talking to students with LD. Most focused on task level exchanges, and when course content was part of the discussion, it was more likely that students with LD did not show evidence of understanding during or following the interaction. On the other hand, while average students had fewer work-related interactions, they had a higher percentage of those that referenced content (AA – 66%, LD – 57%), and of those interactions, a higher percentage in which evidence of learning was present (AA – 84%, LD – 50%).

Students with LD were also less likely than their average achieving peers to be called on by the teacher in front of the class as well as less likely to volunteer responses or to initiate questions. When they attempted to respond to teacher initiated questions, they were more likely not to know the answer or to answer incorrectly. When they did answer, responses tended to be short and not as articulate as those made by AA students. Furthermore, although teachers infrequently asked for

elaborations on student responses, they were more likely to ask AA students than students with LD to elaborate on responses or to give suggestions or opinions.

Following is an example of an exchange that is representative of the types of participation that occurred with AA students. During a whole class social studies review session, Ms. Berman was calling out terms and asking students for definitions. The teacher asked for a volunteer. The average student volunteered *and* was called on to respond. The teacher gave positive feedback and reformulated the student's response in front of the class, signaling that it was valued by the teacher and was indeed a correct response. In this sequence the teacher went on to ask the student to explain how she got her answer. Relevant turn codes are noted in brackets.

Ms. Berman: A request for peace. I guess I should say a written request for peace. What document was a written request for peace? [request information]

Lily: [raises hand] [bid]

Ms. Berman: Lily? [nominate]

Lily: Olive Branch. [give information]

Ms. Berman: Good. Good job. Olive Branch Petition. And what in that sentence helped you? [give reinforcement, reformulate, request elaboration]

Lily: Olive Branch was a symbol for peace. [give elaboration]

Ms. Berman: Yeah. The olive branch was a symbol for peace. [acknowledge, reformulate]

Although Lily, the AA target student, had a relatively low interaction rate with the teacher (2.27/hr compared to 7.31/hr for the student with LD), this interaction,

and others like this one, provided valuable information to the AA target student and her peers regarding her status as a valued and contributing member of the classroom learning environment.

The AA student in the above example had the information that the teacher requested readily available. This was not the usually the case for students with LD. Therefore, it is not surprising that teachers generally spent more time assisting students with LD than they did assisting average students. For the most part, Ms. Berman and Ms. White interacted more with and were also more successful at integrating their students into classroom activities. Ms. Raymond was perhaps the least effective. Interactions in her classroom also demonstrated that on many occasions, Tony was left out of activities, asked about material that occurred when he was in the special education classroom, or ignored and allowed to wander around the room or between her classroom and the special education teacher's classroom. Relative to the other students in her class, Ms. Franklin made frequent contact with Ronald. Although she gave him personal attention, it was not enough to result in Ronald being an active participant in the learning activities of the class. For example, prior to a group presentation in social studies Ms. Franklin approached Ronald's group in an attempt to elicit from him what he would contribute.

Ms. Franklin: What are you going to say? [looking at Ronald]

Ronald: [shrugs shoulders]

Ms. Franklin: Well you better figure it out. [moves to another group]

The following interaction took place several minutes later during the presentation after Ronald had not contributed.

Ms. Franklin: Ronald?

Ronald: [no response]

Student: Ronald didn't go.

Ronald: [shrugs shoulders]

Ms. Franklin: You can say something somebody else said. That's okay.

Ronald: [no response]

After waiting several seconds Ms. Franklin called another group to present.

Although she made attempts to include Ronald, they were not effective and he did not participate. Ms. Franklin found herself in a difficult situation, which was mirrored by the other teachers in this study. Clearly, she wanted Ronald to participate. She made an attempt (albeit unsuccessful) to prepare him prior to the reporting out phase and then probed him for a response during the presentation. However, Ms. Franklin (and the other teachers) made decisions regarding how much energy to expend and how much class time to devote to her target student with LD, based in part on her divided attention between the student with LD and the rest of the class.

Teacher variation in interaction style in general, also influenced the interactions with students with LD. Some teachers simply spent more time in verbal exchanges with students. Both Ms. Berman and Ms. White were engaged throughout their lessons in interactions with students either during the IRE give and take of large group discussions or while bringing students to the task or assisting them in small

groups or individually. More talk with students overall resulted in more talk with students with LD, which in turn, seemed to result in greater task involvement for those students. This is not to say that teachers who spent much time talking with students were always engaged in productive exchanges that resulted in student learning, and indeed they were not, but more opportunities to engage students seemed to result in higher work production for students with LD.

The differences between average achieving students and students with LD demonstrate that students with LD were not given the same treatment as the other students in the classrooms. Although teachers varied in the effectiveness of their interactions with students with LD, in most cases teachers expended more energy to include them than they did with average achieving students, regardless of the individual characteristics of the students.

### ***Section Summary***

Classroom practice influenced learning for all students, although the students with LD seemed particularly sensitive to the teacher's actions. By classroom practice, I mean not only the lessons and how they were structured, but also the daily events and rhythm of individual classrooms. In the next section on classroom involvement I describe student response to that which was set forth by the teachers.

### **Student Response: Involvement**

An important phenomenon that is related to teacher beliefs and classroom practice was that students with LD followed a fairly predictable pattern of how they responded to the tasks that teachers presented to them. I will use the concept of task

involvement to discuss the variation. Student involvement has been associated with academic achievement and motivation (Skinner & Belmont, 1993; Skinner, Wellborn, & Connell, 1990). For the purpose of this discussion, I have defined student involvement similarly to how Schallert and Reed (1997) used the concept in reading involvement. As such, a student would be highly involved in a task if he or she were engrossed in the task for the pleasure of doing the assignment and not simply for the goal of task completion. While a student would be on-task if he appeared to be doing what was asked or expected, a student would be involved only if he were caught up in the task at a deeper level. For students with LD, and to a certain extent for low achieving students, observed learning situations could be divided into three involvement types: *High involvement, inconsistent involvement, and low involvement*. Although this discussion might apply to average students in challenging learning environments the following descriptions did not apply to the average students in this study, most likely because the work was easily accessible to them either on their own or with minimal intervention from the teacher.

### ***High Involvement***

High involvement occurred for students with LD if a task was clearly articulated and straightforward or if a student was assigned an active role in learning. In these situations, students sustained attention for long periods of time, were seen “doing work” (i.e, writing down answers on paper, discussing with group members) and were the most likely to show work to teachers, ask questions, and initiate answers to teacher initiated questions. Tasks of this nature included completing worksheets

and looking up dictionary definitions. Occasionally, students with LD were highly involved in more complex tasks such as cooperative learning group work or a science experiment. High involvement occurred in these situations most often if students with LD were assigned an active role such as being the note taker or when the teacher monitored on-task behavior closely during a more involved activity.

### ***Inconsistent Involvement***

The second involvement type was inconsistent involvement in which a student appeared to come in and out of participation in a task. The focus during inconsistent involvement seemed to be on task completion. The student might ask for help from the teacher to complete a question or problem and might eventually have the “correct” answer written down, but evidence of understanding was not always present in interactions that occurred during inconsistent involvement. Another phenomenon observed during inconsistent involvement was students who appeared to be working, but just were not getting much done. Perhaps they would appear to be reading and the teacher would approach to find the student was flipping through the pages or a student would focus on one part of task (e.g., copying a diagram off the board) and never actually solve the problem. Inconsistent involvement was often revealed during private one-to-one interactions between the teacher and the student.

### ***Low Involvement***

A final type of involvement was low involvement, which occurred when a student appeared to be engaged in task avoidance. Students might be very slow to get started, resulting in procedural or behavioral interactions with the teacher, or engage

in off-task behavior such as talking to or bothering other students or wandering around the room. Low involvement occasions occurred most often when a student did not know what to do because: (a) the work was too difficult, (b) the assignment was not clearly articulated, or (c) the student either was not present for or was off-task during the explanation of the task. Students also exhibited low involvement when they were not held accountable for work completion. For the target students in this study, involvement was measured by both on- and off-task counts (by the teacher or me), by the content of the interactions, by observation notes, and teachers' lesson reflections. Students often appeared on-task but when interactions during this time were analyzed, it indicated that they were not as involved as they appeared. An example of a chart summarizing various data sources in order to assess student involvement during one lesson is presented in Figure 2.

Interestingly, each student with LD had days or periods of high involvement regardless of their academic ability or the classroom they were in. Noticing periods in which students with LD are highly involved in learning tasks would be important for the teachers in this study who tended to believe that students either were not capable or not willing to sustain attention in learning tasks on a regular basis. Teachers might have benefited from analyzing the times in which their students were highly involved and comparing them to times when they were not. There was one teacher who made a similar observation for her low achieving target student. She noticed that he was on task more during small group work than during whole class or independent assignments and she attempted to incorporate more group work into her lessons as a



result. For the students with LD, teachers tended to place the responsibility of involvement on the students. For example, while Ms. Franklin commented, “He won’t do it unless it’s for a grade typically,” the two occasions when Ronald was highly involved appeared to be more dependent on the activity and how it was structured and not on the grade that was attached (in both cases grades were not assigned).

There were situations when students with LD were highly involved, but more often they were trying to get through the assignment and occasionally to avoid the assignment altogether. Students with LD wrote more slowly, did not spell or read as well, and were not as articulate as the other students in the class, including those who were low achieving. When students with LD sustained effort, they rarely finished tasks at the rate of the other students. In conclusion, it looked like hard work to be a student with LD in these classrooms and, after day after day (or years) of lagging behind, one might suspect that effort and motivation would suffer.

### ***Section Summary***

Students varied in their involvement in academic tasks according to various features of the task itself and how the teacher presented and monitored students as the task proceeded. Throughout the observations, each student with LD had moments of high-involvement in tasks that teachers assigned, however it was more often the case that students had inconsistent involvement in tasks, focusing more on task completion and getting answers down on the page. Teacher-student interactions also indicated that during class teachers focused on getting students with LD through the task, most

frequently at the behavioral or procedural level, rather than focusing on a deep understanding of the content.

### **Teacher Perception of Student Success**

#### ***Defining Success***

For students with LD, teachers most commonly viewed success in terms of the following: Not bothering other students, staying focused (i.e., staying in seat, listening to directions), being on task (i.e., doing “the work”), turning in work, participating in discussions/asking questions, trying hard, being motivated, having self-confidence (e.g., persisting when work is difficult), having academic ability, and caring about school work. Any one characteristic would not be an indicator of success but exhibiting some combination of the above characteristics might indicate success for a lesson or over a longer period of time. Teachers did not solely value passing grades or academic achievement. For example, the perception of trying hard was highly valued by teachers. Success according to teachers then, was not purely an academic issue for students with LD but involved being an active and willing member of the classroom during learning situations. Because in most cases students with LD did not complete the same amount of work in the same way as the rest of the class, teachers perhaps needed additional criteria by which to evaluate their success in class.

**Figure 2. Sample Chart Constructed from all Data Sources Regarding Student Involvement for One Day.**

Teacher/summary info	Field notes: Observer #1	Field notes: Observer #2	Teacher's lesson response	Evaluation
<p>Ms. White/Science 3/27/02</p> <p>Observation Length: 51 minutes</p> <p>8 Interactions: 2 WR, 1 B, 1 WR/B, 4 P</p> <p>On-Task Count: Observer #1: 5/7 Observer #2: 4/7</p>	<p>Class had a discussion and copied notes from board. Students worked in pairs to read and review material. White went to Kevin's group at start of group work and checked in several times. Watched a film strip towards the end of class. Becomes more interested after White called on him to read. White gave him a couple of words during reading but otherwise read well. Kevin copied notes, and worked with a partner. White spent lots of time reining him back in from talking with neighbors and fidgeting. Pretty typical day.</p>	<p>Took time to move to seat assigned by teacher. On task some of the time during note taking, but did a lot of writing, despite playing with pencil a lot. Talked to girl in front of him a lot. Did not seem to pay attention when girl in group read. Interested in watching slides during film strip although laid on chair part of the time. One of the more off-task students during class.</p>	<p>Teacher reported that: "This was a representative lesson although there was not as much "hands on" as usual." Ronald met lesson objectives. "He took notes and watched film strip. He did not always read the assigned material. He had on and off task moments and took longer to get started than most of the other students." Work was high quality: "Kevin usually has more off task behaviors, out of seat, moving around, talking, playing with objects."</p>	<p>Lesson Involvement: inconsistent My sense is that this was a typical day for Kevin although White felt he was more involved than usual. He was on and off task throughout the lesson. He had one period where he appeared very interested in the lesson (during a portion of the film strip) but otherwise he came in and out of doing the work and never seemed truly "into" the assignment, particularly during group work. White gave frequent P and B reminders to bring him to the task.</p>

To illustrate this point, I turn briefly to the experience of the average achieving target students as described by the teachers in this study. Teachers used half as many characteristics to describe the success of average achieving students. These included getting good grades, having academic ability, working well with others, being motivated, and staying on task (only one reference). It appeared that teachers did not need as many indicators for success because the average achieving students were obviously successful. That is, they did the work in a timely manner, they did not misbehave, and met the teachers' classroom expectations for academic performance. Perhaps because both performance goals and outcomes were often not as clear for students with LD, descriptions of success, or failure for that matter, were more complex. All students were receiving passing grades, some showed improvements in grades over time, and there were occasions when teachers reported that students were successful. However, overall, the teachers did not consider their students with LD to be succeeding at the level they would have liked in their general education classrooms.

Interestingly, this was not the case for the target students who were low achieving. All teachers felt that LA target students had progressed academically throughout the course of the study and the school year. Teachers attributed their success to more successful communication with parents, students responding positively to the trial intervention, students receiving more individual attention from the teacher, and students taking more responsibility for accomplishing work. Analysis of interactions demonstrated that two students had high rates of teacher reinforcement

and two others had relatively high rates of acknowledging responses by the teacher. In addition, LA students had higher proportions of WR interactions that made references to course content, and of those content referenced interactions (LA – 65%, LD – 57%), they had a higher proportion that contained evidence of understanding (LA – 75%, LD – 50%). Teacher reports as well as interactions revealed that the LA students in this study were more successful at academic tasks than students with LD. Although there was not enough evidence to measure categorically why one group was more successful in the eyes of the teachers than another, teachers clearly communicated that in all cases, LA students were more successful than were students with LD.

### ***Caring***

Perceptions of success may be influenced by the extent to which teachers were able to engage in caring interactions with their students with disabilities. Furthermore, if teachers believe students are successful, they are more likely to continue to work hard to help them succeed. In brief, caring involves a teacher providing appropriate assistance at just the right level and in a way that is meaningful to the student. There are two critical features of a caring encounter: (1) the caring person must be engrossed in the caring interaction and (2) the recipient must acknowledge that caring has taken place in order to validate the interaction (Noddings, 1992). Although there is limited evidence to suggest that teachers provided just what students with LD needed to learn, there is even less evidence that these attempts at assistance were acknowledged by students. In an initial interview, teachers were asked to discuss the

positive and negative aspects of working with students who struggled to succeed, either low achieving or students with LD. Teachers consistently commented on the rewards of seeing struggling students succeed, being able to motivate a student who was previously unmotivated, and when “you can turn somebody on.” Although there were occasions when students with LD were highly involved in learning and expressed their excitement to teachers, there were many more occasions when students did not give that feedback to teachers. For example, after discussing the trial intervention with Brittany, Ms. Berman was taken aback by her lack of response. During the following communication, she began with Brittany’s response to a discussion they had regarding the results of Ms. Berman’s record keeping of Brittany’s on-task behavior:

‘Okay.’ I mean that was all she said. Well I told her, ‘I want you to, look, we’ve been watching what you’ve been doing, every five minutes. And I told her ‘you were in the restroom a long time, you were out of your seat at the pencil sharpener, you were talking, when you were supposed to be reviewing you were visiting, you were out of your seat, you were doing everything but, and it’s more than half the time. You are not doing what you are supposed to be doing.’ And I said, ‘That’s why you don’t do well in social studies. You are not attending. You are not on *this* side enough.’ And she said, ‘Okay.’ That was her total reaction.

Ms. Berman seemed to be communicating that for all of her work to monitor Brittany and to assist her in class, she hoped for at least some response from her that acknowledged that Ms. Berman was trying to help her, or indicated that she would try harder. However, after all of Ms. Berman’s efforts, Brittany appeared indifferent.

For students who were average achieving and even for low achieving students who were held to class wide standards, the work product and often the resulting

grades demonstrated learning to the teacher. Students with LD were not typical learners. They did not always finish or hand in work, they were often off-task or did not *look* like they were learning. They might complete tests in content mastery and although they came back to class with a finished test, teachers did not necessarily accept the results as evidence of learning. In addition, interactions with teachers did not always provide response opportunities for students. Many more interactions involved redirection, giving directives, guiding students to the task, or getting them through the task than involved discussions about course content. In terms of work-related interactions that involved references to course content, it was almost as common for an interaction to lack evidence of student understanding than it was for student understanding to be evident. All teachers spent more time talking to students with LD than to the LA or AA target students, with not much indication that students were learning what the teacher was teaching. Furthermore, when students did succeed, teachers often were surprised and did not take credit for the success.

Successfully negotiated caring encounters generate more caring encounters. Ms. Berman and Ms. White expended a great deal of energy to assist their students with LD and when these students did not acknowledge their attempts, it was frustrating for the teachers and they felt that both they and their students had failed. Ms. Raymond liked Tony but did not engage in appropriate interactions that would benefit him academically. Ms. Franklin never fully grasped what Ronald needed to be successful in her class and neither was he able to communicate his needs to her. On the few occasions when she provided assistance that was appropriate and

comprehensible, Ronald acknowledged the help either verbally or by completing the assignment correctly. Ms. Franklin struggled to connect with Ronald and did not know what he needed to be successful in her class. Ms. Raymond and Ms. Franklin did not attempt as many caring interactions and thus may not have internalized the failure of their students to the extent that the other teachers did.

### ***Taking Responsibility***

There appeared to be two opposing attributions for student success among the teachers in this study. Ms. White and Ms. Berman expressed frustration that their students with LD should have been able to accomplish more than they did during class, but they also held themselves accountable to a certain extent for the failure of their students. During interviews these teachers mentioned that certain tasks were more motivating to students than others; trying various things to motivate students; providing additional assistance outside of class; and the difficulty of keeping students with LD on task, getting work handed in, and communicating with parents. Although teachers reported that they learned more about their students and came to know them better through the participation in this study (or else, I made that evaluation), they continued to feel frustrated by their students' performance in class. As Ms. White stated:

Kevin, I felt we did not make quite as big an impression on Kevin, um he's not, I haven't seen a whole lot of change in him. He's just about the way he is now is the way he was in the beginning, although there were individual times when I think he was trying to do better, and it just hasn't stuck with him and hasn't been as consistent as it was with Alex [low achieving target student].



It appeared that these teachers had attempted to partake in caring encounters that were not reciprocated by their target students with LD.

While Ms. Raymond and Ms. Franklin did not express the same level of frustration or regret that their students had not been successful academically in their classes – although both teachers admitted that they were not successful academically - they seemed to have relinquished responsibility for either the gains or failures of their students with LD. Ms. Raymond did not appear concerned about Tony’s lack of progress, but rather appeared to have disengaged from him. In fact, when asked about the goals for him in class, she stated at the end of the study that they were predominately social because he did not “grasp what I was trying to get [at].” Further, when asked if she had tried to make any modifications with the math warm-up for Tony (which had been discussed with me during an interim interview), she stated that she had not tried anything and then went on to describe something that was being taught in the special education classroom. Similarly, during a discussion of how Ronald had passed the statewide achievement test in math, Ms. Franklin stated that she was surprised by the results and attributed his success to the work that had been done in the special education classroom. As noted in the section on expectations, Ms. Franklin stated that she did not know that he would pass because she did not teach him math. She also reported that she had tried to work with him earlier in the year but that “I don’t know, I would try, but, and you would sit there and explain things to him one-on-one and I felt like he didn’t get it.”

As I tracked Ms. Franklin through the themes in this study, I identified several ways in which she disengaged from Ronald as the school year progressed. A combination of limited time in class, failed attempts to help, lack of knowledge regarding his ability, lack of knowledge of him as a person, a limited repertoire of accommodations to try, low expectations, and few indications from Ronald that he was making progress appeared to distance Ms. Franklin from the learning of this student while he was in her class. While she took a personal interest in him throughout the course of this study and took time to learn more about him personally, she was never successful at integrating him into the learning activities of her classroom.

There are several factors that may have influenced the two stances towards the attribution of success for students with LD. First, as noted previously, Ms. Berman and Ms. White expended more energy attempting to assist students and may have been frustrated when students did not reciprocate (i.e., were not academically successful) their attempts at caring interactions. Second, the students at Carson elementary (Ms. White and Ms. Berman) were in the general education classroom for a longer period of time each day than the students at Eisenhower and the schedule was very consistent. Thus, the demands on the teacher remained the same throughout the school year. At Eisenhower, schedules were constantly changing and in addition, partway through the study the fifth grade teachers made a substantial change to their schedules and teaching load in which they departmentalized, diminishing the time that the students with LD were with them. Although a daily math activity was taught

in each class, it was not as formal a teaching period as were the social studies and science classes at Carson. Furthermore, the teachers at Carson elementary were far more experienced and may have been able to more successfully manage the demands of a variety of learners in their classrooms. Perhaps the teachers at Eisenhower elementary were already overwhelmed by the academic demands of their classes and thus, took the opportunity to disengage from the special education students as a coping mechanism.

### ***Section Summary***

Teachers were concerned with whether or not their students with LD were successful in class and they used a range of criteria by which to describe that success. However, the criteria for which a student would be considered successful academically were not as clearly articulated. In all cases, teachers did not judge students with LD to be successful which may have in part due to the fact that teachers were not always able to partake in caring encounters with students. For the most part, teachers put much time and effort into the integration of their students with LD into the learning community, although both the amount of support and its effectiveness varied by teacher. Attributions for success also differed by teacher with Ms. White and Ms. Berman taking more responsibility for the success and failure of their students with LD than Ms. Franklin and Ms. Raymond.

### **Conclusion**

In this chapter I have described the individual teachers and their classrooms, the interactions that took place, and outlined a model for understanding the

integration of students with LD into the general education learning environment. The successful integration of students with LD into general education classrooms is multidimensional with academic success being just one aspect. However, given that students with LD struggle academically and typically do not have their academic needs met in general education classrooms, the extent to which teachers can effectively support them in accessing the curriculum is of great importance. In the next chapter I will discuss my findings in light of existing research and draw conclusions from the analyses I have just presented.

## CHAPTER FIVE: DISCUSSION

This discussion is presented in terms of the original research questions. For coherence, I have re-ordered the questions slightly such that question 4 now follows the discussion of questions 3 and 5. I also address the importance of the conclusions drawn from this study in light of current research. After the research questions, I report several limitations of this study as well as implications for future research and practice.

### **The Research Questions**

#### ***Question 1***

*How much time do teachers spend interacting with students with and without learning disabilities in general education classrooms?*

Previous research on interactions between teachers and students with disabilities provides inconsistent findings regarding the amount of time that teachers spend interacting with students with LD in general education classrooms. Some researchers have found that teachers spend more time interacting with students with LD (Chapman, et al., 1979, Forness & Esveldt, 1975; Thompson, et al., 1984), others have found that teachers have lower rates of interacting with students with LD in general (e.g., McIntosh, et al., 1993) or when they maintain certain beliefs about students (Jordan, et al., 1997; Jordan & Stanovich, 2001), while still others report that teachers spend the same amount of time interacting with students with LD as they do with their non LD peers (Alves & Gottlieb, 1986; Chow & Kasari, 1999; Richey & McKinney, 1978). Given these inconclusive results, frequency of interactions was a logical starting point in my study.

The four teachers I observed interacted more frequently with target students with LD, followed by LA target students, and had the lowest numbers of interactions with their AA students. Similar to previous studies (e.g., Chapman, et al., 1979), many of those interactions were behavioral or procedural in nature. It is notable, but not surprising, that teachers spent a great deal of time engaged in behavioral interactions, particularly since approximately 75% of students with mild to moderate disabilities exhibit social skills deficits (e.g., Kavale & Forness, 1996). However, it should also be noted that none of the LD target students in this study stood out as being “behavior problems.” They were not defiant or disruptive, although all students with LD exhibited more off-task behavior than did the AA target students. Indeed, the teachers in this study frequently described lack of motivation, not caring about school, and off-task behavior as characteristics that inhibited the performance of their students with LD.

Procedural interactions varied by classroom, with more interactions of this nature occurring in Ms. White’s science class where she facilitated the coordination of many hands-on activities throughout her lessons. In all classrooms except Ms. Berman’s, students with LD also had a higher proportion of interactions that were procedural than AA students. The higher proportion of behavioral and procedural interactions for most students with LD is indicative of the time teachers spent bringing these students along with the rest of the class in order to participate in academic tasks – without yet interacting with them regarding the content of the assignments. It did not appear that students with LD were *not* willing to participate,

but rather that they required teacher assistance in order to navigate their way through the lessons in the general education classrooms. Without such intervention, students with LD would quickly become off-task and appear to drift from the rest of the class.

It was only after teachers were able to get students with LD to locate the appropriate materials, find their seat or group to work with, begin at the designated place in the text book or copy down the requisite notes, and return from an extended trip to the restroom or pencil sharpener, that teachers were able to engage in work-related interactions. My findings are similar to Mehan's (1998) report of the phenomenon of "getting through" (p. 258), in which despite some differential treatment of certain student groups, "mostly the teacher and students were organized to get through the practicality of the classroom lessons" (p. 259).

In all classes except Ms. White's, teachers engaged in more work-related interactions with students with LD than with AA students. Despite the time that teachers spent talking to students with LD about assignments, in most cases the quality of those interactions was not very high. The next research question focuses on the quality of interactions.

### ***Question 2***

*How can we describe the quality of the interactions between the general education teacher and students with and without disabilities?*

The discussion of Question 2 is divided into two sections. In the first section, I discuss how and when students were given opportunities to participate in work-related interactions with the teacher. In the second section, I address the content of

those interactions. Throughout this discussion, I reference quality of work-related interactions in terms of the analyses of (1) teacher initiations and student initiations and volunteered responses, (2) references to content, and (3) turn codes. Although both behavioral and procedural interactions were often necessary to guide students with LD towards participation in learning tasks, those interactions were not directly associated with learning lesson content. Therefore, although they were not categorically of “poor quality” (i.e., they also served an important function), I do not include them in the discussion of interaction quality as it relates to student learning.

*How and when student-teacher work related interactions occurred.* In two classrooms, target students with LD initiated fewer WR interactions than did average students. In Ms. Franklin’s class, student initiations were about equal for the LD and AA student and in Ms. Raymond’s class there were more teacher initiations for the AA student than for the student with LD.

Recall that Ms. Raymond and Ms. Franklin were less experienced than Ms. White and Ms. Berman and also taught in classrooms in which a variety of academic abilities and language proficiencies were present. One possible explanation for AA students having the same or more teacher initiated interactions in these two classrooms is provided by Baxter and colleagues’ (2002) work attempting to increase participation of low achieving and LD students in fourth–grade general education math classrooms. These researchers found that including students who were low achieving and LD in classroom discussion poses a unique challenge for teachers.



Because these students tend to be less articulate and generally understand the content at a more superficial level, these authors reported that:

[T]he depth of dialogue or discussion was sacrificed for a breadth (i.e., attempting to make sure that everyone in the class understood something from the [student] presentations). To be sure, trying to ensure that 29 students understand the lesson is a considerable task (p. 183).

Ms. Raymond and Ms. Franklin may not have directed questions to LD students at the same rate as AA students because they were trying to maintain the flow of discussion in their classrooms (Baxter et al., 2001). Furthermore, Jordan and Stanovich (2001) suggest that teachers, who feel that students with disabilities are behind the class academically and also have other specialists responsible for their academic achievement, engage in fewer interactions and at a more superficial level than teachers who do not hold those beliefs. This is consistent with the results of this study in which Ms. Raymond and Ms. Franklin took only limited responsibility for the learning of their students with LD, and as a result, may have avoided contact with them. However, despite the limited teacher initiations, the students with LD in these two classrooms still had a higher rate of work-related interactions than AA students, because of the occasions when they initiated interactions or volunteered responses.

Indeed, students with LD were not silent in the classroom. The three students who only occasionally volunteered to respond to teacher questions, initiated interactions more often. The fourth student had a higher rate of volunteering. Of special note are the two students with LD for whom over 50% of work-related interactions were either student initiated or volunteered responses. Turn codes

(assigned to each turn to indicate the nature of the speaker's words such as "request assistance" or "bid") indicated that this was due in large part to their willingness to ask for help. In a study of classroom context and help seeking, Ryan, Green, and Midgley (1998) noted that students with higher academic efficacy are more likely to ask for help when they need it. In addition, they also suggested that low achieving students are more likely to ask for help from teachers with whom they have a warm and supportive relationship. Although students with learning disabilities traditionally exhibit relatively low academic efficacy (see for review, Bender & Wall, 1994), at times they demonstrate behaviors akin to more efficacious students. In this study, students with LD most commonly asked for help when they were highly involved in learning activities. At these times, they presumably felt more competent academically and may have been more comfortable seeking help. Furthermore, although I have not reported on data regarding the perception of students with LD of their relationships with their teachers, teachers reported that they had positive relationships with their students with LD and the students appeared to be well accepted by their teachers and peers, which may have further facilitated their requests for assistance. In this study, asking for help was not a very important issue for AA students. They appeared able to complete tasks with little intervention from the teacher and asked for help only occasionally.

Despite evidence demonstrating that there were occasions when students with LD were actively involved and seeking participation in interactions with their teachers, similar to McIntosh and colleague's (1993) findings, students with LD in all

classrooms had a lower rate of volunteering responses to teacher-initiated questions than did AA students. Given the predominance of known-answer questions in classrooms (Cazden, 1988; Mehan, 1979) and that opportunities to volunteer responses occur in front of the whole class or in small groups, volunteering to answer a question to which the teacher already knows the answer is fairly risky business. Further, when students with LD did volunteer to respond or were called on directly by the teacher to answer a question in front of the class, they were more likely than AA students not to know the answer or not to respond. In order to save face in front of their peers, these students may have elected more often than not to keep quiet. The previous discussion of how and when students enter into interactions with the teacher is an issue of what Cazden (1988, 2001) has termed “speaking rights” (p54).

As she noted:

In typical classrooms, the most important asymmetry in the rights and obligations of teacher and students is over control of the right to speak. To describe the difference in the bluntest terms, teachers have the right to speak at any time and to any person; they can fill any silence or interrupt any speaker; they can speak to a student anywhere in the room and in any volume or tone of voice. And no one has the right to object (p. 54, 1988).

While the students with LD had individual characteristics that contributed to the ways in which they interacted with teachers, classroom observations were a reminder that teachers were in control of the talk that occurred. Considering the classroom in terms of Gee’s (1999) situation network, power is central to how we understand the events in these classrooms. These were “traditional” classrooms where the teachers were in charge, and as such, they had the capability to control

participation so that certain students were either afforded opportunities to participate or they were not.

*The content of work-related interactions.* To be sure, there were many missed opportunities in the interactions that took place between teachers and students with LD. In fact, from a sociocultural theory perspective, interactions for all students revealed weaknesses in instruction. According to Wells (1999):

[C]lassrooms should become communities of inquiry, in which the curriculum is seen as being created emergently in the many modes of conversation through which teacher and students dialogically make sense of topics of individual and social significance, through action, knowledge building and reflection (p. 98).

This study never intended to evaluate teachers using the above values. Rather, the intention was to investigate the integration of students with LD into classrooms that although perhaps not ideal, are the most likely ones that students with LD will find themselves a part of. However, it should be noted that I selected the teacher participants in this study for their expressed willingness to work with students with LD in their classrooms, initial observations using the Classroom Climate Scale, as well as their principals' recommendations that they were successful at teaching students with special needs. One might assume then, that these four teachers were at least above average in their proficiency with working with students with LD in general education classrooms. However, even when these "very good" teachers provided additional support to students with LD, they were not always successful.

The inclusion of AA target students was intended to provide a comparison. The exchanges that occurred between the teacher and the AA student, who was

successful in class, were taken as the standard classroom practice for that teacher. Differences between the AA students and students with LD could be evaluated as being something other than what might occur for a typical learner. Therefore the discussion that follows does not outline the breadth of factors related to the quality of interactions, but highlights those that were most salient for students with LD.

An important finding in this study is that only a limited number of work-related interactions with students with LD attended to course content, and when they did, evidence of learning was demonstrated only half of the time. To illustrate this point, I use Brittany, the student with LD who had the highest rate of work-related interactions of all the target students. In 25 work related interactions (at a rate of 5.71 per hour or about four work-related interactions for each 45 minute class I observed), 15 contained references to course content. The other 10 I judged to be at the task level (i.e., focusing on *how* to do an assignment). Of the 15 content-reference interactions, only 7 contained evidence that suggested that Brittany gained understanding in the area of social studies as a result of the interactions. Therefore, 28% of work-related interactions, or 22% of all of the interactions (7 of 32 total interactions) that Ms. Berman engaged in with Brittany contained evidence of learning. Although there was variation in the percentage of work-related interactions for AA students, on average 84% of content-referenced interactions demonstrated evidence of understanding (26 of 31 WR interactions) or 35% if all interactions are included (26 of 73 total interactions). Furthermore, in addition to exhibiting more instances of learning during

interactions with teachers, it is likely that AA students were afforded an array of opportunities to learn in the classroom in addition to interactions with the teacher.

Increasing the participation of students with LD as well as their achievement in content area instruction is a growing area of concern in special education research (e.g., Bryant, 2003; Klingner, Vaughn, & Schumm, 1998; Morocco, 2001; Woodward, 2002). In a recent study to improve the accessibility of science instruction to students with LD in fourth and fifth grade classrooms, Palincsar, Magnusson, Collins, and Cutter (2001) found that it was much easier to increase participation (i.e., conducting experiments, following procedures for documenting results) than to impart deep conceptual understanding. In order to do the latter, teachers needed to engage in what these researchers call “advanced teaching practices” (p. 29), in which teachers engaged in interactions that identified the thinking and reasoning processes of students with LD. Similar findings are reported by Kroeger et al. (2004). Because teachers in this study spent so much time interacting with students with LD but both their self-reports and my observations indicated that most students were not successful academically, it is likely that these teachers would have benefited from an increased understanding of their students in general and during specific learning tasks.

The ten interactions in science class between Ms Raymond and Tony reported previously, speak to this issue. Tony did not seem to benefit from their time spent interacting during the lesson until Ms. Raymond was able to identify why he was not completing the task of writing the hypothesis for his science fair project. Perhaps if

she had spent more time initially trying to elucidate Tony's current understanding, she would have been able to work with him more effectively. Although Ms. Raymond was the most extreme case in terms of her inability to meet the academic needs of her student with LD, all the teachers in this study, to varying degrees, exhibited similar behaviors during interactions.

All students engaged in both content-referenced and task-level, work-related interactions with their teachers – and in similar proportions. In fact, modifications for students with disabilities such as repeating directions and breaking the task into smaller parts were often carried out by the teacher through task-level, work-related interactions. Therefore, we might expect that a teacher who made many modifications would have even more task-level interactions with students with LD. Consistent with previous research (Baker & Zigmond, 1990, 1995; McIntosh et al., 1993; Schumm & Vaughn, 1992), the commensurate proportions of task-level interactions between AA students and students with LD confirms my observations and teachers' evaluations of their own teaching practices: Teachers in this study did not often modify instruction for students with LD.

The intention of this study was to contribute to an understanding of teacher-student interactions with the hope that my findings would have educational implications for helping teachers successfully support students with LD in general education classrooms. With this goal, descriptions of interactions are necessary but not sufficient to describe the processes involved. The model of teacher negotiation of

student (LD) integration into the learning environment will be used to discuss the findings of questions 3, 4, and 5.

### ***Question 3***

*What are the factors that contribute to differences among teacher-student interactions across classrooms?*

The differences that occurred across classrooms can be attributed to school, teacher, and student variables. While one of the benefits of naturalistic inquiry is to gain an in-depth understanding of specific cases, a downfall is that this type of study does not easily lend itself to a parsing out of individual influences. Rather, for each of the four teachers, I found a combination of factors, that when taken together, resulted in the patterns of integration into the learning environment that each teacher negotiated with her target students. Nevertheless, differences between classrooms suggested that influences (such as *teacher beliefs* about special education and the use of accommodations) combined in specific ways to inform *classroom practice*, which in turn, influenced student's *levels of involvement*. Taken together, beliefs, practice, and involvement all had the potential to influence a teacher's *perception of student success*. As I have presented in Figure 1, arrows in the model lead both to and from each theme, suggesting that influences were reciprocal.

An important aspect of learning is obviously the extent to which teachers are able to engage students in learning activities. A factor that differed across classrooms as well as across lessons within the same classroom, was the extent to which students with LD became involved in learning activities. Although students responded quite



differently to learning activities, all students with LD had occasions in which they were highly involved in academic tasks. In addition, my data suggest that these students had the potential to be more involved than they were – and teachers had the ability to assist students in becoming more involved. When teachers held students to high expectations, clearly articulated the goals of lessons, monitored student work closely, and made their knowledge explicit (by taking time to allow students to identify their understanding by listening to them), involvement was higher, although not guaranteed. Still, there was a predominance of situations in which students with LD demonstrated inconsistent or low involvement in learning activities by doing just enough to get by, or by avoiding tasks all together. Although certain activities lent themselves to higher involvement (i.e., looking up dictionary definitions, filling in worksheets), for more complex – and perhaps more meaningful – activities, teacher-student interactions were key to assisting students in becoming highly involved. However, data on the quality of interactions suggest that facilitating involvement through teacher-student interactions was a challenge for teachers.

The amount of talk that occurred between teachers and students appeared to be related to student involvement. In classrooms or on days in which teachers interacted more with students in general, students with LD also engaged in more interactions, and tended to be more involved in learning activities. This finding was interesting in that it did not appear to be simply a function of the quantity of interactions. Rather, on days or in classrooms when teachers interacted more with all students, the *quality* of instruction seemed to be higher. For example, during a small

group activity in math, Ms. Franklin spent time with each group, questioning students and listening to their explanations. Doing this throughout the lesson resulted in a high number of interaction opportunities for all students (including her target student with LD), and the interactions were generally at a higher level. This finding is consistent with research on effective instruction for students with LD that highlights interactive dialogue between teachers and students (Swanson, et al., 1999; Vaughn, et al., 2000).

In terms of teacher differences related to school context, I frequently grouped Ms. Franklin and Ms. Raymond (Eisenhower) separately from Ms. White and Ms. Berman (Carson). As stated earlier, the two schools in this study were not equivalent. Eisenhower had a higher proportion of students from impoverished backgrounds and of students who were not native English speakers. Although not a perfect indicator of academic proficiency, fifth-grade TAAS scores in reading and math suggest that most students at Eisenhower were at a lower level academically than were the students at Carson. In addition, the daily structure was less consistent and there were more interruptions during lessons. The pace of instruction at Eisenhower was slower than at Carson, perhaps in part because of students' academic ability, to make the curriculum accessible to students from non-mainstream cultural backgrounds, or because teacher expectations were lower. Furthermore, the students with LD were included in their general education classrooms for less time than the students at Carson.

There were many occasions after observing both schools in one day that I wondered if students at the two sites were being given equivalent opportunities to learn. Differential opportunities to learn is becoming more prominent in special

education research as the criteria for identification of learning disabilities may soon be considered in terms of a response to instruction model (see Vaughn & Fuchs, 2003). That is, failing in an effective learning environment calls for different interventions (i.e., outside specialists) than failing in a less effective learning environment (which first warrants better educational opportunities for all students in the class). There were commonalities among teachers teaching at the same site that contributed to the conditions (Strauss & Corbin, 1998), or network of background contextual influences, that impacted how these teachers fit into the model.

There were additional individual differences across classrooms, one of which was teachers' response to student characteristics. By chance, of the four target students, three were close to grade level, and one student (Tony in Ms. Raymond's class) was not. According to Ms. Raymond, Tony's reading and math levels were somewhere between the first and second grade level and he had very poor short-term memory. In addition, Tony was in her class for a small amount of time, which she noted as a factor that made it difficult for her to keep him on her "radar." Many of the decisions that Ms. Raymond made regarding Tony appeared to relate to her knowledge of Tony as a learner (*knowledge of students*) and the amount of time he was in her class (*perceptions of disability*). For Ms. Raymond, these aspects of the *teacher beliefs* theme, accurate or not, were the roots at which the other themes connected. Stemming from her beliefs, Ms. Raymond held low expectations for Tony, did not make accommodations for him, nor did she engage in caring encounters or take responsibility for his learning.

Ms. Raymond was the only teacher who voiced a relationship between issues associated with disability and specific learning tasks. For example, she stated that the math problems she used were “absolutely” out of Tony’s range and referred to his reading ability in reference to his failure during individual lessons. This belief appeared to be related to the quantity and quality of interactions she engaged in with him and identified weaknesses in her instruction. For example, I did not observe any work-related interactions with Tony during the math-warm up portion of her lessons.

My data suggest that teacher beliefs of student characteristics also impacted students with LD who were close to grade level. Ms. Franklin was unsure of Ronald’s level and thus was also unsure of how much to expect from him academically. Accordingly she did not hold him to high standards of learning. Ms. White, Ms. Berman, and Ms. Franklin tended to focus on motivational issues rather than academic ones. As Ms. Berman stated regarding Brittany, “I think she’s capable, it’s just that she doesn’t.” As noted previously, both teachers spent a great deal of time interacting with their students with LD. One would hope that teachers would perceive students with whom they had worked so hard, to be successful. On the contrary, the teachers seemed exhausted by their own efforts to support these students. This situation raises the issue of the enactment of caring encounters noted by Noddings:

They [students] feel alienated from their schoolwork, separated from the adults who try to teach them, and adrift in a world perceived as baffling and hostile. At the same time, most teachers work very hard and express deep concern for their students. In an important sense, teachers do care, but they are unable to make the connections that would complete caring relations with their students. (p. 2, 1992).

It is likely that teachers' beliefs that students were capable but not motivated informed the ways in which they interacted with these students as well as their interpretations of the outcomes of these interactions (*perceptions of student success*). For example, Kevin wrote very slowly and even when he was highly involved in an activity, it took him longer than other students to complete it. If Ms. White had attributed this slowness to his disability (I asked her and she had not, although she was open to the possibility), would she have seen him as more successful even though he did not complete the activity at the same rate as the other students?

My data suggest that teachers' levels of frustration with their students' performance were related to their attributions for student learning (*knowledge of student*). While teacher beliefs about learning influence the types of activities and class-wide goals they emphasize (Anning, 1988), similar to Levine and Wang (1983), Schumm, Vaughn, Gordon, and Rothlein (1994), and Simmons, Kameenui, and Chard (1998), my data suggest that teacher perceptions of specific student characteristics influenced how they interacted with those students in at least two cases. In addition, teachers' beliefs about students were also related to their interpretations of students' success, a factor that is likely to influence future encounters with those students (Noddings, 1992).

### ***Question 5***

*Is there a relationship between the quality/quantity of interactions and a teacher's sense of ownership for the learning of individual students?*

This question focused specifically on the relational aspect of student integration. There are several dimensions of teacher student-relationships related to teacher ownership although the concept has yet to be clearly defined in the literature. Teacher ownership has been discussed in terms of student evaluations of bonds with school (Goodenow, 1993), their perception of teachers as caring (Alder, 2002; Baker, 1999; Wentzel, 1997), teachers' responsibility for student learning (Jordan & Stanovich, 2001), or teachers' perception of their concern for students (Cook, 2001; Cook, et al., 2000). In this study, I have looked at two areas of ownership: (1) teacher perceptions of concern and (2) teacher responsibility for student success or failure.

Cook and colleagues posited that teachers who nominated students in a concern category would give these students more attention and provide more opportunities for them to learn than they would give to students who did not fall into this category (i.e, average achieving students). Interview and teacher reflections revealed that the teachers in my study were concerned (i.e., recognized that students were struggling, wanted to help them succeed) about their students with LD, and indeed they did interact more with these students than with either AA or LA target students. However, interactions in and of themselves could not be considered "opportunities to learn." They were attempts on the part of the teachers to increase student involvement in classroom activities, but they were not always successful. The

high percentage of work-related interactions that were low quality for students with LD, indicated that although they spent more time interacting with their teachers, they did not necessarily benefit academically from these additional interactions.

Teacher ownership of student learning was also revealed through teachers' descriptions of their students' success or failure in class. In terms of my evaluation of teachers' integration of students with LD into the learning environment, teachers fell along a continuum, with Ms. Raymond on one end (lowest success) and Ms. White on the other (moderate success). As noted previously, while none of the teachers felt successful in their teaching roles with their students with LD, Ms. White and Ms. Berman seemed to internalize the failure of their students to a greater extent than did Ms. Raymond or Ms. Franklin. Although students were also held accountable for their performance (Simmons, et al., 1998), these teachers appeared to take partial responsibility for their students' failure. On the other hand, Ms. Franklin and Ms. Raymond appeared to have disengaged somewhat from the academic outcomes of their students with LD. It was not that they were insouciant, but rather that they had distanced themselves from their students' success or failure. For example, when asked to discuss Tony's learning, Ms. Raymond often referred to events that occurred in the special education room and by the end of the study, she conceded that he was not getting any "academic knowledge" in her classroom. In the final interview, I asked Ms. Franklin how she felt knowing that Ronald had passed the math portion of TAAS assessment. She stated, "Yeah, I'm really surprised that it was so good. But I didn't know cause I haven't been teaching him math." Although Ronald was in her

classroom for 30 minutes each day during math related activities, she did not see herself as teaching him math. It is likely that this accounted for her low expectations for him during this time.

There appeared to be two attributions for student success or failure. Similar to Rojewski and Pollard's (1993) research on attitudes of secondary teachers, the teachers in this study either felt ownership for the learning of students with LD or they did not. But was ownership for student learning related to the quantity or quality of interactions? Unfortunately, I was not able to evaluate the influence of teacher ownership on student learning. Although Ms. Berman and Ms. White interacted more frequently with their students with LD than did Ms. Raymond and Ms. Franklin, their rates of interaction were generally higher for all student groups. Further, when teachers engaged in content-referenced work-related interactions with students with LD, proportions of successful and unsuccessful interactions were similar across classrooms. Kevin's success relative to the other students with LD in the study and the unique types of teacher-student interactions that occurred between him and Ms. White (i.e., many procedural interactions) suggest that interactions may have been more effective in this classroom. Still, I do not have enough data to support a clear relationship between ownership and quality/quantity of interactions.

The issue of ownership for student learning suggests that teachers who felt responsible for the learning of their students may have tried harder to meet students' needs, even if they were not successful in doing so. I refer again to Noddings (1992) and the work of Goldstein that combines the ethic of care and teachers' ability to



meet learners in their ZPD (1999). In this school of thought, although teachers may be well intentioned, they still may not successfully negotiate caring encounters.

Furthermore, perhaps because of characteristics that typically define students with LD such as social skills deficits (Kavale & Forness, 1996 ) and being less articulate than non LD students (Baxter, et al., 2002; Palincsar, et al., 2001), the target students with LD were less likely to indicate that they had recognized their teacher's intention to help.

#### ***Question 4***

*Is it possible to change the quality of interactions between general education teachers and students with disabilities?*

Teachers were asked to implement an individualized trial intervention for their target students who were low achieving and LD. Teachers developed one goal for each of their students, made a plan to monitor student progress at least two times each week for four weeks, and were asked to make instructional decisions based on the findings from their data collection. During the trial intervention, I met with teachers to discuss student progress and brainstorm instructional strategies and teachers completed reflections on student progress. All the teachers except Ms. Raymond implemented the trial intervention for students with LD and all teachers implemented the intervention for their low achieving students. Although she did not implement the intervention, Ms. Raymond reported that she spoke to Tony (LD) and that she “kept a closer eye on him.” With the exception of Ms. Raymond's LA student, all goals were related to on-task behavior.

I was not able to measure change for students with LD in either quality or quantity of interactions. However, teachers reported getting to know better their students with LD and also seemed to have more accurate perceptions of their students' abilities after the intervention. In addition, all of the teachers reported that they benefited from the process of implementing an intervention with these students. Ms. Raymond and Ms. Francis also reported that their students were more on-task as a result of the intervention.

Teachers' perceptions of the intervention in relation to LA students was quite different. Although I observed only minimal changes in interactions, all teachers reported that their LA students improved as a result of the intervention. Two students received more reinforcement during the intervention, two others received relatively more acknowledging responses from the teacher and one student met his goal of increasing participation. One teacher reported that she had incorporated more small group work into her lessons based on her discovery that her LA student appeared to be more on-task during that type of activity. Teachers attributed the success of LA students to more successful communication with parents, students responding positively to the trial intervention, students receiving more individual attention from the teacher, and students taking more responsibility for accomplishing work.

Throughout the study, LA students had higher proportions of work-related interactions that referenced content than students with LD and of those interactions, a higher proportion that demonstrated learning. Teacher reports and my observations revealed that LA students in this study were more successful academically than were

the students with LD. LA students engaged in fewer work-related, teacher-student interactions than students with LD but more than AA students. Interactions varied the most for LA students both across lessons for the same student and between classrooms. Although I was not able to measure definitively why LA students improved more over the course of the study than students with LD, teachers reported that LA students were more successful than students with LD. My data suggest that the observed and reported differences between the two student groups warrant further investigation.

Change, in terms of teacher-student interactions for LA students was not substantial and not detectable for students with LD. Alverman and Hayes (1989), Cazden (1988), Goldenberg and Gallimore (1991), and Wells (1999), who have all embarked on multi-year, large-scale reform efforts, remind us that teacher change, particularly in the area of discourse practices, takes a long time. The trial intervention increased teachers' awareness of their students functioning in class, and appeared to improve teacher-student relationships by increasing teachers' knowledge of their students (Pianta, 1999). However, a quick intervention, based primarily on getting students to be more on-task, was just the first step in much work that was needed to improve the quality of interactions between a teacher and any of her students.

### ***What Have we Learned about Teaching Students with LD in General Education Classrooms?***

A focus on the Least Restrictive Environment legislation has led to an increase in both the number of students that are included in general education

classrooms as well as the time that these students spend learning with their non-disabled peers. However, many studies have found that students with LD are likely to receive undifferentiated instruction with few modifications in general education classrooms (i.e., Zigmond & Baker, 1995; Scott, et al., 1998). Finding ways to assist students in these situations has thus become an important issue in special education research. Results from my study lead to several important conclusions regarding teachers' roles in supporting students with LD in general education classrooms.

First, although students with LD struggled to succeed in the classrooms I studied, unlike conclusions drawn from Zigmond and Baker (1995) and others, the teachers in my study did not treat all students "the same." Indeed, while there was much variation among both the teachers and the students with LD with whom each worked, teachers spent a great deal of time interacting with their target students with LD relative to the time that they spent interacting with target students in either the low achieving or average achieving groups. Furthermore, different from several previous studies of teacher interactions with students with disabilities (Chapman, et al., 1979; Forness & Esveldt, 1975; Thompson, et al., 1984), many of these interactions were work-related in which teachers were attempting to engage students in the classroom learning activities. However, despite the amount of time that teachers spent involved in interactions with their target students with LD, the quality of many of these interactions was judged to be low. Nevertheless, teachers did have more contact with students with LD than with other students, and in most cases, they provided *more* instruction to these students.

These findings are particularly important in light of research demonstrating that teachers seem to be more concerned with providing instruction to their classes as a whole than with implementing specific instructional practices for individual students (Vaughn & Schumm, 1996). Given the information about how much time teachers spent interacting with students with LD, teachers might be more motivated to find ways to make these interactions both more effective and more efficient. My findings suggest that training teachers to make a broad range of modifications may not be enough without a focus on how teachers can support individual students with LD during classroom interactions.

A second important finding was the role of teacher responsibility for student learning. Existing research on providing support to students with LD in general education classrooms has often focused on ways to assist students in accessing the curriculum through the use of performance standards and appropriate instructional techniques and materials (Crockett & Kaufmann, 1998). My findings suggest that before teachers are able to successfully address the curriculum, they must take responsibility for the learning of their students with LD. Teachers varied in the amount of responsibility they took for the integration of target students with LD into the classroom learning environment. Teachers who felt responsible for the learning of their students with LD were more knowledgeable about their students' academic and social functioning. These teachers were also more likely to view student success or failure as a function of not just student characteristics but also of their own ability to meet the needs of these students. The teachers who took less responsibility for the

learning of their target students with LD were more likely to attribute student failure to student characteristics and lack of time in class, and were more likely to attribute student success to unknown factors or to learning that occurred outside of their classroom (i.e., in the special education classroom). The analysis of data from classroom interactions and teacher self-reports revealed the unique processes that may have lead these teachers to disengage themselves from student learning through the course of the school year.

However, it appeared that owning responsibility for student learning did not necessarily result in student success in general education classrooms. Teachers were more effective in classrooms or on occasions when they took time to understand their students specific learning needs and were able to attend to those needs during interactions. With this information, teachers could either limit the large amount of time they spent with students with LD, or make better use of the time they did spend with those students.

Third, teachers seemed to have existing criteria for what learning looked like for students and used this criteria by which to judge their teaching effectiveness as well as student success. Indicators such as visible on task behavior, completing work correctly, and handing work in on time let teachers know that students were successful. Students with LD often did not meet teachers' set criteria for student learning. Furthermore, as is commonly noted, the target students with LD in this study were less articulate, wrote and read more slowly, were less organized, exhibited more off task behaviors, and were often less motivated than either their low achieving

or average achieving peers (Kavale, Fuchs, & Scruggs, 1994; Rieth & Polsgrove, 1994). Despite possessing a range of these characteristics, when students were higher functioning, teachers tended to attribute learning problems in class to lack of motivation or to low interest in learning, rather than considering the effect of their disabilities on classroom functioning. Furthermore, when designing trial-interventions for students with LD, all teachers chose to address goals that were behavior oriented. This is an important finding because it adds to our knowledge about teacher attributions for the failure of students with LD (i.e., motivation as opposed to disability) as they relate to the decisions that teachers make to support these students during class.

Finally, although Noddings work on caring (1985, 1992) is beginning to be studied in classrooms (i.e., Baker, 1999; Wentzel, 1997), there has been no application of her theory with students with LD. In order to engage in caring encounters with students, teachers need students to complete the caring cycle by acknowledging teachers' efforts. It appeared frustrating for teachers who put forth effort to meet the needs of their target students with LD when these students did not acknowledge their teachers' hard work. My results suggest that Nodding's construct of care applies to the challenges that teachers face when teaching students with LD in their classrooms and attention should be directed to making sure that teachers are supported in their efforts to assist students as they navigate their way through the general education curriculum.

## **Limitations**

There are several important limitations that should be considered when interpreting the findings from this study. First, as is the case in most qualitative studies, a choice of depth over breadth was made during the selection of four teacher cases and their target students. While including a larger sample of teachers or the relationships between teachers and different students might have revealed additional patterns that I was not able to detect with the present teacher-student dyads, the characteristics of relationships are unique and there is merit to the exploration of individual cases.

Second, the dynamic nature of teaching created great variance in the amount and nature of interactions from lesson to lesson, suggesting that additional observations in classrooms may have bolstered the explanatory power of interaction patterns. However, relative to other studies in this area, I analyzed a large number of classroom observations and chose to devote time to combining teachers' perceptions with this more extensive observation data. Because of the time involved in observing and transcribing classroom interactions, it would have been difficult to focus on these important connections if my study had included additional classroom observations.

My intent was to contribute to an understanding of teacher processes. Accordingly, it was necessary to address specifically the thinking processes and related classroom practices that teachers engaged in. However, students are influential contributors to the meaning making in classrooms and although I have included observation data of student behavior, I made a decision to exclude more extensive



student data from my analyses such as interviews with students or student outcome data. Although this information might have been useful, I judged that teachers' perceptions of students were the most informative in terms of the instructional decisions they made in the classroom.

As is common in studies using qualitative methodology, as data analysis progressed, choices arose in terms of what data to collect, but particularly in how to analyze those data (Strauss & Corbin, 1998). As I analyzed data in reference to low achieving students, I realized that the interaction patterns as well as teachers' perceptions of working with LA students was complex and did not lend themselves to an easy comparison with the students with LD. Accordingly, I have included only limited data on LA students, although initial analysis suggests that further study of interactions and teacher perceptions of LA students on their own and in comparison to LD students is needed.

Finally, although the trial intervention implemented by teachers with students with LD was not successful at changing interaction patterns, it illustrated several important features of classroom discourse and teacher-student relationships. As others have noted, it is difficult to change the quality and quantity of classroom interactions (Alverman & Hayes, 1989; Cazden, 1988; Goldenberg & Gallimore, 1991; and Wells 1999). However, the process was informative for both the teachers and me because it revealed their awareness of student needs as well as their perceptions about how they could respond to this information.

### **Implications for Research and Practice**

Despite the above limitations, this study makes several contributions to the field of teaching students with LD in general education classrooms. Despite the large amount of time that teachers spent interacting with students with LD, they often engaged in interactions that were low in quality and perceived that these students were not successful academically. Furthermore, teachers either took responsibility for this failure or they did not.

Increasing ways in which teachers can feel responsible for their students with LD appeared to be a necessary first step in successfully integrating these students into the learning environment of the general education classroom. Ways to increase responsibility include being able to articulate goals for students with LD, having realistic information about their disabilities and their academic and social functioning, and providing opportunities for increased contact between the teacher and student. Future studies should explore ways to improve relationships between teachers and students with LD in order to increase teacher ownership for the learning of those students.

However, having ownership for student learning did not appear to be enough to support students with LD. Teachers also needed to engage in high quality interactions with students. By engaging in caring encounters, teachers effectively meet the needs of their students and in turn, teachers' efforts are recognized by students to complete the caring cycle. More effective interactions would not only help students with LD to be more successful in class, but would also help teachers to feel

more rewarded for their hard work. My data suggest that teachers would benefit from professional development that focuses on strategies to enhance the quality of interactions with students with LD.

In addition, given the demands of teaching large classes of students with diverse learning needs, teachers would also benefit from using their time more efficiently when interacting with students with LD. Teacher-student interactions might be more efficient if teachers: (1) focused on the quality of work-related interactions, (2) increased the amount of time that students with LD were highly engaged in learning activities, and (3) taught students to take responsibility for their learning by using self-regulation (Boekaerts, Pintrich, & Zeidner, 2000) or other self-monitoring strategies. My data support the use of strategies that encourage these aspects of teaching such as well-implemented cooperative learning activities (Emmer & Gerwels, 2002; Johnson & Johnson, 1999; Slavin, 1995) or Collaborative Strategic Reading (Klinger, et al., 1998). However, when implementing these or similar methods, teachers should not overlook the importance of engaging in meaningful interactions with students with LD.

Similarly, research on adaptations has identified several areas in which teachers have expressed a need for support including more time to plan, more training in effective teaching techniques, and consideration of students disabilities (Scruggs & Mastropieri, 1996). Furthermore, teachers generally perceive that making adaptations for students with LD is easier in concept than in practice (e.g., Schumm & Vaughn, 1995; Scott, et al., 1998). Although my findings are consistent with existing research,

my data also suggest that one way to break the “feasibility” barrier may be to link teacher responsibility with effective teaching methods. Future research should assist teachers in developing their relationships with students while implementing effective teaching practices for students with LD (Swanson, et al., 1999; Vaughn, et al., 2000).

Finally, an interesting finding from this study that deserves further exploration is the notion of what learning looks like for students with LD in general education classrooms. In most cases, these are not “typical” learners, and as such, they may express both their needs and knowledge differently than their average-achieving peers. For example, teachers should learn to recognize off-task behavior as indicative of more than not caring about the work and then use that information to assist students. Teacher-education programs should work with student teachers to assist them in cultivating relationships with students so that they can recognize and respond to students’ individual learning needs.

The above recommendations for future research highlight the importance of considering the affective aspects of the teacher-student relationship, and all of its complexities, along with effective instructional techniques to meet the needs of students with LD in general education classrooms.

## APPENDIX A: CLASSROOM CLIMATE SCALE

(This version of the Classroom Climate Scale is adapted from McIntosh, et al., 1993)

Teacher:

Observer:

Date of Observation:

# of minutes:

Time of Observation:

Subject:

Number of students in class:

Adults in classroom and their role (i.e., volunteer, special ed teacher, student teacher):

List target students present:

Comparison:

SE:

LA:

**5 = most of the time, 4 = frequently, 3 = occasionally, 2 = seldom, 1 = rarely**

**DOES THE TEACHER:**

**1-5 rating**

**Comments**

DOES THE TEACHER:	1-5 rating	Comments
1. Use whole class activities?		
2. Use group activities?		
3. Use student pairing?		
4. Use individualized assignments/activities?		
5. Respond to the needs of students?		
6. Monitor on-going student performance?		
7. Appear fair and impartial?		
8. Make negative comments of sarcasm or personal ridicule?		
9. Provide positive feedback?		
10. Communicate expectations to students?		
11. Successfully redirect off-task behavior?		

**5 = most of the time, 4 = frequently, 3 = occasionally, 2 = seldom, 1 = rarely**  
 (>42 min)                      (32 – 41 min)      (9 – 31 min)      (<9 min)

DO THE STUDENTS:                      **1-5 rating**                      **Comments**

12. Ask the teacher for help?		
13. Ask other students for help?		
14. Interfere with the work of other students?		
15. Appear frustrated or confused?		
16. Make comments of sarcasm or personal ridicule?		
17. Appear engaged in task-related behavior?		
18. Interact with other students?		

19. Rate the extent to which the educational activities were appropriate for the majority of the students.

1                      2                      3                      4                      5  
 not appropriate                      moderate                      highly appropriate

20. Rate the student engagement.

1                      2                      3                      4                      5  
 not engaged                      moderately engaged                      highly engaged

21. Did the teacher make any adaptations in the lesson (i.e., materials, lesson content, expectations, etc.)? If yes, explain.

22. Briefly describe the actions/behavior of the target students. Was it like that of the other students or quite different?

Comparison:

Special Ed:

Low Achieving:

23. Give your overall impression of the lesson: (This is where you give your opinion or your *feel* for what you saw)

Include

- classroom atmosphere: Noisy, quiet, crowded, teacher seems bored, excited, kids are enthusiastic, not motivated.
- anything out of the ordinary
- behavior management

## APPENDIX B: INTERVIEW PROTOCOLS

### Initial Interview Guiding Questions

1. Tell me about your class this year.
2. What are your greatest challenges to teaching this year?
3. Do you feel you have the resources you need to meet the needs of your students? What other resources would be helpful?
4. Do you need to make adaptations for any of the students in your class? What kinds of adaptations do you make?
5. How often do you modify a lesson for certain students? (not very often, once a day, ever lesson)
6. How do you decide which adaptations to make and for whom?
7. What are your greatest hurdles to teaching “difficult-to-teach” students – special education or not?
8. Are there positive aspects of working with students with special needs? What are some of these?
9. As you know there are many ways to provide services for students with learning disabilities (inclusion, pull-out, etc.). Describe how services are provided for the students in your class. Do you like the way the services are provided? Are there things you would change if you could? Please explain.
10. Briefly tell me about each student in your class - high, average, low achieving, SE, ESL, motivation, etc. (Go through class roster with teacher)

Explain criteria for each target student group. Ask the following questions for two students in each target group – average achieving, low achieving, learning disabled:

1. Tell me about student #1 (etc.)
2. How is he/she doing in your class this year?
3. What is her/his approximate reading level?
4. Describe her/his strengths and weaknesses.
5. If not succeeding, what do you think would help him/her succeed in your class this year?
6. If you could choose one or two goals for this student while he/she is in your class this year, what would they be?
7. How would you characterize your relationship with this student? (friendly, gets on my nerves, etc.). Please explain.

### **Interim Interview**

1. Describe how your average achieving target student is currently doing in your class?

Ask the following questions for the LA and LD students.

2. Please describe what have you done for progress monitoring so far with student X.
3. How is it working? (Probe responses as necessary.)
4. How often have you been collecting data? In which classes?
5. Is anything else different for the target student? Have you made any other changes with the student?
6. Does the student know he/she is being monitored?
7. Have you learned anything about student X that is new to you or that has surprised you?
8. Are there any changes that you would like to make to your progress monitoring or in the way you teach/adapt for this student?
9. Is there any additional information you feel you need for this student or anything else you would like to try?
10. Are there any problems you are having in your attempts to meet the needs of student X?
11. Is there anything else you would like to add about this whole process or about being involved in this study?



## Final Interview questions – Berman

5-14-02

1. How are the target students doing? TAAS scores – did Brittany take TAAS?
2. You mentioned that both Brittany and William's grades have gone up – I believe you said that perhaps it was because they were made more aware of their behavior and thus became more accountable. Is that what you said? Is that why you think their grades improved?
3. It seems like things were slower to improve for Brittany than for William. Why do you think that was?
4. Do you think there was any carry over to other classes for either of these students? Why or why not?
5. You also mentioned doing more small group activities because you noticed William did better in those types of activities. Did you notice any other changes – even small ones- that you made in your teaching?
6. At one point we talked about shortening some of Brittany's assignments for a short period of time. Did you ever end up trying that?
7. You talked about having a couple of other students charting their assignments. Did you get to that?
8. Do you think that Brittany is positively influenced by going out to special ed? Do you think that resource is helping her? Do you think she would be able to manage the work in your language arts class?
9. I am sure you are familiar with the term, "classroom community." For the purpose of this interview, let's say that a classroom community is one in which the members know, care about and support one another and to which they actively contribute and feel personally committed. There is mixed evidence for the importance of classroom community. Some research supports its importance, and other studies have found that if academic instruction is sound, it doesn't matter as much. How important do you think it is for students to feel like they are part of the classroom community? Very important, pretty important, not very important
10. About how many of your students fit the description (most, about half, some) of being part of your classroom community?
11. So about how many students would you say are not really part of the classroom community (give number)? Why not? Ask about target students. Do you think that affects their status with the rest of their peers? Their academic performance?
12. I think as hard as teachers try, with the size of most classrooms, it may be impossible to interact with every student in an ideal way. Are there students in your class who you feel you can't give as much attention to as you would like? Can you characterize these types of students?

## APPENDIX C: LESSON RESPONSE

Teacher: \_\_\_\_\_ Date: \_\_\_\_\_

Think of today's social studies/science lesson when you answer the following questions. If possible, please complete the sheet by the end of the day **today**.

- a) Would you consider this lesson to be representative of the types of lessons you teach? If no, please briefly explain.

**2. Consider your comparison target student:**

- a) Was this student (CO) in class today?                      YES                      NO

- b) Rate the extent to which this student (CO) met your instructional objectives for Social Studies/Science today.

?	1	2	3
Not enough information to assess	Did not meet objectives	Met objectives	Exceeded objectives

Briefly explain.

- c) Rate the extent to which this student (CO) was on task during this class.

?	1	2	3
Not enough information to assess	Off task most of the time	On and off task moments	On task most of the time

Briefly explain.

- d) Compared to how this student (CO) usually does, rate the quality of his/her work today.

0	1	2	3
Did not do/turn in work	poor quality	average quality	High quality

Briefly explain.

**2. Consider your SE target student:**

- a) Was this student (SE) in class today?                      YES                      NO

- b) Rate the extent to which this student (SE) met your instructional objectives for Social Studies/Science today.

?	1	2	3
Not enough information to assess	Did not meet objectives	Met objectives	Exceeded objectives

Briefly explain.

- c) Rate the extent to which this student (SE) was on task during this class.

?	1	2	3
Not enough information to assess	Off task most of the time	On and off task moments	On task most of the time

Briefly explain.

d) Compared to how this student (SE) usually does, rate the quality of his/her work today.

0	1	2	3
Did not do/turn in work	poor quality	average quality	High quality

Briefly explain.

e) How is progress monitoring going for this student?

**3. Consider your SE target student:**

a) Was this student (SE) in class today?                      YES                      NO

b) Rate the extent to which this student (SE) met your instructional objectives for Social Studies/Science today.

?	1	2	3
Not enough information to assess	Did not meet objectives	Met objectives	Exceeded objectives

Briefly explain.

c) Rate the extent to which this student (SE) was on task during this class.

?	1	2	3
Not enough information to assess	Off task most of the time	On and off task moments	On task most of the time

Briefly explain.

d) Compared to how this student (SE) usually does, rate the quality of his/her work today.

0	1	2	3
Did not do/turn in work	poor quality	average quality	High quality

Briefly explain.

*Thank you!*

e) How is progress monitoring going for this student?

## APPENDIX D: FINAL REFLECTION

### Sample Teacher Survey - Eisenhower

These questions are *very* open ended. Feel free to answer them in any way that makes sense to you. You do not have to write an essay, but your reflections on this study will be greatly appreciated. If possible, please complete this survey by 4/20/02. Again, Thank you for your time!!

1. Are you still using a progress monitoring system for any of your students (even those not included in the study) (e.g., behavior charts, on task/off task sheets, tracking work completed etc.)? Please explain.
2. If you stopped using progress monitoring or never used it, why do you think that happened?
3. Have you learned anything new about any of the target students? If yes, what have you learned? Have you made any changes based on what you have learned?
4. Has the schedule change affected your work with a) your target student with special needs or b) your target student who is low achieving?
5. During this study you have been interviewed several times, set and attempted to monitor progress toward goals for your students, been observed (perhaps excessively ☺), and written reflections about student performance. Throughout this process, have you learned anything new about yourself as a teacher or about how you approach teaching students who are struggling?

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