THE ATTITUDES AND BELIEFS OF MIDDLE SCHOOL GENERAL EDUCATION
TEACHERS TOWARD AND INTERACTIONS WITH THEIR STUDENTS WITH
DISABILITIES

by

Jeannine A. Bagnall
A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Education

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Date:  ________________________________  Spring Semester 2014
George Mason University
Fairfax, VA
Attitudes and Beliefs of Middle School General Education Teachers Toward and Their Interactions with Their Students with Disabilities

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Spring Semester 2014
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DEDICATION

This is dedicated to my family, especially my children, who have supported and encouraged me throughout this entire journey.
ACKNOWLEDGEMENTS

I would like to thank my sister, Lucretia, for inspiring me to begin this journey. You are my best friend, and you have always been there for me through all of my ups and downs, personal and professional. I am not sure what I would do without you!

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Thank-you to the teachers and students who agreed to participate in my study. Without you, this study would never have happened.

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<tr>
<td>AET</td>
<td>Academic Engaged Time</td>
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<td>AYP</td>
<td>Adequate Yearly Progress</td>
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<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>ADHD</td>
<td>Attention Deficit Hyperactivity Disorder</td>
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<td>CCS</td>
<td>Classroom Climate Survey</td>
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<td>DD</td>
<td>Developmental Delay</td>
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<td>DOE</td>
<td>Department of Education</td>
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<tr>
<td>EHA</td>
<td>Education of the Handicapped Act</td>
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<td>EAHCA</td>
<td>Education for All Handicapped Children Act</td>
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<tr>
<td>ESEA</td>
<td>Elementary and Secondary Education Act</td>
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<td>ED</td>
<td>Emotional Disability</td>
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<td>FAPE</td>
<td>Free Appropriate Public Education</td>
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<td>ICOS</td>
<td>Inclusive Classroom Observation System</td>
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<td>IDEA</td>
<td>Individuals with Disabilities Education Act</td>
</tr>
<tr>
<td>IEP</td>
<td>Individualized Education Program</td>
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<td>LRE</td>
<td>Learning Disability</td>
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<td>LD</td>
<td>Least Restrictive Environment</td>
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<td>MANOVA</td>
<td>Multivariate Analysis of Variance</td>
</tr>
<tr>
<td>NCLB</td>
<td>No Child Left Behind Act of 2001</td>
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<tr>
<td>OSEP</td>
<td>Office of Special Education</td>
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<td>OSERS</td>
<td>Office of Special Education and Rehabilitative Services</td>
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<tr>
<td>OHI</td>
<td>Other Health Impairment</td>
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<td>PATH-INT</td>
<td>Pathognomonic-Interventionian</td>
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<td>PIAT</td>
<td>Peabody Individual Achievement Test</td>
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<td>SSBD</td>
<td>Systematic Screening for Behavior Disorders</td>
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<td>SECOS</td>
<td>State-Event Classroom Observation System</td>
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<tr>
<td>UCLA</td>
<td>University of California at Los Angeles</td>
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<td>WISC-R</td>
<td>Wechsler Intelligence Scale for Children</td>
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ABSTRACT

ATTITUDES AND BELIEFS OF MIDDLE SCHOOL GENERAL EDUCATION TEACHERS TOWARD AND THEIR INTERACTIONS WITH THEIR STUDENTS WITH DISABILITIES

Jeannine A. Bagnall, Ph.D.

George Mason University, 2014

Dissertation Director: Dr. Gary R. Galluzzo

This study used a mixed methods design to investigate whether the attitudes and beliefs of three middle school general education teachers toward students with disabilities were reflected in their interactions with these students in their inclusive classrooms. The interactions of each of these general education teachers with their students, with and without disabilities, were observed over two 90-minute blocks of instruction, and then coded for frequency, duration, and type. These observations were then followed by semi-structured interviews, which used an interview protocol taken from the previous research studies of Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), to establish their attitudes and beliefs toward students with disabilities. Interview responses to 20 sub-topic scores were coded on a 3-point Likert-type scale, and then an overall composite score was calculated to determine where each teacher fell along a Pathognomonic-Interventionist continuum. The results of the interviews and
observations were compared to determine to what extent the beliefs and attitudes of each teacher were reflected in the interactions with their students, with and without disabilities.

The major findings of this study are general education teachers: (1) hold positive attitudes and beliefs towards students with disabilities; (2) have high levels of responsibilities, which impacted effective inclusion; (3) viewed their special education co-teachers as assistants; (4) used different “teaching styles,” which reflected his/her attitudes and beliefs toward students with disabilities; and (5) limited their academic extensions with all students, but conducted more academic interactions with students with disabilities than previously reported in research.
CHAPTER ONE: INTRODUCTION

With the passage of the Education for All Handicapped Children Act (EAHCA; Pub. L. 94-142) in 1975, which required that all children were entitled to a free appropriate education within the least restrictive environment, the number of students with disabilities educated in general education classrooms has increased and as a result, the role of the general education teacher has increased as well (Mastropieri & Scruggs, 2010; Yell, Katsiyannis, & Bradley, 2011; U.S. DOE/OSERS, 2010). The general education teacher is the content expert within the classroom and is primarily responsible for the academic success of students with disabilities within the general education classroom (Hallahan, Kauffman, & Pullen, 2009). Therefore, the attitudes, beliefs, and willingness of general education teachers to differentiate curriculum and accommodate for students with disabilities is a significant consideration (Mastropieri & Scruggs, 2010). Previous research (e.g., File, 1994; Jordan, Lindsay, & Stanovich, 1997; Soodak, Podell, & Lehman, 1998) indicated that teachers’ attitudes and beliefs toward including students with disabilities in the general education classroom may appear to be directly related to their educational and classroom management obligations. This research also indicated that there is a relationship between teachers’ attitudes and beliefs, instructional effectiveness, and teacher-student interactions. Teachers’ attitudes may influence their
interactions with students and as a result, the teacher may treat the student in individualized ways (Brophy & Good, 1974).

Research on teachers’ attitudes and beliefs toward students with disabilities indicated that overall, the majority of teachers maintain positive attitudes (Blecker & Boakes, 2010; Ross-Hill, 2009; Scruggs & Mastropieri, 1996) but these attitudes were influenced by factors such as training, years of experience teaching students with disabilities (Conatser, Block & Lepore, 2000; Rizzo & Vispel, 1991; Van Reusen, Shoho, & Barker, 2001), and the severity of the students’ disabilities (Avramidis & Norwich, 2002; Scruggs & Mastropieri, 1996).

Previous research (e.g., Chapman, Larsen, & Parker, 1979; Forness & Esveldt, 1975, Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001; Nelson & Roberts, 2000; Slate & Saudargas, 1987) has extensively studied the interactions between teachers and students with disabilities in the general education classroom. The majority of research (e.g., Bryan, 1974; Chapman, Larsen, & Parker, 1979; Dorval, McKinney, & Feagans, 1982; Fellers & Saudargas, 1987; Schumaker, Wildgen, & Sherman, 1982; Siperstein & Goding, 1985; Slate & Saudargas, 1986) has focused on interactions between teachers and students with specific disabilities, primarily learning disabilities (LD), with very little research on students with autism or intellectual disabilities. In addition, the majority of research (e.g., Alves & Gottlieb, 1986; Bryan, 1974; Chapman, Larsen, & Parker, 1979; Dorval, McKinney, & Feagans, 1982; Jordan, Lindsay, & Stanovich, 1997, 2001; Slate & Saudargas, 1986; Thompson, White, & Morgan, 1982; Thompson, Vitale, & Jewett, 1984) has also focused on students with disabilities in
elementary classrooms with little research in middle (Brady, Swank, Taylor, & Freiberg, 1988; Brady, Swank, Taylor, & Freiberg, 1992; Schumaker, Wildgen, & Sherman, 1982) or high school level classrooms.

The results of research on interactions between teachers and students with disabilities in their classroom reported inconsistent findings. For example, the frequency of interactions with students with and without disabilities varied across studies. In some studies (Bay & Bryan, 1992; Brady, Swank, Taylor, & Freiberg, 1988; Chapman, Larsen, & Parker, 1979; Dorval, McKinney, & Feagans, 1982; Forness & Esvedt, 1975; Lago-Delello, 1998; Magiera & Zigmond, 2005; Montague & Rinaldi, 2001; Nelson & Roberts, 2000; Siperstein & Goding, 1985; Thompson, Vitale, & Jewett, 1984; Thompson, White, & Morgan, 1982;) teachers interacted more frequently with their students with disabilities, however in other studies (Bryan & Wheeler, 1972; Bryan, 1974; Chow & Kasari, 1999; McIntosh, Vaughn, Schumm, Haager, & Lee, 1993; Schumaker, Wildgen, & Sherman, 1982; Fellers & Saudargas, 1987) the frequency of teacher interactions between students with and without disabilities did not vary, or teachers interacted less frequently with students with disabilities (Alves & Gottlieb, 1986; Slate & Saudargas, 1987).

While most studies do indicate more frequent interactions between teachers and their students with disabilities, an analysis of the content of these interactions is an important consideration. Teachers tended to interact more frequently with students with disabilities on non-academic issues than academic issues. These non-academic interactions tended to be behavioral or procedural in nature (Chapman, Larsen, & Parker,
In those interactions between teachers and students with disabilities that were academic in nature, these interactions tended to be shorter in duration (Alves & Gottlieb, 1986; Slate & Saudargas, 1987), or terminal in nature (Thompson, White, & Morgan, 1982).

In two studies, the researchers (Jordan, Lindsay, and Stanovich, 1997; Jordan and Stanovich, 2001) focused on connecting elementary teachers’ attitudes and beliefs to their interactions with students with disabilities in their classrooms. Teacher responses to semi-structured interview questions were scored to determine whether the teachers held Pathognomonic or Interventionist beliefs. These beliefs were then analyzed with observed interactions. These two studies form the foundation for this proposed study.

**Rationale**

The increasing numbers of students with disabilities educated in the general education classrooms indicates a continuing need to examine the attitudes and beliefs of general education teachers and how these attitudes and beliefs influence their interactions with these students in the classroom. Although many studies have examined the interactions between teachers and their students with disabilities, few have attempted to determine whether teachers’ attitudes and beliefs are reflected in these interactions.

This study replicated and extended previous studies conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), which examined the attitudes and beliefs of teachers in relation to their interactions with students with
disabilities. This study contributed to and extended the existing research through the focus on general education teachers and students with disabilities in middle school, grades 6-8.

**Purpose of the Study**

The purpose of this study was to determine whether the attitudes and beliefs of middle school general education teachers’ toward students with disabilities were reflected in their interactions with these students in their classrooms. This study was guided by the following research questions:

1) What are the attitudes and beliefs of three middle school general education teachers toward students with disabilities?

2) How do three middle school general education teachers interact with students with disabilities compared to students without disabilities in their inclusion classrooms?

3) To what extent are the attitudes and beliefs of three middle school general education teachers toward students with disabilities reflected in the interactions with these students in their classrooms?

**Definition of Key Terms**

**At risk.** “…students who have a higher than average probability of dropping out or failing school” (Virginia DOE Glossary of Terms, n.d.)

**Attention Deficit Hyperactivity Disorder.** This disorder is classified under other health impairments, which is defined as having “limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment that is (a) due to chronic or acute health
problems and (b) adversely affects a child’s educational performance” (Individuals with Disabilities Education Act, 20 U.S.C. § 1401, 300.8(c)(9), 2004).

**Autism.** “…a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child’s educational performance” (Individuals with Disabilities Education Act, 20 U.S.C. § 1401, 300.8(c)(1)(i), 2004).

**Emotional Disability.** “…a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child’s educational performance: (a) an ability to learn that cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; and (e) a tendency to develop physical symptoms or fears associated with personal or school problems” (Individuals with Disabilities Education Act, 20 U.S.C. § 1401, 300.8(c)(4)(i), 2004).

**Inclusion.** “…the education of students with disabilities in general education settings” (Mastropieri & Scruggs, 2010).

**Learning disability.** “Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and

**Mainstreaming.** This is a term used predominantly in the 1970s to represent the portion of the day students with disabilities spent in the general education classroom (Knowlton, 2004). This term has been replaced the term inclusion (Mastropieri & Scruggs, 2010).

**Organization of the Study**

This study was designed to replicate and extend previous research conducted by Jordan, Lindsay, and Stanovich (1997) and Jordan and Stanovich (2001) to determine whether teachers’ attitudes and beliefs toward students with disabilities were demonstrated in the classroom through their interactions with these students in middle school. Observations of the interactions of six general education teachers in the content areas of science, social studies, and English with their students with and without disabilities were conducted over two 90-minute blocks of instruction. These observations were analyzed for frequency, length, and type. Following these observations, teachers were interviewed to determine how the attitudes and beliefs of these teachers fell along a Pathognomonic-Interventionist continuum. The teacher observations and interviews were analyzed together using Creswell’s (2008) explanatory mixed methods design.
CHAPTER TWO: REVIEW OF THE LITERATURE

The purpose of this study was to determine whether the attitudes and beliefs of middle school general education teachers’ toward students with disabilities were reflected in their interactions with these students in their classrooms. This chapter provides an overview of the literature of teachers’ attitudes and beliefs toward students with disabilities as well as their interaction with these students in their inclusion classrooms. The first section will provide an overview of the inclusion movement, which reflects the increasing number of students with disabilities educated primarily in general education classrooms. The second section will review the literature of teachers’ attitudes and beliefs toward students with disabilities. The third section will examine the studies of teachers’ interactions with student with disabilities in their classroom. The last section will discuss the challenges faced by students with disabilities as they transition from elementary to middle school.

The Inclusion Movement

The importance of understanding the inclusion movement serves as a foundation to the important role that general education teachers play in the lives of students with disabilities, which has gradually increased since the passage of the Education for all Handicapped Children (EAHCA) in 1975. The history of special education cannot be characterized by a smooth progressive timeline but by a series unique events surrounded
by contradictions, strife, and challenges. From the late 19th Century and into the 21st Century, the concept of special education has evolved from ‘defective’ children not receiving any education or being taught in single, ungraded classrooms to the full integration of children with disabilities in the general education classroom (Gerber, 2011). However, despite the progress made in the field of special education, parents, educators, researchers, and policy makers continue to struggle with the interpretation of current laws and to make decisions in the best interests of students with disabilities.

**Major Milestones in Special Education History**

The following paragraphs highlight the major milestones in the history of special education that have shaped the field as it is currently understood today beginning with the Elementary and Secondary Education Act of 1965 (ESEA; Pub. L. No. 89-750). This was the first federal law to specifically speak to the education of students with disabilities (Friend, 2008). This act directed monetary assistance, in the form of grants, to states to improve the education of students with disabilities. This act also created the Bureau of Education for the Handicapped, which would later become the Office of Special Education Programs (OSEP) (Yell, Katsiyannis, & Bradley, 2011). This office is currently located under the U.S. Department of Education, Office of Special Education and Rehabilitative Services (OSERS) (U.S. DOE/OSERS, n.d.). Despite the passage of this law, approximately 200,000 individuals with significant disabilities continued to live in state-run institutions with only minimal food, clothing, and shelter, and no access to public education in the United States in 1969 (U.S. DOE/OSERS, 2010).
In 1970, the Elementary and Secondary Education Act (ESEA) of 1965 was amended and extended by Public Law 91-230, which created the Education of the Handicapped Act (EHA). This act was divided into several parts, A-G. Of these parts, one of the most important was Part B, which provided grants to the states to continue the initiation, expansion, and improvement of educational programs for children with disabilities. Part C also provided grants for experimental preschool and early education programs as well as regional resource centers designed to provide assistance to school districts as well as Part D, which provided grants to higher education institutions to recruit and provide training programs for special education personnel to include physical education. Part G provided a legislative definition for learning disabilities and authorized specific programs for students with learning disabilities (Verstegen, 1994; Yell, Katsiyannis, & Bradley, 2011). At the time this law was passed, only one in five children with disabilities in the United States were educated in the public school system, and many of the states excluded individuals with certain disabilities, to include students with emotional or intellectual disabilities or who were deaf or blind (U.S. DOE/OSERS, 2010).

A separate but related milestone is the passage of Public Law 93-112, the Rehabilitation Act of 1973. This is a civil rights law, which includes Section 504 designed to protect all individuals with disabilities, regardless of age, from discrimination or exclusion based on their disabilities (Friend, 2008). For students with disabilities, Section 504 ensures equal access to all aspects of schooling. Also, for students who do not meet the legally defined qualifications of a disability but their disability impacts a
major life function such as asthma, severe allergies, or required use of a wheel chair, they may receive services under Section 504 (Mastropieri & Scruggs, 2010). However, school districts do not receive any federal funding for students who qualify for Section 504 services and these services must be paid for by the school district (Friend, 2008).

The most significant law to impact special education, the Education for All Handicapped Children Act (EAHCA; Pub. L. 94-142), was signed by President Gerald Ford on November 29, 1975. This law specified that all children were entitled to a free appropriate education. This act also protected the rights of students and their parents under due process, and provided monetary assistance to states to guarantee these rights. For students with disabilities, the passage of this law meant that they would receive free appropriate education that conformed to an Individualized Education Program (IEP), to include progress evaluation, and that this education would be provided in the least restrictive environment (LRE) (Mastropieri & Scruggs, 2010; Yell, Katsiyannis, & Bradley, 2011; U.S. DOE/OSERS, 2010). The LRE will be discussed in further detail later in this section.

An IEP is a comprehensive plan written after a student is found eligible for special education services and developed to meet the specific needs of the individual student. The IEP is developed and written by a committee, which typically includes but is not limited to a special education teacher, a general education teacher, the parents of the student, a representative from the school or district, and other specialized personnel. The student may also be included in the process depending on the student’s age. The IEP will include several major components such as the student’s current level of performance,
detailed goals and objectives, curriculum modifications, assessment modifications, progress measurement, related services, dates of service, and a transition plan. All school personnel are legally required to comply with the written and approved IEP (Friend, 2008; Mastropieri & Scruggs, 2010).

In 1990, the EAHCA was amended to change the name of the law to the Individuals with Disabilities Education Act (IDEA; Pub. L. 108-446) to emphasize person first language and IDEA remains the current name. This change in person first language modified the manner in which individuals with disabilities were specified, for example, handicapped students were now referred to as students with disabilities. Additional amendments specified by IDEA included that students with autism or traumatic brain injury would be considered in their own distinct and separate categories, which entitled them to legal entitlements and benefits. IDEA also required that a transition plan be developed and included in the IEPs of students with disabilities by the time they turned sixteen years old (Yell, Katsiyannis, & Bradley, 2011).

IDEA has been amended once in 1997 and mostly recently in 2004. Although the passage of EAHCA in 1975 and its subsequent amendments greatly improved access to education of students with disabilities, in the 1990s, individuals in Congress felt that the intent of these laws had focused primarily on the legal requirements and paperwork completion at the expense of the teaching and learning of students with disabilities. As a result, the 1997 IDEA amendments were designed to improve the overall effectiveness of special education. Some of the major modifications and requirements included the addition and accountability of *measurable* annual goals specified in the IEP, clarification
of disciplining students with disabilities, expansion of parental participation, and clarification of the roles of classroom teachers in educating students with disabilities (Friend, 2008; Yell, Katsiyannis, & Bradley, 2011; Yell & Shrinter, 1997). Of importance, the 1997 amendments to IDEA placed a greater emphasis on the participation of students with disabilities in the general education curriculum.

Collaboration between the special education teachers and the general education teachers as well as the utilization of supplementary services in the general education classroom were highlighted so students with disabilities could be educated alongside their peers without disabilities (Yell & Shriner, 1997).

Before the 2004 amendment of IDEA, another significant and controversial law, the No Child Left Behind Act of 2001 (NCLB; Pub. L. 107-110), was signed by President George W. Bush to reauthorize the Elementary and Secondary Education Act (ESEA). The law was intended to increase the academic achievement of students to include students with disabilities and other special needs. The most significant impact of NCLB on students with disabilities was accountability of academic achievement. NCLB required that all schools make adequate yearly progress (AYP) and that all students, except those students with significant disabilities, obtain proficiency in math, reading or language arts, and science by the year 2014. Beginning in the 2005-2006 school year, students in grades 3-8 were required to be formally assessed in math and reading or language arts annually with science assessments beginning no later than the 2007-2008 school year (Friend, 2008; NCLB, 2001). As a means to achieve these high standards of academic achievement and accountability, NCLB also required the use of scientifically
based research practices and the employment of highly qualified teachers in the classrooms and schools (Simpson, LaCava, & Graner, 2004).

In 2004, IDEA was amended to further increase the quality and accountability of special education programs for students with disabilities and to bring it into alignment with NCLB (Pub. L. 108-446). Some of the major changes included the requirement that special education services specified in students’ IEPs should be based on research based practices as much as possible, three new requirements to determine eligibility for special education services, and the manner in which monetary funding can be used for early intervention services (Yell, Katsiyannis, & Bradley, 2011).

Throughout the life of IDEA, six principles have remained embedded in the law, of which some have already been discussed in previous sections. They are zero reject, nondiscriminatory testing, free appropriate education, due process, parent participation, and least restrictive environment (Friend, 2008; Mastropieri & Scruggs, 2010; Yell, Katsiyannis, & Bradley, 2011). The following paragraphs will specifically address the principle of least restrictive environment and how this principle has impacted the placement and education of students with disabilities in the general education classroom.

Once a student is determined eligible for special education services based on criteria established by the local school district in accordance with federal regulations, a determination must be made on the setting and placement for the student to receive these services. A range or continuum of services is available on seven levels from special facilities (most restrictive) to the general education classroom without any additional support (least restrictive). The determination of where a student is placed within this
continuum of services must be within the least restrictive environment while continuing to meet the distinct needs of student as specified in the IEP (Friend, 2008; Mastropieri & Scruggs, 2010).

According to IDEA, the least restrictive environment is considered to be the location in which,

…to the maximum extent appropriate, children with disabilities are educated with children who are nondisabled and special classes, separate schooling, or other removal of children with disabilities from the regular education environment occurs only if the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (Individuals with Disabilities Education Act, 20 U.S.C. § 1401, 300.114(a)(2), 2004).

While the determination of placement in the least restrictive environment is outlined in IDEA, the wording of this law is subject to interpretation by the people, to include teachers, parents, and other school personnel, who make or advocate for these placement decisions, and these decisions are typically a “reflection of individuals’ values and emotional judgments” (Kauffman, Nelson, Simpson, & Mock, 2011, p. 21). The most recent statistics released by the Department of Education (Aud et al., 2012) indicate the trend in LRE to inclusion in the general education classroom. The percentage of students with disabilities who receive 80% or more of their education in a general education classroom has gradually increased from 33.1% in 1990 to 58.5% in 2010 with
the largest percentage increases starting in 2001, which also coincides with the passage of NCLB.

While there is a continuum of services, there is also a ‘continuum’ or varying levels of time and support within inclusion of students with disabilities in the general education classroom. One end of the inclusion spectrum is full inclusion, which is a very controversial issue guided by the underlying concept of placing all students, regardless of disability or severity, in general education classrooms of neighborhood schools to receive education (Hallahan, Kauffman, & Pullen, 2009; Mastropieri & Scruggs, 2010). However, for students with disabilities educated in the general education classroom, more and more schools are turning to the co-teaching model that includes a team of a special education teacher and a general education teacher (Keefe & Moore, 2004; Kloo & Zigmond, 2008; Magiera & Zigmond, 2005; Walsh & Jones, 2004).

The placement of students with disabilities in the least restrictive environment is so much more than an answer to the question of ‘where’ (Kauffman, Nelson, Simpson, & Mock, 2011). Students with disabilities in general education classrooms, particularly middle- and high-school, must contend with several contextual variables such as “…level of content, pace of content, expectations of independent study skills, and high-stakes testing” (Mastropieri & Scruggs, 2001, p. 265-266). These contextual variables also include the social challenges of learning next to peers without disabilities. These challenges faced by students with disabilities in the general education classroom, specifically in middle school as it applies to this proposed study, will be addressed further at the end of this literature review. However, within the general education classroom, the
general education teacher plays an important and significant role in the success of students with disabilities. They are the content experts and are primarily responsible for the academic achievement of these students (Hallahan, Kauffman, & Pullen, 2009). They are also expected to plan and collaborate with special education personnel (Van Reusen, Shohe, & Baker, 2001). As a result, the attitudes and willingness of general education teachers to differentiate curriculum and accommodate for students with disabilities is a significant research issue (Mastropieri & Scruggs, 2010). Therefore, the following section will examine the role of teacher attitudes toward and beliefs about students with disabilities, and the results of research conducted on teacher attitudes and beliefs toward students with disabilities and inclusion in general.

**Teacher Attitudes and Beliefs**

The term ‘attitudes’ was first introduced into psychology in the 1860s (Aiken, 2002). Since that time, the definition of attitude has varied considerably and has been based primarily on the evaluation of attitudes toward a particular entity or attitude object, which is an object of thought or any object that can be distinguished (Eagley & Chaiken, 2005). Attitude objects can be physical objects; ethnic, racial, or other groups of people; institutions; events; or other general targets. Attitude objects can also encompass a specific behavior in regard to an object (Ajzen & Fishbein, 2005), and for the purposes of this study, teacher interactions with students with disabilities.

In the earliest studies on attitudes, researchers naturally ‘assumed’ that attitudes were the key to understanding human behavior (Fishbein & Ajzen, 2010). Prominent studies in the field of education in the 1950s and 1960s focused on social attitudes.
specifically, “…teachers’ social attitudes toward students, other people and their cultures, learning, and the purposes of education” (Richardson, 1996, p. 103). However, despite the hypothetical significance of attitudes in predicting behavior, less than 50 studies had been conducted by the late 1960s across all disciplines. In addition, the findings from these studies failed to demonstrate a causal relationship between attitudes and behavior, or in other words, attitudes were a poor predictor of behavior (Fishbein & Ajzen).

Fishbein and Ajzen posit that the inability of these earliest studies to demonstrate a causal relationship between attitudes and behavior was based on the poor methodology in which researchers would select a measurement of a single attitude to predict behaviors in a wide domain, and since that time, additional variables have been added to try and increase the predictability of this relationship.

Richardson (1996) suggests that these research findings were one of the motivating factors for a paradigm shift in educational and social psychology to a more cognitive focus in the 1960s, and prompted psychologists to separate attitudes (affective) from beliefs (cognitive). For example, in 1967, Fishbein argued that while the term “attitude” has three components, affect (feelings/evaluation), cognition (beliefs), and conation (intentions/actions), each of these three components are not always highly correlated with each other. People can have the same attitude toward an object but have different beliefs about that object. Therefore, he defined attitudes as “…learned predispositions to respond to an object or class of objects in a favorable or unfavorable way” (p. 257), and beliefs were defined as “…hypotheses concerning the nature of these objects and the types of actions that should be taken with respect to them” (p. 257). The
separation of attitudes from beliefs served as an impetus for Fishbein and Ajzen’s (1975) the Theory of Reasoned Action (TRA), and most research on attitudes has been based on this theory (Chaiken & Stangor, 1987).

**Theory of Reasoned Action (TRA)**

The fundamental building block of this theory is beliefs. Throughout a person’s life, she forms beliefs based on direct observations of or inferences from outside sources. These beliefs may be about the person herself, other people, events, institutions, etc., and these beliefs typically develop into a set of beliefs. These beliefs will eventually determine a person’s attitudes, intentions, and behaviors. As a person develops specific beliefs about an object, these beliefs will in turn, directly influence the attitude a particular person has about that object (Fishbein & Ajzen, 1975). For example, if a general education teacher has the belief that all children, regardless of the existence of a disability can be taught or as Fishbein and Ajzen characterize as primarily favorable attributes, then the teacher will tend to have a positive attitude toward students with disabilities. In addition, attitudes are also related to a person’s intentions to behave in a particular manner toward a specific object. Therefore, a person’s attitudes are considered to be a combination of a person’s beliefs, intentions, and behaviors toward an object.

Fishbein and Ajzen assert that the basic knowledge of a person’s attitude cannot predict a specific behavior but must be viewed in correlation to the person’s intentions to perform a specific behavior.

Fishbein and Ajzen (1975) define behavioral intention as a person’s “…subjective probability that he will perform some behavior” (p. 288), and two major factors
determine behavioral intentions—a personal or “attitudinal” factor and a social or “normative” behavior. The first factor or personal factor is a person’s attitude toward performing a behavior in a given set of circumstances, and the second factor or social factor entails the influence of the social environment on the behavior. In other words, a person will consider the consequences of performing a certain behavior and whether others, particularly people of importance to the person, will think of the behavior (Fishbein & Ajzen).

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) is instrumental in this proposed study to examine whether middle school general education teachers’ attitudes and beliefs toward students with disabilities in their classroom is reflected in their actions and interactions with their students with disabilities. Teacher attitudes directly impact teacher interactions as well as acceptance of students with disabilities in their classrooms (Cook, Tankersley, Cook, & Landrum, 2000; Hammond & Ingalls, 2003; Van Reusen, Shoho, & Barker, 2001). The following section examines studies in which the Theory of Reasoned Action has been specifically used as the conceptual framework to examine teachers’ attitudes toward students with disabilities.

Teacher Attitudes and Beliefs Toward Students with Disabilities Using TRA

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) has been used in previous studies (e.g., Byrd-Blake, Afolayan, Hunt, Fabunmi, Pryor, & Leander, 2010; Chen, 2011; Rizzo & Vispoel, 1991; Zint, 2002) to measure the attitudes and beliefs of teachers toward various attitude objects. For the purposes of this study, this section will
focus on research that specifically measured attitudes of teachers toward students with disabilities.

Rizzo and Vispoel (1991) studied the correlation between selected attributes of physical education (PE) teachers and their attitudes toward students classified with intellectual disabilities (ID; referred to as mentally retarded at the time this research article was published), behavioral disorders (BD), and learning disabilities (LD) in their classes. The participants of this study included 94 (46 women and 48 men) PE teachers in kindergarten through twelfth-grade. The age of the teachers ranged from 22-55 years \((M = 38, \ SD = 7.36)\) and their teaching experience ranged from 1-32 years \((M = 15, \ SD = 6.86)\). Each of the 94 teachers completed a survey titled *Physical Educators’ Attitude Toward Teaching the Handicapped Measures-II (PEATH-II)*, which was developed based on the *Theory of Reasoned Action* (Ajzen & Fishbein, 1980). This survey was composed of two sections. The first section consisted of 12 statements such as “Teaching students labeled as ____ in my regular physical education classes with nonhandicapped students will disrupt the harmony of the class”. Under each statement, each of the three student disabilities (ID, BD, LD) within the teachers’ classes was listed with a Likert-type scale of 1 to 5. Four scores were calculated for each statement, one for each disability and a total score. The second section consisted of eight teacher demographic/attribute questions, such as gender and age.

The survey data was analyzed for correlations along measures of academic preparation, personal attributes, attitudes, work experience, and perceived competence. Of these measures, two reached statistical significance for correlation with attitudes,
years of teaching students with disabilities ($r = .18, p < .05$), and perceived competence ($r = .31, p < .001$). A forward stepwise multiple regression analysis was used to assess the contributions of the eight teacher demographic/attribute questions. Of the eight attributes, competence toward teaching students with disabilities accounted for 12% of the variance in attitudes, $F(1, 92) = 12.92, p < .0005$. The remaining seven attributes did not contribute to significant variance in attitudes (Rizzo & Vispoel, 1991).

The results of this study indicate that only two variables, years of experience and perceived competences, were significantly correlated with teachers’ attitudes toward teaching students with disabilities. Of these two variables, teachers’ perceived competence of teaching students with disabilities was the best predictor of attitudes followed by years of experience teaching students with disabilities. In addition, teacher attitudes varied by the type of student disability with students with LD viewed more favorably than students with ED or ID. Overall, when teachers view themselves as competent in teaching students with disabilities and have experience with teaching students with disabilities, teachers have more positive attitudes toward these students.

In 2000, Conatser, Block, and Lepore examined the attitudes of 82 (59 women and 23 men) aquatic instructors toward teaching students with disabilities. The participants were located in 28 states across the United States. The teaching experience of the participants ranged from 2-45 years ($M = 22, SD = 10.2$) and 95% of the teacher participants had experience teaching swimming to students with disabilities. Each participant completed a survey titled Physical Educators’ Attitudes Toward Teaching Individuals with Disabilities – Swim (PEATID-SWIM). The survey was divided into two
sections. The first section was comprised of 20 statements designed to measure the instructors’ attitudes toward a variety of issues such as self-concept, rate of learning, training of instructors, and motivation. The instructors rated each statement for students with mild disabilities (e.g., learning disabilities, mild/moderate intellectual disabilities, partial vision loss, hearing loss) and students with severe disabilities (e.g., blindness, multiple disabilities, severe autism) on a Likert-type scale from 1 to 5. The second section of the survey was comprised on nine instructor demographic questions and one open-ended question.

A correlated $t$-test was used to analyze the data gathered through the teacher attitude survey and the results of this analysis indicated significant differences between teacher attitudes and including students with mild disabilities vs. severe disabilities, $t (81) = 10.86, p < .01, ES = 1.16$, in swim classes. In other words, aquatic teachers indicated more favorable attitudes toward including students with mild disabilities in swim programs ($M = 3.33, SD = 0.70$) compared to including students with severe disabilities ($M = 2.50, SD = 0.74$) (Conatser, Block, & Lepore, 2000).

The seven teacher demographic variables were analyzed to determine any correlation to more favorable teacher attitudes toward teaching inclusive swimming programs. Five of the seven demographic variables were significantly correlated: (a) inclusive versus separate swim classes ($r = -.29, r^2 = .08, p < .01$); (b) one or more courses in adapted physical education, ($r = .27, r^2 = .07, p < .01$); (c) one or more courses in special education, ($r = .23, r^2 = .06, p < .02$); (d) gender, ($r = .24, r^2 = .06, p < .01$); and (e) certification in aquatics, ($r = .27, r^2 = .07, p < .01$). In addition, a forward
stepwise multiple-regression procedure was conducted and determined that three of the demographic variables were the best predictors of teacher attitudes toward teaching students with disabilities: (a) inclusion, $R = .29$, $R^2 = .08$, $F(1, 78) = 7.51, p = .01$; (b) one or more courses in adapted physical education, $R = .36$, $R^2 = .13$, $F(2, 77) = 4.22, p = .04$; and (c) gender (females held more favorable attitudes then males), $R = .42$, $R^2 = .17$, $F(3, 76) = 3.96, p = .05$. Overall, the results of this study indicate when teachers have taken more coursework, particularly courses focused on teaching students with disabilities, they hold more favorable attitudes toward inclusion. The researchers (Conatser, Block, & Lepore, 2000) posit that additional coursework improves teacher competence in actually teaching students with disabilities. In addition, teachers who taught inclusive classes versus separate classes and female instructors had more favorable attitudes toward students with disabilities.

The two studies described above examined teacher attitudes toward students with disabilities with a survey based on TRA. Overall, the results indicate that when teachers have taken more coursework, they feel more competent and demonstrate more positive attitudes. Also, teachers have more positive attitudes toward students with milder disabilities not characterized by emotional or behavioral issues. However, both studies only surveyed attitudes and did not attempt to research the predication of teacher behaviors based on their attitudes.

**Other Studies of Teacher Attitudes Toward Students with Disabilities**

Several other studies (e.g., Blecker & Boakes, 2010; Burke & Sutherland, 2004; Coleman & Gilliam, 1983; Cook, 2001; Cook, Tankersley, Cook, & Landrum, 2000;
Hammond & Ingalls, 2003; Olson, Chalmers, & Hoover, 1997; Subban & Sharma, 2005; Ross-Hill, 2009) have also examined the attitudes of general education teachers students with disabilities in their classrooms without the use of conceptual foundation of the


Scruggs and Mastropieri (1996) synthesized 28 studies between 1958 and 1995 in which general education and special education teachers had been surveyed in regard to their perceptions of students with disabilities in their classrooms. These 28 studies included 6,459 general education teachers and 1,173 special education teachers in all grade levels (K-12) across the United States as well as Australia and Canada.

The results indicate that in the surveys that asked about support for inclusion, the majority of survey respondents (65%), which included general and special education teachers, supported inclusion of students with disabilities in the general education classroom. However, this level of support varied based on severity of the students’ disabilities and level of intensity of inclusion (amount of time spent in the general education classroom). When only general education teachers \((N = 2,193)\) were asked about their willingness to teach students with disabilities in their classrooms, 53.4\% \((N = 1,170)\) were willing but again, this willingness varied by the level of the students’ disability and the amount of additional teacher responsibility required for inclusion (Scruggs & Mastropieri, 1996).

Scruggs and Mastropieri (1996) emphasize that the year of publication did not appear to impact the findings; the attitudes of teachers remained consistent across the approximate 37 years of surveys. In consideration of the current proposed study of
current self-reported attitudes of general education teachers toward students with disabilities, this is a significant consideration. Both special and general education teachers were asked whether students benefited from inclusion and 54.4% (1,820 of 3,348 teachers) agreed that students with and without disabilities benefited from inclusion. Of interest, more special education teachers (66.6%) agreed than general education teachers (50.8%) to the benefits of inclusion. Many of the teachers indicated that the inclusion of students with disabilities creates special classroom problems and that inclusion requires additional planning that is not always provided to the teachers. Last, a small percentage of both general and special education teachers agreed that general education teachers had enough expertise or training for the inclusion of students in the general education classroom.

Avramidis and Norwich (2002) reviewed the literature on teachers’ attitudes toward inclusion of students with disabilities from 1984 to 2000. The results of this review support the findings of the Rizzo and Vispoel (1991), and the Conatser, Block, and Lepore (2000) studies, where more teacher experience and training resulted in more positive attitudes toward the inclusion of students with disabilities in the general education classroom. This review also examined student and teacher attributes and the correlation with teacher attitudes. The type of disability and level of severity negatively impacted teacher attitudes, which supports the findings of Scruggs and Mastropieri (1996). Overall, teachers viewed students with more severe disabilities, or students with emotional or behavioral disabilities, less positively and more difficult to teach than students with other milder disabilities, like learning disabilities or visual impairments.
The correlation between teacher attributes and attitudes indicated inconsistent results regarding gender however, some studies did indicate that female teachers were more positive toward students with disabilities. Younger teachers and teachers with less experience were shown to have more positive attitudes toward inclusion although the number of years of teaching experience was not shown to correlate significantly with positive attitudes. The results of correlation between grade level and teacher attitudes were inconsistent, which does not support Scruggs and Mastropieri (1996) synthesis where grade level did not show a significant correlation. Last, the level of support provided to teachers resulted in more positive attitudes (Avramidis & Norwich).

In addition to the two literature reviews of teacher attitudes toward students with disabilities in inclusive classrooms described above, there have been several individual studies since those publications. Cook, Tankersley, Cook, and Landrum (2000) examined the attitudes of 70 general education teachers (61 female and 9 male) in kindergarten through 6th grade who taught classes that included students with disabilities. The teachers had average of 15.3 years of teaching experience ($SD = 9.1$) with average of 8.7 years of teaching experience in inclusive classrooms ($SD = 8.1$). The teachers were asked to nominate three students in their classrooms who best fit each of the following attitudinal categories: (a) attachment or keep for another year for the sheer joy; (b) concern or needs all of teacher’s attention; (c) indifference or least prepared to talk about in a conference; and (d) rejection or relieved to have removed from class. Individual students could be placed in more than one category. The results indicated that teachers nominated fewer students with disabilities in the attachment category (5.8%) but
nominated more students with disabilities in the concern (30.8%) and rejection (30.0%) categories. Overall, the results indicate that teachers have different attitudes toward their students with disabilities than their students without disabilities.

In 2001, Van Reusen, Shoho, and Barker examined the attitudes of 125 high school teachers (92 female and 33 male) located in the greater metropolitan area of San Antonio, Texas. The 125 teachers represented a cross section of all content areas within the school. Each of the teachers completed a two-part survey. The first part was designed to gather demographic and background information about each teacher. The second part consisted of 20 statements about various aspects of inclusion that each teacher rated on a 4-point Likert-type scale with higher scores representing more positive attitudes. The results of the surveys indicated that teachers who reported adequate to high levels of training or experiences in special education had more positive attitudes, $F(3, 121) = 8.312, p <.0001$. Of the 54% of the teachers who indicated a negative attitude toward inclusion, their levels of special education training were the lowest among the teachers. In addition, teachers across all content areas reported negative attitudes. Also, there was no significant correlation between teacher attitudes and gender, years of teaching experience, and content area taught by the teacher.

Hammond and Ingalls (2003) surveyed the attitudes of 343 elementary teachers in three rural school districts in the southwestern region of the United States. The teachers completed two questionnaires. The first questionnaires examined teachers’ attitudes about inclusion and the second questionnaire examined the level or degree of inclusion practices happening in the schools with both questionnaires using a 5-point Likert-type
scale. The results of the first questionnaire revealed interesting results where the teachers indicated they had adequate support to implement inclusionary practices in their classrooms but held overwhelmingly negative or uncertain attitudes toward inclusion. The second questionnaire revealed that despite the negative or uncertain attitudes toward inclusion, the majority of teachers felt they were trying to implement an adequate inclusion program in their classrooms. Unfortunately, a majority (82%) of the teachers also felt that general and special education teachers did not collaborate to provide inclusive services in the general education classroom. Hammond and Ingalls (2003) posit that even though the teachers were implementing inclusion in their classrooms, their practices may not be as effective based on the negative or uncertain attitudes. The results of negative teacher attitudes toward inclusion are inconsistent with overall results reported by Scruggs and Mastropieri (1996), and Avramidis and Norwich (2002), which indicated that teachers generally have positive attitudes toward inclusion.

In 2009, Ross-Hill examined the attitudes of 73 elementary and secondary general education teachers in inclusive classrooms in the rural areas of southeastern United States. Each of the teachers completed the Scale of Teachers’ Attitudes Towards Inclusive Classrooms (STATIC), which was composed of questions about the teacher’s general information as well as the teacher’s attitudes towards inclusion. Teachers answered questions about their attitudes on a 5-point Likert-scale with higher points representing more positive attitudes. The analysis of these surveys revealed that general education teachers across all grade levels were generally positive in their attitudes toward students with disabilities. Teachers also indicated that when they received adequate
training to meet the needs of students with disabilities, they felt more confident in their ability. Also, years of teaching experience did not have a significant impact on teachers’ attitudes.

Blecker and Boakes (2010) studied the disposition, knowledge, and skills necessary to implement inclusive education of 546 teachers (459 female and 87 male) from 54 schools in southern New Jersey area. The teacher participants taught in kindergarten through 12th grade with over 50% of teachers with at least 11 years of teaching experience. Each of the teacher participants completed a three-part survey. Part one consisted of ten statements regarding the teacher’s perceptions of school culture and individual dispositions and readiness for inclusion. Part two of the survey consisted of fifteen statements that examined specific skills and strategies that the individual teacher would implement in the inclusive classroom. Part three of the survey collected basic demographic information about the individual teacher such as gender, certification, years of teaching experience, etc. Overall, the results of this study indicated that teachers demonstrated a positive attitude toward inclusion, however they expressed concern about the lack of planning and professional development needed to successfully implement inclusion in the general education classroom. The special education teachers implemented more techniques and strategies for differentiation in the classroom with varying instructional pace and materials as the most highly used strategies. However, special education teachers also expressed that they viewed special education as a separate entity within the school versus an integral part of general education. Last, years of teaching experience did not significantly affect teachers’ attitudes toward inclusion.
With the exception of one study (Hammond & Ingalls, 2003), a majority of teachers hold positive attitudes toward students with disabilities and inclusion in general. The majority of teachers with additional experience and training in teaching students with disabilities also held more positive attitudes. Teacher attributes such as gender, grade level, and years of teaching experience do not correlate with teacher attitudes in general.

**Teacher Interactions with Students with Disabilities**

Because teacher attitudes directly impact their interactions with and acceptance of students with disabilities, and in turn, the success of these students (Cook, Tankersley, Cook, & Landrum, 2000; Hammond & Ingalls, 2003; Van Reusen, Shohe, & Barker, 2001), the review of literature is important to understanding the context of these interactions. Since 1972, several studies (e.g., Bryan, 1974; Bryan & Wheeler, 1972; Fellers & Saudargas, 1987; Forness & Esveldt, 1975; Schumaker, Wildgen, & Sherman, 1982; Slate & Saudargas, 1986) have examined the interactions between general education teachers and their students with disabilities, and these studies have varied widely across grade level, disability, measurement, focus, and results. Because the study of interactions is a complex topic influenced by many factors, researchers have tended to focus their studies on narrower aspects of interactions such as classroom behavior of specific students, students with specific types of disabilities, the teachers’ assessment of students’ academic achievement, classroom context, or just general characteristics of interaction patterns. The following section will examine each of the studies, which have focused on interactions between general education teachers and their students with
disabilities as either the primary focus of the study or as a contributing aspect to a larger focus. This section is organized by focus, then chronologically.

Classroom Behavior

Many studies (Bryan, 1974; Bryan & Wheeler, 1972; Fellers & Saudargas, 1987; Forness & Esveldt, 1975; Schumaker, Wildgen, & Sherman, 1982; Slate & Saudargas, 1986) have focused on studying teacher-student interactions through the examination of students’ classroom behavior, which is typically considered a manifestation of a student’s disability. For example, students with LD may be slow to start tasks, are distractible, possess poor concentration, fail to attend to tasks, are hyperactive, and exhibit poor concentration; and students with ED may exhibit some of these same characteristics plus physical aggression, outbursts, or lack of empathy (Bryan, 1974; Henley, Ramsey, & Algozzine, 2009; Mastropieri & Scruggs, 2010). These behaviors may result in differences in interactions between teachers and students in a general education classroom (Slate & Saudargas, 1986).

Students referred for evaluation. Forness and Esveldt (1975) examined the classroom behavior of 24 boys who had been referred for evaluation by their school for learning or behavior problems to the University of California at Los Angeles (UCLA) Child Psychiatry Outpatient Department. The male participants were selected using the following criteria: (a) enrolled in a first or second grade general education classroom, (b) possessed an average intelligence, and (c) had no serious sensory or physical handicaps. The 24 boys that met these criteria were assigned to a treatment group. The participants in the treatment group were matched with male peers assigned to the same math and
reading groups within each respective classroom. Criteria for selection of comparison group participants was not specified other than assignment to the same classrooms as the treatment group. The researchers did not provide any demographic information on the classroom teachers in the study.

The classroom behavior of the both the treatment and comparison groups, and any immediate response by the teacher or peers was measured through observations in 6-second intervals during the math and reading groups. The observation behaviors were categorized into five types: (a) attend, (b) interact positive, (c) not attend, (d) teacher disrupt, and (e) peer disrupt. The corresponding response behaviors were categorized into three types: (a) no response, (b) teacher response, and (c) peer response. Observations were conducted continuously in six separate classroom visits over a two-week period and then repeated after six months. Observation data was analyzed separately for math and reading, and converted into percentages. The results of the study indicated that although the difference was small, teachers engaged in more frequent positive interactions, such as praise, with students in the treatment group.

**Students with learning disabilities (LD).** Students with LD have been the focus of significant amount of research over the past 20 to 30 years (Fellers & Saudargas, 1987; Schumaker, Wildgen, & Sherman, 1982). This focus is not surprising since the majority (37.5%) of students with disabilities in the public school system (2009-2010) are classified with learning disabilities (Aud et al., 2012).

In 1972, Bryan and Wheeler focused on students with learning disabilities (LD), and compared these students with LD to students without LD. Observations were
conducted using an Interaction Process Analysis in five general education classrooms in kindergarten and first-, second-, fourth-, and sixth-grades. The teachers in each of these classrooms were asked to identify two male students who had been classified with LD and two comparison male students who were considered typical, average students without LD. The researchers did not provide any additional demographic data on the students or teachers. Observations of the behaviors of the four boys in each classroom were conducted for one school day. The observers recorded the behaviors of each participant in 10-second intervals for a period of five minutes and then switched to the next participant. A total of 55 minutes of observations was collected for each participant.

Observational data were converted into frequencies of behavior, and then grouped under the following categories: (a) task-oriented, (b) non-task-oriented, (c) interaction, and (d) waiting. All of the behavior categories except waiting were analyzed for group difference using t-tests. The most significant result of this study indicated that students with LD spent significantly less time engaged in task-oriented behaviors as compared to their peers without LD ($t = 7.9, p < .01$), and the frequency of interactions with peers was lower for students with LD (7%) than students without LD (10%). However, analysis of additional factors in the study indicated very little differences between students with and without LD. For example, the frequency of interactions with a teacher was the same for both groups (2%) and both groups spent the same average amount of time waiting (16 minutes per day). Teacher reinforcement, positive or negative, of student behavior for either group was almost non-existent with only one occurrence observed throughout the entire study.
In 1974, Bryan conducted a follow-up study to the Bryan and Wheeler (1972) study with one additional goal, to determine whether the behavior of students with LD varied across two different educational settings, the general education classroom, and individual sessions in a resource room.

Ten third-grade boys were selected for participation in this study. Five of the boys were classified with LD and the remaining five boys were selected by teachers as average achievers without LD to be used as comparison. The participants were matched for grade, race, and gender. Bryan (1974) did not provide any additional demographic data on the participating students or their teachers in these third-grade classrooms.

Observations of each comparison pair were observed for five days over a period of five months. Each student in a comparison pair was observed for rotated periods of five minutes. Within each five-minute period, target student behaviors were recorded at the beginning of each 10-second interval. The observers coded behaviors and interactions of each comparison pair. Bryan (1974) used Jackson’s (1971) definition of behavior “…being engaged in a purposeful activity that has been prescribed for us by someone else” (p. 84). The observed behaviors were placed into four categories: (a) task-oriented behavior, (b) non-task-oriented behavior, (c) social interactions, and (d) waiting. Interactions were also observed and defined by Bryan (1974) as “…verbal and/or non-verbal behaviors emitted between two or more persons” (p. 28).

Observational data were analyzed in terms of frequency of occurrence in percentages. In addition, an analysis of variance was used to compare differences between students with LD and their comparison peer without LD in the frequency of
attending behaviors across the two settings. Results of this study confirmed the results from the earlier study (Bryan & Wheeler, 1972), which indicated that overall, students with LD spent significantly less time in task-oriented behaviors than their peers without disabilities ($p < .002$), particularly in the content areas of math ($p < .04$); language ($p < .02$); arts—music/art games ($p < .01$); approaching significance to reading ($p < .09$); and attending to the teacher while she was giving instructions ($p < .006$). The results also indicated that students with LD (5.1%) spent a similar amount of time interacting with teachers as their peers without LD (3.7%). However, the content of interactions did vary between the two groups. Teachers responded to verbal initiations by students without LD almost three times as many as students with LD (34.95 and 12.8% respectively, $p < .01$). Teachers spent more time helping students with LD with their work, particularly math, than their peers without LD ($p < .036$). In regard to reinforcement provided by the teacher, both groups received equal amounts of positive reinforcement (16.1% and 17.6% respectively) but students with LD did receive more negative reinforcement than students without LD (7.8% and 3.9% respectively). Matched $t$-tests were used to analyze the differences between the two educational settings, general education classroom and resource room. Results indicated that students with learning disabilities spent more time on-task ($p < .01$), engaged in more teacher interactions ($p < .01$), and received more positive reinforcement in the resource room setting than the general education classroom ($p < .01$).

Schumaker, Wildgen, and Sherman (1982) also conducted a study, which examined the classroom behaviors of students with LD, to determine if the results of
earlier studies (e.g., Bryan, 1972; Bryan, 1974; Forness & Esveldt, 1975) of younger students with LD generalized to older students with LD. A total of 47 comparison pairs of students, one student with LD and one student without LD in the same classroom, participated in this study. The pairs were matched within classrooms and gender with 35 male pairs and 12 female pairs. Of the 47 pairs, fourteen were in seventh grade, 15 were in the eighth grade, and 18 were in the ninth grade.

Observations of behaviors were conducted in the general education classroom settings of social studies, English, science, health, speech, and Spanish. Observations were made in alternating 10-second intervals between the students in each pair, and each student was observed for a minimum of 40 minutes. The researchers (Schumaker, Wildgen, & Sherman, 1982) did not indicate the use of a specific recording instrument. The classroom behaviors were coded into three categories: (a) social behaviors, (b) study behaviors, and (c) classroom conduct behaviors. Since the focus of this study was social behaviors, only observed behaviors in this category were analyzed and reported in the final results. Social behaviors were defined as “…behaviors that involved the target student interacting with the teacher or peers in classroom, with the exception of behaviors involved in participating in a discussion” (p. 356).

Results indicated that overall, both groups of students spent the majority of their time attending to the teacher’s instruction and there was no significant difference in the amount of attending time between the two groups (about 7% of class time). There was not a significant difference between the two groups in the frequency of questions asked of teachers or conversations with their teachers (.1% of the intervals); however teachers
spent twice as much time in a single conversation with students without LD than with students with LD (3.3 and 1.8 intervals long respectively). In regard to praise or criticism from the teacher, students with LD received more instances of praise and criticism (20 instances and 28 instances respectively) than students without LD (7 instances and 7 instances respectively).

Slate and Saudargas (1986) also studied the classroom behavior of male students with LD compared to students without LD. Two groups of boys in the third-, fourth-, and fifth-grades were selected from five public elementary schools located in a large eastern Tennessee school system. Fourteen boys were placed in the treatment group based on the following criteria: (a) classified with a LD; (b) average intelligence (IQ scores between 84-102); (c) one standard deviation between reading or math achievement and IQ; (d) no comorbid disabilities; (e) no known medical problems; and (f) placed in a general education classroom for the majority of instruction. Fourteen boys were selected by teachers and placed in the comparison group based on the following criteria: (a) academic achievement on grade level; (b) average academic ability without experiencing any academic difficulty; (c) no known medical problems; and (d) teachers’ assessment of appropriate interpersonal relationships with peers and adults.

Observations of classroom behaviors were conducted in the morning for ten weeks. Each participant was observed four to six times for approximately twenty minutes. Observations were recorded on a modified version of the State-Event Classroom Observation System (SECOS) (Saudargas & Creed, 1980). This observation instrument records 14 student and 5 teacher behaviors. Of the 14 student behaviors, 8 are
defined as state behaviors, such as out of seat, playing with objects, looking around, schoolwork, or social interaction. These behaviors are recorded using 15-second time sampling. The remaining 6 student behaviors and 5 teacher behaviors are defined as event behaviors, such as approval, disapproval, raise hand, call out, teacher approach, or child approach. These behaviors are frequency counted.

The results of this study indicate that students with LD did not exhibit behaviors that were markedly different from students without LD. This result supports the findings of the study conducted by Schumaker, Wildgen, and Sherman (1982), but contrasts studies by Bryan and Wheeler (1972) and Bryan (1974) where students with LD did exhibit different behaviors than students without LD. In addition, Slate and Saudargas (1986) found that both groups of students engaged in teacher-child interactions for the same amount of time, which contrasts the findings of Schumaker, Wildgen, and Sherman (1982), which found that teachers spent twice as much time engaged in interactions with students without LD. In this study, the researchers (Slate & Saudargas, 1986) also discovered that there was a statistically significant difference in teacher behaviors. For example, when all of the students were engaged in an academic assignment, students with LD received more teacher-initiated interactions and directions than the students without LD.

In 1987, Fellers and Saudargas conducted a study that examined the classroom behaviors of female students with LD versus male students with LD. Fifteen girls with LD and fifteen comparison girls without LD were selected from second- (n = 4), fourth- (n = 6), and fifth-grade (n = 5) classrooms. Girls with LD were chosen based on the
following criteria: (a) at least one standard deviation between IQ and academic achievement in reading or math; (b) average academic ability (scores 65 to 99); (c) no medical problems; and (d) no comorbid disabilities. Girls without LD were selected based on the following criteria: (a) achievement on grade level; (b) average academic ability; (c) no medical problems; and (d) appropriate interpersonal relationships with peers and teachers. Additional demographic information was not provided on the girls or teachers in their classrooms.

Classroom behaviors of each girl were observed in the general education classroom for a minimum of three 20-minute sessions using 15-second sampling intervals over a two-week time period. Observations were conducted during large-group instruction or individual seatwork. Observations were recorded on the State Event Classroom Observation System (SECOS) (Saudargas & Creed, 1980; Slate & Saudargas, 1986) and included 13 student and 5 teacher behaviors.

The researchers (Fellers & Saudargas, 1987) reported that the most significant finding of this study was the total amount time each group spent engaged in schoolwork. Female participants with LD spent a mean of 68.3 percent and female participants without LD spent a mean of 73.9 percent ($p = .001$) engaged in schoolwork. Although the difference was small (5.6%), this difference was discovered in 11 of the 15 comparison groups. Also, in contrast with some of the previous studies of students with LD (Forness & Esveldt, 1975; Schumaker, Wildgen, & Sherman, 1982), teachers in this study did not spend more time interacting with female students with LD than female students without LD. However, Fellers and Saudargas (1987) did report differences
between the two groups in one specific teacher behavior. Teachers ignored more of the call-outs of girls with LD \((M = .005, SD = .008, p = .0029)\) versus girls without LD \((M = .13, SD = .19, p = .0029)\). Fellers and Saudargas (1987) posit that teachers’ may consider girls with LD less capable of answering questions therefore, do not call on them.

In summary, these results indicate that teacher-student interactions are inconsistent across studies. Some studies (Forness & Esveldt, 1975; Schumaker, Wildgen, & Sherman, 1982; Slate & Saudargas, 1986) report more interactions with students with disabilities versus their peers without disabilities. Whereas, other studies (Bryan, 1974; Bryan & Wheeler, 1972; Fellers & Saudargas, 1987) in this section indicate a consistent amount of interactions between the two groups of students.

**Students with a variety of disabilities.** The two studies (Nelson & Roberts, 2000; Slate & Saudargas, 1987) described in this section continue to examine students’ classroom behaviors but include a combination of students with different types of disabilities such as emotional disabilities (ED), learning disabilities (LD), other health impairments (OHI), and developmental delay.

In 1987, Slate and Saudargas compared the classroom behaviors of students with LD, serious ED, and average students without any disability. In addition, the interrelationships within and between the groups as well as teacher interactions with students with disabilities were collected through observations. The 52 participants in this study consisted of three groups of male students in the third-, fourth-, and fifth-grades in five elementary schools. Two of the groups consisted students with LD \((n = 15)\) and
serious ED ($n = 13$). The third group of students ($n = 24$) consisted of average comparison peers without any disabilities.

Students with LD were selected based on the following criteria: (a) at least one standard deviation between IQ and academic achievement in reading or math; (b) average intellectual ability; (c) no medical problems; (d) no comorbid disabilities; and (e) receive the majority of instruction in the general education classroom. Students with ED were selected based on the following criteria: (a) average IQ and academic ability; (b) assessed by general education teacher as currently exhibiting acting-out or inappropriate behavior; (c) no known medical problems; and (d) receiving the majority of instruction in the general education classroom. Comparison students were selected based on the following criteria: (a) achievement on grade level; (b) average academic ability indicated by at least a C average; (c) no past achievement problems or current academic ability; (d) no known medical problems; and (e) demonstrates appropriate interpersonal relationships with peers and teachers as assessed by their teachers.

The male participants were observed in their general education classrooms in the morning during individual and group academic assignments over a 10-week time period. Each participant was observed four to six times for 20 minutes each session. Observational data was recorded on a modified version of the *State-Event Classroom Observation System (SECOS)* (Saudargas & Creed, 1980; Slate & Saudargas, 1986) with a 15-second time sampling method. Only one behavior was recorded per interval.

The recorded observational data were analyzed using lag sequential analysis (Sackett, 1979) with the following behaviors: (a) schoolwork, (b) looking around, (c)
other activity, (d) other activity, (e) social interaction-child, (f) social-interaction-teacher, and (g) out-of-seat ($p < .01$). The analysis of lag behaviors indicated that when participants with disabilities were engaged in schoolwork, teachers were less likely to interact with them as compared to their peers without disabilities. In addition, teachers were less likely to discuss schoolwork with students with disabilities. However, when interactions between general education teachers and students with disabilities did ensue, these interactions lasted longer than interactions with students without disabilities. Students with disabilities also took longer to reengage with schoolwork after these teacher interactions compared to their peers without disabilities.

After students interacted with peers, students without disabilities and students with LD tended to look around the classroom instead of reengaging in their assigned task. Students with ED tended to get out of their seats and interacted with more peers. Students with disabilities received more teacher-initiated interactions to correct their behavior and to return to the assigned task as compared to their peers without disabilities.

Nelson and Roberts (2000) also conducted a study that examined classroom behaviors of students with a variety of disabilities. The primary goal of this study was to examine the interactions of general education teachers and students who exhibit high rates of disruptive behaviors in the classroom, which can include rule violations, off-task behavior, non-compliance, defiance, and verbal and/or physical aggression. Since these behaviors can be characteristics of more than one type of disability, 59 out of 99 target participants were classified with the following disabilities: 28 with ED, 17 with Other Health Impairment (OHI), 7 with LD, and 7 with developmental delay. The remaining
40 target students were selected based on behaviors and were not formally classified with a disability with an IEP.

Overall, two groups of students in grades 1-8 were selected for participation in this study. The participants were selected from six elementary and two middle schools. The first group consisted of 99 target students who exhibited the high rates of disruptive classroom behaviors based on teacher assessment. This group was composed of 14 (13 boys and 1 girl) second-graders, 13 (all boys) third-graders, 12 (all boys) fourth-graders, 14 (12 boys and 2 girls) fifth-graders, 16 (14 boys and 2 girls) sixth-graders, 15 (14 boys and 1 girl) seventh-graders, and 15 (13 boys and 2 girls) eighth-graders. The mean achievement for this group was 71.24 (SD = 34.36).

The second group consisted of 278 students (149 boys and 129 girls) identified by their teachers as comparison students who did not exhibit disruptive classroom behaviors. This group was composed of 35 (19 boys and 16 girls) first-graders, 36 (22 boys and 14 girls) second-graders, 32 (17 boys and 15 girls) third-graders, 36 (19 boys and 17 girls) fourth-graders, 38 (20 boys and 18 girls) fifth-graders, 40 (21 boys and 19 girls) sixth-graders, 31 (16 boys and 15 girls) seventh-graders, and 30 (15 boys and 15 girls) eighth-graders.

Observations of the target students took place over the entire three-year project and observations of the comparison students took place during the last year only. All of the observations took place in a general education classroom. For each target student, the goal was 20 ongoing reciprocal sequences of interactions between student and his teacher. For each comparison student, the goal was three ongoing reciprocal interactions.
between the student and his teacher. Interactions were recorded until the goal was reached for each student in the study. Each interaction sequence was recorded with paper and pencil and without a specific recording instrument.

Each interaction sequence was recorded for ecological context, and teacher and student interaction behaviors. The ecological context was divided into three types: (a) instructional methods (independent work, cooperative learning, direct instruction, transition, other), (b) content area (reading, math, writing, social studies, science, other), and (c) teacher position (proximity, distance). The teacher and student interaction behaviors were divided into two types: (a) teacher (command, reprimand, ultimatum, consequence, leave request, approval, ignore), and (b) student (compliance, negative response, non-compliance, verbal aggression, physical aggression, student leaves). The results of this analysis indicated that persistent interactions occurred between teachers and the target students with an average of reciprocal interactions around four. Nelson and Roberts posit that this type of reciprocal behavior provides insight into why teachers are hesitant to work with students with disruptive behaviors. In addition, teacher responses to disruptive behaviors tended to be reprimands with the target students and commands with the comparison students. Nelson and Roberts characterize these responses as more negative in nature. The target students typically responded to the teacher in a negative manner as well.

**Students’ Academic Achievement**

In this section, interactions were observed between teachers and students based on either actual academic performance or the teachers’ perceptions of the students’ abilities.
This section is particularly relevant based on the academic requirements established by NCLB in 2001, which specifies that all students, including students with disabilities, achieve a specific level of academic achievement (Friend, 2008; NCLB, 2001).

Chapman, Larsen, and Parker (1979) conducted a study to examine the nature and context of teacher interactions with their students with LD compared to peers classified by their teachers as low-, medium-, and high-achieving students. Four general education teachers and 110 first-grade students were recruited to participate in the study. All of the participant teachers were female, white, considered competent by their principals, and had a minimum of three years of teaching experience. Specific demographic information on the participating students was not provided, however teachers were asked to rate the abilities of each of the students within their respective classrooms as fail, poor, fair, good, or excellent. This rating information was combined with grades from school report cards and the California Achievement Test to assign each student to one of four groups: (a) learning disordered, (b) low achievement, (c) medium achievement, or (d) high achievement. Of the 110 students, 15% \( (n = 16) \) were identified as learning disabled, 17% \( (n = 19) \) as low achievers, 42% \( (n = 46) \) as medium achievers, and 26% \( (n = 29) \) as high achievers.

The teachers’ verbal interactions with their individual students were observed and recorded by four graduate students for seven hours per week during the first thirteen weeks of school. Observations were coded on the Brophy-Good Teacher-Child Dyadic Interaction System (Brophy & Good, 1969). Within this observation instrument, teacher-student interactions can classified as (a) response opportunities, (b) recitation, (c)
procedural contact, (d) work-related contact, and (e) behavioral contact across three different classroom settings, general, reading, and work-recitation. These interaction classifications are further sub-divided to collect more detailed information such appropriateness of student responses and teacher reactions.

In this study, 86 teacher-child interaction variables were used as dependent variables and student classification (learning disabled, low-, medium-, or high-achievement) was used as the independent variable. A three-way analysis of variance (ANOVA) with repeated measures was used to analyze the variables. The results indicate that teacher-student interactions are complex aspect of the classroom environment. Overall, teacher-initiated interactions with students with LD were statistically significant compared to students without disabilities in all achievement groups. This increased level of teacher-initiated interactions was evident in all categories, to include those interactions that resulted in praise ($p = .001$), process feedback ($p = .001$), product feedback ($p = .001$), procedural contacts ($p = .001$), and criticism ($p = .001$). In addition, in work-recitation settings, which are defined as “…the child reads aloud, describes some experience, goes through the arithmetic tables, or makes some other extended oral presentation” (p. 22), there were significantly more teacher-initiated interactions that resulted in praise ($p = .11$), criticism ($p = .02$), procedural-related contacts ($p = .004$), and feedback ($p = .13$). For student-initiated interactions, there is statistically significant difference for students with disabilities in initiation of comments in a work-recitation setting ($p = .01$), more work contacts that resulted in praise ($p = .001$) and criticism ($p = .001$), and initiation of procedural contacts.
that resulted in more criticism. In the categories of opportunities to respond and level of teacher questions, none of the interactions reached statistical significance, however there were two interesting differences. Students with disabilities received fewer opportunities to respond to open questions ($p = .11$) and less than half of the opportunities to read in reading groups as the students in the medium and high groups. In general, students with disabilities participate in more teacher-student interactions, specifically praise and criticism, during procedural interactions.

Thompson, White, and Morgan (1982) also examined the interaction patterns of general education teachers among four groups of third grade students: (a) high achieving students without disabilities, (b) low achieving students without disabilities, (c) students with learning disabilities, and (d) students with emotional disabilities (ED). Teacher-student interactions were measured through 16 dependent variables to include frequency, proportions, and quality.

Twelve third-grade female general education teachers agreed to participate in the study, and each teacher had students with disabilities in her classroom. All of the teachers except one had previously taught LD and/or ED students in her classroom. From these twelve classrooms, 28 students with LD and 15 students with ED as identified by the Utah State Office of Education guidelines were selected for the study. Teachers were asked to assign all of their students to one of the following three categories: (a) top 25%, (b) middle 50%, or (c) bottom 25%. These assignments were based on the students’ most recent standardized academic achievement score. Prior to selection of students, the researchers (Thompson, White, & Morgan, 1982) removed the students with
disabilities these groups. An equal number of students without disabilities were selected to match the number of students with disabilities. Students without disabilities were then randomly selected to participate in the study. A total of 129 students who were assigned to the top \((n = 43)\), bottom \((n = 43)\), or were classified with LD \((n = 28)\) or ED \((n = 15)\) were observed for this study.

Observations were conducted for nine weeks using a modified *Brophy-Good Teacher-Child Dyadic Interaction System* (Brophy & Good, 1969), which added a section for student-initiated responses and dropped the reading recitation section. Interactions were first coded by type; whether the interaction was a response opportunity or dyadic between the teacher and one student. The interactions were further sub-divided into several layers to code specific characteristics of each interaction.

Since students observed in the study were assigned to four categories mentioned above, data collected during the observations were converted into individual student scores for 16 dependent measures. Also, since there were no students with ED, a one-way MANOVA was conducted to determine if the students with LD and students with ED should be collapsed into one group. However, the results indicated a statistically significant difference between students with LD and students with ED on the composite measure of teacher-student interactions. Therefore, these two groups were left intact for further analysis.

Multivariate ANOVAs were used to further analyze the differences identified in the MANOVA and indicated statistically significant effect in 12 of the 16 dependent measures. In regard to teacher-initiated interactions, students with disabilities \((F = 16.03,\)
received more overall teacher-initiated interactions than students without disabilities. Students with ED specifically, occupy more of the teachers’ times than students without ED and a large amount of this time is spent on non-academic work. The results of the type of teacher interactions analysis (academic, procedural, behavioral) demonstrated less statistically significant effects with one exception. Students with ED received significantly more teacher-initiated procedural interactions that high-achieving students without disabilities ($F = 4.02, p < .01$). Analysis of student-initiated interactions demonstrates that students with ED initiated almost twice as many interactions with the teacher than high-achieving students without disabilities ($F = 3.83, p < .05$). The type of student-initiated interactions (procedural or academic) did not differ between the groups. Students with ED received the highest frequency of teacher feedback with the majority (65%) of this feedback behavioral compared to high-achieving peers without disabilities. The frequency of procedural or academic feedback was not statistically significant between the groups. However, a statistically significant difference existed between sustaining teacher feedback versus terminal teacher feedback ($F = 3.22, p < .05$).

Sustaining feedback is designed to continue the interaction between the teacher and student while terminal feedback is designed to end the interaction. The majority of teacher feedback was terminal but students with ED received twice as much sustaining feedback (13.3%) than high-achieving students without disabilities. The quality of teacher feedback was coded by type and analysis indicates that there were no statistically significant differences among the groups in the quality of procedural or behavioral feedback. However, high-achieving students without disabilities did receive more praise
(approximately 50% more) than students with ED. There were no statistically significant differences between the groups for the frequency of volunteer response opportunities ($F = 2.12, p > .10$). The questions posed by teachers to students were coded by type (choice, product, self-referenced, process) and results demonstrate that teachers used mostly lower level questions ($F = 3.22, p < .05$), and students with LD received the most demanding questions. Overall, Thompson, White, and Morgan (1982) posit that teacher-student interactions do vary across the four groups and that teachers did demonstrate preferential treatment toward specific groups.

Thompson, Vitale, and Jewett (1984) reported on two exploratory studies, which examined the patterns of teacher-student interactions in inclusion classrooms between three groups of students; students with disabilities, low-achieving students without disabilities, and high-achieving students without disabilities. The first study (Thompson, White, & Morgan, 1982) was described previously in this section. The second study (Thompson, Vitale, & Jewett, 1984) was designed to replicate the first study (Thompson, White, & Morgan, 1982) and is described here. This study was designed to further describe and analyze teacher-student interaction patterns based on academic achievement in general education inclusion classrooms. Twelve female third- and fourth-grade general education teachers with an average teaching experience of 16 years participated in this study. Ten of the twelve general education teachers had previously taught students with disabilities in their classrooms. The participating teachers were asked to rank their students on a five-point scale using standardized achievement test scores. The five levels were the following: (a) lowest, (b) next-to-lowest, (c) average, (d) next-to-highest, and
(e) highest. Students with disabilities were removed from the levels and placed in their own groups. Students without disabilities were selected from the high-achieving and low-achieving levels to match the same number of students with disabilities in each classroom. A total of 177 students were chosen to participate in the study; 58 high achievers, 58 low achievers, and 61 students with disabilities (the type of disability was not specified in this study).

The twelve classrooms were observed one day a week for five weeks with the first day used for training and adaptation. Similar to the 1982 study (Thompson, White, & Morgan), the observers recorded interactions on a modified version of the Brophy-Good Teacher-Child Dyadic Interaction System (Brophy & Good, 1969) for a total of 420 hours of observational data. This data were converted into individual student scores for each of the 16 dependent measures. Because the students with disabilities were not divided into separate disability categories, the researchers (Thompson, Vitale, & Jewett, 1984) did not perform preliminary one-way MANOVA analysis as they did in the 1982 study (Thompson, White, & Morgan). Univariate ANOVAs were used to calculate the differences of the 16 dependent measures between the three groups of students.

Data analysis indicated that overall, teacher-student interaction differences do exist between the groups of students. In the frequency of teacher-initiated interactions, the results of this study (Thompson, Vitale, & Jewett, 1984) support findings of the earlier study (Thompson, White, & Morgan, 1982) that students with disabilities received more teacher-initiated interactions than students without disabilities ($F = 8.97, p < .01$), even with students with disabilities who received part of their instruction in a resource
room. General education teachers spent more time with students with disabilities. When the type (academic, procedural, behavior) of teacher-initiated interactions were analyzed, the results indicated that both students with disabilities and low-achievers received significantly more behavioral interactions \((F = 5.04, p < .01)\) and significantly fewer academic interactions \((F = 3.42, p < .05)\) compared to high-achieving students. Teacher-initiated procedural interactions \((F = .36, p > .10)\) were similar for all groups. In regard to student-initiated interactions, there were no differences between the groups for frequency \((F = 1.19, p > .10)\) or type \((F = .08, p > .10)\). The majority of student-initiated interactions were academic (78%) versus procedural (22%). These results are dissimilar to the results of the earlier study (Thompson, White, & Morgan, 1982) but researchers posit that this may be the result of not differentiating the types of student disabilities.

The frequency of teacher feedback was higher for low achievers and students with disabilities \((F = 4.04, p < .05)\), which is similar to results of the earlier study (Thompson, White, & Morgan, 1982) where students with ED received the highest frequency of teacher feedback \((F = 13.74, p < .01)\). The type of teacher feedback was statistically significant between the groups. The high-achieving students received the highest amount of academic feedback \((F = 8.09, p < .01)\) and the lowest amount of behavioral feedback \((F = .52, p > .10)\) as compared to low-achieving students and students with disabilities. Also, similar to the earlier study (Thompson, White, & Morgan, 1982), low-achieving students and students with disabilities received more sustaining feedback versus terminal feedback \((F = .93, p > .10)\), however the majority of feedback was still terminal. In regard to the quality of teacher feedback, there were no statistically significant
differences for procedural ($F = 1.18, p > .10$), and behavioral feedback ($F = .52, p > .10$), between the groups. There was a statistically significant difference for academic feedback ($F = 8.09, p < .01$), between the groups with low-achieving students and students with disabilities receiving a lower quality. Also, high-achieving students volunteered to answer more questions in class but teachers tended to seek out the low-achieving students and students with disabilities to engage them in discussion. When the quality of teacher questions ($F = 1.71, p > .10$) were examined, the results indicated that overall, teachers tended to use lower level questions and the higher level questions they did use were directed primarily at the high-achieving students. Overall, the results of the two studies were consistent that students with disabilities received the most teacher interaction. However, more detailed analysis indicates that these interactions were primarily behavioral versus academic, and the academic interactions that did take place were focused on low level questioning.

Brady, Swank, Taylor, and Freiberg conducted a study in 1988 with a follow-up study in 1992 that focused on teacher-student interactions in middle school classrooms. In the 1988 quasi-experimental study, the researchers recruited 40 middle school social studies teachers. The teachers were selected based on the following criteria: (a) currently teaching social studies in grades 6-8, (b) at least one but preferably two students with disabilities with an IEP in their general education social studies class, and (c) willingness to participate in the study. The teachers were then grouped by two factors, control versus experimental condition and heterogeneous versus homogeneous classroom type. A heterogeneous classroom type is composed of students with a limited range of
academic achievement and a homogeneous classroom type is composed of students with a limited range of academic achievement. The following process was used to select individual students to be observed: (a) one student with disabilities was selected in each classroom; (b) two students without disabilities that sat adjacent or in close proximity to the student with disabilities; and (c) in the heterogeneous classes, a low-achieving and average-achieving student without disabilities were selected in the study.

Each participating teacher was observed once per day during a 50-minute social studies instructional period in her classroom. Observational data were recorded using a partial interval observation system developed by Alberto and Troutman (1986). In each observation, the teacher and one of the six students were observed for 14 seconds followed by a six-second coding period. The observation then rotated to the next student until all six students had been observed. The cycle was then repeated until the end of the 50-minute class session. The observation coding was partially based on the Stallings Observation Instrument (Stallings & Needels, 1985), and observations were coded in a two-stage hierarchy. Teacher-student interactions were coded first as academic or non-academic, and then by an additional five categories. Non-interactive behaviors were also coded first as academic or non-academic, and then by an additional three categories.

The study was conducted in four steps. First, all of the teachers in the study were observed three times over a 3-week time period, and at the end of this-week period, each teacher received a computerized profile and verbal feedback based on the Stallings observation instrument. Second, the experimental group \( (n = 14) \) received a six-week intervention, which included six workshops on increasing academic interactions between
teachers and students with disabilities and decreasing time spent on discipline, management, off-task student behavior, and organization activities (Freiberg, 1983, 1987; Stallings, 1985). The fourteen participants in the experimental group received professional development credit for participating in the six workshops. Third, all of the teachers in the study were observed and received feedback similar to the observations conducted in the first step. During the last step, all of the teachers were observed and received feedback approximately two months after the third step.

In this quasi-experimental study, the teacher group assignment to experimental or comparison was the independent variable. The student and classroom types were used as moderator variables. Eighteen dependent variables (i.e., teacher-student interactions, non-interactive student behavior, academic, non-academic, and the remaining subcategories) were assessed during each of classroom observations. The researchers (Brady, Swank, Taylor, & Freiberg, 1998) hypothesized that after the workshop intervention the teachers assigned to the experimental group would have significantly better interactions and maintain these types of interactions through the follow-up period. The observational data were analyzed with a multivariate ANOVAs in a 2 (control vs. experimental) x 2 (homogeneous vs. heterogeneous) x 2 (inclusion vs. non-inclusion) design of repeated measures. The results of the analysis were provided in three categories: (a) pre-post contrast, (b) follow-up contrast, and (c) between-subject effects.

The results of the pre-post contrast indicated statistically significant differences in condition, $F(18, 214) = 2.09, p < .05$; class type $F(18, 214) = 1.74, p < .05$; and condition by class type $F(18, 214) = 2.52, p < .05$. After the six-week intervention, teachers in the
experimental group increased their use of academic questioning but of interest, teachers in the comparison group actually decreased their use of academic questioning. Brady, Swank, Taylor, and Freiberg (1998) posit that over the school year, the effective teaching practices of teachers tend to decline as student progress does not improve as expected by the teachers. Also, the experimental group of teachers increased their use of academic reinforcement in the classroom post-intervention.

The analysis of follow-up contrast indicates that the improvements demonstrated by the teachers in the experimental group post-intervention were maintained over time. Of interest, some of the changes that were not immediately evident post-intervention were evident in the follow-up observations. For example, the use of academic materials by students in the experimental groups increased over time, and the authors (Brady, Swank, Taylor, & Freiberg, 1998) concluded that teachers in the experimental groups remained more committed to higher quality academics post-intervention.

The last category of analysis was the between-subjects changes, and these results are considered independent of the teacher intervention. Similar to other studies (e.g., Chapman, Larsen, & Parker, 1979; Thompson, White, & Morgan, 1982; Thompson, Vitale, & Jewett, 1984), students in the homogeneous, low-achieving classes received more teacher interactions focused on academic than average- to high-achieving students in the homogeneous classes. However, low-achieving students also spent the majority of their time on non-academic tasks, which are consistent with other studies (e.g., Bryan, 1974; Bryan & Wheeler, 1972; Fellers & Saudargas, 1987; Slate & Saudargas, 1987) in this literature review.
In a follow-up study, Brady, Swank, Taylor, and Freiberg (1992) replicated and extended the 1998 study described above to include the addition of 35 middle school science teachers to the sample. These teachers were selected based on the following criteria: (a) currently teaching social studies or science in grades 6-8, (b) one but preferably two students with disabilities received the majority of their academic instruction in the teachers’ classroom, and (c) willing to participate in the study. The teachers were grouped by three factors: (a) content (17 science and 18 social studies), (b) experimental condition (13 experimental and 22 comparison), and (c) classroom type (13 heterogeneous and 22 homogeneous). The students with disabilities were selected with the same process as the earlier study. The majority of students with disabilities were students with learning disabilities although students with other disabilities except health, physical, hearing, or vision impairments were included in the study. The researchers did not provide any additional demographic information about the students.

The observation process, schedule, instrument, and procedures were conducted in the same manner as the earlier study (Brady, Swank, Taylor, & Freiberg, 1988), which included the six-week intervention workshops for the teachers in the experimental groups. The researchers (Brady, Swank, Taylor, & Freiberg, 1992) analyzed the observational data through the use of a comparison-group factorial design. The independent variable was the teachers’ group assignments with content, classroom type, and student type as moderator variables. The same 16 dependent variables assessed at three times in the study were used as the previous study (Brady, Swank, Taylor, & Freiberg, 1988).
However, data analysis was presented by student-teacher interactions followed by non-interactive student behavior. For student-teacher interactions, there were two statistically significant differences for condition x content, \( F(20, 163) = 2.11, p < .05 \), and class type \( F(20, 163) = 2.38, p < .05 \). The most significant area within the condition x content was academic information, \( F(1, 82) = 8.34, p < .005 \), with some surprising and inconsistent results. The comparison group actually increased the delivery of academic information slightly more than the experimental group. Within the comparison group, the social studies teachers demonstrated a larger gain versus the science teachers, and in the experimental group, the science teachers demonstrated a larger gain post-intervention than the social studies teachers. The results regarding academic reinforcement are equally inconsistent. Overall, experimental group spent less time providing academic reinforcement post-intervention due primarily to the social studies teachers, \( F(1, 182) = 6.62, p < .02 \). In the control group, science teachers decreased their academic reinforcement while social studies teachers increased their academic reinforcement over the period of the study. The follow-up contrast results demonstrated a possible trend for non-academic information, \( F(1, 182) = 4.08, p < .05 \). In the experimental group, science teachers increased their non-academic information while social studies teachers decreased their non-academic information from post-intervention to follow-up. In the comparison group, science teachers decreased their non-academic information while social studies teachers demonstrated little change in their non-academic information.

The second statistically significant difference for class under teacher-student interactions demonstrated that over time of the study, teachers of heterogeneous classes
increased the use of academic corrections whereas, teachers of homogeneous or primarily low-achieving classes decreased the use of academic corrections $F(1, 182) = 8.54, p < .005$. Additional findings in this area indicate a trend for teachers of heterogeneous classes versus homogeneous classes. For example, teachers of heterogeneous classes also decreased academic guidance, $F(1, 182) = 5.16, p < .03$; decreased in the amount of time spent giving non-academic information, $F(1, 182) = 5.83, p < .02$; and decreased in the amount of time spent making non-academic corrections, $F(1, 182) = 5.65, p < .02$.

Analysis of between-subject effects reveals a trend for students with disabilities in inclusion classrooms. Compared to students without disabilities, students with disabilities received more academic information, $F(1, 182) = 8.98, p < .005$; academic questions, $F(1, 182) = 12.44, p < .005$; academic reinforcement, $F(1, 182) = 10.12, p < .005$; academic guidance, $F(1, 182) = 5.31, p < .03$; and academic corrections, $F(1, 182) = 5.29, p < .03$.

For non-interactive student behavior, analysis reveals a statistically significant effect experimental condition x class type x content interaction, $F(10,173) = 4.54, p < .05$. For the pre-post contrast, there was statistically significant differences for on-task behavior, $F(1, 182) = 9.53, p < .01$, and non-academic involvement, $F(1, 182) = 9.09, p < .01$. All of the students, except for students in the experimental homogeneous science classes, increased their non-academic behavior and decreased their on-task behavior, which follows a logical cause-and-effect sequence. Also, students with the greatest change in behavior belonged to the experimental homogeneous social studies classes. For follow-up contrast, there was a statistically significant difference for peer
involvement, \( F(1, 182) = 7.86, p < .01 \). In both the comparison homogeneous science classes and the experimental heterogeneous science classes, peer interactions increased from pre to post-intervention observational periods but then decreased below the pre-intervention levels during the follow-up observations. The peer interactions in the experimental homogeneous social studies classes increased over the study and maintained that increase in the follow-up observations. The remaining groups remained stable throughout the study.

Brady, Swank, Taylor, and Freiberg (1992) concluded that based on the statistical analysis, results of this study were partially inconsistent with their earlier study (Brady, Swank, Taylor, & Freiberg, 1988). The main inconsistency existed in the science content area, and preliminary conclusions indicate that over time, science teachers may continually modify labs, experiment, and simulations that naturally involve more student participation and interaction. In addition, students with disabilities in this study received more academic interactions, which is also inconsistent with previous findings (Brady, Swank, Taylor, & Freiberg, 1988).

In 1992, Bay and Bryan examined the teacher-student interactions between four groups of students. The participants in this study were 25 teachers (type not specified) and 113 of their students in kindergarten through eighth-grade located in three urban schools and one suburban school. The researchers did not provide any further demographic data on the schools or teachers in the study. The teachers were asked to categorize their students in three groups: (a) low achievers, (b) average achievers, and (c) students with disabilities (nine with LD, two with ED, two with communication
disorders, and one with physical handicap). The teachers were then asked to rank all of the students in the low achievement group. The students in the top half of this group remained classified as low achievers and the students in the bottom half of this group were classified as at risk. Bay and Bryan posit that students who are referred for special education are frequently ranked among the lowest of the low achieving students.

Students were then randomly selected from each group for participation in the study; one from the at risk group, one from the low achieving group, two from the average achieving group, and one from the students with disabilities group. The final sample was composed of 113 students with 63 students in K-3 (primary) and 50 students in grade 4-8 (intermediate).

Observations were conducted and videotaped in the general education classroom during a reading lesson for a total of 40 hours of observations. Each whole group videotaped lesson began with a one-minute pan of the classroom, which was followed by a four-minute taping of each target student until the end of the lesson. Each small group videotaped lesson was recorded in a similar manner with a 2-minute pan of the group followed by a 4-minute taping of the target student.

Observations were coded for student behavior (student’s ability to attend at 30-second intervals), teacher behavior (frequency of feedback), teacher-student interactions (number of times the student volunteered, called out, or did not volunteer but called on), and verbal participation (sum of frequency a student volunteered and was called on, called, did not volunteer and was called on).
Because the special education referral processes were much different between the suburban and urban schools, data from the suburban school were analyzed separately from data from the three urban schools. A series of ANOVAs in a 2 (group) x 2 (gender) x 2 (grade/primary and intermediate) design was used to compare groups of students with the following dependent variables: (a) various aspects of attending student behavior, (b) involvement in the academic activity, and (c) types of teacher feedback.

Low achieving, at risk students were compared to other low achieving students in the first analysis. The results indicated that in the suburban school, there were no statistically significant differences between the two groups. However, in the three urban schools, there were several statistically significant differences in gender, grade, and group. First, female students ($M = 27.22$) received more corrective feedback from the teacher than male students ($M = 5.56$), $F(6, 22) = 4.52, p < .01$. Second, there was more class interaction in the primary grades overall. The primary age students ($M = 54.17$) participated more verbally than intermediate students ($M = 28.16$), $F(6, 22) = 6.41, p < .05$, and the primary students ($M = 22.28$) were called on by the teacher more often than intermediate students ($M = 7.81$), $F(6, 22) = 8.60, p < .05$. In addition, primary students ($M = 17.95$) also received more corrective feedback than intermediate students ($M = 10.42$), $F(6, 22) = 6.81, p < .05$. Third, low achieving students ($M = 16.83$) were called on more often than at risk students ($M = 12.24$), $F(6, 22) = 5.05, p < .05$, but also received more corrective feedback ($M = 28.21$ and 2.10 respectively), $F(6,22) = 6.81, p < .05$. 
The second analysis compared all low achieving students to students with disabilities. Similar to the first analysis, there were no statistically significant differences between the two groups in the suburban school. In the three urban schools, there was one statistically significant difference by grade. Students in the primary grades ($M = 54.17$) participated more verbally than students in the intermediate grades ($M = 31.22$), $F(5, 27) = 5.19, p < .05$.

In the third analysis, all low achieving students were compared to average achieving students. There were no statistically significant differences between groups in the three urban schools. However, in the suburban schools, low achieving students ($M = 29.81$) were called on by the teacher more times than average achieving students ($M = 9.03$), $F(3, 27) = 5.77, p < .05$. In addition, male students ($M = 88.35$) engaged in more verbal participation than female students ($M = 59.18$), $F(3, 27) = 8.75, p < .01$.

Overall, the results of the studies in this section indicate that students with disabilities interact more with the teacher but these interactions are more behavioral or procedural versus academic in nature. In the Chapman, Larsen, and Parker (1979) study, students with disabilities received fewer opportunities to respond to teacher questions. The majority of feedback given to students with disabilities in these studies tended to be terminal or designed to end the interactions versus continuing the interaction.

**Classroom Context**

The following section includes four studies (McIntosh, Vaughn, Schumm, Haager, & Lee, 1993; Lago-Delello, 1998; Montague & Rinaldi, 2001; Magiera &
Zigmond, 2005) that were grouped based on examination of classroom contexts such as climate, general dynamics, and co-teaching instruction.

McIntosh, Vaughn, Schumm, Haager, and Lee (1993) studied 60 general education teachers to determine the extent to which these teachers accommodated and treated the students with learning disabilities in their classrooms. The teacher participants in this study were nominated by their principals as teachers who were effective in meeting the needs of students with LD and then a special education teacher in school confirmed the list. All of the teachers taught social studies and science in 3-12 grade. Of the 60 teachers, 37 were male, 63 were female, 20 taught in elementary school, 20 in middle school, and 20 in high school. The teaching experience of the teachers ranged from one to twenty plus years. The ethnic composition of the teachers was 50% Caucasian/Non-Hispanic, 23% Caucasian/Hispanic, 21% Black/African American, and 6% other. A student with LD was selected from each of the general education teacher’s classrooms that met criteria for LD established by the school district. The average achievement scores for all students were the 30th percentile for math and the 24th percentile in reading. The student participant composition was 21 girls, 39 boys, with 20 in elementary school, 20 in middle school, and 20 in high school.

The researchers (McIntosh et al., 1993) assessed that preexisting observation instruments did not specifically measure the teacher and student classroom behaviors relative to accommodations, as well as interactions. Therefore, a Classroom Climate Scale (CCS) was developed for this study. This scale is composed of the following four components: (a) nine teacher-initiated behaviors items, (b) five student-initiated
behaviors items, (c) three student participant and interactions items, and (d) four overall classroom climate items. The first three components are rated on a 5-point Likert-type scale with 1 = almost never to 5 = all of the time. These three components are also designed so that the observer rates the target student with LD separately and then the rest of the students. The last component is rated as yes/no.

The classrooms of the 60 teachers were observed using the CCS, three times each for a total of 180 observations during the spring semester. Each observation was conducted during a social studies or science lesson for approximately 50 minutes.

To analyze the observation data, the researchers (McIntosh et al., 1993) compared a student with LD to a student without LD for each of the first three components of the CCS using a Wilcoxon Signed Ranks two-tailed test with all analyzes conducted at a level of significance of $p < .05$. The results are presented by component. For the teacher-initiated behaviors, results indicated that general education teachers’ instructional methods did not vary significantly between the two groups of students (LD and students without disabilities). For example, teachers did not tend to alter or accommodate whole-group instruction ($M = 4.21$ and $4.26$), group activities ($M = 1.67$ and $1.73$), or student pairing ($M = 1.42$ and $1.48$). Across school levels, elementary teachers made more accommodations and used more praise than middle school or high school teachers. Also, middle school and high school teachers monitored the performance of and made more sarcastic remarks to students without disabilities as compared to students with LD.

For student-initiated behaviors, results indicated statistically significant differences between the two student groups. On all school levels, students with LD asked
fewer questions (\(M = 1.93\) and \(2.70\)), volunteered to answer questions less (\(M = 2.11\) and \(3.25\)), and engaged in fewer classroom discussions. However, students without disabilities across all grade levels made more sarcastic remarks, disrupted students engaged in activities more, and frequently engaged in personal ridicule of other students than compared to students with LD.

The results of student-teacher participation and interaction items indicated statistically significant differences between groups of students. Compared to students with LD, students without disabilities interacted more with classroom activities (\(M = 4.24\) and \(3.69\)), the teacher (\(M = 3.81\) and \(3.06\)), and peers (\(M = 3.10\) and \(2.55\)) compared to students with LD.

The last component of the CCS was a yes/no survey regarding overall classroom climate and the results are reported as percentage scores of yes responses per item. The majority of responses to all items were a “yes” with the two highest percentages in students with disabilities following the same sequence of activities and using the same materials.

The overall results of this study (McIntosh et al., 1993) demonstrate that students with LD are accepted and treated similar to students without disabilities by their general education teachers. However, the researchers (McIntosh et al., 1993) caution that these results have positive and negative consequences for students with LD. On the positive side, students with LD should be fully integrated into the general education classroom, which includes full participation in learning, opportunities, and activities. However, on the negative side, students with LD have specific deficits in learning that must be
accommodated to ensure that they have the best opportunities to learn. The results of this study also demonstrated a trend from elementary to middle to high school. As students with LD progress into the upper grades, conformity to “fit in” and not appear “different” becomes a higher priority for students with LD, and as a result, they interact less with teachers and peers.

Lago-Delello (1998) conducted a study to examine the classroom dynamics and students at risk for serious emotional disorders (ED) compared to peers without disabilities. Before commencement of the study, 628 kindergarten and first-grade students were screened using the Systematic Screening for Behaviors (SSBD) (Walker & Severson, 1992) to determine which students are at risk of developing serious ED, and 28 students were identified at risk. The following school year, Lago-Delello randomly selected 16 general education teachers from the 22 first- and second-grade classrooms of these 28 students. From the classrooms of these 16 general education teachers, 14 students identified at risk for ED were randomly selected to participate in the study. The additional two students identified at risk were the only students in their respective classrooms. Comparison students without disabilities were randomly selected matched to students at risk on age, gender, ethnicity, and language dominance. Based on student attrition, the total sample size was reduced to 13 teachers, 13 at risk students, and 13 students without disabilities. The student sample is composed of 12 girls and 14 boys from 6-8 years of age with an ethnic mix of 65% African American and 35% Hispanic.

Several dependent measures were used in this study. First, to investigate teachers’ attitudes toward students in their classrooms, teachers completed the Teachers’
Attitudes Interview (Silberman, 1969). Teachers were required to identify the names of three current students in the following four categories: (a) attachment or children you would want to teach again because they were so enjoyable, (b) concern or children who need a lot of your time, (c) indifference or children you have not focused on and therefore, unprepared to discuss, and (d) rejection or children you would like to have removed from your class. Second, teachers completed The Teachable Pupil Survey (Kornblau, 1982) to measure their perceptions of students at risk and students without disabilities. In this survey, teachers “…rated the degree to which student possess ideal pupil attributes…” (Lego-Delello, 1998, p. 482) in three dimensions: (a) personal-social behaviors, (b) school-appropriate behaviors, (c) cognitive-motivational behaviors, and (d) miscellaneous. Third, each student in the 13 classrooms completed a modified version of My Teacher Thinks…I Think… activity (Shapiro, 1993), which measured their perceptions of their teacher’s expectations. Fourth, to determine the instructional modifications made for students at risk, the teachers completed the instructional accommodations component of The Instructional Environment Scale (TIES-II; Ysseldyke & Christenson, 1993) for each of the students at risk in their classrooms.

Two sets of observations were conducted for this study. First, all of the students were observed for academic engagement using the classroom observation format for academic engaged time (AET) in the SSBD (Walker & Severson, 1992). Data from these observations was collected during two 15-minute sessions. In addition, observations of teacher-student interactions and peer interactions were conducted six times for each student within each comparison pair (n = 26) for a total of 156 observations over a two-
month time period. Each observation was 15-minutes long. During these observations, trained observers used the modified version of the *Brophy-Good Teacher-Child Dyadic Interactions System* (Brophy & Good, 1969) and the coding procedures from Gresham’s (1982) peer social behavior categories.

Lago-Delello (1998) utilized both quantitative and qualitative data analysis. Teacher perceptions, student academic engagement, and student perceptions were analyzed using a one-way ANOVA between-groups design. Classroom interactions between teacher-student and student-peers were analyzed by using a one-way MANOVA between-groups design. Teachers’ instructional accommodations for students at risk were analyzed using qualitative descriptions.

Results of the data analysis were reported by research question and an alpha level of .05 was set for all parametric tests. The first research question examined teachers’ attitudes toward and perceptions of students at risk compared to students without disabilities. The results of the teachers’ attitude interviews indicated that students at risk received more negative attitudes from teachers compared to students without disabilities. The results of teachers’ perceptions indicate a statistical significance for group, $F(1, 24) = 20.86, p < .05$. When teachers identified ideal pupil characteristics, the students at risk ($M = 31.38, SD = 10.86$) were rated significantly lower than students without disabilities ($M = 51.07, SD = 11.12$).

The second research question examined differences in the amount of students’ academically engaged time and their expectations of teachers’ expectations. The data analysis indicates a statistically significant effect for group, $F(1, 24) = 9.17, p < .05$. 

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Students at risk \((M = 57.92, SD = 16.07)\) spent a significantly lower amount of time engaged in academics than their peers without disabilities \((M = 74.77, SD = 12.00)\). For students’ perceptions of teachers’ expectations, there was not a statistically significant difference.

The instructional accommodations made by teachers for students at risk were examined in the third research question. The data for this question was analyzed qualitatively and revealed that teachers made accommodations in four general areas: (a) student seating, (b) smaller class or special class placement, (c) peer assistance and one-to-one instruction, if possible, and (d) extra practice or time plus incentives.

The last research question examined teacher-student and student-peer interactions. The analysis of teacher feedback revealed a moderate, but statistically significant effect for group, \(\lambda = .57, F(3, 22), p < .05\). Students at risk received significantly more negative, \(F(1, 24) = 6.31, p < .05\), and neutral, \(F(1, 24) = 11.25, p < .05\), feedback from general education teachers than students without disabilities. Analysis of the number of academic and non-academic feedback statements made by teachers between the two groups of students revealed a statistically significant effect for group, \(\lambda = .76, F(3, 22), p < .05\). For academic feedback, there was no statistically significant effect between the two groups, \(F(1, 24) = 1.43, p < .05\), however for non-academic feedback, there was a statistically significant effect for students at risk, \(F(1, 24) = 4.37, p < .05\), compared to students without disabilities. There were no statistically significant effects for student-initiating behaviors, \(F(1, 24) = 2.84, p < .05\), or student response opportunities, \(F(1, 24) = .59, p < .05\), for group. In addition, there were no statistically significant effects for
social initiating behaviors, $F(1, 24) = 2.84, p < .05$, or social interactions received for peers, $F(3, 22) = 1.59, p < .05$, for group.

Overall, the results of this study indicate that the classroom experiences of students at risk are much different than the classroom experiences of students without disabilities. Students at risk spent less time engaged in academic tasks than their peers. General education teachers had more negative perceptions of and negative attitudes toward students at risk as compared to students without disabilities in the classroom. These attitudes and perceptions were reflected in the classroom as teachers provided students at risk with more negative or neutral academic feedback, and more non-academic feedback than their peers without disabilities. However, teachers did attempt to provide accommodations in their classrooms for students at risk, although minimal, but these teachers would prefer that students at risk receive instruction in a separate setting.

Montague and Rinaldi (2001) conducted two follow-up studies to replicate and extend Lago-Delello’s earlier study (1998) drawing from the same students at risk sample as these students progressed through the next two grades (study one/second- and third-grade and study two/third- and fourth-grade). In study one, 16 general education teachers were selected from a pool of 20 teachers that had at least one student at risk in their classrooms, and for study two, 14 general education teachers were randomly selected with the same criteria. The researchers did not provide any additional demographic information on the teachers. Similar to Lago-Delello’s study (1998), students at risk were matched with a student without disabilities in each classroom based on gender, ethnicity, and language dominance. Study one had a total student sample of 32 students.
(16 at risk; 16 without disabilities) with the following composition: 14 boys and 18 girls; 22 African American and 10 Hispanic; and 16 in second-grade and 16 in third-grade.

Study two had a total student sample of 20 students (10 at risk; 10 without disabilities) with the following composition: 9 boys and 11 girls; 11 African American and 9 Hispanic; and 8 in third-grade and 12 in fourth-grade.

Similar dependent measures were used in these two studies, with the exception of teachers’ instructional accommodations for students at risk, and teacher-student interactions that were not measured in study two. Teachers completed the Teachers’ Attitudes Interview (Silberman, 1969) to investigate teachers’ attitudes toward students in their classrooms, and The Teachable Pupil Survey (Kornblau, 1982) to measure their perceptions of students at risk and students without disabilities. All of the students in each of the classroom for both studies also completed the modified version of My Teacher Thinks…I Think… activity (Shapiro, 1993) to measure their perceptions of their teacher’s expectations.

Two sets of observations were also conducted in these studies. The first set of observations recorded the academic engagement time of students using the classroom observation format for academic engaged time (AET) in the SSBD (Walker & Severson, 1992). These observations were conducted for each student in each classroom during academic activities in two 15-minute sessions. The second set of observations recorded the teacher-student interactions using the modified version of the Brophy-Good Teacher-Child Dyadic Interaction System (Brophy & Good, 1969) with the exception of study two, and the student-peer interactions using the coding procedures from Gresham’s
(1982) peer social behavior categories. The interactions of each student were observed for two sessions of 15-minutes each during academic activities.

The results were reported per study. In study one, a one-way ANOVA between-groups design was used to analyze all of the data in this study. For teacher-student interactions, results indicated that there were statistically significant effects between groups on negative teacher feedback, $F(1, 30) = 4.92, p = .034, \eta^2 = .141$; teacher academic feedback, $F(1, 30) = 7.35, p = .011, \eta^2 = .197$; and teacher non-academic feedback, $F(1, 30) = 5.28, p = .029, \eta^2 = .150$. There were no statistically significant effects for group on student-initiated academic behavior, $F(1, 30) = .273, p = .605, \eta^2 = .009$; student-initiated non-academic behavior, $F(1, 30) = 1.29, p = .266, \eta^2 = .041$; student-initiated positive behavior, $F(1, 30) = .17, p = .681, \eta^2 = .006$; and student-initiated negative behavior, $F(1, 30) = 2.14, p = .154, \eta^2 = .067$. In addition, there were no statistically significant effects for positive teacher feedback, $F(1, 30) = .000, p = 1.000, \eta^2 = .000$, or neutral teacher feedback, $F(1, 30) = .48, p = .828, \eta^2 = .002$. In addition, there were no statistically significant effects between groups on measure of student response activities, $F(1, 30) = .078, p = .781, \eta^2 = .00$.

For interactions between students at risk and their peers, there were no statistically significant effects between the two groups to include peer-initiated positive interactions, $F(1, 30) = 3.40, p = .064, \eta^2 = .011$; peer-initiated negative interactions, $F(1, 30) = .09, p = .766, \eta^2 = .003$; student-initiated positive interactions, $F(1, 30) = .23, p = .633, \eta^2 = .008$; and student-initiated negative interactions, $F(1, 30) = .73, p = .789, \eta^2 = .002$. 
For academically engaged time, there were statistically significant effects between groups, $F(1, 30) = 4.85, p = .037, \eta^2 = .162$. For students’ perceptions of teachers’ expectations, there were no statistically significant effects, $F(1, 30) = 1.81, p = .189, \eta^2 = .057$, or perceptions of themselves, $F(1,30) = .034, p = .855, \eta^2 = .001$.

The results of the first study are similar to the earlier study conducted by Lego-Delello (1998), in which students at risk receive more negative and non-academic feedback from general education teachers as compared to their peers without disabilities, and students without disabilities also receive more academic feedback than students at risk. In addition, students at risk spent significantly less time engaged in academic tasks than their classroom peers.

In study two, a one-way ANOVA between-groups design was also used to analyze all of the data in this study. These results, with the exception for teacher-students interaction that were not observed and recorded in this study, will be presented in the same order as study one.

For interactions between students at risk and their peers, there were no statistically significant effects between the two groups to include peer-initiated positive interactions, $F(1, 18) = .76, p = .394, \eta^2 = .041$; peer-initiated negative interactions, $F(1, 18) = .36, p = .556, \eta^2 = .020$; student-initiated positive interactions, $F(1, 18) = 3.13, p = .094, \eta^2 = 1.48$; and student-initiated negative interactions, $F(1, 18) = .00, p = 1.000, \eta^2 = .000$.

There were statistically significant effects between groups for academically engaged time, $F(1, 18) = 11.42, p = .003, \eta^2 = .39$; students’ perceptions of teachers’
expectations, $F(1, 18) = 9.51, p = .006, \eta^2 = .346$; and students’ perceptions of themselves, $F(1,18) = 8.02, p = .011, \eta^2 = .308$.

To summarize study two, students at risk continue to spend significantly less time engaged into academic tasks and data analysis indicates a larger decrease time spent on academic tasks as students progress through the grades. In addition, students’ perceptions of teachers’ expectations, and their own self-perceptions achieved statistically significance in study two, which may possible indicate an increase in students’ awareness of themselves and other as they mature.

Magiera and Zigmond (2005) conducted the last study in this section, which was designed to investigate the instructional differences, to include teacher-student interactions, in co-taught classrooms compared to solo-taught classrooms. This study was conducted in grades 5-8 located within three school districts. The teacher participants in this study consisted of eight co-teaching pairs, a general education teacher, and a special education teacher. Of these eight pairs of teachers, four pairs were teaching together for the first time during the course of the study. The other four pairs of teachers had been teaching together for no more than two years. Two of the general education teachers were first-year teachers and the remaining six general education teachers had at least five years of teaching experience. One of the general education teachers was dually certified in general and special education. All of the six special education teachers had been teaching for at least five years. The eight co-teaching pairs were responsible for teaching eleven different classes.
The students with disabilities in each of these eleven different classes ($n = 35$) were selected to participate in the study, however only 18 permissions were returned, which reduced the total student sample size to 18. All of the 18 students had Individualized Education Programs (IEPs). Of these 18 students with disabilities, there were 15 students with LD and 3 students with OHI. There were 10 boys and 8 girls. In reading, one student was above grade level, one student on grade level, and seventeen students below grade level. In math, one student was above grade level, ten students were on grade level and seven students were below grade level. The researchers (Magiera & Zigmond, 2005) did not provide any additional academic achievement data.

Observations were conducted in each of the classrooms under two conditions: (a) co-teaching with the general education and special education teachers, and (b) solo-teaching with the general education teacher only. Four observations were conducted for each of the two conditions during active instructional time in math, English, or social studies. Observers collected data on each student with disabilities for 10-seconds every 3 minutes during each 45-minute class. This protocol allowed observers to code six students per classroom observation. Each 10-second interval was coded with five codes: (a) co-teaching or solo-teaching; (b) grouping size; (c) on/off-task student behavior; (d) student interactions with general education teacher, special education teacher, other adult, or student; and (e) whether the interaction was instruction or management. These codes were further divided into 13 variables: (a) students working alone; (b) in small group; (c) part of a whole class; (d) student on-task behavior; (e) no teacher interaction; (f) general education teacher interaction; (g) special education teacher interaction; (h) student
interaction with other students; (i) content-related group instruction; (j) content-related individual instruction; (k) group directions; (l) individual instructions; and (m) student participation.

To analyze the observational data, Magiera and Zigmond (2005) used paired t-tests to compare differences between co-taught and solo-taught classrooms. The results of this analysis revealed that two of the thirteen variables were statistically significant. There was a statistically significant score difference for one-to-one interactions for co-taught classrooms ($M = 2.2$, $SD = 1.72$) and solo-taught classrooms ($M = 0.6$, $SD = 97$); $t(2) = -3.20$, $p < .01$. In co-taught classrooms, students with disabilities received more individual instructional interactions when compared to solo-taught classrooms. There was also a statistically significant score difference for interactions with general education teachers for solo-taught classrooms ($M = 61.6$, $SD = 10.98$) and co-taught classrooms ($M = 45.0$, $SD = 13.39$); $t(2) = 4.4$, $p < .01$. Students with disabilities participated in more interactions with the general education teacher when the special education teacher was not present in the classroom.

Overall, the goal of this study was to determine if students with disabilities receive better instruction in co-taught classrooms versus solo-taught classrooms. The researchers posit that while students with disabilities received more one-to-one interaction time in a co-taught classroom, these interactions typically took place while the general education teacher was lecturing to the whole class and the special education teacher walked around the classroom. Students with disabilities did not necessarily receive more overall attention but actually received less attention from the general
education teacher when the special education teacher was in the classroom. The results of this study did not necessarily support the theory that students with disabilities receive better instruction in co-taught classrooms.

To summarize the literature to this point, the majority of teachers in these studies conduct different interactions with students with disabilities than students without disabilities. Although teachers conduct more interactions with students with disabilities, these interactions are characterized as more negative in nature. In addition, teachers’ interactions tend to be focused on procedural or behavioral concerns versus academics. When teachers do interact with students with disabilities regarding academics, these interactions are shorter in duration with more terminal than sustaining feedback.

**General Interaction Patterns**

Several studies (Alves & Gottlieb, 1986; Chow & Kasari, 1999; Cook & Cameron, 2010; Dorval, McKinney, & Feagans, 1982; Hodge, Ammah, Casebolt, Lamaster, & O’Sullivan, 2004; Jordan, Lindsay, & Stanovich, 1997; Siperstein & Goding, 1985) have focused on the general interaction patterns between general education teachers and their students with disabilities. The researchers of the studies in this section assert that other studies, which focus primarily on student behavior in the classroom, do not fully explore the classroom processes and dynamics that occur on a daily basis.

In 1982, Dorval, McKinney, and Feagans examined the interaction dialogues between general education teachers and their students with LD as compared to students without LD. The participants in this study were 12 students with LD and 12 comparison
peers in kindergarten through second-grade located in two schools, and their respective classroom teachers. Each student with LD was selected from a single general education classroom. A comparison student without LD was also selected from each classroom and matched on gender and race. The student sample grade composition consisted of two pairs in kindergarten, seven pairs in first-grade, and six pairs in second grade. Eleven of the pairs were male and one pair was female. All of the students were assessed with the Peabody Individual Achievement Test (PIAT) sub-tests in reading recognition ($M = 95.1$, $SD = 5.0$ for students with LD, and $M = 103.2$, $SD = 11.2$ for students without LD), reading comprehension ($M = 96.7$, $SD = 5.0$ for students with LD, and $M = 102.0$, $SD = 14.0$ for students without LD), and math ($M = 92.3$, $SD = 6.5$ for students with LD, and $M = 105.3$, $SD = 14.7$ for students without LD). In addition, the Wechsler Intelligence Scale for Children (WISC-R) was administered to each student ($M = 100.3$, $SD = 9.9$ for students with LD, and $M = 106.8$, $SD = 15.8$ for students without LD). Paired t-tests were between groups demonstrated that students without LD performed better on reading recognition, $t(11) = 2.08$, $p < .05$, and math, $t(11) = 2.38$, $p < .05$, compared to students with LD. There were no statistically significant differences between groups on IQ. The researchers did not provide additional demographic data on the teachers in this study.

Observations were conducted in the general education classroom in the morning during language arts and math instruction. Individual observation sessions lasted between 1½ - 2½ hours. During the observations, the observer would sit close or behind the teacher and record verbal dialogue and non-verbal gestures dialogue of the teacher with the target student with LD and the comparison student using context notes. The
context of the dialogue such as instructional activity and setting were also recorded during the session.

To begin to analyze the data, the observational transcripts of speaking turns were first divided into a series of dialogues based on the following definition, “…one or more speaking turns between the teacher and one of the children occurring with temporal contiguity which pertained to the same topic” (Dorval, McKinney, & Feagans, 1982, p. 321). A total of 454 dialogues were created from the transcripts. The dialogues were then categorized into teacher or child initiated dialogues. Each of these categories was sub-divided into content of instruction, behavior management, or social overture. In addition, child-initiated dialogues were coded as either appropriate or inappropriate for the situation.

These initiations were then analyzed by a multivariate analysis of variance (MANOVA) with a 2 (school) x 2 (group/students with and without LD) x type of initiation repeated measures design. The results of this analysis indicated that there were no statistically significant effects for school factor. However, there were statistically significant effects for group and type of initiation. Further statistical analysis revealed that teacher-initiated interactions differed in frequency, $F(2, 9) = 30.9, p < .001$, with most of these interactions focused on behavior management versus instruction, $F(1, 10) = 25.0, p < .002$. In addition, the majority of these behavior management interactions were focused toward students with LD as compared to students without LD, $F(1,10) = 9.3, p < .01$. Behavior management interactions toward students with LD focused primarily on
rule infractions versus routine classroom management or student inattentiveness, $F(1,10) = 25.4, p < .001$.

For types of student-initiated interactions, there was no statistical significance for overall frequency between groups. However, analysis of appropriate versus inappropriate interactions revealed that inappropriate interactions were more frequent, $F(1, 10) = 6.4, p < .03$, with students with LD initiating most of these inappropriate interactions, $F(1, 10) = 5.1, p < .05$.

Further chi-square analysis of interaction settings revealed that teachers were more likely to initiate dialogues with students with LD in whole class settings, $\chi^2(1) = 4.7, p < .05$, but the majority of these initiations were due to inattentiveness, $p < .01$, and rule infractions, $p < .05$.

To summarize, the findings of this study support previous studies (e.g., Chapman, Larsen, & Parker, 1979; Montague & Rinaldi, 2001; Slate & Saudargas, 1987; Thompson, White, & Morgan, 1982; Thompson, Vitale, & Jewett, 1984) that students with LD do receive additional teacher-initiated interactions as compared to students without LD, however, the majority of these interactions are based on behavior or rule infractions versus academics. The researchers (Dorval, McKinney, & Feagans, 1982) also highlighted that students with LD received more teacher-initiated academic interactions as compared to students without LD but this finding failed to reach statistical significance. While students with LD did not initiate more overall interactions, the interactions that they did initiate were more considered more inappropriate because they tended to exceed teachers’ expectations or were impulsive in nature.
Siperstein and Goding (1985) conducted another study that examined the general interaction patterns between teachers, and students with and without LD, in fourth-, fifth-, and sixth-grade classrooms, with a teacher awareness intervention between pre and post-intervention classroom observations. Eight classrooms (two fourth-grade, four fourth-grade, and two sixth-grade) and the general education teachers in each of these classrooms were selected to participate in this study. There were four male and four female teachers with an average age of 35 years and an average teaching experience of 13 years. Each of the teachers had prior experience teaching students with LD and had received some professional development training on learning disabilities. The researchers did not provide any additional demographic information on the teachers.

In each classroom, two students with LD (one male and one female) and two students without LD (one male and one female) were selected to participate in the study with their teachers. Siperstein and Goding (1985) focused on selecting students with LD who were isolated or rejected and students without LD who were popular. To determine the social status of the students, the students in each classroom completed a socio-metric questionnaire and teachers completed a student-ranking questionnaire. In addition, teachers were also asked to rank their students’ social behavior. The student sample was selected from the analysis of these three rankings.

Observations of classroom interactions were recorded using the *Brophy-Good Teacher-Child Dyadic Interaction System* (Brophy & Good, 1969) for four hours pre-intervention and four hours post-intervention in each classroom. The observers recorded the observations of comparison same-gender student pairs for 15-minute intervals during
active instructional time. Each set of observations was conducted over a two-week period of time. After the completion of pre-intervention observations, teachers participated in an awareness intervention program designed with the following goals: (a) to test the teachers’ basic ideas about their own instructional/management and reinforcement behaviors, (b) to help teachers recognize the subtle patterns of their behavior, and (c) to help teachers plan for and implement changes in their behavior. The program was implemented in two sessions after school, and the teachers also received feedback about the rankings conducted by the teachers and students, observational behaviors, and possible improvements. Observations were conducted post-intervention with the same process described above for pre-intervention observations.

A 2 (student type) x 2 (gender) ANOVA was conducted to determine if teachers behaved differently toward the different types of students during the pre-intervention observations. The results of the analysis show a statistically significant effect for student type, $F(1, 28) = 10.72, p < .01,$ and gender, $F(1, 28) = 4.56, p < .05$. The students with LD ($M = 10.50$) received more teacher-initiated interactions compared to students without LD ($M = 5.12$), and the male students with LD ($M = 10.37$) received more teacher-initiated interactions than the female students with LD ($M = 5.25$). For teacher-initiated interactions that were continued with the student, results indicated a statistically significant effect for student type, $F(1, 28) = 5.10, p < .05$. Teacher continued their interactions with students with LD ($M = 19.00$) more than students without LD ($M = 9.93$). In addition, there were statistically significant effects for the type of teacher response behavior, $F(1, 28) = 5.20, p < .05$, as well as teacher reinforcement strategies,
$F(1, 28) = 5.97, p < .05$. Teachers responded with more corrective behavior toward students with LD, ($M = 9.62$), as compared to students without LD, ($M = 4.56$); and teachers also demonstrated more negative non-verbal and unsupportive behavior toward students with LD, ($M = 11.92$), as compared to students without LD, ($M = 2.31$).

A 2 (student type) x 2 (gender) x 2 (observations session) MANOVA was used to determine if teachers modified their behaviors during the post-intervention observations. Similar to the analysis results from the pre-intervention observations, the analysis for teacher interactions showed a statistically significant effect for student type, $F(1, 28) = 16.71, p < .001$, and gender, $F(1, 28) = 5.38, p < .05$. Also, further analysis showed a statistically significant effect for a specific type of student by gender, $F(1, 28) = 16.50, p < .001$. In other words, while the male students received more teacher-initiated interactions than the female students, the male students with LD ($M = 13.50$) received more teacher-initiated interactions than the male students without LD ($M = 5.68$).

For teacher-initiated interactions that were continued with the student, results indicated an increased statistically significant effect for student type, $F(1, 28) = 7.89, p < .01$, and teacher cooperative behavior for student type reached statistical significance, $F(1, 28) = 5.78, p < .05$. For students with LD, teachers had increased the length of their interactions and cooperative behavior from pre- to post-intervention. In addition, there were statistically significant effects for the type of teacher response behavior, $F(1, 28) = 6.05, p < .05$. Overall, teachers had reduced the amount of corrective behavior toward all students. Lastly, there was a statistically significant effect for negative non-verbal and unsupportive behavior for student type, $F(1, 28) = 6.72, p < .05$. While teachers reduced
the overall level of negative non-verbal and unsupportive behavior toward students, students with LD ($M = 1.25$) still received more of this behavior versus students without LD ($M = 1.00$).

Overall, the results of this study indicate that general education teachers do treat student with LD differently than students without LD. The student rankings completed by the teacher were reflected in their classroom behaviors by more teacher-initiated behaviors, corrective behaviors, and non-supportive verbal behavior. Unfortunately, the results of the post-intervention analysis as compared to the pre-intervention analysis also indicated that the teacher awareness intervention did not change most of the teachers’ classroom behaviors.

In 1986, Alves and Gottlieb also studied the interaction patterns between teachers and their students with mild disabilities compared to peers without disabilities. This study was conducted in 38 classrooms in grades 3-6 in 12 schools. There were 38 general education teacher participants who were predominantly female and varied in education, professional experience, and age. There were 59 student participants (37 boys and 22 girls) with mild disabilities as determined by local school district guidelines. These students received the majority of their instruction in the general education classroom with some instruction based in a resource room. The ethnic composition of this student sample was 28 African American, 24 Caucasian, and 7 Hispanic. The IQ scores were only available for half of the sample but these scores ranged from 64 – 126 ($M = 93$). The researchers did not provide any data or demographic information on the comparison students without disabilities.
Classroom observations were conducted during the second half of the school year for 15 weeks. Each classroom was observed for six 15-minute sessions and data was recorded using 10-second time sampling. Observers used the *Brophy-Good Teacher-Child Dyadic Interaction System* (Brophy & Good, 1969) to record and code interactions. Alves and Gottlieb (1986) focused on six interaction variables: (a) praise, (b) criticism, (c) work interaction, (d) total amount of interactions, (e) academic questions, and (f) extended feedback. While the praise, criticism, and work interaction variables corresponded to individual categories already established on the Brophy-Good instrument, two or more categories were combined to create the remaining variables.

Observational data was converted and analyzed by frequencies compared between students with mild disabilities and students without disabilities. The process to select a student without disabilities explained by “…the composite of a [student with mild disabilities] was paired with a similar composite index representing a [student without disabilities]…” (Alves & Gottlieb, 1986, p. 79). The data analysis results were reported by variable. Between students with mild disabilities and students without disabilities, significant differences were found in academic questions \((M = .83, SD = 1.14\) and \(M = 1.24, SD = .58\) respectively), total amount of interactions \((M = 2.40, SD = .68\) and \(M = 2.32, SD = .38\) respectively), and extended feedback \((M = .67, SD = 1.12\) and \(M = .97, SD = .51\) respectively). Structure coefficients were calculated to further analyze these results and indicated that of these three variables, academic questions contributed the most \((- .56\) or 32% of the variance) followed by extended feedback \((- .42\) or 17% of the
variance) and total amount of interactions (.18 or 3% of the variance). There were no significant differences between the two groups for work interaction, praise, or criticism.

In summary, the findings of this study demonstrate a significant deficit in the quality of academic instruction received by students with mild disabilities compared to their peers. Students with mild disabilities received less teacher-initiated academic interactions and opportunities to participate in academic activities. In addition, teachers spent less time in those academic interactions with students with mild disabilities than their peers.

Jordan, Lindsay, and Stanovich (1997) examined the instructional interactions between general education teachers and students at risk, average achieving, and exceptional. The teachers’ beliefs toward and perspectives about at risk and exceptional students were also investigated in this study. The participants in this study included 9 third-grade general education teachers (4 male and 5 female) and 54 of their students. The teachers had an average teaching experience of 17 years and none of the teachers were certified or received formal training in special education. Each of the participant teachers nominated six students from their classrooms with three of these students considered average achievers ($n = 27$), and three of these students considered exceptional or at risk ($n = 27$). The student sample ($n = 54$) was composed of 19 boys and 25 girls. Jordan, Lindsay, and Stanovich (1997) did not provide any additional demographic or student achievement data.

Each of the teacher participants was interviewed through a semi-structured discussion format with each interview lasting 45 – 60 minutes. The interviews were
coded using the Pathognomonic-Interventionist (PATH-INT) Coding Form (Jordan-Wilson & Silverman, 1991; Jordan, Kircaali-Iftar, & Diamond, 1993), which consists of 20 items based on a 5-point Likert-type scale. These 20 items were categorized into five topics: (a) pre-referral and referral procedures, (b) program adaptation, (c) monitoring and evaluations, (d) communication with staff, and (e) communication with parents. Teacher scores from this form were used to determine if teachers held a Pathognomonic or Interventionist orientation. Teachers in this study were scored in the following categories: (a) less than 2.9 were considered Pathognomonic \( (n = 3, M = 2.34) \), (b) between 3.0 and 3.9 were considered middle \( (n = 3, M = 3.53) \), and (c) greater than 3.9 were considered Interventionist \( (n = 3, M = 4.39) \). Pathognomonic teachers do not believe that they can impact the outcomes of students with disabilities, and they favor instruction delivered through pull out alternatives or resource settings. Also, these teachers rarely make accommodations and view instruction for students with disabilities as the responsibility of a special education teacher. In contrast, Interventionist teachers believe that they can impact the outcomes of students with disabilities and instruction is their primary responsibility. They make accommodations and if the accommodations are not successful, these teachers will adjust and continue to pursue other options. Teachers who scored in the middle category will also make accommodations but if these accommodations do not work, they will abandon them without pursuing other options.

The participants were observed in two-to-four, 45-minute lessons in science, math, or language arts. These lessons included a whole class lesson followed by group or individual seatwork. Interactions between teachers and students were audio recorded, in
which the observer could hear real-time while taking field notes. These observations were first coded as academic or non-academic. Academic interactions were then coded as comprehension monitoring, partial cognitive extension, and full cognitive extension. A comprehension monitoring interaction would be an interaction in which the teacher would check for student understanding of a specific concept, but the teacher made no further effort to extend the student’s knowledge beyond the initial question or reiterate the concept. In cognitive extension-partial interactions, the teacher would attempt to extend the student’s academic thinking beyond the initial question; however, the interaction is led by the teacher’s agenda with less negotiation between the teacher and student. In cognitive extension-full, the teacher would also extend the student’s knowledge beyond the initial question, but use the student’s responses to adjust the conversation as a means to push the student’s thinking forward in fully understanding the concept. Non-academic interactions were coded as teacher-initiated organization, management, status, or personal questions or statement.

The researchers (Jordan, Lindsay, & Stanovich, 1997) tallied the frequency of interactions by teacher type and student type to analyze patterns of teacher-student interactions. Overall, MID teachers ($n = 106$) interacted the most with students followed by PATH teachers ($n = 87$) and INT teachers ($n = 75$). Of the MID teachers’ interactions, the majority are non-academic interactions ($n = 80$) versus academic interactions ($n = 22$), and most of these non-academic interactions took place with the at risk and students with disabilities ($n = 55$). Of the academic interactions, MID teachers primarily conducted partial cognitive extension interactions ($n = 14$).
Analysis of the PATH teachers interactions indicates that the majority of these interactions were also non-academic \((n = 73)\) versus academic \((n = 14)\), and similar to the MID teachers, the majority of these non-academic interactions took place with the at risk and students with disabilities \((n = 50)\). PATH teachers primarily conducted comprehension monitoring \((n = 6)\), and all of these interactions took place with at risk or students with disabilities \((n = 6)\). In significant contrast to MID and PATH teachers, the majority of interactions conducted by INT teachers were academic \((n = 45)\) versus non-academic \((n = 30)\) with the majority of these academic interactions with at risk and students with disabilities \((n = 31)\). Of these academic interactions, the majority was full cognitive extensions \((n = 39)\).

In summary, teachers’ perspectives based on the Pathognomonic-Interventionist (PATH-INT) Coding Form (Jordan-Wilson & Silverman, 1991; Jordan, Kircaali-Iftar, & Diamond, 1993) were reflected in the frequency and types of interactions per student type in the classroom. INT teachers frequently conducted academic interactions with at risk and students with disabilities, and these interactions were maintained until the teacher was satisfied that the student fully understood the material. In contrast, MID and PATH teachers conducted significantly more non-academic interactions, primarily with at risk and students with disabilities. The academic interactions initiated by MID and PATH teachers focused on comprehension monitoring and partial cognitive extensions.

In 1999, Chow and Kasari examined teacher interactions with students at risk, students with mild disabilities, and average achieving students at three different times during a school year. Teacher participants included three general education teachers, two
special education teachers, and two full-time aides. Over the course of the school year, 73-84 student participants were observed for this study, and of this student sample, 15 students had IEPs and 19 had been identified at risk.

Observations of teacher-student interactions were conducted at the beginning, middle, and end of the school year. The researchers (Chow & Kasari, 1999) did not utilize a specific measurement instrument for their classroom observations. The observation of each teacher lasted for an average of 40 minutes at each of the three points during the school year. During each observation, the observer began the collection and record of interactions as soon as the students sat their desks. Since a general education teacher, a special education teacher, and an aide were typically present in a co-teaching situation in one classroom, the observer collected data on one teacher for ten minutes, then shifted to the next teacher for ten minutes and so on. The observer recorded only interactions between one teacher and one student.

Teacher-initiated interactions were coded as task-related approach, off-task approach, or praise. Student response behaviors were coded as positive acknowledgement, negative acknowledgement, give information, or no response. Student-initiated interactions were coded as task-related approach, approval-seeking, or off-task approach.

The frequencies of each teacher-student interaction types were totaled and then proportions were calculated for each behavior category. Teachers initiated 297 interactions with students at the beginning of the year, 273 interactions at the middle of the year, and 253 interactions at the end of the year. Chi-square analyses were used to
test for differences of the proportions. Analysis of the rates of teacher behaviors found no significant differences for praise ($p = .006$) or task-related behaviors for each student type ($p = .061$). However, statistically significant differences were found for teacher off-task initiated interactions, $\chi^2 (2) = 7.53, p < .05$. Teachers initiated fewer off-task initiations with students with disabilities or at risk, $p = 0.28$, than average achieving students, $p = 0.31$.

Analysis of rates of student behaviors indicated that students at risk initiated significantly fewer on-task interactions with teachers, $p = 0.47$, than students with disabilities, $p = 0.60$, or average achieving students, $p = 0.58, \chi^2 (2) = 11.01, p < .01$. In addition, students at risk initiated significantly more approval-seeking interactions with teachers, $p = 0.36$, than students with disabilities, $p = 0.21$, or average achieving students, $p = 0.25, \chi^2 (2) = 11.19, p < .01$.

The examination of differences in types of teacher initiations revealed a statistically significant difference for teachers’ task-related initiations with students with disabilities but only at the beginning of the year, $\chi^2 (2) = 10.25, p < .01$. In addition, there was a statistically significant difference for teachers’ off-task initiations with students with disabilities but only at the beginning of the year, $\chi^2 (2) = 19.38, p < .005$. Teachers initiated few off-task initiations with students with disabilities only at the beginning of the year.

Analysis of the proportions of student-initiated behaviors revealed no statistically significant differences across student types. Analysis of the teacher responses to students’ initiations by time of year revealed statistically significant differences in
negative acknowledgement of off-task behaviors by students with disabilities during the middle of the year, $\chi^2(2) = 6.03, p < .05$, as well as negative responses of off-task initiations by students at risk during the middle of the year, $\chi^2(2) = 10.52, p < .001$.

In summary, the frequency of initiations across all participants remained equal, however the time of year did affect the type of teacher-initiated interactions and teachers’ negative responses. Teachers decreased their task-related initiations with students with disabilities and increased their off-task interactions with students at risk toward the middle of the year. In addition, teachers gave more negative responses to off-task behaviors of students with disabilities toward the middle of the year. However, at the end of the year, all of these interactions returned to frequencies similar to the beginning of the year.

Hodge, Ammah, Casebolt, Lamaster, and O’Sullivan (2004) studied the beliefs and behaviors of high school general physical education teachers in relation to the students with disabilities in their classes. Nine teachers in Ohio ($n = 2$), California ($n = 4$), and Pennsylvania ($n = 3$) were selected to participate in this study. All of these general physical education teachers were Caucasian with at least five years teaching experience. The student participants were selected based on their placement in physical education classes with students without disabilities. The student participants in grades 9-12 had a variety of disabilities to include attention deficit hyperactivity disorder (ADHD), learning disability (LD), developmental delay (DD), cerebral palsy, muscular dystrophy, muscular sclerosis, and Prader-Willi Syndrome. The researchers (Hodge et al., 2010) did not report any further demographic or academic achievement data of the student.
participants, and these students were not paired with students without disabilities in their respective classes.

Qualitative data for this study was collected through teacher questionnaires, classroom observations, and teacher interviews. Teacher questionnaires were used to collect demographic information as well as information regarding the composition of physical education classes taught by each teacher. Classroom observations of teacher behaviors and teacher-student interactions were conducted for a variety of time periods and lengths. For example, the two teachers at the Ohio research location were observed over nine consecutive workdays for 35-45 minutes each, and the teachers at the California research location were each observed four times for 30 minutes. The observers did not use a specific observation instrument. After the completion of class observations, each teacher was interviewed through a semi-structured interview protocol. The open-ended interview questions were given to the teachers several days prior to the interview to allow the teachers the opportunity to “…reflect on their beliefs, knowledge, and experiences about inclusion” (Hodge et al., 2010, p. 401).

Classroom observations, field notes, and interview transcripts were categorized and summarized for recurring themes. These themes were then analyzed using the constant comparative method by location and across locations. The findings of this analysis were reported through descriptive summaries and narratives by research question. Three recurring themes emerged from the data. First, all of the teachers expressed primarily positive dispositions to inclusion. However, the strength of these positive dispositions was affected the severity of students’ disabilities. Teachers felt that
students with severe disabilities were more challenging to integrate into the class and to effectively teach. In addition, teachers felt that students without disabilities were generally supportive of students with disabilities in their classes. Second, teachers had differing levels of efficacy regarding the implementation of successful inclusion. Most of the teachers attempted to modify instruction, activities, and games for students with disabilities, and some teachers attempted one-to-one individualized instruction, however only a third of the teachers accommodated students on a routine basis. Variables typically outside of the teachers’ control, such as supports (i.e., additional specialized personnel, adequate preparation time) and specialized equipment, affected teachers’ sense of efficacy. Third, teachers experienced a variety of challenges to implementing inclusion in their classes. Seven of the nine teacher participants in this study did not feel adequately prepared by their physical education teacher education program to teach students with disabilities, especially severe disabilities. Most of the teacher-initiated actions with students with disabilities were verbal feedback, praise, or instruction, versus physical or social. An interesting finding is this study was teachers’ beliefs that they did not alter their teaching style or strategies for classes with students with disabilities. All of these findings indicate that even teachers who are perceived as effective inclusion teachers and who favor inclusion in their classes do not always implement effective inclusionary practices based on teacher preparation or variables outside of their control.

**Other Interaction Studies**

In this section, Jordan and Stanovich (2001) replicated and extended a previous study (Jordan, Lindsay, & Stanovich, 1997), which examined the instructional
interactions between teachers and at risk, average achieving, and exceptional students in their classrooms. In this study, Jordan and Stanovich (2001) included the examination of correlations between these teacher-student interactions and student self-concept.

To investigate this correlation, this study (Jordan & Stanovich, 2001) was guided by three research questions. First, what is the relationship between teacher-student interactions, and teachers’ beliefs about their roles and responsibilities in inclusion classrooms? Second, are teachers’ beliefs exhibited by certain patterns in the classroom and how do these interactions affect students’ self-concept? Third, what are the patterns in students’ self-concept and do these patterns relate to teacher interactions/beliefs?

The participants in this study included nine elementary teachers (four male and five female) and 48 of their students located at six schools in Ontario, Canada. The teacher participants are the same participants from the previous Jordan, Lindsay, and Stanovich (1997) study. The teachers had an average of 17 years teaching experience; none had earned accreditation in special education, and currently taught third- or third/fourth-grade classes. Each of the nine teachers nominated students in their classrooms who were considered students with disabilities as determined by a process outlined by the Ministry of Education and Training of Ontario, or students who were considered to be at risk of academic failure in the next year. From this these teacher nominated student groups, three were randomly selected from each class by the researchers (Jordan & Stanovich, 2001) to be observed in the study (15 boys and 12 girls). In addition, teachers nominated six average-achieving students, and from each of these class groups, three students were randomly selected from each class to be observed.
in the study. Throughout the study, six of the average-achieving students were dropped for a total of 21 students (11 boys and 10 girls). Additional data on the teachers and students was not provided in the study (Jordan & Stanovich, 2001), and it is unclear whether the student participants in this study are the same students from the earlier Jordan, Lindsay, and Stanovich (1997) study.

Three measures were used to examine the relationships between teacher-student interactions and students’ self-concept. The first measure was the Pathognomonic-Interventionist (PATH/INT) Scale of Teachers’ Beliefs (Jordan-Wilson & Silverman, 1991; Jordan, Kircaali-Iftar, & Diamond, 1993), which is designed to elicit and measure teachers’ beliefs about their “…roles and responsibilities in working with students with disabilities” (p. 35). A semi-structured discussion is conducted between the interviewer and the teacher where the teacher describes working with current or recent students with disabilities in her classroom. These discussions are coded using the PATH/INT Interview Coding Form (Jordan-Wilson & Silverman, 1991; Jordan, Kircaali-Iftar, & Diamond, 1993), which is composed of 20 items on a 5-point Likert-type scale, and an overall composite score is calculated from the mean of five topical category scores. Teachers in the study were scored in the following categories: (a) less than 2.9 were considered Pathognomonic (n = 3, M = 2.34), (b) between 3.0 and 3.9 were considered middle (n = 3, M = 3.53), and (c) greater than 3.9 were considered Interventionist (n = 3, M = 4.39). Pathognomonic teachers do not believe that they can impact the outcomes of students with disabilities, and they favor instruction delivered through pull out alternatives or resource settings. Also, these teachers rarely make accommodations and view instruction
for students with disabilities as the responsibility of a special education teacher. In contrast, Interventionist teachers believe that they can impact the outcomes of students with disabilities and instruction is their primary responsibility. They make accommodations and if the accommodations are not successful, these teachers will adjust and continue to pursue other options. Teachers who scored in the middle category will also make accommodations but if these accommodations do not work, they will abandon them without pursuing other options.

The second measure was a measure of students’ self-concept by using the Piers Harris Children’s Self-Concept Scale (Piers, 1984). This is an “…80-item, dichotomously scored self-report scale, yielding a total scale score and six subscale scores…” (Jordan & Stanovich, 2001, p. 38).

The third measure consisted of observations of teacher-student interactions during small-group (teacher and 2-3 students) and individual student seatwork assignments. Observations were conducted toward the end of the school year, two to four sessions lasting approximately 45 minutes each in science, math, or language arts. The observations were audio taped by the teacher wearing a wireless microphone, in which the observer could also hear and record field notes during the observations of the interactions. These observations were first coded as academic or non-academic interactions. Academic interactions were further coded into comprehension monitoring (brief checks for student understanding by the teacher), partial cognitive extension (teacher asked student about academic material, or full cognitive extension (teacher asked student about academic material and adjusted response based on student’s responses).
Data analysis was conducted and reported by research question. The first research question examined the correlations between teachers’ beliefs (PATH, MID, or INT) and patterns of teacher-student interactions. The results of this analysis indicated a statistically significant correlation between the types of teachers based on belief and academic interactions, $\chi^2(5) = 17.49, p < .01$. The PATH teachers ($n = 3$) typically interacted with their students primarily with comprehension and partial extension (11 of 14). Of the total 14 academic interactions between PATH teachers and their students, 6 of the 8 interactions conducted with students with disabilities or at risk were comprehension monitoring while 6 of 6 interactions with average achieving students were partial or full cognitive extensions. The INT teachers ($n = 3$) conducted many more full cognitive interactions (39 of 44), and the majority of these full cognitive interactions were conducted with students with disabilities or at risk (26 of 39).

The second research question examined teachers’ characteristics and students’ self-concept scores through 2 (student groups) x 3 (teacher groups) ANOVA. There were statistically significant effects for teacher, $F(2, 47) = 6.19, p .01$, and student group $F(1, 47) = 6.74, p < .01$ but not for student group interaction $F(2, 47) = 0.21$. In addition, a 2 (student group) x 3 (teacher group) ANOVA was conducted for each of the six sub-scores (behavior, anxiety, popularity, happiness, physical appearance, intellectual and school status) of the Piers-Harris Scale with statistically significant differences in all sub-scores but behavior.

The third research question examined the correlations between class groups by teachers’ beliefs (PATH, MID, or INT) and students’ self-concept scores as a whole.
class. The analysis for this research question resulted in statistically significantly correlations for total scale score, $r = +.40, p < .01$; anxiety, $r = +.50, p < .001$; popularity, $r = +.44, p < .001$; and happiness, $r = +.35, p < .05$. These results indicate that the higher a teacher scored on the PATH/INT scale, the higher the students’ self-concept.

Overall, the results of this study demonstrate a correlation between the type of teacher (PATH, MID, or INT) and students’ interactions and self-concept. INT teachers interact more with students and these interactions were focused more on academics than PATH or MID teachers. INT teachers tended to interact more frequently with students with disabilities or at risk than average-achieving students, however when compared to average-achieving students in classes with PATH teachers, these average-achieving students interacted more with their INT teacher. In addition, the interactions between INT teachers and students with disabilities or at risk were longer in duration.

**Summary**

The results of the studies in these final sections support previous findings reported in this review. Overall, teachers conducted more interactions with students with disabilities however, the nature of these interactions differed in comparison to interactions with students without disabilities. Students with disabilities received more negative and unsupportive interactions with teachers that generally took the form of corrections for behavior versus academics. In addition, students with disabilities received fewer opportunities to respond to academic questions.

The findings of these studies reveal a disturbing trend in the interactions between teachers and students with disabilities in the general education classroom. General
education teachers play a significant and important role in the success of students with disabilities but these findings indicate that teachers may not be implementing the most positive and effective practices to ensure the success of these students with disabilities. In addition, few studies have been conducted of students with disabilities in inclusive middle-level educational settings (Nitcavic & Aitken, 1988; York, Vandercook, Heise-Neff, & Caughey, 1989), which are supported by the studies included in this review that focus primarily in the primary or elementary grade level. The following section will discuss the challenges faced by students, especially students with disabilities, as they transition from elementary to middle school and the need for research in this area.

**Transition into Middle School**

The transition from elementary to middle school, which normally occurs in the 5th-, 6th-, or 7th-grade, is a challenging aspect of adolescence (Elias, 2005; Knesting, Hokanson, & Waldron, 2008). In this transition, students typically move from a smaller, more community-based environment where they are taught daily by the same teachers with the same peers to a larger less personable environment where they are required to rotate into different classrooms with varying teacher and peer compositions. Middle school students are required to meet the different expectations and rules established by each teacher as well as the more rigorous academic standards (Carter, Clark, Cushing, & Kennedy, 2005). Research (e.g., Eccles & Midgley, 1989; Feldlaufer, Midgley, & Eccles, 1988; Ward, Mergendoller, Tikunoff, Rounds, Dadey, & Mitman, 1982) indicates that middle school is typically characterized by whole-group instruction with little differentiation in assignments or textbooks. The subject-area content increases in both
depth and breadth, and students are expected to accept more responsibility for independent learning (Carter, Clark, Cushing, & Kennedy, 2005)

In addition to the academic challenges faced by students in middle school, during this time students also experience significant physical, emotional, social, and psychological growth (Knesting, Hokanson, & Waldron, 2008; Wigfield, Byrnes, & Eccles, 2006). Middle school students may feel awkward about their maturing bodies and unsure of how to navigate through the changing emotions they experience throughout a day (Adreon & Stella, 2001). They also become more concerned about making friends, fitting in with classmates, and avoiding teasing (Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan, & Mac Iver, 1993).

According to Erikson (1968), a major part of adolescence is the development of identity. Students in middle school and into high school must negotiate through the identification and development of choices within academic achievement, career, gender, ethnicity, sexual orientation, and social relationships (Cantor & Kihlstrom, 1987; Oyserman, Harrison, & Bybee, 2001; Phinney, 1996). In addition to negotiating social relationships with peers, students may also experience changes in their relationships with teachers. Secondary teachers are typically responsible for several classes of students for a total of approximately 150-180 students (Juvonen, 2007; Van Reusen, Shoho, & Barker, 2001). Although caring and supportive interpersonal relationships with teachers are important to students (Brophy & Good, 1974), Eccles et al. (1993) report that middle school teachers are less likely to form positive interpersonal relationships with students.
Research (e.g., Anderman & Maehr, 1994; Eccles & Midgley, 1989; Eccles et al., 1993) indicates that challenges faced by students as they transition from elementary to middle school can have a detrimental effect on their overall success in middle school. For students with disabilities, these challenges, particularly academic and social expectations, can be exacerbated by their disabilities (Anderman, 1998; Bulgren & Lenz, 1996; Gritzamacher & Larkin, 1993; Knesting, Hokanson, & Waldron, 2008).

Knesting, Hokanson, and Waldron (2008) conducted a qualitative study that examined the experiences of eight students with learning disabilities and one student with mild intellectual disabilities in middle school (7th and 8th grade). The results of this study indicate that students with disabilities have a longer adjustment period to middle school than students without disabilities. Some of the adjustments to middle school include remembering locker combinations; navigating between classes in a timely manner and the school in general; and meeting different expectations for each content area teacher. Some of the students with disabilities in this study continued to seek academic help from a special education teacher while other students with disabilities felt embarrassed because they did not want to stand out as ‘different’ from their peers and therefore, they did not seek outside academic help. In addition, some of the students with disabilities were able to quickly develop friendships with peers while other students took longer. For these students, teachers played important role in providing support and interpersonal relationships until these students could make friends.

Another group of students with disabilities who are faced with significant social challenges during the transition to middle school are those students with autism spectrum
disorders (ASDs), particularly Asperger's Syndrome (AS) (Anreon & Stella, 2001). Students with ASDs typically display restricted and repetitive-like behaviors as well as significant deficits in social and communicative skills (Henley, Ramsey, & Algozzine, 2009). As the social expectations increase and friendships become more complex in middle school, students with ASDs may feel overwhelmed and unable to cope with the additional expectations and therefore, they will require additional support during middle school (Anreon & Stella, 2001).

Overall, students with disabilities face more significant challenges as they transition from elementary to middle school versus their peers without disabilities. These challenges require that students with disabilities receive positive support and effective practices in the general education classroom from their teachers. As a result, the proposed study will focus on students with disabilities in middle school, grades 6-8.

The Present Study

The majority of studies in this review have focused on attitudes of teachers toward or their interactions with students with disabilities without connecting the two aspects. Only two of the studies (Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001) have examined the connections between the reported attitudes of teachers to the observed interactions between teachers and students with disabilities in the classroom. In addition, the majority of studies have focused on interactions at the primary or elementary level without consideration of the significant challenges faced by students in middle school. The purpose of this study was to determine whether the attitudes and beliefs of middle school general education teachers’ toward students with
disabilities were reflected in their interactions with these students in their classroom. Therefore, this study replicated and extended the studies by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001) with the following modifications: (1) this study focused on middle school general education teachers; (2) this study did not limit the types of disabilities, but focused on teachers’ interactions with students with any disability in their inclusive classrooms; (3) this study included students who had been formally recognized as struggling in some aspect (e.g., academic, focus, behavior) by the school and were currently under child study; (4) this study did not set a limit to the number of students with disabilities or under child study in each teacher’s inclusive classroom, but included all students who met this criteria; and (5) the researcher reversed the order of procedures by conducting observations of all of the teachers before conducting teacher interviews.

**Research Questions**

1) What are the attitudes and beliefs of three middle school general education teachers toward students with disabilities?

2) How do three middle school general education teachers interact with students with disabilities compared to students without disabilities in their inclusion classrooms?

3) To what extent are the attitudes and beliefs of three middle school general education teachers toward students with disabilities reflected in the interactions with these students in their classrooms?
CHAPTER THREE: METHODS

Research Design

The purpose of this study was to investigate the relationship between middle school general education teachers’ attitudes and beliefs toward and their interactions with students with disabilities in their classrooms. It employed a mixed methods research design. This study replicated and extended previous studies conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001) in which the attitudes and beliefs of teachers were determined on a Pathognomonic-Interventionist continuum, and then compared with the interactions with students with disabilities in their classrooms. In contrast to previous research, the following modifications were made in this study: (1) this study focused on middle school general education teachers; (2) this study did not limit the types of disabilities, but focused on teachers’ interactions with students with any disability in their inclusive classrooms; (3) this study included students who had been formally recognized by the school as struggling academically, or in other areas such as focus or behavior, and were currently under child study; (4) this study did not set a limit to the number of students with disabilities or under child study in each teacher’s inclusive classroom, but included all students who met this criteria; and (5) the researcher reversed the order of procedures by conducting observations of all of the teachers before conducting teacher interviews.
**Setting.** This study was conducted at Brooks Middle School, which is a suburban middle school, sixth through eighth grades, located in the Mid-Atlantic area of the United States. This school was located in an upper middle class area with only approximately 6% of the school’s population receiving free and/or reduced lunch. This school had approximately 1,412 students with approximately 126 of these students receiving special education services. The students who received special education services are classified with Deaf-Blindness, Emotional Disabilities, Hearing Impairments, Specific Learning Disabilities, Autism, Other Health Impairments, and Speech/Language Impairments. Of the 1,412 students, 63% were white, 15% were Asian, 8% were Hispanic, 8% were Black, and the remaining 6% were American Indian or unreported (Virginia Department of Education, 2011).

Brooks Middle School operates with alternating days of instruction designated as A and B days. Students attend four classes on an A day with each of these classes as 90-minute blocks of instruction. These blocks are referred to as blocks one, two, three, and four. With a few exceptions, students attend four different classes on a B day with each of these classes also as 90-minute blocks of instruction. These blocks are referred to as blocks five, six, seven, and eight. During the third and seventh blocks of instruction students report initially for attendance and then they are dismissed for a 30-minute lunch period.

**Participants.** There were two groups of participants, general education teachers and their students, from the school for this study. The first group was a convenience sample of general education teachers (n = 3) of science, language arts, or social studies
inclusion classes in the sixth and seventh grades. Additional selection criteria, such as number of years of teaching experience or gender, were not included in the criteria for selection for the study. The previous studies conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001) used a sample of nine teacher participants. Each teacher participant who completed the study received a $25 Amazon gift card.

The second group of participants were the students \( (n = 66) \) within each teacher participants’ inclusion classes. Students with disabilities \( (n = 13) \) met the following criteria: (a) found eligible for special education services as defined by the school district requirements; (b) had an established individualized education program (IEP); (c) any disability; and (d) received instruction of the four core content areas of math, science, language arts, or social studies in the general education inclusion classroom. Students under child study \( (n = 4) \) met the following criteria: (a) had been recognized by a teacher as struggling in an aspect that was impeding academic learning such as focus, a specific learning challenge, or behavior; (b) formally established child study by the school; and (c) receiving instruction of the four core content areas of math, science, language arts, or social studies in the general education inclusion classroom. One student was in a class of two different participating teachers; however, since the focus of this research study was the teacher, the interactions with this student were coded and analyzed separately with each teacher.
Materials

**Teacher-student classroom interaction observation instrument.** Teachers were observed in one of their selected inclusive classrooms for two 90-minute block sessions using the teacher-student classroom interaction observation instrument (see Appendix A). This instrument was based on the criteria outlined in the previous studies by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001). This instrument was used by the primary researcher to record each teacher interaction with students with- and without disabilities in one of his/her inclusive classrooms.

On this teacher-student classroom interaction observation instrument, the primary researcher recorded any interactions between the teacher and students with and without disabilities. All interactions, teacher-initiated or student-initiated, were recorded and coded by the primary researcher in a running record format. A single interaction was defined from the point of initiation until the teacher terminated the discussion or directed his/her attention to another student. For example, a single interaction may have involved a continuous discussion between the teacher and a student that lasts for several seconds. Also, if an interaction was initiated between a teacher and student, and the teacher paused to interact with another student, or in some cases, another adult, and then returned to the original student to continue the interaction, these interactions were coded as separate interactions. At the initiation of an interaction, the primary researcher recorded the student’s pseudonym, the beginning words spoken by the teacher or student at initiation of the interaction for future recall, and then observed the interaction to record any unusual aspects of the interaction such as non-verbal responses. The length in seconds
and type of interaction were recorded, coded, and analyzed in conjunction with audio and video tapes at a later date.

Each interaction was recorded and coded on two levels. The first level initially recorded the type of interaction as either non-academic or academic. Non-academic interactions were any interactions that did not involve any academic content such as, classroom management, redirection of student focus, or behavior correction. The second level was further coding of the academic interactions as comprehension monitoring (CM), cognitive extension-partial (CE-P), or cognitive extension-full (CE-F). These academic coding levels are further discussed in the data sources section.

In addition to the coding of teacher-student interactions, the primary researcher recorded field notes during each observation session. These field notes were designed to record additional observations outside of the student-teacher interactions, but that may impact those interactions. For example, the disruption of class by a fire drill, a particular student monopolizing the teacher’s attention, or the presence of another teacher or aide in the classroom were all included in these field notes.

**Video tapings.** Each of the 90-minute classroom observation sessions were videotaped in an effort to ensure that all of the teacher-student interactions were recorded and coded by the primary researcher. During the two blocks of familiarization, the primary researcher determined and then discussed with the teacher the best location of the video camera that would provide the optimal recording location, but would also not impede learning by the students. The primary researcher analyzed these video tapings in conjunction with audio tapings to verify initial interaction coding and to determine any
interactions not coded during the classroom observations. In addition, the secondary researcher also used these video tapings in conjunction with the audio tapings to record and code interactions, and to establish inter-rater reliability with the primary researcher.

**Audio tapings.** In addition to the primary researcher’s in-person recording of interactions in the classroom and the video tapings, each of the teachers was audio taped. Some of the interactions between the teachers and students were conducted at low volumes, in which the primary researcher could not hear and video camera could not recognize so each teacher wore an audio recording device around his/her neck. This recording device was started at approximately the same time as the video camera. These audio tapes were transcribed and used in conjunction with the video tapes and primary researcher’s in-class recordings of the interactions between teachers and students.

**The Pathognomonic-Interventionist (PATH/INT) Scale of Teachers’ Beliefs.** This scale was developed from the coding of semi-structured interviews conducted with each general education teacher participant after the completion of all classroom observations. The primary researcher used the General Education Teacher Interview protocol (see Appendix B) derived from Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), which was modified for use in this study to investigate the attitudes and beliefs of general education teachers toward their students with disabilities. This interview protocol was modified to reflect current terminology and practices in special education in the United States.

This protocol consisted of two groups of questions. The first group consisted of seven main questions in which teachers were asked to describe one of the students with
disabilities in the targeted observed inclusive classroom and the strategies they used with this student with special needs in the classroom as well as their communication with other staff members and parents. The results of these questions were then compared against the teacher’s interactions to determine if the teacher’s beliefs were evident by their interactions in the classroom. The second group consisted of twelve main questions in which teachers were asked to describe one student that they felt was at risk, and this particular student did not have to be in the observed classroom. This part of the interview is designed to determine the teacher’s beliefs about their role and responsibility toward an at-risk student before he or she is possibly referred for special education services. Because the observed classroom may not contain an at-risk student, the teacher could choose a student from another class to answer the questions during the interview. These interviews took place in a private setting of the teacher’s choosing to maintain confidentiality and were also audio taped for analysis and coding. These interviews lasted between 20 to 40 minutes.

From these audiotapes, the interviews were transcribed and then coded to develop a quantitative measure of teachers’ attitudes and beliefs using the Pathognomonic-Interventionist Teacher Interview Scoring Criteria (see Appendix C) as described by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001). The scoring criteria protocol was also modified to reflect current terminology and practices in special education in the United States. The transcribed interviews were coded in five areas: (a) referral and assessment; (b) instructional programming; (c) reviewing student progress; (d) communication with staff; and (e) communication with parents. A detailed
description of the coding and analysis of these items is described in the analysis section of this proposed study.

**Teacher demographic questionnaire.** Prior to the teacher interview, teacher participants completed a questionnaire (see Appendix D) that included the following demographic information: (a) name; (b) gender; (c) race/ethnicity; (d) highest earned degree/subject; (e) years of overall teaching experience; (f) method of teacher certification (traditional or alternative); (g) areas of teacher certification(s); (h) years of experience teaching students with disabilities; (i) current teaching grade and content area; and (j) years of experience teaching at Brooks Middle School. This demographic information was designed to provide descriptive detail of the teacher participants and to assist the researcher in correctly matching the teacher and interaction classroom observation instruments. Pseudonyms were used for each teacher participant to protect his/her confidentiality and ensure anonymity.

**Student demographic questionnaire.** The researcher also gathered demographic information of each student participant who had a signed permission form from the school administration’s files. The information gathered in this student demographic questionnaire (see Appendix E) included the following information: (a) student’s name; (b) disability classification(s) on IEP; (c) date of initial referral (if available) and/or date that initial IEP was established for student; (d) age; (e) gender; (f) grade; (g) race/ethnicity; and (h) the most common standardized academic test scores administered by the school (e.g., Virginia standardized test scores, Gates-MacGinitie Reading scores). This demographic information was designed to provide descriptive detail of the student
sample and to assist the researcher in correctly matching the teacher and interactions on observation instruments. Pseudonyms were used for each student participant to protect his/her confidentiality and ensure anonymity.

Data Sources

Teacher-student classroom interactions observation instrument and audio/video tapings. As described above, each interaction between the teacher and students was coded on two levels. A single interaction was defined from the point of initiation until the teacher terminated the discussion or directed his/her attention to another student. For example, a single interaction may have involved a continuous discussion between the teacher and a student that lasted for several seconds. Also, if an interaction was initiated between a teacher and student, and the teacher paused to interact with another student, or in some cases, another adult, and then returned to the original student to continue the interaction, these interactions were coded as separate interactions.

The primary researcher recorded two 90-minute blocks of instruction for each teacher with the initial target goal of coding and analyzing 45-minute sections of each block. The sections that were selected were required to be times in which the teacher was teaching or conveying academic content primarily to the whole class, and would not include items such as movies, games, tests, reviews for tests, etc. Based on these requirements, the final selections of instruction that were coded and analyzed ranged from 25-60 minutes.

The first level recorded the initial type of interaction as either non-academic or academic. Non-academic interactions were those teacher-student interactions that did not
pertain to academic content such as general management of the classroom. The second level further coded the academic interactions as comprehension monitoring (CM), cognitive extension-partial (CE-P), or cognitive extension-full (CE-F).

In a comprehension monitoring interaction, the teacher checked the student’s understanding of a specific concept; however, no further effort was made by the teacher to extend the student’s knowledge beyond the initial question or to reiterate the concept. These were brief and cursory statements or questions. In a cognitive extension-partial interaction, the teacher attempted to extend the student’s academic thinking beyond the initial question however, the interaction was led by the teacher’s agenda with less negotiation between the teacher and the student. The teacher may not have persisted in assuring the student’s understanding. In a cognitive extension-full interaction, the teacher also extended the student’s academic knowledge beyond the initial question by using the student’s responses to adjust the conversation as a means to push the student’s thinking forward in fully understanding the concept (Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001).

In addition to the two levels of coding, each interaction was also timed to determine the length of the interaction in seconds. The lengths of these interactions were used to develop an average interaction length for each teacher, as well as a means to compare the length of interactions for each type of interaction between students with and without disabilities.

**The Pathognomonic-Interventionist (PATH/INT) Scale of Teachers’ Beliefs.**

As described above, the PATH/INT scale was derived from the coding of teacher
interviews. Each teacher interview was transcribed and coded on 20 items using a Likert-type 3-point scale to indicate where the teacher falls on the Pathognomonic-Interventionist continuum. For example, teacher statements that indicated a student’s behaviors, achievement, learning behaviors, etc. based on a student’s attitude, ability, or motivation were scored as Pathognomonic or a 1, and teacher statements that indicated that student’s behaviors, achievement, learning behaviors, etc. were modifiable based on instructional accommodation/adaptations made by the teacher were scored as Interventionist or a 3. Teacher statements made between these two perspectives were scored as Middle or Mixed (Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001). The analysis of this coding is further discussed in the data analysis section.

**Reliability and validity of PATH/INT scale.** The PATH/INT scale has been established as a reliable and valid measure of teachers’ attitudes and beliefs toward students with disabilities in their inclusive classroom through its use in other studies (Glenn, 2007; Jordan et al., 1993; Jordan-Wilson & Silverman, 1991; McGee, 2001; Stanovich, 1994; Stanovich & Jordan, 1998). The interrater reliability for this scale has been reported from .88 (Jordan et al., 1997) to .91 (McGee, 2001). In addition, Stanovich and Jordan (1998) reported a Cronbach’s a of .89, and the mean Pearson correlation between the interview topics of .53.

**Procedures**

The researcher obtained approval from the Institutional Review Board (IRB) at George Mason University and school district levels. The researcher then obtained approval from the school administration. After approval from the school administration,
the researcher sent a recruiting e-mail to each of the general education teachers in the areas of math, science, language arts, and social studies (see Appendix F) within Brooks Middle School. Five teachers responded to the initial e-mail and indicated their willingness to participate in the study. The researcher then made personal contact with the general education teachers that had not responded to the initial recruitment e-mail, and three additional teachers expressed interest in participating in the study for a total of eight teachers.

The researcher then met with each of the eight participants to (a) further discuss their participation and requirements of the study; (b) obtain permission from the teachers to participate in the study to include video and audio taping of their classrooms (see Appendix G); and (c) obtain class rosters. The teacher participants were informed that the purpose of this study was to observe their instructional practices in the classroom. The teacher participants were *not* informed of the specific focus of this study, the interactions with students with disabilities in their inclusion classrooms, until the completion of all of the teacher participants’ observations and during the interview. This delay of information was designed to help diminish any change in the teacher’s interactions toward the students with disabilities in their classroom, which may have compromised data collection and final results.

The researcher then worked with each of the participating teachers to identify the inclusive classes to be observed for the study. In addition, the researcher and each teacher participant determined a convenient schedule to explain the study to the students, to obtain a seating chart of the inclusion class to be observed by the researcher, and to
determine observation times that focus on core academic content and do not include tasks such as administration of a test or showing of a movie.

Although the study focused on the general education teachers, most of these teachers either co-taught with special education teachers and/or had instructional aides present in the classroom during the observations. The study was also discussed with these co-teachers and aides, and the researcher obtained permission from these additional co-teachers and aides to videotape them during the observations.

The researcher then obtained permission from parents and assent from students to participate in the study to include videotaping of classroom teacher-student interactions (see Appendices H & I). The researcher explained the research study to the class without the teacher participant in the classroom. The researcher sent a permission form home with each student in the participating teachers’ inclusion classes, which explained the research study and sought permission from the student and the parents to include videotaping. A basket was placed in a convenient location in each teacher participant’s classroom to collect permission forms from the students. For those students and/or parents who did not agree to participate in the study, the researcher did not record any interaction data between the teacher and those students. The researcher also coordinated with each of the teacher participants to ensure that these students were also moved outside of the camera’s lens so they were not recorded during the observations.

Once the researcher obtained permission from the participating teacher, and was waiting for all of the student and parent permission forms to be returned, the researcher began sitting in each of the teacher participants’ classrooms to develop familiarity with
the class and to help students become accustomed to having an observer in the classroom. The researcher did not collect any data during this time, but simply sat in the back of the room during instruction. The familiarization period took place over a two-week period of time and during this time; the researcher was also collecting and annotating the permission forms turned in by the students and parents. At the end of these two weeks, the researcher counted the total number of forms turned in by the students and parents. In two of the teacher participant’s classrooms, a very small number of permission forms were turned in by the students and parents, and based on the time constraints at the end of the school year, the researcher made the determination to remove these two teacher participants from the study reducing the number of teachers from eight to six participants. The other six teacher participants only had approximately one to four students and parents who did not turn in permission forms so these teachers remained in the study.

Students that did not return permission forms or consent to participate in the study were placed in a location within the classroom out of the recording range of the video camera. This location was coordinated with each teacher participant so students’ learning was not impacted, and these students were also privately reminded to stay out of the recording range of the camera before each observation session. The researcher did not collect any data on these students.

Once all of the permission forms were received, the researcher worked with the teacher participants to develop a seating chart of the inclusion classes, and then began observing and coding classroom interactions between the general education teacher and their student participants using the teacher-student classroom interaction observation
instrument (see Appendix A). Observations were conducted and recorded in the classroom, as well as audio and video taped for approximately two 90 minute blocks of instruction for each teacher participant.

The researcher also completed student demographic questionnaires for each student with and without disabilities in each of the participating teachers’ classrooms who had given permission (see Appendix E). This information was collected from school administration files during the time period that observations were also conducted by the researcher.

Once classroom observations were conducted for every teacher participant, each one participated in a semi-structured interview that lasted approximately 20 - 40 minutes. These interviews were conducted in a place and time of convenience for the teacher participant. These interviews were also audio taped for future transcription and analysis by the primary researcher and a secondary researcher to establish inter-rater reliability. Prior to the teacher interview, each teacher participant completed a teacher demographic questionnaire (see Appendix D). The primary researcher then used the General Education Teacher Interview protocol (see Appendix B) derived from Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001) to interview the teacher participant about their attitudes and beliefs toward students with disabilities as well as a selected student at risk. Although an interview protocol was used during the teacher interview, the researcher allowed the teacher to speak freely about their experiences in teaching students with and without disabilities in the same classroom as well as an
opportunity at the end of the interview to add or speak freely about any additional thoughts or comments from the interview.

At the end of the interview, the researcher turned off the audio recorder and explained to the teacher the data analysis process that would be conducted from the information gathered during the observations and interview. The researcher provided the teacher participant with an opportunity to ask questions about the study or to express reservations about participation in the study. None of the teacher participants expressed any concern or asked to be removed from the study. Each teacher participant received a hand written thank-you card with $25 gift card to Amazon approximately one week after the interview.

Data Analysis

According to Creswell (2008), a mixed methods research design is used when both quantitative and qualitative data are used together to develop a better understanding of a research problem. Greene (2007) described the use of a mixed methods way of thinking as “a better way to understand the complexity of the social phenomena being studied” (p. 20). In this research study, a version of Creswell’s (2008) explanatory mixed methods design was utilized in which the quantitative data derived from the coding of teacher-student interactions, and teachers’ attitudes and beliefs on the Pathognomonic-Interventionist continuum were collected and analyzed followed by qualitative analysis of the teacher interviews. The primary researcher compared the analysis derived from the quantitative and qualitative data to develop themes across the two sets of data, and developed a fuller understanding of teachers’ attitudes and beliefs as reflected in the
interactions with their students with disabilities in their inclusion classrooms. The following sections describe the analysis of the quantitative and qualitative as individual sets of data followed by the analysis between sets of data.

**Quantitative analysis.** The following sections outline the quantitative analysis of data.

*Teacher-student classroom interactions observation instrument, and video and audio tapings.* The observed teacher-student interactions were analyzed for each teacher participant. Although each teacher was observed for two 90-minute blocks, 20 - 40 minutes of instruction that met the established criteria was further analyzed and then totaled together. A total and mean score will be calculated for the type (non-academic, academic, CM, CE-P, CE-F), frequency, and length (seconds) of each observed teacher-student interactions in the classroom.

Coding and analysis of all interactions between the general education teachers and their students was first conducted individually by the primary researcher and a secondary researcher, and then conducted together to reach agreement on the analysis as well as on any possible differences between the two researchers. When differences were noted between the primary and secondary researchers, the description of interaction types were referenced, and the two researchers discussed the aspects of the interaction against the criteria. Most of the differences in coding between the two researchers focused on the level of academic extension, and these differences were resolved by identifying who continued the interaction—teacher or student. The primary and secondary researchers
resolved any and all disagreements on coding. The inter-rate reliability of the two researchers was 97%.

*The Pathognomonic-Interventionist (PATH/INT) Scale of Teachers’ Beliefs.*

Each teacher interview was be transcribed and coded on 20 items using a Likert-type 3-point scale that indicated where the teacher fell on the Pathognomonic-Interventionist continuum. These scores were totaled and a mean score calculated for each teacher in each of the five topic areas: (a) referral and assessment; (b) instructional programming; (c) reviewing student progress; (d) communication with staff; and (e) communication with parents.

Coding and analysis of the teachers’ interviews were first conducted individually by the primary researcher and a secondary researcher, and then conducted together to reach agreement on the analysis as well as on any possible differences between the two researchers. When differences were noted between the primary and secondary researchers, descriptions from the Jordan, Lindsay, and Stanovich (1997) study were referenced, and the two researchers discussed specific responses from the interviews against the criteria. The primary and secondary researcher resolved any and all disagreements on coding. The inter-rate reliability of the two researchers was 95%.

In some cases, the teacher’s responses did not fit any of the coding criteria and was given a score of 0. For example, Becky identified an at-risk student in her classroom to discuss during the interview, but she was not responsible for referring this student for testing. Another teacher of the at-risk student referred the student, and as a result, Becky
was given a zero score for this question. This is a possible weakness of the interview scoring criteria and will be discussed in a later chapter.

An overall composite score was calculated from the topic area mean scores to reflect each teacher’s overall self-reported attitudes and beliefs regarding his/her students with disabilities. The sub-topic scores were added together, and then this total score was then divided by the total number of sub-topics (20) to calculate the overall composite score. These overall composite scores were compared to the teacher-student interaction data described above to develop an initial analysis of whether the teacher’s self-reported attitudes and beliefs toward students with disabilities are consistent with their behaviors and interactions with these students in their inclusion classrooms.

**Qualitative analysis.** The following section outlines the qualitative analysis of data.

**Mixed analysis.** This analysis was guided by Greene’s (2007) description of data correlation and comparison. This analysis assessed “patterns of relationships across different forms of data and to compare relational findings from one form of data to relational findings from a different form of data” (Greene, 2007, p. 145). The researcher used the themes developed through the qualitative analysis of teacher interviews to investigate similar and dissimilar patterns of these same themes within the more quantitatively oriented classroom observation depictions of teacher-student interactions. The researcher wrote memos at the conclusion of each classroom observation session to reflect on the experience, and to record initial thoughts and feelings that were used in the analysis.
**Researcher’s Perspective**

The initial purpose for this study came from the frustration as a mother of a daughter with ADHD who had just entered the public school system. She struggled with learning and behavior in the classroom. As a mother and a teacher, who still had no actual classroom experience, I felt that these struggles stemmed primarily from the interactions with her teacher and if her teacher could interact with her in a more positive manner, her struggles would decrease in the classroom. This frustration evolved into a much different perspective when I took on the role of a teacher in the public school system myself, and I experienced this perspective from “the other side of the desk”.

These perspectives, developed through personal and professional experiences, are an important consideration in the interpretation and analysis of the data collected during this study. Although researchers must be cautious of the background influences and biases that may affect the validity of their studies, according to Maxwell (2005), “separating yourself from other aspects of your life cuts you off from a major source of insights, hypotheses, and validity checks” (p. 38). The following paragraphs will provide additional insights into my perspectives as a mother of a child with a disability as well as an educator of students with and without disabilities, and how these insights may have influenced the analysis and interpretation of the findings of my study.

**Mother of a child with a disability.** Mothers of multiple children tend to compare their children. Most mothers will claim to view each child as an individual, but from my experience, mothers cannot resist comparing them, and I was no exception. My youngest child always seemed to be more “difficult” compared to my two older children.
(twins). She was the child that did not sleep through the night until six months old compared to my two older children who slept through the night at eight weeks old. She was the child that refused to walk until she was fourteen months old compared to my two older children who walked at eleven and twelve months old. She was also the child that would be first to laugh and giggle, she started putting together words at an early age, and had an intense interest in books.

This “difficulty” extended into daycare and through pre-school. I would pick her up after work and the daycare providers or teachers would tell me about all of her “struggles” throughout the day. She would not comply with their instructions, would not share with the other children, would not take a nap, or would hit another child because the child would not do what she wanted the child to do. One of her pre-school teachers was the first person to hint that maybe my daughter should be psychologically tested. I tried to not acknowledge her behaviors as different from other children, but I had an underlying suspicion that something was different about her.

She was tested through a battery of different tests by a private psychologist. The psychologist determined that she had moderate ADHD, which at the time, felt like someone had punched me in the stomach when I heard the diagnosis. Her father and I opted to not put her on medication and not seek any additional services for her. We continued to work with the teachers at the private school she was currently enrolled in at this time, which worked for quite a while because of her teachers liked her and she was in a classroom with a small number of students.
The reality of her disability and continued struggles became significant when she started first grade in the public school system. Within a month, her teacher, who was also a first year teacher, had called to discuss her behavior in class. She was “difficult” in class; she again did not want to comply with the teacher’s instructions and he had to remind her several times to stay on-task or complete her work. She also had difficulty in her social interactions with other students in the classroom. A 504 plan was put into place to help her at end of this first year in public school. Despite her constant struggles throughout this first year in public school, I was still convinced that her performance would improve if her teacher knew how to interact with her. I had higher hopes for second grade and a more experienced teacher.

My daughter’s performance in second grade did not improve despite placement in a more experienced teacher’s classroom. She continued to struggle in her academic performance as well as social interactions with her teachers and peers. At the beginning of her third grade year, my perspective changed when I left my job as a federal contractor to become a sixth grade science teacher, and I experienced the reality of teaching students with a variety of disabilities in a classroom.

**Educator of students with and without disabilities.** I had wanted to be a teacher for many, many years, and I felt that I could make a difference in children’s lives. I loved school as a student and this was the environment I wanted to be in every single day. I felt that I could be that teacher who would have positive interactions with all of my students, and I could reach each and every one of them. However, no amount of preparation from books, research papers, or even student teaching could have prepared
me for the responsibility I was given on that first day and every day after that first day. I have had the responsibility of teaching from 140-155 students every year, and this number of students has included students with and without disabilities. In some classes, I have had a special education co-teacher and in other classes, I have had the responsibility all on my own. I have had students with autism, intellectual disabilities, emotional disabilities, ADHD, visual impairments, and hard-of-hearing in my classes.

As I took on the role of a researcher at this point in my teaching career, I have reflected back frequently on these experiences and acknowledged that teaching has been really, really hard. Each student, class, and year is different and has always changed throughout my years of teaching.

**Role as a researcher.** My experiences as a mother of a child with a disability and an educator of a number of previous students with a variety and severity of disabilities have influenced my role as a researcher. When I first started to develop the concept of this research study, I had to reflect back on my own attitudes and beliefs toward students with disabilities in the classroom, and how I had interacted with my own students with disabilities in the classroom. I determined that overall, I felt positive about students with disabilities in my classroom because I felt strongly that each student should be accepted and taught for his/her individual strengths and weaknesses. I have had numerous students without disabilities that have increased the challenges and in contrast, I have had students with disabilities that have been a “dream” to teach in the classroom.

As I began the research for this study, I analyzed the interactions with the students within my current classroom. I determined that I do interact with each student
differently, with and without disabilities, and I subconsciously adjust these interactions. I realized that I conducted a lot of non-academic interactions with my students, but the number of non-academic interactions varied based on the class composition and the curriculum content for the day. Some of my classes required more instructions and the repeating of instructions. Some of the content activities planned for the day required more non-academic interactions. However, I also unfortunately realized that the academic interactions I conducted with my classes were primarily comprehension monitoring. I did not extend my academic interactions very well, and to extend those interactions, I had to make a conscious effort. At this point in my self-reflection, I realized that I do make a determination during the interaction on how to structure my interaction based on the student. However, this determination was based on the abilities of each individual student, not on whether that student had a disability or not.

Each of the parts of my self-reflection has impacted the analysis and interpretation of my research. As I observed and interviewed each of the teachers in my study, I wondered about several aspects of each one. Did he/she really like each of his/her students or was he/she trying to appear as if he/she liked all of his/her students because he/she was expected to? Had he/she ever thought about the interactions with his/her students? Did he/she realize that he/she may subconsciously adjust his/her interactions based on the student’s ability or perceptions of the student’s ability?

My role as a mother of a student with a disability combined with my experiences as a teacher is why I chose to study general education teachers’ interactions with their students, with or without disabilities, in the classroom.
CHAPTER FOUR: RESULTS

In this study, the following research questions were used to examine three middle school general education teachers in the content areas of social studies, science, and language arts:

1) What are the attitudes and beliefs of three middle school general education teachers toward students with disabilities?

2) How do three middle school general education teachers interact with students with disabilities compared to students without disabilities in their inclusion classrooms?

3) To what extent are the attitudes and beliefs of three middle school general education teachers toward students with disabilities reflected in the interactions with these students in their classrooms?

From the six general education teachers observed for this study, three teachers were chosen for further data analysis. The decision to reduce the number of general education teachers was based on the quality of data collected during the study. The data collected from the three selected teachers was the most thorough in terms of the length of instruction where interactions could be coded and analyzed as well as the quality of video and audio recordings of interactions and teacher interviews.

This chapter will first provide a description of each of the three selected general education teachers, to include his/her teaching environment and student demographics.
These descriptions are presented to establish the context in which interactions with students took place during instruction. These teacher descriptions are followed by the results of the study in the order in which the study was conducted by the researcher. The results of teacher interactions with their students, with and without disabilities, which is research question 2, will be presented first. This question was investigated by observations in the classroom. Each of the teacher-student interactions were analyzed and coded for frequency, duration, and type. Teacher beliefs and attitudes, research question 1, will be presented second, and this question was investigated through semi-structured interviews with each general education teacher participant after the completion of all classroom observations. The General Education Teacher Interview protocol (see Appendix B) used for this research question was derived from Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), and modified for this study. The extent to which teachers’ attitudes and beliefs toward students with disabilities are reflected in the interactions with these students in their classrooms, research question 3, will be presented last. This research question was investigated through the correlation and comparison of data from research questions 1 and 2. All teachers, students, and schools were given pseudonyms to assure their anonymity.

Teacher Descriptions

Teacher one: Howard. Howard was a male, Caucasian, 6th grade social studies teacher. He received his teaching certification in history through a traditional, university-based program. Howard earned a master’s degree in education and thirty additional credits beyond his master’s. He taught for twenty-nine years with the last nine years at
Brooks Middle School. In each of his twenty-nine years of teaching, he taught students with a variety and severity of special needs in addition to students without special needs.

Howard was assigned to his own classroom and he did not physically share this classroom with any other teachers. The desk of the special education co-teacher on Howard’s team was located in another teacher’s room. Howard’s classroom contained stand-alone desks with chairs, a teacher’s desk, two computers, bookshelves, and a Promethean board for the presentation of instructional material. The walls were filled with numerous historical posters, quotes, pictures, and artifacts. The bookshelves also contained many history related items that personally belonged to Howard that he had acquired throughout his years of teaching. Howard also had numerous quotes, some historical, and some based on his philosophical life beliefs, written on colorful construction paper and placed on the ceiling tiles above the students’ heads.

Howard did not assign seats to his students so students were allowed to choose different seats each time they went to class. In addition, Howard frequently changed the desk arrangement based on the instructional requirements for that day. For example, Howard conducted a review game during one of the observations and the seats were placed in rows facing each other.

**Co-teaching team.** Howard’s social studies class was co-taught with a special education teacher as well as an instructional aide. During each of the observations, Howard and his co-teacher utilized a “one teach, one assist” model of co-teaching in which Howard was the primary content teacher, and the co-teacher assisted students with following and staying on-task during Howard’s teaching. The co-teacher did not provide
instruction during any portion of the observations. In addition, the instructional aide, also assigned to his classroom, assisted students throughout the observations.

**Student demographics.** Howard’s social studies class had twenty-three students. Of these twenty-three students, nine (47%) of these students currently had Individualized Education Programs (IEPs). Four (5.75%) of the twenty-three students, which included three (33%) of the nine students with current IEPs, did not return permission slips; therefore, their demographic data as well as the interactions between Howard and these four students were not included in the data analysis. The interactions between Howard and remaining nineteen (83%) students were included in the study.

Of the nineteen students included in the study from Howard’s class, there were 15 (79%) males and 4 (21%) females with an average age of 12.31 years. In addition, 1 (5%) student was Asian, 2 students (11%) were African-American, 3 students (16%) were Hispanic, and the remaining 13 (68%) students were Caucasian. Of the nineteen students included in this study, six (32%) had current IEPs with the following disability classifications: one with Other Health Impairment (OHI), two with Specific Learning Disabilities (SLD), and three with Autism. Four of the six students with IEPs received all of their education in the general education setting with their peers without disabilities while two of these students received the majority of their education in a self-contained classroom with only social studies and science in the general education setting.

A variety of student achievement data, which included the Gates-MacGinitie (MacGinitie, MacGinitie, Maria, Dreyer, & Hughes, 2000) reading test and the state standardized test from previous year (5th grade), were collected from the students’
cumulative files that were located in the school’s main office. Each student’s respective language arts teacher administered the Gates-MacGinitie reading test at the beginning of the year. A total score as well as subtest scores for vocabulary and comprehension were recorded for each student. The state standardized test scores for math, reading, science, and writing were also recorded for each student. Two (11%) of the nineteen students transferred into Brooks Middle School during their sixth grade year and their scores from these specific standardized tests were not available for collection. In addition, two additional students did not have data for the Gates-MacGinitie reading test. Table 1 presents the average standardized scores of Howard’s students, and Table 2 presents a comparison of state standardized scores of Howard’s students, with and without disabilities.

Table 1

_Students’ Average State Standardized Test Scores_

<table>
<thead>
<tr>
<th>Standardized Test</th>
<th>N</th>
<th>Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gates MacGinitie Reading Test</td>
<td>15</td>
<td>527.87</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>15</td>
<td>531.60</td>
</tr>
<tr>
<td>Comprehension</td>
<td>15</td>
<td>524.40</td>
</tr>
<tr>
<td>Virginia Standardized Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 5</td>
<td>17</td>
<td>453.29</td>
</tr>
</tbody>
</table>
Table 2

Comparison of Standardized Test Scores between Students

<table>
<thead>
<tr>
<th>Student</th>
<th>Score Under 400 (Fail)</th>
<th>Score of 400-499 (Pass/Proficient)</th>
<th>Score of 500-600 (Pass/Advanced)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>With IEP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 5</td>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Science</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Writing</td>
<td>1</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Reading</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Without IEP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 5</td>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Science</td>
<td>0</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Writing</td>
<td>0</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Reading</td>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

As seen in Table 2, the student achievement data indicated that overall, Howard’s students are above average. However, these data may not provide an accurate representation of the abilities of the class to achieve academically as a whole class for
two reasons. First, there is wide range of points between fail, pass/proficient, and pass/advanced. A student may earn a score of 400 and pass the test while another student may earn a score of 399 and fail the test. Second, individual test scores indicate a disparity between students with and without IEPs. Of the six students with IEPs, only one student earned a score of at least 400 on all of the state standardized tests from the previous year. In addition, two students without IEPs earned a score under 400 on one of the tests. The remaining five students with IEPs earned scores under 400 on at least one or more of the state standardized tests. The rest of the students within Howard’s class earned scores over 500 on one or more standardized tests. The disparity of scores between students with and without IEPs misrepresents the overall ability of the class as a whole.

**Teacher two: Becky.** Becky was a female, Caucasian, 7th and 8th grade science teacher. She received her teaching certification in middle school science through an alternative route, Teach for America. Becky earned a master’s degree in public health. She taught for eleven years with the last five years at Brooks Middle School. In each of her eleven years of teaching, she taught students with a variety and severity of special needs in addition to students without special needs.

Becky was assigned to her own science classroom and she did not physically share this classroom with any other teachers. Becky’s classroom contained lab tables for two students each with chairs, a teacher lab table, sinks, and cupboard along two outside walls, two computers, bookshelves, and a Promethean board for the presentation of instructional material. Becky did not have or use a teacher desk. In addition, there were
two stand-alone desks with chairs in the front left corner facing the wall. The walls and cupboard doors had some science posters and pictures on them, as well as atomic models that hung from the ceiling.

Becky assigned seating for her students, but seating was observed as being fluid based on Becky’s classroom management needs. For example, during one of the observations, a student was reminded twice by Becky to stop off-topic talking during her teaching, and she then moved this student to another seat to correct this behavior. In addition, two students were assigned seats at two stand-alone desks facing the front wall during all of the observations.

**Co-teaching team.** Although the majority of the inclusion classes at Brooks Middle School were co-taught with a general education and a special education teacher, Becky did not teach with a co-teacher, and she was solely responsible for the instruction of all of the students, with and without disabilities, in her class.

**Student demographics.** Becky’s science class had twenty-six seventh grade science students. Of these twenty-six students, one (4%) had an established Individualized Education Program (IEP), one (4%) had a 504 plan for vision, and one (4%) student was undergoing child study for hearing loss. Another student in this class had a previously established IEP for a specific learning disability. This student had been found ineligible for special education services earlier in the year; therefore, the IEP had been terminated on January 30, 2013, and this student was not included as a student with special needs in this study. This student was part of Becky’s class as well as another teacher’s class in this study, Susan. Three (12%) of the twenty-six students did not return
permission slips; therefore, their demographic data as well as the interactions between Becky and these three students were not included in the data analysis. The interactions between Becky and remaining twenty-three students were included in the study.

Of the twenty-three students, there were 10 (43%) males and 13 (57%) females with an average age of 13.27 years. In addition, 4 (17%) students were Asian, 3 students (13%) were African-American, and the remaining 16 (70%) students were Caucasian. Of the twenty-three students included in this study, one (4%) of these students had a current IEP for Other Health Impairment (OHI). One (4%) had a current 504 plan for vision impairment and one (4%) was undergoing child study for hearing loss.

A variety of student achievement data, to include the Gates-MacGinitie (MacGinitie, MacGinitie, Maria, Dreyer, & Hughes, 2000) reading test, and the state standardized test from previous year (6th grade), were collected from the students’ cumulative files located in the school’s main office. A total score and subtests for vocabulary and comprehension of the Gates-MacGinitie reading test were recorded for each student. The state standardized test scores for math, reading, and history were recorded for each student. Scores for Math 6 and Math 7 are both presented because students had the option to take different math levels during the previous sixth grade year. Table 3 presents the average standardized scores of Becky’s students, and Table 4 presents a comparison of state standardized scores of Becky’s students, with and without disabilities.
Table 3

*Students' Average Standardized Test Scores*

<table>
<thead>
<tr>
<th>Standardized Test</th>
<th>N</th>
<th>Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gates-MacGinitie Reading Test</td>
<td>23</td>
<td>550.74</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>23</td>
<td>551.09</td>
</tr>
<tr>
<td>Comprehension</td>
<td>23</td>
<td>550.04</td>
</tr>
<tr>
<td><strong>Virginia Standardized Test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 6</td>
<td>14</td>
<td>456.71</td>
</tr>
<tr>
<td>Math 7</td>
<td>9</td>
<td>468.22</td>
</tr>
<tr>
<td>Reading</td>
<td>23</td>
<td>519.43</td>
</tr>
<tr>
<td>History</td>
<td>23</td>
<td>540.65</td>
</tr>
</tbody>
</table>

*Note:* Standard deviations are not available.

Table 4

*Comparison of Standardized Test Scores between Students*

<table>
<thead>
<tr>
<th>Student</th>
<th>Score Under 400 (Fail)</th>
<th>Score of 400-499 (Pass/Proficient)</th>
<th>Score of 500-600 (Pass/Advanced)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With IEP, 504, or under child study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 6</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Math 7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reading</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Without</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 6</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Math 7</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>
The student achievement data located in Table 2 above indicate that overall, Becky’s students are above average, particularly in reading and history. A further breakdown of scores indicates that in contrast to Howard, most of the students in Becky’s class achieved a score of 400 on all tests and in many cases, her students achieved scores over 500. The number of students with disabilities who failed a state standardized test is very similar to the number of students without disabilities who failed a state standardized test.

**Teacher three: Susan.** Susan was a female, Caucasian, 7th grade language arts teacher. She received her teaching certification in English, grades 6-12, through an alternative career switcher program. Susan earned a bachelor’s degree in Journalism and English. She taught for seven years with all of her teaching experience at Brooks Middle School. In each of her seven years of teaching, she taught students with a variety and severity of special needs in addition to students without special needs.

Susan was assigned to her own classroom and she did not physically share this classroom with any other teachers. The desk of the special education co-teacher on Susan’s team was located in another teacher’s room. Susan’s language arts classroom contained stand-alone desks with chairs, a teacher’s desk, two computers, several bookshelves, and a Promethean board for presentation of instructional material. The

<table>
<thead>
<tr>
<th>Reading</th>
<th>0</th>
<th>6</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>0</td>
<td>3</td>
<td>16</td>
</tr>
</tbody>
</table>
walls had posters and pictures related to the language arts curriculum as well as some inspirational life posters.

Susan had assigned seating for her students. The desks were arranged in groups of four, five, or six desks where the students faced each other. This desk arrangement did not change throughout all of the observations conducted in her classroom.

**Co-teaching team.** Susan’s class was co-taught with a special education teacher. During observations, Susan and her co-teacher utilized a “one teach, one assist” model of co-teaching in which Susan was the primary content teacher, and the co-teacher assisted students with following and staying on-task during Susan’s teaching. The co-teacher did not instruct during any portion of the four observations.

**Student demographics.** Susan’s seventh grade language arts class had twenty-two students. Of these twenty-two students, seven (32%) had current IEPs and three (14%) were under child study. Another student in this class had a previously established IEP for a specific learning disability. This student had been found ineligible for special education services earlier in the year; therefore, the IEP had been terminated on January 30, 2013, and this student was not included as a student with special needs in this study. This student was also in a classroom of another teacher in the study, Becky. Two (9%) of the twenty-two students did not return permission slips and both of these students also had IEPs; therefore, their demographic data as well as the interactions between Susan and these two students were not included in the data analysis. The interactions between Susan and remaining twenty (91%) students, to include five (25%) students with IEPs and three (15%) students under child study, were included in the study.
Of the twenty students included in the study from Susan’s class, there were 13 (65%) males and 7 (35%) females with an average age of 13.28 years. In addition, 3 (15%) students were Asian, 1 student (5%) was African-American, 3 students (15%) were Hispanic, and the remaining 13 (65%) students were Caucasian. Of the twenty students included in this study, five (25%) of those students had current IEPs with the following disability classifications: two with Other Health Impairment (OHI), three with Specific Learning Disabilities (SLD), and one with Speech/Language impairment. Two students were under child study for focus and attention, which was impacting their academic achievement, while the other student was under child study for reading comprehension. All of the five students with IEPs received all of their education in the general education setting with their peers without disabilities.

A variety of student achievement data, to include the Gates-MacGinitie (MacGinitie, MacGinitie, Maria, Dreyer, & Hughes, 2000) reading test, and the state standardized test from previous year (6th grade), were collected from the students’ cumulative files located in the school’s main office. A total score and subtests for vocabulary and comprehension of the Gates-MacGinitie reading test were recorded for each student except for one student whose scores were not available to the researcher. The state standardized test scores for math, reading, and history were recorded for each student. Scores for Math 6 and Math 7 are both presented because students had the option to take different math levels during the previous sixth grade year. Table 5 presents the average standardized scores of Susan’s students, and Table 6 presents a comparison of state standardized scores of Susan’s students, with and without disabilities.
### Table 5

**Students' Average Standardized Test Scores**

<table>
<thead>
<tr>
<th>Standardized Test</th>
<th>N</th>
<th>Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gates-MacGinitie Reading Test</td>
<td>19</td>
<td>506.89</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>19</td>
<td>509.05</td>
</tr>
<tr>
<td>Comprehension</td>
<td>19</td>
<td>502.84</td>
</tr>
<tr>
<td>Virginia Standardized Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 6</td>
<td>17</td>
<td>423.71</td>
</tr>
<tr>
<td>Math 7</td>
<td>3</td>
<td>435.33</td>
</tr>
<tr>
<td>Reading</td>
<td>20</td>
<td>481.35</td>
</tr>
<tr>
<td>History</td>
<td>20</td>
<td>488.60</td>
</tr>
</tbody>
</table>

*Note:* Standard deviations are not available.

### Table 6

**Comparison of Standardized Scores between Students**

<table>
<thead>
<tr>
<th>Student</th>
<th>Score Under 400 (Fail)</th>
<th>Score of 400-499 (Pass/Proficient)</th>
<th>Score of 500-600 (Pass/Advanced)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With IEP, 504, or under child study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 6</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Math 7</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Reading</td>
<td>0</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Without
The student achievement data presented in Table 6 above indicates that overall, Susan’s students were average in math and slightly above average in reading and history. A further breakdown of scores indicates that Susan did not have students with a large disparity in scores like Howard, but she did not have a majority of students with higher achieving scores like Becky either. The majority of Susan’s students earned a pass/proficient score, but more students with disabilities failed a state standardized test than students without disabilities.

To summarize, each of the teachers in this study had a diverse class with varying students’ needs. There were wider gaps in academic achievement between students, with and without disabilities, in Howard’s and Susan’s classes. Howard and Susan each co-taught his/her class with a special education teacher in a “one teach, one assist” model, and Becky did not have a co-teacher so she was solely responsible for teaching all of the students in her class. The following section will provide the results of the classroom observations of teacher interactions with students, with and without disabilities, which is research question 2.
**Classroom Observations of Interactions**

The second research question explored how general education teachers interact with their students, with and without disabilities, through classroom observations. These observations were audio and video taped, as well as hand-coded by the primary researcher. The audiotapes were transcribed, and then analyzed and coded with the videotapes and hand-codes to determine the frequency, duration, and type of each teacher-student interaction.

Each teacher was observed for four 90-minute blocks of instruction. The first two 90-minute blocks of instruction were designed for the primary researcher to develop some familiarity with the students and the structure of the classroom, and to allow the students to become accustomed to an additional adult in the classroom. The last two 90-minute blocks of instruction were used as data collection. Because the study was conducted during the last two months of the school year during state standardized testing, observations were scheduled around this testing at the convenience of the teacher. The following section will provide the results of the observations by teacher.

**Teacher one: Howard.** Each of Howard’s observations was conducted during the seventh block of instruction on a B day. The observations in Howard’s class began when students returned from lunch and Howard began instruction. There were six school days between these first and second observations. There were 16 school days between the second and third observations, and 4 school days between the third and fourth observations.
Forty-five minutes were selected from the third observation and twenty-six minutes were selected from the fourth observation for further data analysis. Although 45-minutes were the targeted length of time for analysis, only 26 minutes from the third observation could be coded because the remainder of this block was utilized for a testing review game, which did not meet the established criteria for coding interactions. Also, without prior notification to the primary researcher, the special education co-teacher pulled out the majority of students with IEPs for a small-group review 15 minutes into this 26-minute section. One student with an IEP who had returned a permission slip to participate in the study was left in the classroom.

First observation. The analysis of the first 45-minute section determined that Howard conducted 90 interactions with the students in his class, and these interactions lasted an average of 13.7 seconds. Of the 90 interactions conducted by Howard, 32 (36%) were non-academic and 58 (64%) were academic. Of the 58 academic interactions, 49 (84%) were comprehension monitoring, 8 (14%) were cognitive extension-partial, and 1 (2%) was cognitive extension-full. Further analysis determined that of the 90 interactions conducted by Howard, 4 (4%) could not be attributed to a specific student, 20 (27%) were conducted with students with disabilities, which included 10 (50%) non-academic and 10 (50%) academic. Of the academic interactions with students with disabilities, 9 (45%) were comprehension monitoring, none were cognitive extension-partial, and 1 (5%) was cognitive extension-full. The remaining 70 (78%) interactions were conducted with students without disabilities, which included 18 (26%) non-academic and 48 (69%) academic. Of the academic interactions with student
without disabilities, 40 (83%) were comprehension monitoring, 8 (17%) were cognitive extension-partial, and none was cognitive extension-full. These data are presented in Table 7, and discussed below the table.

Table 7

Howard's Interactions during First Observation (45 minutes)

<table>
<thead>
<tr>
<th>Student Group</th>
<th>N</th>
<th>Non-academic</th>
<th>Academic</th>
<th>Total</th>
<th>Interactions</th>
<th>Comprehension Monitoring</th>
<th>Partial</th>
<th>Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Disabilities</td>
<td>6</td>
<td>10 (31%)</td>
<td>10 (17%)</td>
<td>20</td>
<td></td>
<td>9 (18%)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Without Disabilities</td>
<td>13</td>
<td>18 (56%)</td>
<td>48 (83%)</td>
<td>66</td>
<td></td>
<td>40 (82%)</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Unidentified</td>
<td>4</td>
<td>0 (13%)</td>
<td>0 (0%)</td>
<td>4</td>
<td></td>
<td>0 (0%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>32 (100%)</td>
<td>58 (100%)</td>
<td>90</td>
<td></td>
<td>49 (100%)</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

These data indicated that overall, Howard conducted more academic interactions than non-academic interactions during this section. However, most of these academic interactions were conducted with students without disabilities, and most of these academic interactions were comprehension monitoring. Howard conducted some academic interactions with students with disabilities, and almost all of these interactions were comprehension monitoring as well.

Second observation. The analysis of the second 26-minute section determined that Howard conducted a total of 37 interactions, and these interactions lasted an average of 8.65 seconds. Of the 37 interactions conducted by Howard, 9 (24%) were non-
academic and 28 (76%) were academic. Of the 28 academic interactions, 23 (82%) were comprehension monitoring, 2 (7%) were cognitive extension-partial, and 3 (11%) were cognitive extension-full. Further analysis determined that of the 37 interactions conducted by Howard, 3 (7%) could not be attributed to a specific student, and none was conducted with students with disabilities. The remaining 34 (92%) interactions were conducted with students without disabilities, which included 7 (21%) non-academic and 27 (79%) academic. Of the 27 academic interactions with student without disabilities, 22 (82%) were comprehension monitoring, 2 (7%) were cognitive extension-partial, and 3 (11%) were cognitive extension-full. These data are presented in Table 8, and discussed below the table.

Table 8

Howard's Interactions during Second Observation (26 minutes)

<table>
<thead>
<tr>
<th>Student Group</th>
<th>N</th>
<th>Non-academic</th>
<th>Academic</th>
<th>Total</th>
<th>Interactions</th>
<th>Extensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Disabilities</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Without Disabilities</td>
<td>13</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(32%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Unidentified</td>
<td>2</td>
<td>(22%)</td>
<td>(4%)</td>
<td>(8%)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>9</td>
<td>28</td>
<td>37</td>
<td>23</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

These data indicate that overall, Howard conducted more academic interactions than non-academic interactions in the second observation. The data also indicated that all
of Howard’s interactions were conducted with students without disabilities; however, these data are misleading because the co-teacher took all but one student with special needs out of the classroom for assistance in a small group setting. The withdrawal of students with special needs did not provide Howard with an opportunity to conduct interactions with these students during this observation.

**Teacher two: Becky.** Becky was observed for four 90-minute blocks of instruction. Each of these observations was conducted during the fourth block of instruction on an A day, which takes place during the last block of the day. There were four school days between the first and second observations. There were 12 school days between the second and third observations, and 2 school days between the third and fourth observations. The compressed timeline between the third and fourth observations was determined by the teacher’s absence during the last two weeks of school.

Becky’s interactions with her students with and without disabilities were recorded during the last two observations. From each of these last two video- and audio-taped observations, 63 minutes were selected from the first taping and 51 minutes from the second taping for further data analysis.

**First observation.** The analysis of the first 63-minute section determined that Becky conducted 155 interactions with the students in her class, and these interactions lasted an average of 9.3 seconds. Of the 155 interactions conducted by Becky, 29 (19%) were non-academic and 126 (81%) were academic. Of the 126 academic interactions, 124 (98%) were comprehension monitoring, 2 (2%) were cognitive extension-partial, and none was cognitive extension-full. Further analysis determined that of the 155
interactions conducted by Becky, 25 (16%) could not be attributed to a specific student, 6 (4%) were conducted with students with disabilities, which included 2 (50%) non-academic and 4 (67%) academic. Of the academic interactions with student with disabilities, 4 (100%) were comprehension monitoring, and none was cognitive extension-partial or cognitive extension-full. The remaining 124 (80%) interactions were conducted with students without disabilities, which included 20 (16%) non-academic and 104 (84%) academic. Of the academic interactions with student without disabilities, 102 (98%) were comprehension monitoring, 2 (2%) were cognitive extension-partial, and none was cognitive extension-full. These data are presented in Table 9, and discussed below the table.

Table 9

Becky's Interactions during First Observation (63 minutes)

<table>
<thead>
<tr>
<th>Student Group</th>
<th>Interactions</th>
<th>Extensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Non-academic</td>
</tr>
<tr>
<td>With Disabilities</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Without Disabilities</td>
<td>(13%)</td>
<td>(7%)</td>
</tr>
<tr>
<td>With Disabilities</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Without Disabilities</td>
<td>(87%)</td>
<td>(69%)</td>
</tr>
<tr>
<td>Unidentified</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Unidentified</td>
<td>(24%)</td>
<td>(14%)</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>(100%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Based on these data, most of Becky’s interactions with her student were academic; however, almost all of these academic interactions were comprehension
monitoring. These data indicated that Becky confirmed or checked students’ understanding of a topic or concept, but did not extend the students’ knowledge beyond that point. Becky also had a high number of interactions with students where the primary and secondary researcher could not determine the student with whom Becky was conducting the interaction. This high number of unidentified student interactions was based on the teaching method that Becky used during instruction. Much of Becky’s instruction was free flowing open-ended questions where students were allowed or instructed to shout out answers. For example,

Becky: Which biome has permafrost?
Multiple students: Tundra.

Becky: Which biome is the most diverse?
Multiple students: Rain forest.

Becky: Um, in which biome does the water cycle rarely happen?
Multiple students: Desert.

Becky: Um, which biome has a whole lot of not carnivorous trees but coniferous trees?
Multiple students: Taiga.

Becky: Taiga, otherwise called the?
Unidentified student: Coniferous forest.

Becky: Yup. Um, what’s the difference between the coniferous forest and the deciduous forest?
Multiple students: [could not identify because so many students were talking at once]
Becky: Fantastic. Savannah versus grassland.

Multiple students: [could not identify because so many students were talking at once]

Unidentified student 1: Savannah has…

Unidentified student 2: Savannah is like between desert and grassland.

Becky: Perfect. The savannah has monsoons. The monsoons are the time when it?

Multiple students: Rains.

Becky: Fantastic, when it rains a whole, whole lot.

**Second observation.** The analysis of the second 51-minute section determined that Becky conducted a total of 98 interactions, and these interactions lasted an average of 5.7 seconds. Of the 98 interactions conducted by Becky, 44 (45%) were non-academic and 54 (55%) were academic. Of the 54 academic interactions, 52 (96%) were comprehension monitoring, 2 (4%) were cognitive extension-partial, and none was cognitive extension-full. Further analysis determined that of the total 98 interactions conducted by Becky, 35 (36%) could not be attributed to a specific student, and 3 (3%) were conducted with students with disabilities. All of the interactions conducted with students with disabilities were academic, and all of these academic interactions were comprehension monitoring. The remaining 60 (61%) interactions were conducted with students without disabilities, which included 35 (58%) non-academic and 25 (42%) academic. These data are presented in Table 10, and discussed below the table.
Table 10

Becky's Interactions during Second Observation (51 minutes)

<table>
<thead>
<tr>
<th>Student Group</th>
<th>N</th>
<th>Non-academic</th>
<th>Academic</th>
<th>Total</th>
<th>Comprehension Monitoring</th>
<th>Partial</th>
<th>Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Disabilities</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Without Disabilities</td>
<td>20</td>
<td>35</td>
<td>25</td>
<td>60</td>
<td>24</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Unidentified</td>
<td>9</td>
<td>26</td>
<td>35</td>
<td>55</td>
<td>25</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(0%)</td>
</tr>
</tbody>
</table>

Based on data from the second taped observation, most of Becky’s interactions were almost evenly split between non-academic and academic in contrast to the first observation where Becky conducted many more academic interactions. Similar to the first taped observation, Becky taught with free flowing open-ended questions where students were allowed or instructed to shout out answers, which resulted in a high number of interactions with students where the primary and secondary researcher could not determine the student to whom Becky was conducting the interaction. Since a high number of Becky’s interactions during this observation were non-academic, an example of this type of interaction is provided here:

George: Oh, Tommy you’re in trouble.

Becky: George. George?

Tommy: I’m not in trouble.

Becky: It’s kind of ironic because you and I had that conversation about trouble. Uh-huh.
In addition, almost of all of the academic interactions conducted by Becky continued to be comprehension monitoring similar to the first taped observation. For example:

Becky: Sarah, what do you think?

Sarah: They’re low.

Becky: And why?

Sarah: Well because mostly down in…I don’t know.

Becky: Okay because does wa—when water moves, does water move up or does it move down?

Sarah: I guess it move down.

Becky: Exactly! Exactly! Because water moves down.

These data indicate that overall, Becky conducted more academic interactions than non-academic interactions. They also indicate that all of Becky’s interactions were conducted with students without disabilities; however, these data are misleading because of the small number (3) of students with disabilities in Becky’s classroom.

**Teacher three: Susan.** Susan was observed for four 90-minute blocks of instruction. Each observation was conducted during the first block of instruction on an A day. The first block began with students visiting their lockers, attendance, and school announcements, and observations began at the end of announcements. There were four school days between the first and second observations for familiarization. There were 14 school days between the second and third observations, and 2 school days between the third and fourth observations.
Susan’s interactions with her students with and without disabilities were observed during the third and fourth blocks of instruction. From the third observation, 64 minutes were selected and from the fourth observation, 57 minutes were selected for further data analysis.

**First observation.** The analysis of the first 64-minute section determined that Susan conducted 156 interactions with the students in her class, and these interactions lasted an average of 11.8 seconds. Of the 156 interactions conducted by Susan, 109 (70%) were non-academic and 47 (30%) were academic. Of the 47 academic interactions, 40 (85%) were comprehension monitoring, 6 (13%) were cognitive extension-partial, and 1 (2%) was cognitive extension-full. Further analysis determined that of the 156 interactions conducted by Susan, 8 (5%) could not be attributed to a specific student, 52 (33%) were conducted with students with disabilities, which included 39 (75%) non-academic and 13 (25%) academic. Of the academic interactions with students with disabilities, 11 (84%) were comprehension monitoring, 1 (8%) was cognitive extension-partial, and 1 (8%) was cognitive extension-full. The remaining 94 (60%) interactions were conducted with students without disabilities, which included 64 (68%) non-academic and 32 (34%) academic. Of the 32 academic interactions with student without disabilities, 27 (84%) were comprehension monitoring, 5 (16%) were cognitive extension-partial, and none were cognitive extension-full. These data are presented in Table 11, and discussed below the table.
Data from the first observation indicate that a high number of interactions with students conducted by Susan were non-academic. Many of these non-academic interactions were conducted by Susan to manage the overall class or correct behavior, and over half of these non-academic interactions were conducted with students without disabilities. For example,

Sam: Wait, we can use our books, right?

Susan: Yes, you may use your books.

Carrie: Can I have my No More Dead Dogs book?

Susan: Let me see if there’s an extra copy. Here, hold on. There, you’re fine.

Jake: Can I borrow a pencil?

Unidentified student: [unintelligible question]

Susan: Okay, that’s for you [to unidentified student]. I do not have any pencils. You need to look around [to Jake]. Um…you need Maximum Ride? [to Jamie]

Jamie: Yeah.
Susan: Okay, you may borrow this one. Just put it back right here where you found it okay, because these are not checked in.

Jamie: [unintelligible comment]

Susan: Is it yours?

Jamie: Yeah, I was number six.

Susan: Oh well there you go. It’s a miracle.

The majority of academic interactions were comprehension monitoring with both students with and without disabilities although most of the cognitive extensions were conducted with students without disabilities. For example,

Susan: Sam, what’s your question?

Sam: Well, it says—it says right here by Aphrodite like [unintelligible] I don’t know how to say that. But it says she gave birth to the nine muscles.

Susan: The nine muses.

Sam: Whatever.

Susan: Okay. So, the nine muses um, are like inspirations. They’re artistic. They inspire you. When somebody says I’ve lost my muse, the idea is that muse is inspiration to inspire you to create music or artwork or writing okay? All those things that we create, okay? So, the muses kind of have powers.

Second observation. The analysis of the second 57-minute section determined that Susan conducted a total of 112 interactions, and these interactions lasted an average of 12.8 seconds. Of the 112 interactions conducted by Susan, 37 (33%) were non-academic and 75 (67%) were academic. Of the 75 academic interactions, 40 (53%) were comprehension monitoring, 26 (35%) were cognitive extension-partial, and 9 (12%) were cognitive extension-full. Further analysis determined that of the 112 interactions conducted by Susan, 11 (10%) could not be attributed to a specific student, 43 (38%)
were conducted with students with disabilities, which included 8 (19%) non-academic and 35 (81%) academic. Of the academic interactions with students with disabilities, 18 (51%) were comprehension monitoring, 10 (29%) were cognitive extension-partial, and 7 (20%) were cognitive extension-full. The remaining 58 (52%) interactions were conducted with students without disabilities, which included 25 (43%) non-academic and 33 (57%) academic. These data are presented in Table 12, and discussed below the table.
Table 12

*Susan's Interactions during Second Observation (74 minutes)*

<table>
<thead>
<tr>
<th>Student Group</th>
<th>N</th>
<th>Non-academic</th>
<th>Academic</th>
<th>Total</th>
<th>Comprehension Monitoring</th>
<th>Partial</th>
<th>Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Disabilities</td>
<td>8</td>
<td>8</td>
<td>35</td>
<td>43</td>
<td>18</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Without Disabilities</td>
<td>20</td>
<td>25</td>
<td>33</td>
<td>58</td>
<td>17</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Unidentified</td>
<td>4</td>
<td>(10%)</td>
<td>7</td>
<td>11</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

In contrast to the types of interactions conducted by Susan during the first recorded observation, the majority of interactions during the second recorded observation were academic. In addition, more of the academic interactions were conducted with students with disabilities and almost half of these academic interactions included a cognitive extension on some level. In this example, Susan conducted a full cognitive extension with a student with an IEP that lasted 88 seconds.

Susan: Alright Carrie.

Carrie: Like she changed in the way that she like...she realized that her like disability is like not a disability. It’s a gift. Other people have it, I guess. I don’t know like the reasons how she figured that out though.

Susan: Well, how did she find the way to figure out what she had?

Carrie: Like what do you mean?
Susan: Well, I mean I know in the beginning of the book clearly she knows that she sees things differently, but what finally tips her off to either tell her friend or her parents or to finally go see a therapist about it?

Carrie: It’s making her not able to learn right like in math.

Susan: Okay, so she gets to that point of frustration. Okay, so who does she tell first?

Carrie: She told her mom and dad.

Susan: Okay, so that’s…

Carrie: And she tells her cat.

Susan: Well, the cat was safe right. So why don’t you show that? That’s her process right? She starts to tell people. Then what happens next?
Carrie: She tells her friend…or like she tells Jenna. But then they get in a fight.

Susan: Then explain it. It's not smooth sailing right?

Carrie: Yeah.

Susan: It kind of goes up and then it goes down.

Carrie: And then I guess the part would be…then the final part would be that she finally realized that it’s okay if she told people and nothing bad really happened. She realized it was a gift.

Susan: Okay. It wasn’t just her either. Who was the…

Carrie: There was other people.

Susan: Who was the little boy?

Carrie: Ryan, wasn’t it Ryan?

Susan: Yeah. Uh huh. Okay, there you go. I think you’ve got a good, good plan.

These data indicate that in the first observation, Susan conducted more non-academic interactions and in the second observation, she conducted more academic
interactions. However, the majority of Susan’s non-academic interactions were conducted with students without disabilities in the first observation. In addition, the academic interactions conducted by Susan during the second observation were fairly balanced between students with and without disabilities.

**Summary.** The results presented in this section indicated that each of the general education teachers conducted frequent interactions with all of his/her students, with and without disabilities. However, across all of the observations, all three of the teachers conducted more interactions with student without disabilities versus students with disabilities. The majority of interactions conducted by Howard and Becky were academic, while the majority of interactions conducted by Susan were non-academic by a small amount. The majority of academic interactions conducted by all of the teachers were comprehension monitoring with few extensions. Susan conducted more academic extensions than Howard or Becky. The following section will provide the results of the teacher interviews used to determine the attitudes and beliefs of each teacher, which is research question 1.

**Teacher Interviews**

Semi-structured interviews were conducted with each of the general education teacher participants after the completion of all classroom observations so the teachers did not develop preconceived ideas of the study and alter his/her behaviors or interactions with the students in his/her classroom.

The *General Education Teacher Interview* protocol (see Appendix B) used for these interviews was derived from Jordan, Lindsay, and Stanovich (1997), and Jordan
and Stanovich (2001), and modified for this study. Each teacher interview was transcribed, and then coded and scored on 20 items using a Likert-type 3-point scale to indicate where the teacher falls on the Pathognomonic-Interventionist continuum.

Teachers with overall Pathognomonic (1) perspectives tend to believe that “something is wrong with the student and that a specialist’s help, usually outside of the classroom, is needed for the student” (p. 83), and that a student’s behaviors, achievement, learning behaviors, etc. are based on a student’s attitude, ability, or motivation, not on the environment. Teachers with overall Middle or Mixed (2) perspectives are those teachers who fall between Pathognomonic (1) and Interventionist (3) perspectives. Teachers with overall Interventionist (3) perspectives tend to attribute student problems to the interaction of student characteristics with the environment. Most students can benefit from “instruction in the general education classroom if appropriate instruction is implemented” (p. 83), and the teacher is responsible for that intervention (Jordan, Lindsay, & Stanovich, 1997).

In addition to the coding, the teacher interviews were reviewed through qualitative means to develop themes and a fuller understanding of the teachers’ attitudes and beliefs toward students with disabilities. The results of this qualitative review of the interviews highlighted statements from each of the teachers that did not fit within any of the coding topics, but may also be indicators of the teachers’ overall attitudes and beliefs. These results are reported as other indicators of attitudes and beliefs. The teacher interview results presented below are by each teacher.
Teacher one: Howard. Howard was interviewed and then scored on The Pathognomonic-Interventionist (PATH/INT) Scale of Teachers’ Beliefs to determine his attitudes and beliefs regarding students with disabilities. Howard was scored on five topic areas: (a) referral and assessment; (b) instructional programming; (c) reviewing student progress; (d) communication with staff; and (e) communication with parents. Each of these five topic areas had sub-topics for a total of 20 scores, which were used to calculate an overall composite score to determine where Howard fell along the Pathognomonic-Interventionist continuum. The overall results of Howard’s interview indicated that he fell toward the Middle (2), but leaned toward the Pathognomonic side of the continuum. Table 13 presents the individual sub-topic and overall composite scores from Howard’s interview.

Table 13

Howard's Pathognomonic-Interventionist (PATH/INT) Scale of Teachers' Beliefs

<table>
<thead>
<tr>
<th>Sub-topic</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-referral activities</td>
<td>3</td>
</tr>
<tr>
<td>Purpose of referral</td>
<td>2</td>
</tr>
<tr>
<td>Timing of referral</td>
<td>2</td>
</tr>
<tr>
<td>Teacher viewpoint of difficulty</td>
<td>3</td>
</tr>
<tr>
<td>Teacher gathered information outside of IEP</td>
<td>1</td>
</tr>
<tr>
<td>Teacher reliance on scheduled information</td>
<td>3</td>
</tr>
<tr>
<td>Teacher knowledge of individual goals</td>
<td>1</td>
</tr>
<tr>
<td>Teacher assessment of student progress</td>
<td>1</td>
</tr>
<tr>
<td>Statement</td>
<td>Score</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Teacher implemented accommodations</td>
<td>3</td>
</tr>
<tr>
<td>Teacher adapts teaching techniques</td>
<td>2</td>
</tr>
<tr>
<td>Teacher awareness of referral resources</td>
<td>3</td>
</tr>
<tr>
<td>Teacher awareness of referral purpose</td>
<td>1</td>
</tr>
<tr>
<td>Teacher reviews student progress</td>
<td>3</td>
</tr>
<tr>
<td>Teacher works alone or cooperatively</td>
<td>1</td>
</tr>
<tr>
<td>Teacher carries over content</td>
<td>1</td>
</tr>
<tr>
<td>Teachers collaborates on individual plan</td>
<td>1</td>
</tr>
<tr>
<td>Teacher keeps own records w/o special ed</td>
<td>1</td>
</tr>
<tr>
<td>Teacher contacts parents early</td>
<td>3</td>
</tr>
<tr>
<td>Frequency of teacher contact w/ parents</td>
<td>1</td>
</tr>
<tr>
<td>Teacher reports progress w/ parents</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.85</strong></td>
</tr>
</tbody>
</table>

The following paragraphs, derived from the data in Table 13, provide examples from Howard’s interview of Pathognomonic (1), Middle (2), or Interventionist (3) sub-topic scores. These examples will be presented by belief perspective.

**Pathognomonic beliefs.** Based on statements from Howard’s interview, he scored as Pathognomonic (1) on 10 out of 20 sub-topics: (a) teacher gathered information outside of IEP; (b) teacher knowledge of individual goals; (c) teacher assessment of student progress; (d) teacher awareness of referral purpose; (e) teacher works alone or cooperatively; (f) teacher carries over content; (g) teacher collaborates on individual plan; (h) teacher keeps own records without special education; (i) frequency of teacher contact with parent; and (j) teacher reports progress with parents.
In the interview, Howard was asked about his communication with other expert staff regarding students with IEPs or at-risk. Teachers who were scored as Pathognomonic (1) on this topic work largely alone in planning, collaborating, and carrying out instruction for students with special needs (Jordan, Lindsay, & Stanovich, 1997). The following example demonstrated Howard’s Pathognomonic (1) score on communication with other expert staff:

Primary researcher: …you did talk a little bit about things that you do for Frank (selected student with an IEP) in the classroom. Can we go back and just maybe kind of lay those out as far as what you do for him special to, to help him get through his, his day or the curriculum?

Howard: Um, for Frank and the, the children like them, um, I try to make sure that they’re, they’re going to be in a proper seating arrangement.

Primary researcher: Okay.

Howard: And proper partners. I try to make sure that the, the SPED [special education], uh, teacher and the assistant realize what we’re going to do in class that day.

Primary researcher: Okay.

Howard: And the student may have to be removed. He may not be able to handle the, the subject matter. An I try to make sure that, um, that the SPED teacher will know that we’re going to be working. Uh, we plan ahead and we do PLCs [professional learning communities] here, uh, that we end up trying to plan ahead. That, you know, he’s going to need help turning his pages. He’s going to need to—how, how—and we’re going to end up, uh, doing five changes in today’s hour and a half class. And he’s going to have to transition from one to the other. He needs help transitioning with the time.

In the following examples, Howard was not asked specifically about his planning, collaboration, and instruction with his co-teacher, but he made several statements that indicated his co-teacher was considered to be more of an assistant in the classroom. He stated, “And, and one of the most important people would be the SPED teacher in your
class working with a specific, um, group of individuals that are identified with IEPs”; “I try to make sure that the, the SPED, uh, teacher and the assistant realize what we’re going to do in class that day”; “And I try to make sure that, um that the SPED teacher will know that we’re going to be working”; and “Uh, it’s a SPED’s teacher’s job to make sure that all the goals are continuously being met. If I fumble the ball, they gotta let me know”.

Howard was also asked in the interview about the programming of the students with IEPs or at-risk in his classroom. Howard was scored as Pathognomonic (1) on his knowledge of individual student goals and monitoring of student progress on these individual student goals. Teachers who score as Pathognomonic (1) on these sub-topics are typically not knowledgeable or do not follow the individualized education program goals or objectives set for the student with special needs, or the teacher expects the student to perform on criteria set for the entire class. In addition, if the teacher is knowledgeable of individual goals or objectives, he may not monitor their progress on a regular basis to adjust curriculum (Jordan, Lindsay, & Stanovich, 1997). The following examples demonstrate Howard’s Pathognomonic (1) scoring on these sub-topics.

When Howard was asked about his level of knowledge in regard to the specific goals and accommodations in Frank’s IEP, he went to a filing cabinet and pulled out Frank’s IEP. He stated,

Um, oh, it’s been a while since I looked—looked at this. Eh, the—wha—what it is I—I’m looking right now at his IEP. And, um, it—its—it just shows all the needs. It shows all the needs that we, um, that we end up dealing with—with each and every student. And Frank’s got and I am holding here one that’s about ten pages thick. And it—it’s got a—it—it—it’s gotta be addressed. But a lot of times when you put it on black and white, it doesn’t take the life that it needs to take. Uh, the humanity behind it’s gotta be a—a little more heartfelt than just this has got to be met. You know I—I—I hate what they’re doing nowadays. Seven
out of 19 times, a student will be able to—there’s no way that any teacher in the right mind can look logistically and say oh, I think Frank did it eight times today or—you just can’t deal with students that way. And it’s gotta be a little bit more, um, I guess you would say—it’s gotta be a little bit more, um—sorry. It—it’s gotta be a little bit more, um, personalized.

In this example, Howard was asked about tracking Frank’s individual goals outlined in his IEP:

Primary researcher: So you referred to, you know how they write the goals for Frank or for any student with an IEP so that they have to be monitored. So how do you track Frank’s progress to make sure that, um, because he has goals here?

Howard: Mm-hm.

Primary researcher: But he also has curriculum goals as well outside of the IEP. How do you keep track of that progress?

Howard: It—it—that’s done through, again, a team effort.

Primary researcher: Okay.

Howard: My job is to bring in the basic education, uh, keeping in mind the expectations from the—uh the SPED, uh, perspective.

Primary researcher: Okay.

Howard: Uh, it’s a SPED teacher’s job to make sure that all the goals are continuously being met. If I fumble the ball, they gotta let me know. Howard, you know forgot—uh, this is a small group instruction and read aloud and oh, geez, I forgot that one because I have another ten kids or whatever. Um, and we work together and make sure we get it right. So that aspect that you’re asking is going to fall more on the teacher that’s in the room, um, with a—a direct relationship as well as the case manager. Um, my—I’m—I’m going to be a little bit more peripheral when it comes to that.

*Middle or mixed beliefs.* Based on statements from Howard’s interview, he scored as Middle or Mixed (2) on 3 out of 20 sub-topics: (a) purpose of referral; (b) timing of referral; and (c) teacher adapts teaching techniques.
In the interview, Howard was asked about adapting teaching techniques such as peer tutoring; cooperative groups; and adapted materials, tests, or worksheets, for students with IEPs or at-risk in his classroom. He was scored as Middle or Mixed (2) based on his interview responses. Teachers who score as Middle or Mixed (2) in this sub-topic try to adjust their teaching techniques for these students, but not consistently implement these adaptations (Jordan, Lindsay, & Stanovich, 1997).

In this part of the interview, Howard reflected on having Frank in his class and the teaching adaptations he made for Frank. Howard scored as Middle or Mixed (2) on this sub-topic because he indicated that he chose partner work for all of his students, and then adapted this teaching technique to include Frank in the class. Howard did not choose to use partner work solely as a teaching technique for Frank, but did consider Frank’s special needs with the use of this teaching technique.

Howard: Now, what we discovered as the year went. I do a lot of different partner work in the class. And I change my partners up every, every, uh, class. Sometimes we do change Frank up. But we started to realize we wanted to keep him either paired with someone that was closer to his level. And, uh, or make sure that on some—on some cases that he’s paired with someone that is a, a leader or higher on the IQ spectrum that could lead him in his particular thing. And almost like to take care of him or to guide him. And, you, you’ve got to be creative. You can’t be going in there and saying every child is going to act in a certain way because that’s how I run my team here. No, you’ve got to be flexible especially with those kids.

*Interventionist beliefs.* Based on statements from Howard’s interview, he scored as Interventionist (3) on 7 out of 20 sub-topics: (a) pre-referral activities; (b) teacher viewpoint of difficulty; (c) teacher reliance on scheduled information; (d) teacher implemented accommodations; (e) teacher awareness of referral resources; (f) teacher reviews student progress; and (g) teacher contacts parents early.
In the interview, Howard was asked about the pre-referral activities conducted for his selected at-risk student, Joe, in one of his classrooms. Teachers who scored as Interventionist (3) on this sub-topic conducted pre-referral activities such as collecting data observations or conferring with others to adjust the curriculum prior to an actual referral (Jordan, Lindsay, & Stanovich, 1997). In this example, Howard described his actions to help Joe in the classroom prior to his referral for services.

Primary researcher: Okay. So you were recognizing that he was struggling, you—you have seen that through most of the year. What were some strategies or accommodations that you put in place to help him be successful?

Howard: Right. I—I was doing a lot of the things that I would do with a—a special ed student to see if it did help. And by the way, I think that that’s when he started turning around more is that he started taking advantage of those things.

Primary researcher: Okay.

Howard: Study guide sheets, um.

Primary researcher: Okay.

Howard: By the way, I didn’t mention that earlier with Frank.

Primary researcher: Okay.

Howard: We did study guides online and in person.

Primary researcher: Okay.

Howard: Um, study guide sheets, clean copies, um, trying to give him individual attention where we—we—we got him out of—oh, it was either music or art and we put him into a—an extended resource time of—of, um, of learning. We—we tried to mat—match him up with people that he felt comfortable with. There’s one girl, I had mentioned in class, that he feels particularly comfortable with. So, uh, at times, I tried to make sure that they’re in the group so that he has at least one safe haven to—to rely on.

Primary researcher: Okay.
Howard: Um, again, being sensitive to the—to the needs of the—of the individual and being willing to—to see what they respond to and how they want to grow.

**Other indicators of beliefs.** During Howard’s interview, he made statements in regard to students with disabilities or at-risk or about teaching students with disabilities or at-risk that did not fall into any of the sub-topics to be scored by the primary researcher. However, these statements may also be indicators of Howard’s attitudes and beliefs toward students with disabilities or at-risk, and these statements will be included in the section.

**Reflection on students.** When Howard was initially asked to select a student with an IEP and a student at-risk, he began both discussions with a reflection of how he viewed these students. He stated that Frank, his selected student with an IEP, was “a jovial young man and always smiling,” a student that “has a great attitude and a great heart,” and “a young man that has a wonderful heart.” Howard also reflected on Frank’s academic accomplishments in history throughout the year.

…with the support that he’s receiving in school, and at home with a private tutor, he is finding success. Frank was able to pass the Virginia [state standardized] test for history. And I have to admit going in, I did not expect that. And he actually passed it more comfortably than anyone would suggest. He, he beat a number of general ed kids. So, I’m very, very proud of him.

In this example, Howard discussed his thoughts on Frank’s future.

I mean here is a – a young man that has a wonderful heart. He even – he just had to come in. He made up a – a – he was on a field trip. He just made up a quiz. And he was adamant about me having the quiz. You’re getting a genuine individual that will – that will find a place in – in this society.

Um, I – I don’t know if he’s going to be able to, um, ever be able to live on his own. I – I think he might end up being a – a – a young man that grows into an adult that will be assisted living. But he’ll be on the higher spectrum of that. And
he will, um, he’ll be a little leader of his group. I can see that right now. I – I see the intelligence. I see the heart. I – I see the ability. And as long as he has a – a good mentor near him, I – I think that he’s gonna be, uh, uh, a guy that’s going to find and fulfill the life that he’s meant to fulfill. Um, am I all the richer for knowing him, certainly am, you know. Has it been easy? No, it hasn’t, you know. But you know kites rise against, not with the wind.

With Joe, his selected at-risk student, he stated that Joe is a “young man who’s quiet, well-mannered, well-behaved, uh, parents, um, both work extremely long hours”, “…he’s quiet. He stays to himself,” and that Joe is “…a latchkey kid where he goes home and no one is there make sure that he starts his homework or does his homework. Um, a, a boy that has good hygiene, uh, dresses just like the rest of the kids.”

*Level of responsibility and frustration.* At different points in the interview when Howard was asked about specific knowledge or actions in regard to his selected student with an IEP, Frank, he frequently referred back to the number of students that he is responsible for teaching. He stated, “…when I’m looking at 140 and 150 kids, uh, I cannot give enough attention to the ones that need it the most. Um, we’re just overwhelmed in our environment. And so that, that does hurt.” He also stated, “Uh, it’s been very tough since I’ve been at [Brooks Middle School] to do things like that. Because we do have 140, 140 kids. Uh, and we have such a, a huge volume of special [education] students here. Uh, and they’re—instead of teaching five classes like the rest of America does in middle school, we teach six.”

In this example, Howard specifically discussed the number of students of disabilities.

Because elementary is a lot different than middle school. And the, uh, individual attention can be missing. In my class this year I had a lot of needy, needy kids. I mean, we’re talking ten, um, kids. When I started out the year out of 21 students,
I had 19 boys. Um, ten of – ten children were special ed. I had two more that probably are special ed and just haven’t been identified and maybe with child studies. We’ll see what happens next year. It, it was a, a really active group this year. And, uh, particularly high needs, thus, uh, Frank is one of them.

At the end of the interview, Howard was asked if he had any additional thoughts or comments, to which he stated,

I – I’m – I do not have a – a problem with, um, with inclusion. Uh, the class that you observed had, uh, a really high amount, high need group of inclusion kids. What feels good is every single one of them passed the state assessment test. If you asked me that literally going in, I would’ve doubted. Um, I predicted up to nine failures, uh, of that test. And I would’ve understood. Um, and just to – just to qualify this, I haven’t had nine failures in my classes over the last four years put together and I’m looking at nine in one class. I mean it – it’s been a – a big year, a tough year, um, with – with this with stu – they have – they have drained me of everything I’m – I have. But I’m so proud of them that they did it. What I am not happy with this building in particular is that some of the kids need to be, um, a more distr – direct instruction group. I, in fact, I’ll teach it. I mean I – I’m not afraid of it. It’s just that they are not getting as much as they can. Um, it – the mix does not work for everybody. And here we go again with black and white. Well according to the numbers – there’s no way you should put 10 to 12 kids like this in a class of regular ed. There is no way. Now if I had Frank alone in that class, fine. But he never got everything he could from me. And it actually brings down the class. The other kids have to come down to their level. I can’t get through the class material enough, um. When – when a child like Frank or one of the other boys that were in that class that was – when they ask a question, sometimes it takes literally 60 seconds to ask a question. And if you’re a teacher, you know that’s an eternity when the other 20 something kids can go ballistic. And they – whether it’s stuttering or whether it’s just not being able to process the question and you’ve got to keep this guy – and when you have as many of those kids that are doing that, that’s not fair. I – I’m not just talking me. I’m talking any teacher. They need more d – direct instruction in that regard. Or if you are going down mainstream in, it literally has to be an evaluation of okay, the most we can put into this class is five. Or my goodness, they’re even higher need, make it three. But instead, what they’re doing and I’ve been here nine years at Brooks, what they’re doing is…

And – and what they’re doing is putting more workload on us and saying well you do such a good job, you deserve more work. That’s not how this game should be played. I’m in it for the kids. I can’t give even the higher end of the spectrum as well as the lower end of the spectrum what they need. Now, I know I’m a – an old geezer when it comes to this. But there’s something to be said about
homogeneous grouping. There is pause of things. Now, I think that we can go up a scale and mix the next scale up. But when you start having diversity beyond the levels, then you’re hurting everybody. You’ve gotta – you’ve gotta curtail that a little bit and say okay, we’re gonna end up bringing the – mixing them in with the next level up to try to get the most so that they can relate to each other. My goodness, some of my – my – my higher end kids are talking at such a higher level that these young men or women (I had a couple) don’t understand what’s being said and what’s going on. They aren’t – they aren’t, uh, deriving anything out of this class. And I’m not doing them any favors by having them here. You know they’re filling out the paperwork. They’re crossing their T’s and dotting their I’s. Is education really occurring? And the answer is no. And that’s where I’m coming off as an advocate for these children to have a different setting. Again, I’m not afraid. I’ll pony up. I’ll be the man to teach them. But let them learn to their fullest capability. They did not do that this year. Oh, they passed the SOL. But they didn’t – I – they did not get as much out of me as they could’ve gotten out of me. Likewise, the higher end that was mixed them didn’t get as much out of me as they could’ve gotten out of me.

_Determination of IEP to meet student’s needs._ In Howard’s interview, he was asked whether the goals and accommodations outlined in Frank’s IEP were a good “match” to Frank’s needs in the classroom. Although Howard could not remember or state the specific goals and accommodations in Frank’s IEP, he went ahead and made an assessment. Howard also went to his filing cabinet during this portion of the interview to pull out Frank’s IEP.

Primary researcher: Um, but then I want you to think about what is actually being done in the classroom. Do you think his IEP is adequate? Do you think that you go above and beyond what’s in the IEP? Do you think the accommodations need to be scaled back? What, what’s the kind of match there?

Howard: I probably – I probably would say a little above and beyond.

Primary researcher: Okay.

Howard: I mean, and I – we – at the very least match everything.

Primary researcher: Okay.
Howard: Do – do you like me to address this directly or?

Primary researcher: That’s – that’s fine, however you – you feel that – that makes you more comfortable talking that way.

Howard: Um, oh, it’s been a while since I looked – looked at this. Eh, the – what it is, is I – I’m looking right now at his IEP. And, um, it – its – it just shows all the need. It shows all the needs----

Primary researcher: Mm-hm.

Howard: ----that we, um, that we end up dealing with -- with each and every student. And Frank’s got and I am holding here one that’s about ten pages thick. And it – it’s got a – it – it – it’s gotta be addressed. But a lot of times when you put it on black and white, it doesn’t take the life that it needs to take.

Primary researcher: Okay.

Howard: Uh, the humanity behind it’s gotta be a – a little bit more heartfelt than just this has got to be met. You know I – I – I hate what they’re doing nowadays. Seven out of 19 times, a student will be able to – there’s no way that any teacher in the right mind can look logistically and say oh, I think Frank did it eight times today or – you just can’t deal with students that way. And it’s gotta be a little bit more, um, I guess you would say – it’s gotta be a little bit more, um – sorry. It – it’s gotta be a little bit more, um, personalized.

Primary researcher: Okay.

Interviewee: And – and dealt with that way.

Primary researcher: So you – so what I – I think I’m hearing you say is what’s Frank’s IEP probably is not fully needing or is not personalized or individualized enough for what he really needs in the classroom?

Howard: It’s good for a Court of Law.

Primary researcher: Okay.

Howard: Yeah. Everything is being met by----

Primary researcher: Okay.
Howard: ----a Court of Law. It’s – it’s like, uh, a lot of people – I can remember this being said about 20 years ago. You know computers are going to replace teachers. Nothing will replace teachers.

**Summary of Howard.** Based on the scoring of interview statements, Howard fell toward the middle of the Pathognomonic Interventionist continuum, but leaned toward the Pathognomonic side. His overall composite score was comprised of a range of sub-topic scores. Howard scored as Pathognomonic on 10 out of 20 sub-topics, Middle or Mixed on 3 out of 20 sub-topics, and Interventionist on 7 out of 20 sub-topics. In addition to these scores, Howard made statements in his interview of other indicators that may influence his attitudes and beliefs towards students with disabilities, but did not fall within one of the sub-topics. These other indicators included a personal reflection of each student, level of responsibility and frustration, and determination of IEP to meet student’s needs. The following section will describe the results of Becky’s interview.

**Teacher Two: Becky.** Becky was also interviewed and then scored on *The Pathognomonic-Interventionist (PATH/INT) Scale of Teachers’ Beliefs* to determine her attitudes and beliefs regarding students with disabilities. Similar to Howard, Becky was scored on five topic areas: (a) referral and assessment; (b) instructional programming; (c) reviewing student progress; (d) communication with staff; and (e) communication with parents. Each of these five topic areas had sub-topics for a total of 20 scores, which were used to calculate an overall composite score to determine where Becky fell along the Pathognomonic-Interventionist continuum. The overall results of Becky’s interview indicated that she fell toward the Middle (2), but leaned toward the Pathognomonic side.
of the Pathognomonic-Interventionist continuum. Table 14 presents the individual sub-topic and overall composite scores from Becky’s interview.

Table 14

Becky's Pathognomonic-Interventionist (PATH/INT) Scale of Teachers' Beliefs

<table>
<thead>
<tr>
<th>Sub-topic</th>
<th>Score</th>
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<tbody>
<tr>
<td>Pre-referral activities</td>
<td>2</td>
</tr>
<tr>
<td>Purpose of referral</td>
<td>2</td>
</tr>
<tr>
<td>Timing of referral</td>
<td>0</td>
</tr>
<tr>
<td>Teacher viewpoint of difficulty</td>
<td>3</td>
</tr>
<tr>
<td>Teacher gathered information outside of IEP</td>
<td>2</td>
</tr>
<tr>
<td>Teacher reliance on scheduled information</td>
<td>3</td>
</tr>
<tr>
<td>Teacher knowledge of individual goals</td>
<td>1</td>
</tr>
<tr>
<td>Teacher assessment of student progress</td>
<td>2</td>
</tr>
<tr>
<td>Teacher implemented accommodations</td>
<td>3</td>
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<tr>
<td>Teacher adapts teaching techniques</td>
<td>3</td>
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<tr>
<td>Teacher awareness of referral resources</td>
<td>2</td>
</tr>
<tr>
<td>Teacher awareness of referral purpose</td>
<td>3</td>
</tr>
<tr>
<td>Teacher reviews student progress</td>
<td>3</td>
</tr>
<tr>
<td>Teacher works alone or cooperatively</td>
<td>1</td>
</tr>
<tr>
<td>Teacher carries over content</td>
<td>1</td>
</tr>
<tr>
<td>Teacher collaborates on individual plan</td>
<td>1</td>
</tr>
<tr>
<td>Teacher keeps own records w/o special ed</td>
<td>1</td>
</tr>
<tr>
<td>Teacher contacts parents early</td>
<td>2</td>
</tr>
<tr>
<td>Frequency of teacher contact w/ parents</td>
<td>1</td>
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</tbody>
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Pathognomonic beliefs. Of the 20 sub-topic scores, Becky scored as Pathognomonic (1) on 8 of the 20 sub-topic scores: (a) timing of referral; (b) teacher-knowledge of individual goals; (c) teacher works alone or cooperatively; (d) teacher carries over content; (e) teacher collaborates on individual plan; (f) teacher keeps own records without special education; (g) frequency of teacher contact with parents; and (h) teacher reports progress with parents. For one of these sub-topic scores, timing of teacher referral for an at-risk student, Becky actually scored a 0 because she did not take any action or have any role in the referral of the at-risk student, Laura, that she chose to discuss during her interview. The following paragraphs provide examples from Becky’s interview of these Pathognomonic scores.

In a portion of the interview, Becky was asked about her communication with other staff members regarding her selected student with an IEP, Sarah, in her class. Becky was scored as Pathognomonic (1) on all four of the sub-topics in this area based on her responses in the interview. Teachers who score as Pathognomonic (1) in this area work largely alone in planning, collaboration, coordination, and reporting with other expert staff members, such as special education teachers or reading specialists, in regards to their students with special needs (Jordan, Lindsay, & Stanovich, 1997). The following statements from Becky’s interview provide examples of the Pathognomonic (1) scoring in this area.
Primary researcher: …Um, did you speak with any other special ed teachers, because I know she’s in a class that is not co-taught, right?

Becky: Correct, yeah. Um, you know I didn’t because my bigger issue with her was motivational. That—in that she wasn’t—in—in the first few weeks of school, a lot of the homework assignments tend to be reading based. Reading this little three sentence thing about the scientific method, and then doing the homework. Um, so I noticed that she wasn’t doing that—the homework at all…

In this example, Becky was asked about her collaboration, coordination, and information sharing in regard to her selected student at-risk, Laura:

Primary researcher: Okay, um, did you discuss Laura with anybody else?

Becky: I did with Mr. Sluggins, her language arts teacher, and she had come up on his hot list as well with her struggles on reading.

Primary researcher: Okay, um, any SPED (special education) teachers or counselors?

Becky: We hadn’t. I know Mr. Sluggins was in the process of getting her child study started.

Primary researcher: Okay.

Becky: But I didn’t know how far that went.

Primary researcher: Okay, so um, I think he’s—he’s her language arts teacher?

Becky: Yeah.

Primary researcher: Okay so he—he was looking to put her in for child study.

Becky: Yeah.

Primary researcher: Do you know if that happened?

Becky: You know, I don’t at all.

Primary researcher: Okay, so you never got any request for any type of—

Becky: Yeah, any feedback, yeah.
Middle or mixed beliefs. Of the 20 sub-topic scores, Becky scored as Middle or Mixed (2) on 6 of the 20 sub-topic scores: (a) pre-referral activities; (b) purpose of referral; (c) teacher gathered information outside of IEP; (d) teacher assessment of student progress; (e) teacher awareness of referral resources; and (f) teacher contacts parents early. The following paragraphs provide examples from Becky’s interview of the statements that were coded as Middle or Mixed (2).

In Becky’s interview, she was asked about her communication with the parents of her selected at-risk student, Laura, and she was scored as Middle or Mixed (2) based on her responses. Teachers who scored as Middle or Mixed (2) on this sub-topic do initiate contact with parents early when the teacher has recognized that the student is struggling, but does not pursue this contact on a regular basis (Jordan, Lindsay, & Stanovich, 1997). For example:

Primary researcher: ...um, so you mentioned there was some communication with Mom and Dad?

Becky: Yeah, yeah, um, and this was namely with—with retaking. I know on the—after the first assessment I had e-mailed the parents saying she—she—she really seems to struggle especially with the more reading based questions. Um, she did fail and her parents, because I—I kind of wanted to see if there was any—if there would be any opening of her parents sharing. You know in the past she’s also struggled in—struggled with reading. Uh, but the parents didn’t really respond to that part and they just said yeah, we’ll have her retake.

Primary researcher: Okay, okay, was there any further communication or was that kind of...

Becky: Not really, after I want to say that she failed maybe one or two tests and um, I have a policy where if kids fail but they do stuff with—by the next B-day, or by—by the very next class day that I will not contact home. And that way kind
of saves the kid from that—that e-mail um, and in—she always ended up doing better after that.

**Interventionist beliefs.** Of the 20 sub-topic scores, Becky was scored as Interventionist (3) on 6 of the 20 sub-topic scores: (a) teacher viewpoint of difficulty; (b) teacher reliance on scheduled information; (c) teacher implemented accommodations; (d) teacher adapts teaching techniques; (e) teacher awareness of referral purpose; and (f) teacher reviews student progress. The following paragraphs provide examples from Becky’s interview of the statements that were coded as Interventionist (3).

In the interview, Becky was asked about the programming or instructional accommodations she implemented for her selected student with an IEP, Sarah, in her class, and she was scored as Interventionist (3) based on her responses. Teachers who score as an Interventionist (3) on this sub-topic make accommodations to layout of the class, flexible groupings of pupils, and they adapt teaching techniques such as peer tutoring and cooperative learning (Jordan, Lindsay, & Stanovich, 1997). For example:

Primary researcher: …Um so, what were some things that you did for her in the classroom to help—like what kind of accommodations or anything that you did for her to help her be successful?

Becky: Um, I offered her clean copies of notes, very covertly, like I wouldn’t stick them right in front of her or anything. Um, but I offered her that, I gave her preferential seating and just the—I—I had her sitting up front um, at the beginning of the year, and kind of the daily like idea, it’s your choice, the kind of the cheesy conversation. We can choose for today to be a phenomenal day, you can—it’s in—you have the power, you can choose to do your work and enjoy the benefits. You can choose to do your homework and sit where you want to sit, or you can choose not to and then deal with the concept, like kind of like the standard chee—cheesy teacher talk.

Primary researcher: Okay.

Becky: But—but it worked for her.
Primary researcher: Okay, so clean copy notes, preferential seating, anything else?

Becky: Not that I can think of, highlighter when she needed it, but that’s also something I would give to all students.

Primary researcher: Okay, um checking her agenda at all?

Becky: I should but I don’t, yeah.

In this example, Becky discussed the purposeful seating movement of her selected at-risk student, Laura, next to a peer who would be supportive of Laura in the classroom.

Primary researcher: Okay, okay. Um, so what have—you done for Laura in the classroom to help her with those struggles?

Becky: Um, she’s been given a highlighter. I have her, uh, also with preferential seating, but um, she’s—I actually purposely have her tucked in the back of the classroom where um, she’s sitting with one of her kind of more—more capable friends, I hate to say it that way.

Primary researcher: Uh-huh.

Becky: But um, who will help her. But then that way, it’s also not a distraction to me to have like her—her friend helping her kind of in the back of the—back of the group, back of the classroom. Um, she’s—she’s given unlimited time on assessments um, but as are all students, she can retake uh um, there’s been some parent contact as well. But probably not nearly as much as there should be.

Primary researcher: Okay, now when you seated her next to the more capable friend, did you have a discussion with the friend or did it just kind of naturally occur that she was helping her?

Becky: It just kind of naturally happened. And so I—I purposely did not want to say, hey Laura, you’re struggling, hey Sharon you got it, so it just—I let it—I let it happen.

**Other indications of beliefs.** Similar to Howard, Becky made statements in regard to her selected students with an IEP or at-risk that did not fall into any of the sub-topics to be scored by the primary researcher. These statement may also be indicators of
Becky’s attitudes and beliefs toward students with disabilities or at-risk, and these statements will be included in the section.

Help outside of the classroom. In Becky’s interview, she was asked about whether she felt Sarah’s IEP was written to meet her current needs in the classroom. Becky had shared that she felt the majority of Sarah’s struggles were based on motivation. Becky then shared information about a conversation she had had with Sarah at the beginning of the year outside of the classroom.

Primary researcher: Okay, very good, um so you talked a lot about her motivation. Do you think – so do you think a lot of her issues were motivational?

Becky: I do, I actually had a really good conversation with her, mid or late September about why she does not try. And she’d actually said to me well if I don’t try then if I fail then it’s not really me failing, it’s cause I didn’t put in the effort. Then that’s why I failed. And so I – I definitely I think that would – I very much think it was motivational.

Primary researcher: Okay, so do you think that that conversation with her was maybe a turning point for her?

Becky: I – I kind of do, yeah, yeah, and after she and I had had that conversation, when – aft – when she was – when she sharing – sharing that I was sharing with her all the times I’ve tried and failed, and how you learn from failing. You learn to pick yourself back up and it’s okay. And I told her all sorts of stories about me and like being in tears, etc. And I – I kind of think that that really helped her see that it’s okay to try.

Level of responsibility and frustration. Similar to Howard, Becky also discussed her level of responsibility in the classroom. In this example, Becky was asked about how she monitors and tracks the progress of Sarah, her selected student with an IEP, and she indicated that the lack of co-teacher in the classroom makes this task difficult.
Um, I should have a good system for doing it, I – without having a co–teacher in here, um I kind of, even with homework completion, it’s a – more of a fuzzy type thing of “does she do it in general”? And – I – I mean I keep track of who does homework and the clarity, but I don’t keep exact track of four out of five times, does she bring her – all of her supplies to class just because I don’t have a co-teacher. But if she doesn’t, I have my own personal consequences of – if you don’t bring a pencil, you write with a white crayon so she did, so …

**Determination of IEP to meet student’s needs.** In Becky’s interview, she was asked whether the goals and accommodations outlined in Sarah’s IEP were a good “match” to Sarah’s needs in the classroom. Similar to Howard, she could not remember or state the specific goals and accommodations in Sarah’s IEP, but she went ahead and made an assessment in this following example.

Primary researcher: Okay. Alright, um, so thinking about Sarah’s IEP, and she has you know, goals and she has accommodations in that IEP, and then thinking about what you did for her in the classroom. Do you think that what’s written in her IEP is a good match for what she needs, or do you think that it’s too much or too little?

Becky: That’s an interesting question. Um, because what I saw in the science classroom was very motivational based.

Primary researcher: Okay.

Becky: Um, because I didn’t see any of the math struggles that she has, of being able to do a multistep problem and however did it just – I – I only saw moti – so I think – I guess it was good – it was good for science.

Primary researcher: Okay, so you think the IEP was written…

Becky: Yeah.

Primary researcher: …pretty where she needed to be.

Becky: Exactly.
Summary of Becky. Based on the scoring of interview statements, Becky fell toward the middle of the Pathognomonic-Interventionist continuum, but leaned toward the Pathognomonic side. Her overall composite score was comprised of a range of sub-topic scores. Becky scored as Pathognomonic on 8 out of 20 sub-topics, Middle or Mixed on 6 out of 20 sub-topics, and Interventionist on 6 out of 20 sub-topics. Similar to Howard, Becky made statements in her interview of other indicators that may influence her attitudes and beliefs towards students with disabilities, but did not fall within one of the sub-topics. These other indicators included help outside of the classroom, level of responsibility and frustration, and determination of IEP to meet student’s needs. The following section will describe the results of Susan’s interview.

Teacher three: Susan. Similar to Howard and Becky, Susan was also interviewed and then scored on The Pathognomonic-Interventionist (PATH/INT) Scale of Teachers’ Beliefs to determine her attitudes and beliefs regarding students with disabilities. Susan was scored on the same five topic areas: (a) referral and assessment; (b) instructional programming; (c) reviewing student progress; (d) communication with staff; and (e) communication with parents. Each of these five topic areas had sub-topics for a total of 20 scores, which were used to calculate an overall composite score to determine where Susan fell along the Pathognomonic-Interventionist continuum. The overall results of Susan’s interview indicated that she fell almost exactly in the Middle (2) of the Pathognomonic-Interventionist continuum. Table 15 presents the individual sub-topic and overall composite scores from Susan’s interview.
### Table 15

*Susan's Pathognomonic-Interventionist (PATH/INT) Scale of Teacher's Beliefs*

<table>
<thead>
<tr>
<th>Sub-topic</th>
<th>Score</th>
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<tr>
<td>Pre-referral activities</td>
<td>3</td>
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<tr>
<td>Purpose of referral</td>
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</tr>
<tr>
<td>Timing of referral</td>
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<tr>
<td>Teacher viewpoint of difficulty</td>
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<tr>
<td>Teacher gathered information outside of IEP</td>
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<tr>
<td>Teacher reliance on scheduled information</td>
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<tr>
<td>Teacher knowledge of individual goals</td>
<td>2</td>
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<tr>
<td>Teacher assessment of student progress</td>
<td>2</td>
</tr>
<tr>
<td>Teacher implemented accommodations</td>
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<tr>
<td>Teacher adapts teaching techniques</td>
<td>2</td>
</tr>
<tr>
<td>Teacher awareness of referral resources</td>
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<td>Teacher awareness of referral purpose</td>
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<tr>
<td>Teacher reviews student progress</td>
<td>2</td>
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<td>Teacher works alone or cooperatively</td>
<td>2</td>
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<tr>
<td>Teacher carries over content</td>
<td>2</td>
</tr>
<tr>
<td>Teacher collaborates on individual plan</td>
<td>2</td>
</tr>
<tr>
<td>Teacher keeps own records w/o special ed</td>
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<tr>
<td>Teacher contacts parents early</td>
<td>2</td>
</tr>
<tr>
<td>Frequency of teacher contact w/ parents</td>
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</tr>
<tr>
<td>Teacher reports progress w/ parents</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2.08</strong></td>
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Pathognomonic beliefs. Of the 20 sub-topic scores, Susan was scored as Pathognomonic (1) on 2 of the 20 sub-topic scores: (a) purpose of referral and (b) frequency of teacher contact with parents. The following paragraphs provide examples from Susan’s interview of statements that were coded as Pathognomonic (1).

In the interview, Susan was asked about when and how frequently she communicated with parents of her selected student with an IEP, Stefan, and based on her responses, she was scored as Pathognomonic (1). Teachers who score as Pathognomonic on this sub-topic area only contact parents when the students with disabilities exhibit new or major difficulties (Jordan, Lindsay, & Stanovich, 1997). For example:

Primary researcher: Okay, okay. You just mentioned that you do e-mail Mom…

Susan: I have if he has had work missing. Yeah, I have not e-mailed her about behavior in class.

Primary researcher: Are you normally the one that reaches out to Mom? Has Mom reached out to you?

Susan: I think that Mom has probably reached out to me a couple of times as well. I know she reached out in the last two weeks about a computer assignment. We have not had a lot of communication throughout the year, it has been pretty minimal. For the most part, he will complete his work, it might not be to the level you want, because he definitely…he has maintained a C the entire year, very consistent, but he usually turns things in, so I do not have to follow up as much.

Middle or mixed beliefs. Of the 20 sub-topic scores, Susan scored as Middle or Mixed (2) on 14 of the 20 sub-topic scores: (a) teacher viewpoint of difficult; (b) teacher gathered information outside of IEP; (c) teacher reliance on scheduled information; (d) teacher knowledge of individual goals; (e) teacher assessment of student progress; (f) teacher adapts teaching techniques; (g) teacher awareness of referral purpose; (h) teacher reviews student progress; (i) teacher works alone or cooperatively; (j) teacher carries over
content; (k) teacher collaborates on individual plan; (l) teacher keeps own records without special education; (m) teacher contacts parents early; and (n) teacher reports progress with parents. These sub-topic scores account for well over half of the total number of sub-topic scores. The following paragraphs provide examples from Susan’s interview of the statements that were coded as Middle or Mixed (2).

In the interview, Susan was asked about her methods to track and monitor progress of both her selected student with an IEP, Stefan, and her selected student at-risk, Paul, and based on her responses she was scored as Middle or Mixed (2). Teachers who are scored as Middle or Mixed (2) on this sub-topic will track and monitor progress somewhat more than the scheduled times or reports (Jordan, Lindsay, & Stanovich, 1997). In this example, Susan discussed how she monitors and tracks Paul’s progress in her class.

Primary researcher: Knowing that he has some needs in the classroom, how are you monitoring so that you know he is getting what he needs now?

Susan: Trying to place him and have him seated in an advantageous place, although for him, he is social wherever he is so it does not really matter. In working with him trying to gauge his progress in class each day. He has met with me outside of school a few times in the morning and after school. In class just trying to touch base with and see where he is at and make sure he…he is not great about following directions either and reiterating the directions, this is what you need to accomplish.

In this example, Susan was also asked about her actions when she initially learned about Stefan’s placement in her class.

Primary researcher: When you found out that you had Stefan and he had an established IEP, what was it like at the very beginning of the year? Did you go and check his IEP or did you read his IEP?
Susan: I read all the IEPs, I would say within the first few weeks. I would like to say I read them before school started, but that is not true. Within the first few weeks I try to highlight or note things, I will say I definitely rely on Mrs. Franks for his accommodations, but I tried to see what their weaknesses were, so we could kind of plan. I also did a notebook that has all of my students in it that I list those things and it is just for me. The idea was, throughout the year I would add notes to it about how they were doing on different assignments.

In this portion of the interview, Susan is asked about the methods she used to track her selected student with an IEP, Stefan’s, progress in the classroom as well as how often she gathered data about his progress.

Primary researcher: So it sounds like he is a challenge. The goals that are in his IEP…you said you thought maybe one was writing. So, how do you monitor or keep track of that goal or how do you see that or how do you notice or make yourself aware that he is actually making progress towards that goal?

Susan: One of the things…I said I have a notebook that I have all the students names in there and it is not just IEP, so as they…I have graded the writing assignments, I make notes or as I ask them to review what they did and what their strengths are, we have met with him about that to, so trying to keep track of that. The special ed teachers also have us fill out progress reports quarterly, even though that is not the first thing I want to do.

It is a good opportunity to make you sit and reflect on where they are at and how they are doing and that like I said is done quarterly that we have had to complete progress reports. Mrs. Franks and I will also discuss well, what do you see? Are you seeing something different than I am seeing? Usually I do most of the grading, so we talk about that. She is much better about noticing behavior and working on what kind of things we can do in that area. So it is definitely a team decision on that, but monitoring throughout the year as far as each major assignment.

Susan was also scored as Middle or Mixed (2) on how she adapted teaching techniques over the past year to help her selected student with an IEP, Stefan, become a more independent writer. Teachers who are scored as Middle or Mixed (2) on this sub-topic will adapt their teaching techniques, but may not be consistent in the implementation of these adaptations (Jordan, Lindsay, & Stanovich, 1997).
…getting him to be more patient, working on him with his writing, trying to get him also to be more independent, because literally, he does want you to sit there with him and write everything and I think that we have finally made some progress in that, but that was difficult, because there are probably three other students in there who also require that exact same accommodation that is not feasible even with two teachers.

**Interventionist beliefs.** Susan was scored as Interventionist (3) on 4 of the 20 sub-topic scores: (a) pre-referral activities; (b) timing of referral; (c) teacher implemented accommodations; and (d) teacher awareness of referral resources.

In this example, Susan was asked about the accommodations she provided to her selected student with an IEP, Stefan, and based on her responses she scored as Interventionist (3). Teachers who are scored as Interventionist (3) on this sub-topic make accommodations to the layout of the class, flexible groupings of pupils, etc. for the student with special needs (Jordan, Lindsay, & Stanovich, 1997).

Primary researcher: So when Stefan is in your classroom, obviously he has his IEP accommodations, so what are the things you are doing for Stefan in the classroom?

Susan: Seating is very important, because he does not always interact positively with other students and that is a problem. Other students have complained about him being mean to them, he is also very judgmental and is watching what other people are doing and trying to get them in trouble. I do not know if his goal is to get them in trouble, but he thinks they should all be following the rules even though he does not always follow the rules, but that is one of the things. Monitoring his seat is very important.

He has been working on patience, he has to raise his hand and he thinks you should respond to him immediately even though you are working with other students, so reminding him that, I appreciate that you are being patient and you are waiting for me, I will be there and then honoring that, which when you have five kids raising their hand being conscientious about that. You said you would go to him next, you need to do that or he is going to be one of those kids who is going to call you on it and not let that go.
Susan was also scored as Interventionist (3) in the sub-topic areas of pre-referral activities and timing of referral. Teachers who scored as Interventionist (3) in these two sub-topics will collect data and confer with other experts about the student at-risk as well as try a variety of teaching approaches with the student (Jordan, Lindsay, & Stanovich, 1997). In this example, Susan discussed the pre-referral of her selected student at-risk, Paul.

Primary researcher: Alright, very good. Now what I would like to do is, have you pick another student who is struggling to learn, having difficulties in the class and this student does not have to be in the one that I observed; it can be across any of your classes.

Susan: Let’s go with Paul. He is in the same class if that is okay.

Primary researcher: Okay, alright. This is a young man and what do you think is going on with Paul?

Susan: Paul struggles enormously with focus. He is a reluctant writer also. He claims that he reads a lot and I am not entirely sure, because he did tell me he read a class novel that I know he did not read, so I cannot take everything he says at face value. He is the one that I referred to Child Study earlier in the year, because he was doing so poorly. He also happens to be in French and he was failing that and so it just came together. I have corresponded quite a bit with his father this year to try to keep him on top of things.

Primary researcher: You are actually the teacher who initiated the Child Study?

Susan: Yes.

Primary researcher: And you have talked with Dad quite a bit about, so did you reach out to Dad or did Dad reach out to you?

Susan: No, I reached out to Dad.

Primary researcher: Okay. So he went to Child Study…can you tell me a little bit about what happened from there?
Susan: So his teachers are definitely in agreement in his lack of focus and he is very disorganized and not a strong writer. We met for the Child Study meeting, we talked about I really felt he should be in accelerating literacy. He was not a student who should be in foreign language in seventh grade, because his English skills are not strong enough. We talked about his family’s first language is not English, it is definitely Spanish, so we talked about that.

The best thing that came out of that is that, we did convince Dad or Dad came to the decision eventually that, he should be removed from French, which he was completely failing and he should be put in accelerating literacy and how that would help support him. We also talked to him about the possibility of him taking Spanish in the future and not French and that he would be in a higher level, he would have more confidence, but the French was not doing anything for him and he was not ready for it.

I noticed that Paul told me in the last week or two that the actually tested for Spanish to be in a higher level that he would start next year, which I think is fantastic, because he is not a super strong student, it would be nice for him to be on the top of something instead of lower on something. He was definitely moved to accelerating literacy, so Mrs. Franks has been able to work with him as well, which has been good.

Other indications of beliefs. As with Howard and Becky, Susan made statements in regard to her selected student with an IEP or at-risk that did not fall into any of the sub-topics to be scored by the primary researcher. These statement may also be indicators of Susan’s attitudes and beliefs toward students with disabilities or at-risk, and these statements will be included in the following section.

Help outside of the classroom. In Susan’s interview, she was asked about the actions she had taken to support her selected student at-risk, Paul. Similar to Becky, she discussed how she had helped Paul outside of the classroom. She stated, “[I have been] working with him trying to gauge his progress in class each day. He has met with me outside of school a few times in the morning and after school with the [unintelligible] coordination.”
Challenging student disabilities. When Susan discussed her selected student with an IEP, Stefan, she made statements that indicated that this student’s disability was a particular challenge in the classroom.

Primary researcher: Tell me about when you learned that Stefan would actually be one of your students.

Susan: He had already had a reputation in sixth grade. I had not met him, but I had already heard and when I saw him on my roster a couple of people immediately commented about personality. Not his learning abilities, but his personality being abrasive. The first month that he was in class, no problem, but then it started to come into play and so initially we kind of had an okay report and I just kind of handled it, letting him cool down and not being very confrontational about it.

It did get to a point where I had to say, I am walking away from you. You cannot talk to me in that way. It became too abrasive for me. I am pretty laid back and so I will give and take with somebody for a while, but it came to the point where it was disrespectful and that was a big turning point. He actually came and apologized to me one time, which I was floored, but it was nice. I had seen some growth in him, especially according to Mrs. Franks was in sixth grade last years, so she tells me a lot about students from last year, but it sounds like definitely he is improving, which is great. That is definitely the goal during middle school is to get control over some of those impulses.

In another part of the interview, Susan discussed how she had to consider the challenges of Stefan’s disability in the classroom.

Seating is very important, because he does not always interact positively with other students and that is a problem. Other students have complained about him being mean to them, he is also very judgmental and is watching what other people are doing and trying to get them in trouble. I do not know if his goal is to get them in trouble, but he thinks they should all be following the rules even though he does not always follow the rules, but that is one of the things. Monitoring his seating is important.

He has been working on patience, he has to raise his hand and he thinks you should respond to him immediately even though you are working with other students, so reminding him that, I appreciate that you are being patient and you are waiting for me, I will be there next and then honoring that, which when you have five kids raising their hand being conscientious about that. You said you
would go to him next, you need to do that or he is going to be one of those kids who is going to call you on it and not let that go.

That has been a little bit...I would say that is...been harder for me to be as conscientious about him in particular, because there are a variety of needs in that class, but it has been good for me, because that is what he requires. Getting him to be more patient, working on him with his writing, trying to get him also to be more independent, because literally, he does want you to sit there with him and write everything and I think that we have finally made some progress in that, but that was difficult, because there are probably three other students in there who also require that exact same accommodation that is not feasible even with two teachers.

Just trying to work with him toward becoming independent, becoming patient, and being kind to other students. He is definitely one that every day you have to definitely have to think about, okay, what are we doing to do today? If we are going to do group, how are we going to handle that? Are they going to choose their own groups or is he going to be...because people are not going to choose him and so how to do that smoothly.

Co-teaching situation at Brooks Middle School. At the end of Susan’s interview, she was asked if she had any further comments for the interview. She elaborated about the co-teaching environment at Brooks Middle School. She stated,

…I feel like team teaching in this school does not happen very much. I think there are a couple of examples of it, but I think there are several examples. I have to say only one year have I taught here that is has been truly team teaching. Part of that…I am not blaming the special education teacher, I think part of that is, everything that is put on them, does not enable them to have the time to teach in class, but I do not think it is a team teaching endeavor. Although I do think Mrs. Franks does a fantastic job with their accommodations and pulling them aside, she is very patient—God bless her—in trying to get them individually. She will definitely sit and give somebody one-on-one help for a long time when I do not have that opportunity as much, because there is [unintelligible].

She also stated at the very end of the interview,

Actually the teaching process and the grading process has always been one sided. She has probably taught 30 minutes out of the whole year, which is fine, because on the other hand I teach all my other...I like to have them taught consistently and if you have somebody else teach it, it is not...they might not cover the exact same
things that you do that you are going to assess on that I have said in my other five classes, so that is tricky too.

_Determination of IEP to meet student’s needs._ In Susan’s interview, she was asked whether the goals and accommodations outlined in Stefan’s IEP were a good “match” to Stefan’s needs in the classroom. Susan was unaware of Stefan’s actual diagnosed disability. She stated, “Stefan has an IEP that I think says other issue. It does not list ED although he very much has that. There is an anger management issue. He gets frustrated very easily on the turn of a dime and he can also be just as sweet as can be.”

Similar to Howard and Becky, she could not remember or state the specific goals and accommodations in Stefan’s IEP, and despite this lack of knowledge about Stefan, she went ahead and made an assessment in this following example.

Primary researcher: So the accommodations have been outlined for him in the IEP, do you feel like those are meeting his needs or do you think they should be adjusted maybe added?

Susan: They are probably meeting his needs. I would suggest and I do not know, like I said if his mother does not see the full extent of his problem that, I think having the option to go to the zone [a pre-determined classroom with a highly trained special education teacher in the school that provides students with an opportunity to calm down or “cool off” before returning to class] is good. I think that, that is something to that will need to be scaled back though like, next year there should probably, you know, maybe a limited number of times that you go to the zone or to try to wean him off of that. Yeah, I think his accommodations…like I said, I do not think his are very complicated. I think his are very straightforward. Yeah, I will go with yes, they are meeting his needs.

Primary researcher: Okay, okay, so you do not feel like there is anything you should add or take our other than weaning him off of the zone?

Susan: My only thing and I do not believe this is in there and this is really more in counseling is that, he really needs social practice and interacting with other
people. I do not know that, that is a goal in his IEP, but I think that is something that is very key to him succeeding in life period and I do not think that is one of his goals.

**Summary of Susan.** Based on the scoring of interview statements, Susan fell toward the middle of the Pathognomonic-Interventionist continuum. Her overall composite score was comprised of a range of sub-topic scores. Susan scored as Pathognomonic on 2 out of 20 sub-topics, Middle or Mixed on 14 out of 20 sub-topics, and Interventionist on 4 out of 20 sub-topics. Similar to Howard and Becky, Susan also made statements in her interview of other indicators that may influence her attitudes and beliefs towards students with disabilities, but did not fall within one of the sub-topics. These other indicators included help outside of the classroom, challenging student disabilities, co-teaching, and determination of IEP to meet student’s needs.

**Summary.** The results of research question 1, teachers’ attitudes and beliefs, were presented in this section. The results indicated that all three of the general education teachers fell toward the middle of the Pathognomonic-Interventionist continuum, but Howard and Becky leaned toward the Pathognomonic side. A further breakdown of sub-topic scores indicated differences among the teachers. Additional qualitative review of the interview results revealed other possible influences on teachers’ attitudes and beliefs that did not fall within any of the sub-topics coded by the primary researcher. These other possible influences include: (a) personal reflections of students; (b) level of responsibility and frustration; (c) help outside of the classroom; (d) challenging student disabilities; (e) co-teaching; and (f) determination of IEP to meet student’s needs.
Teacher’s Beliefs and Attitudes: Influences on Interactions

The results of research questions 1 and 2, teachers’ attitudes and beliefs and observations of teacher-student interactions in the classrooms, were used to determine to what extent teachers’ attitudes and beliefs were reflected in these interactions with their students in the classroom. In the previous research conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), several teachers were interviewed first to determine attitudes and beliefs, and then three teachers scored within each perspective, Pathognomonic, Middle, and Interventionist, were selected for comparison of their interactions with students to determine differences.

The results of this previous research yielded a pattern of differences in interactions between the teachers in each perspective. Pathognomonic teachers used a higher proportion of non-academic interactions. Almost half of these non-academic interactions were conducted with students with disabilities. The academic interactions that these teachers primarily used were comprehension monitoring and partial extension, with few full extensions. Interventionist teachers conducted more academic interactions overall, and the majority of these interactions were partial and full extensions. Interventionist teachers also conducted more academic interactions with students with disabilities, to include the majority of full extensions. Middle teachers demonstrated patterns between the Pathognomonic and Interventionist teachers, but their patterns were closer to Pathognomonic teachers (Jordan, Lindsay, and Stanovich, 1997; Jordan and Stanovich, 2001).
Based on the results of research question 1, all of the three general education teachers in this study were scored as Middle along the Pathognomonic-Interventionist continuum. Therefore, the interactions of the teachers with their students in this study could not be compared against each other to determine pattern differences like the comparisons made in previous research. In addition, an overall composite score determined the attitudes and beliefs of each teacher, and the specific sub-topics, such as purpose and timing of student referral and contact with parents, did not specifically tie to interactions in the classroom. However, each teacher’s attitudes and beliefs were reflected in the manner in which each teacher interacted with students with and without disabilities. The following sections will provide examples to demonstrate the manner in which each teacher interacted with students, and will be presented by teacher.

**Teacher one: Howard.** Howard scored as Middle on the Pathognomonic-Interventionist continuum, but leaned towards the Pathgnomonic side. His sub-topic scores were 10 out of 20 as Pathognomonic, 3 out of 20 as Middle, and 6 out of 20 as Interventionist. Over the two observations, Howard primarily conducted academic interactions, and almost all of Howard’s academic interactions were comprehension monitoring. The majority of academic interactions were conducted with students without disabilities. The following examples of interactions demonstrate the manner in which Howard conducted these interactions as a reflection of his attitudes and beliefs toward students with disabilities.

In this example, Howard conducted interactions with students with and without disabilities through a discussion of the Civil War. He provided positive feedback to the
students without disabilities for their thinking and analysis, while he praised the one student with a disability for his basic contribution to the discussion.

Howard: Protection. Maybe this guy is trying to help the what?

Several students: Slaves.

Howard: You’re putting it together very well. George (student without disability)?

George: Jesus?

Howard: Why would you say that that is Jesus?

George: Because he’s trying to help the people and he’s wearing a crown and he’s like the creator of earth and everything.

Howard: Did I talk to you beforehand here? No, I just want that known when we close out this picture in a little bit. I’m going to come back to his comment. I want it to be established that we did not conspire. That my young man is an outstanding revelation that you just came up with. Outstanding and we’re going to be talking about it because I don’t think the artist missed something, I think he put everything in here for a?

Several students: Reason.

Howard: Reason. Everything is put in here. Man, that is deep. People here somebody said, “[unintelligible] I see dead people”, ahhh, makes me think of an old movie around 10 years ago, yeah. Dead people here. Important to notice the color they’re wearing. You know out of all the questions you guys chose, nobody chose this question.

You didn’t choose it though; you chose the sister question right next to it. When? I’m going to ask you now when are we? Tough question and I’m going to ask you to tell me why you believe we were when? Lori (student without disability)?

Lori: Before the Civil War.

Howard: Why do you say before the Civil War?

Lori: Because the two sides are kind of like looking like there’s enemies ready to fight --
Howard: Good point, the two sides haven’t fired the bullets at least on these guns yet; it looks like they’re getting ready to fight. *She has a great argument.* Do you want to give me a year? Do you know? First of all, does anybody know when the Civil War started, the year? The actual year? Michael (student without disability)?

Michael: 1861.

Howard: Absolutely right Michael, *I’m proud of you.* 1861, anybody know when it ends? The year it ends? Aaron (student with disability)?

Aaron: 1865.

Howard: *I’m proud of you* Aaron, 1865. It’s a four-year war. Okay so now Lori (student without disability), you said before this; so what year would you say?

Lori: Maybe late 1850’s?

Howard: How about this? 1859 good? Okay, I’ll buy into it. *Excellent argument, A+.* Not done. When are we? When are we? Conner (student without disability)?

Conner: I would think more like one specific time because I think those are all events leading up to the Civil War.

Howard: One, he just said we aren’t at one specific time. How many of you remember my one political cartoon quite a while ago with the Revolutionary War? We had the Boston Tea Party; we had the Stamp Act; we had Johnny Malcolm being tarred and feathered; and remember that time? We put a lot of idea -- same idea. *Excellent point. So I will give A+ to my Lori* (student without disability). By the way John Brown dies 1859.

In this example, Howard continued his discussion of the Civil War, and instructed students to transition to the textbook. As the students transitioned, he primarily monitored students with disabilities, but chose a student without disabilities to continue the academic discussion after the transition.

Howard: Oregon.

Anna (student with disability): California.
Howard: California; yeah. In the middle of these problems some people are saying, “I’m going west. I’m getting out of this”. Now there’s a little bit more here, a little bit more. I’m going to hold off. I’m going to ask you now, and I know you filled out 115 in your book. I’m going to ask you to open up the red textbook, the American Republic. Would you take it out of your desk and open up to pages 442-443. Raise your hand when you have it -- the page opened; the two pages. I can’t go on until I see everybody’s hand raised. Jack (student without disability), are you there? Shawn (student with disability), are you there yet? How is my Frank (selected student with IEP) doing? Okay. I got to try though; we’re short on time. Very good guys. Who here can tell me another name of the Missouri Compromise? Jack (student without disability)?

Jack: Compromise of 1820.

Howard: Compromise of 1820. Who can tell me the most important thing that we want to know for our tests about the Compromise of 1820? Lori (student without disability)?

Lori: (unintelligible)

Howard: Bingo. Missouri comes in slave, and Maine comes in free. There is more. Brad, if you guys did your reading, which I know that most of you did two classes ago or three we learned that there’s even more to the Missouri Compromise. You see according to the Missouri Compromise we created a line, a famous line of 36 degrees, 30 minutes cutting right across the United States. Any new territories, we’re talking Louisiana, we’re talking Texas, Mexican session, Oregon; any new territory that wants to become a state, anything new in these four new territories even the fifth territory the Gadsden Purchase, anything north of this must come in --

In this example, Howard interacted with two students with disabilities as each student read from the textbook. One of the students is Frank, his selected student with an IEP.

Howard: John Brown. Can I have a reader? Anna (student with disability), thank you.

Anna: (unintelligible)

Howard: Inevitable.

Anna: (unintelligible)
Howard: Very good; sacked. That means ransacked, they took things. Go ahead.

Anna: (unintelligible)

Howard: The slavery related what? Retaliated, that means they get even. They get revenge. Folks, Anna just read an important paragraph; thank you honey. Guys, what did the southerners just do?

Bill (student without disability): Attacked.

Howard: Attacked who? The northern capital. Where’s the northern capital? Orange, Kansas. We have two governments going. We have a southern government and a northern government. They’re going to be like oil and water; they don’t mix. We’re going to have trouble, a lot of trouble. This picture is going to come to life; can I have another reader? Can I have another reader? Wait a second. Look carefully. Look very, very carefully. Frank (selected student with IEP), I want you to read it. Look carefully at what Frank is going to read now. We’re on 442 to 443. John Brown, second part of it.

Frank: (unintelligible)

Howard: No, no. Mr. Kern (special education teacher), can you point it out where we are to him? John Brown a fervent abolitionist.

Frank: (unintelligible)

Howard: Fervent, that means they’re very excited, excitable and they’re very into it. He’s an abolitionist that’s really a fighter. Go ahead.

Frank: (unintelligible). End slavery, when he heard of these attacks on (unintelligible), Brown went into rage.

Howard: Yeah that explains the picture well, doesn’t it? Keep going, good job Frank.

Frank: (unintelligible) And two other men along --

Howard: I want to help you with this word. I love saying this word. It kind of rolls off your tongue…Potawatomie Creek.

Whole class: Potawatomie Creek.

Howard: Excellent, go ahead Frank.
Frank: (unintelligible)

Howard: *Excellent job Frank, excellent reading.* All right guys, I told you the north is not going to take this laying down. If they came and burned down southern -- excuse me, if the south came and burned down northern abolitionist newspapers, destroyed the capital of large Kansas don’t you think they’re going to get even? And they do. John Brown comes with four of his sons; by the way I think he had either 16 or 18 sons -- or children. He had a big family. He comes down with four of his sons and a few other people and they raid Potawatomie Creek and they end up killing five people; that’s why it’s called Bleeding -- John Brown, Bleeding Kansas. Leading the charge here, leading the way. Is he against or for slavery?

The preceding examples demonstrated the differences in the manner in which Howard interacted with his students with and without disabilities. Students without disabilities were given positive feedback on their thinking and analysis of the Civil War, while student with disabilities were given positive feedback for a contribution to the discussion. The following section presents the extent to which Becky’s attitudes and beliefs were reflected in the interactions with her students with and without disabilities.

**Teacher two: Becky.** Becky also scored as Middle on the Pathognomonic-Interventionist continuum, but leaned towards the Pathognomonic side. Her sub-topic scores were 8 out of 20 as Pathognomonic, 6 out of 20 as Middle, and 6 out of 20 as Interventionist. Over the two observations, Becky primarily conducted academic interactions, and all but four academic interactions were comprehension monitoring. The majority of her academic interactions were conducted with students without disabilities. As discussed under research question 2, the manner in which Becky conducted instruction is very free flowing open-ended questioning where students were allowed or instructed to shout out answers. However, Becky’s interactions with her selected student
with an IEP do provide a reflection of her attitudes and beliefs toward students with disabilities. In these examples, Becky tended to let her selected student with an IEP, Sarah, “off the hook,” and most of the time, Becky seemed hesitant to push this student for more information compared to other students without disabilities.

Becky: Oh, hunting, okay. So is hunting a good thing or a bad thing? Um, and Sarah, what do you think? Is it, hunting a good thing or bad thing?

Sarah: (unintelligible)

Becky: Okay. Okay, well, tell us, why hunting is a good thing?

Sarah: I do not know.

Becky: Okay, um, I’ll come back to you. Jackie (student without disability)?

Jackie: It can be a good thing because like that’s how we get like (unintelligible).

Becky: Wait. Do we have cows?

Several students: (cross talking)

Becky: (Laughing). Okay, okay, okay, exactly, yeah. So um, because hunting is a source of food, exactly. Um, and it’s. Yeah, there’s deer, why not eat them? Um, Steve (student without disability), why is hunting a bad thing?

Steve: Hunting can be a bad thing if you’re just doing it for fun to make (unintelligible).

Becky: Yeah, exactly, exactly. Um, Connie (student without disability)?

Connie: And they have to like the tests or whatever (unintelligible).

Becky: Oh, exactly, exactly. Um, and thanks for bringing that up.

This is another example where Becky does not push Sarah to extend her thinking.

Becky: Okay. That would be, that, so it’s going to kill animals or at least it’s going to get into the animals. Well, why does it matter if the shrimp get car oil in them? Sarah?
Sarah: Oh.

Becky: Yeah, what is it you were gonna say?

Sarah: Um, (unintelligible).

Becky: Okay, okay. Um, why else? If it doesn’t kill the shrimp and that shrimpy guy is still moving around, why is that a bad thing? Wilson (student without disability)?

Wilson: Because (unintelligible) eat it and they get (unintelligible).

Becky: Exactly. So whatever eats a shrimp, if a fish eats the shrimp, it gets that pollution and then…

The preceding examples demonstrate some differences in the manner in which Becky interacted with her selected student with an IEP, Sarah, compared to students without disabilities. In these examples, Becky seemed to let Sarah “off the hook,” and did not push Sarah to extend her thinking; rather, she redirected her questions to students without disabilities. The following section presents the extent to which Susan’s attitudes and beliefs were reflected in the interactions with her students with and without disabilities.

**Teacher three: Susan.** Susan scored almost exactly in the Middle on the Pathognomonic-Interventionist continuum. Her sub-topic scores were 2 out of 20 as Pathognomonic, 14 out of 20 as Middle, and 4 out of 20 as Interventionist. Overall, Susan conducted more non-academic interactions than academic interactions; however, the interactions were almost exactly split between academic and non-academic in the first observation. The majority of academic interactions were conducted with students without disabilities, but the number of interactions conducted with students with disabilities was much higher than Howard or Becky.
In Susan’s interview, she chose a student with an IEP named Stefan, and she expressed how this student’s behaviors associated with his disability were a particular challenge for her. She did know the exact disability specified in his IEP, but she felt confident in her statements that he had some form of an emotional disability. She also discussed how she had to consistently consider this student’s behaviors in her planning and instruction, especially cooperative learning activities.

Susan’s attitudes and beliefs regarding Stefan came through in her interactions with him. The following examples demonstrated how Susan interacted with Stefan in contrast to other students with disabilities in her class. In this first example, Stefan interrupted Susan’s conversation with another student to show her his finger that he felt needed a Band-Aid.

Susan: …If it’s an emergency, there’s Band-Aids behind Karen on the bookshelf.

Chase (student without disability): I don’t think it changed at all in Soldier X.

Susan: Okay, so you don’t want to pick that one.

Chase: No.

Susan: Okay, you had the four Vietnam books.

Chase: Yeah…um…

Stefan: It really hurts.

Susan: Hey, there are Band-Aids on the back shelf. Okay, if you need to get a Band-Aid then go grab one.

In this example, Susan discussed mythological creatures with the class, and Stefan raised his hand to contribute to the conversation.
Susan: Sea of monsters? Okay. Excellent. Okay. So, let’s…shhhh. Ladies and gentlemen, I appreciate your enthusiasm, but I do need you to raise your hand so that we can all hear each other. Stefan, what is your comment?

Stefan: That’s Titans?

Susan: Yes.

Stefan: Are really, really, really big.

Susan: Titans are really, really big.

The mythological creatures discussion continued, and a little later in the discussion, Stefan raised his hand to contribute to the conversation again.

Susan: Well, Wi-Fi as well, but the computer, right? The computer runs it, okay? Stefan?

Stefan: Um, we still don’t know the traits…

Susan: Uh huh.

Stefan: …or (unintelligible) traits.

Susan: No.

Stefan: (unintelligible)

Susan: Okay. So, Promethean refers to whom Promethean refers to.

In contrast, Susan’s interactions with other students with disabilities in the classroom were longer.

Susan: Lonnie (student with disability)? What do you want to say?

Lonnie: Dionysus, at some point he gave…

(Interjection from student without a permission slip)

Susan: Okay. Shhh…
Lonnie: …gave wine to like um…

Susan: Shhh… Ladies and gentlemen. Be respectful, please.

Lonnie: He gave wine. I believe he gave wine to like a mortal or something and um, Zeus found out so Dionysus was banished from having wine for thousands of years.

Susan: Okay. And isn’t it…that plays out in one of the Percy Jackson books, doesn’t it?

Lonnie: Actually, all of them and apparently…

Susan: Okay. Because he’s…he’s not happy about it (laughing).

Lonnie: Well, he drinks and um…

Karl: Yeah, anger issues!

Lonnie: …in the Percy Jackson books is (unintelligible).

Susan: Okay. Diet coke. Good. All right.

Lonnie: I think that’s hilarious.

The examples above demonstrated that in regard to Stefan, Susan’s selected student with an IEP, she struggled in her interactions with him in the classroom. These interactions became more evident when compared to Susan’s interactions with other students. Susan’s interactions were much shorter in duration with Stefan than with other students, with and without disabilities. She appeared to try to cut off the interactions with Stefan with responses that would not extend the conversation or provoke Stefan to respond with additional comments. Susan’s attitudes and beliefs toward this particular student with a disability were evident in her interactions with him in the classroom.
Summary

Each of the teachers in this study scored toward the middle of the Pathognomonic-Interventionist continuum, while Howard and Becky leaned towards the Pathognomonic side. Sub-topic scores indicated the differences among the teachers. Statements made during the interviews suggested that each of the teachers had positive attitudes and beliefs toward students with disabilities, but each teacher also acknowledged challenges with students with disabilities in the classroom, which are exacerbated by the large number of students that each teacher is responsible for teaching across all of his/her classes. Each of the teachers conducted frequent interactions with all of his/her students, with and without disabilities. The majority of interactions conducted by Howard and Becky were academic, while the majority of interactions conducted by Susan were non-academic by a small number. The majority of academic interactions conducted by all of the teachers were comprehension monitoring with few extensions. Susan conducted more academic extensions than Howard or Becky. In varying ways and levels, the attitudes and beliefs of each teacher were evident in his/her interactions with students with disabilities in the classroom. The following chapter will provide a discussion of the findings from this research study.
CHAPTER FIVE: CONCLUSIONS, DISCUSSION, AND IMPLICATIONS

The purpose of this study was to determine whether the attitudes and beliefs of middle school general education teachers’ toward students with disabilities were reflected in their interactions with these students in their classrooms. This study was guided by the following research questions:

1) What are the attitudes and beliefs of three middle school general education teachers toward students with disabilities?

2) How do three middle school general education teachers interact with students with disabilities compared to students without disabilities in their inclusion classrooms?

3) To what extent are the attitudes and beliefs of three middle school general education teachers toward students with disabilities reflected in the interactions with these students in their classrooms?

This study extended previous research conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001). The previous research indicated that teachers’ attitudes and beliefs do impact their classroom instructional interactions with students with and without disabilities. Teachers in these two previous studies were rated along a Pathognomonic-Interventionist continuum, and the researchers found that Interventionist teachers interacted more with students and that these interactions were focused more on academics compared to Pathognomonic or Middle teachers. In addition,
Middle and Pathognomonic teachers conducted significantly more non-academic interactions, primarily with at risk and students with disabilities. In their studies, the academic interactions initiated by Middle or Pathognomonic teachers focused on comprehension monitoring and partial cognitive extensions. Interventionist teachers also tended to interact more frequently with students with disabilities or at risk than students without disabilities, and these interactions were longer in duration.

As presented in Chapter 4, the results of this study could not be used to compare interactions similar to previous research because each of the teachers was scored as Middle of the Pathognomonic-Interventionist continuum. However, themes were discovered within the findings of each research question. The overall findings of this study revealed that these middle school general education teachers have: (a) positive attitudes and beliefs towards students with disabilities that were demonstrated through actions outside of class and statements of caring; (b) high levels of responsibilities, which tended to limit their specific knowledge of students with disabilities and what they could implement in their classrooms; (c) viewed their special education co-teachers as assistants and assigned them with specific roles and responsibilities limited to the students with disabilities; (d) limited the level of extensions of their academic interactions with all students, with and without disabilities; and (e) different “teaching styles,” but the manner in which he/she interacted with students with disabilities in the classroom within these different teaching styles reflected his/her attitudes and beliefs. This chapter will discuss the conclusions of the themes developed from data analysis and will be presented
within each research question. These conclusions will then be followed by the limitations.

Conclusions

Research question 1: Attitudes and beliefs of teachers. The attitudes and beliefs of teachers are considered to be an important determinant of how teachers will interact with students with disabilities in the classroom. This study used Fishbein and Ajzens’ (1975) Theory of Reasoned Action (TRA) as a foundation, which posits that throughout a person’s lifetime, he/she will form beliefs based on direct observations of or inferences from outside sources. Therefore, teachers will form beliefs about students with disabilities based on direct observations or inferences from outside sources. TRA also posits that these beliefs, in turn, will directly influence attitudes so teachers’ beliefs will influence their attitudes about students with disabilities. These attitudes are also related to a teacher’s intentions to behave or interact in a particular manner toward students with disabilities (Cook, Tankersley, Cook, & Landrum, 2000; Hammond & Ingalls, 2003; Van Reusen, Shoho, & Barker, 2001). Therefore, the first research question focused on the attitudes and beliefs of the teachers in this study. The results of research question 1 revealed three themes from the interviews used to determine the middle school general education teachers’ attitudes and beliefs towards students with disabilities. The teachers have: (a) positive attitudes and beliefs; (b) high levels of responsibilities; and (c) viewed co-teachers as assistants and assigned them with specific roles and responsibilities limited to the students with disabilities. These three themes are discussed in the following sections below.
Positive attitudes and beliefs. Each of the middle school general education teachers in this study held overall positive attitudes and beliefs towards students with disabilities, which was demonstrated through their actions outside of class and statements of caring. Howard gave personal reflections of his two selected students. He spoke about their positive attributes and how proud he was of each student’s accomplishments. For example, he stated that Frank, his selected student with an IEP, was “a jovial young man and always smiling,” and a student that “has a great attitude and a great heart,” and Joe, his selected at-risk student, was “a young man who’s quiet, well-mannered, well-behaved.” Howard also stated how proud he was of Frank for “…beat[ing] a number of general ed kids” on the state standardized history test. Becky discussed how she had met with Sarah, her selected student with an IEP, outside of the scheduled class time to have a discussion about her academic performance in class, and how she shared stories of her personal failures and successes with Sarah to help motivate her to try harder in class. She stated, “…I was sharing with her all the times I’ve tried and failed, and how you learn from failing. You learn to pick yourself back up and it’s okay. And I told her all sorts of stories about me and like being in tears, etc.” Susan also discussed how she had met with Paul, her selected at-risk student, “[I have been] working with him trying to gauge his progress in class each day. He has met with me outside of school a few times in the morning and after school with the [unintelligible] coordination.” Each of the teachers in this study demonstrated their overall positive attitudes and beliefs in regard to students with disabilities through their actions outside of class and statements of caring. This is an important aspect in the learning of all students, with and without disabilities, because
when students believe that teachers care about them personally and academically, they are more motivated to learn (Rogers & Renard, 1999).

However, the previous research (e.g., Avramidis & Norwich, 2002; Blecker & Boakes, 2010; Conaster, Block, & Lepore, 2000; Cook, Tankersley, Cook, and Landrum, 2000; Hammond & Ingalls, 2003; Klingner & Vaughn, 2002; Ross-Hill, 2009; Scruggs & Mastropieri, 1996; Van Reusen, Shoho, & Barker, 2001) on teachers’ attitudes and beliefs towards students with disabilities and inclusion in general has been mixed. The majority of teachers in these studies did hold positive attitudes towards inclusion of students with disabilities. The results of this study contributed to the body of evidence by demonstrating that despite the challenges of teaching in inclusive classrooms, general education teachers hold positive attitudes toward students with disabilities.

This previous research also indicated that the willingness of teachers to implement inclusion varied based on factors such as age, gender, training, years of teaching experience, intensity of inclusion, and the severity of students’ disabilities (Scruggs & Mastropieri, 1996). These factors will influence the attitudes and beliefs of teachers, and in turn, these beliefs will eventually determine a person’s attitudes, intentions, and behaviors in the classroom (Fishbein & Ajzen, 1975). Although this study did not specifically investigate these factors, data analysis uncovered factors that may have influenced the attitudes and beliefs of the teachers in this study to include high levels of responsibilities as secondary teachers and special education co-teachers as assistants in the classroom.
**High levels of responsibilities.** As noted earlier, each teacher in the study held overall positive attitudes and beliefs toward students with disabilities, but each teacher also had high levels of the responsibilities in the classroom. The results from Chapter 4 indicated that each teacher at Brooks Middle School was responsible for approximately 140 students over six classes with approximately 23 students in each class. Each class may include three to thirteen students with disabilities or at-risk. In Becky’s case, she did not have a co-teacher in her inclusion class so she was solely responsible for each student, with and without disabilities. These high levels of responsibilities may have impacted the specific knowledge of each teacher in regard to students with disabilities or at-risk as well as what each teacher implemented in his/her classroom in regard to students with disabilities. For example, teachers are responsible for the planning and delivery of academic content in the classroom, in which they are required to meet state-established standards. Teachers are also responsible for the academic success of each and every student in the classroom, which is primarily determined through a variety of assessment methods in the classroom. Teachers are given a set amount of time for responsibilities outside of teaching, such as planning lessons, grading assessments and homework, attending meetings, and meeting with parents and teachers. So, as the overall number of students that an individual teacher is responsible for in the classroom increases, this set amount of time must be further divided, and the teachers’ responsibilities must prioritized. Based on the results presented in Chapter 4, the teachers in this study chose, either consciously or subconsciously, to place the specific knowledge
of their students with disabilities and the implementation of specific accommodations for these students in the classroom at a lower priority.

For teachers at the secondary level, these high levels of responsibilities are not uncommon, and secondary teachers have reported in previous research that these high levels of responsibilities, to include large numbers of students in each class, have limited their ability to implement effective inclusion (e.g., Anderson, 2006; Avramidis & Norwich, 2002; Keefe & Moore, 2004; Logan & Wimer, 2013). To implement effective inclusion, teachers must individualize curriculum and accommodate the specific needs of students with disabilities (Baker & Zigmond, 1990; Fuchs, Fuchs, & Bishop, 1992) through the ability to plan for and then implement a larger number of activities and materials in the classroom (Wigle & Wilcox, 1996). The research synthesis of teacher perceptions of mainstreaming/inclusion conducted by Scruggs and Mastropieri (1996) also supported this finding, in which teachers reported that teaching in inclusive classrooms created more teacher responsibilities, but the additional time was not provided to these teachers.

The results of the present study demonstrated that all of the teachers in this study had read the IEPs of the students with disabilities in their classrooms; however, none of the teachers could state specific goals and accommodations without referencing the specific IEP. In Susan’s case, she could not identify the diagnosed disability of her selected student with an IEP, which may be an indication that her relationship and interactions with this student may have overshadowed his actual diagnosed disability.
This conclusion in regard to Susan and her selected student with an IEP will be discussed in a section below under research question 3.

As a result of the high level of responsibilities, the teachers in this study primarily implemented accommodations that were generic to most students with disabilities. The results demonstrated that the teachers provided common accommodations such as preferential seating, clean copies of notes, study guides, and in some instances, purposeful student grouping. These results supported previous research that indicated that secondary teachers tended to plan for the whole class and rarely address the specific needs of students (e.g., Baker & Zigmond, 1990; Schumm & Vaughn, 1995; Vaughn & Schumm, 1994), although minor accommodations, such as shortened assignments and preferential seating, are more frequently implemented (Bacon & Schultz, 1991). For secondary teachers, specific modifications and accommodations were more difficult because content at this level required extensive conceptual and vocabulary knowledge (Deshler & Schumaker, 1986). Therefore, when teachers do differentiate instruction or make accommodations, the decision is based on whether these adaptations are feasible within the conditions of the classroom (Ellett, 1993; Schumm & Vaughn, 1991; Schumm, Vaughn, & Saumell, 1992).

**Co-teachers as assistants.** Two of the general education teachers in this study worked in co-teaching situations with special education teachers. The results revealed that both special education teachers assumed subordinate roles as assistants, which were evidenced by the fact that neither special education teacher taught during either of the observed lessons, and they spent all of their time redirecting and keeping students with
disabilities on task in the classroom. In addition, both general education teachers made statements that the role of the special education teacher in the classroom was primarily limited to those students with disabilities.

The role of the special education teacher as an assistant is common in inclusive classrooms, and the assumption by general education teachers that the special education teacher is primarily responsible for students with disabilities is widely supported by previous research (e.g., Hazlett, 2001; Olson, Chalmers, & Hoover, 1997; Magiera & Zigmond, 2005; Rice & Zigmond, 2000; Scruggs, Mastropieri, & McDuffie, 2007; Volonino & Zigmond, 2007; Zigmond & Matta, 2004). For example, Scruggs, Mastropieri, and McDuffie’s metasynthesis of qualitative research regarding co-teaching in inclusive classrooms examined 32 reports on co-teaching, which included 454 co-teachers, 42 administrators, 142 students, 26 parents, and 5 support personnel across a variety of grade levels and geographic locations. The results indicated that the co-teaching model of “one teach, one assist” with the special education teacher playing a subordinate role was predominant in inclusive classrooms, and the special education teacher functioned largely as an assistant in support of students with disabilities. The results of the present study support this previous research, in that the two special co-teachers in this study appeared to take on the role of assistants because they did not teach any content and were observed helping students with disabilities to stay on-task while the general education teacher taught the lesson. The following section will present the one theme, minimal academic extensions, revealed from the results of research question 2 in regard to teacher interactions with students in the classroom.
Research question 2: Teacher interactions with students. Previous research found that teachers’ interactions with their students impacted the success of these students in the classroom (Cook, Tankersley, Cook, & Landrum, 2000; Hammond & Ingalls, 2003; Van Reusen, Shoho, & Barker, 2001), and that teachers may interact differently with students according to their expectations of the students’ capability to respond (Cooper, 1979, 1985). A wide variety of research has been conducted to examine the interactions between general education teachers and their students with disabilities (e.g., Bryan, 1974; Bryan & Wheeler, 1972; Fellers & Saudargas, 1987; Forness & Esveldt, 1975; Schumaker, Wildgen, & Sherman, 1982; Slate & Saudargas, 1986). The two studies that were replicated and extended for this research study by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), were included in that body of research. The results of the interactions between the three general education teachers and their students, with and without disabilities, were presented in Chapter 4. These findings revealed one theme, the level of academic extensions, and this theme is discussed in the following section.

Academic extensions. The general education teachers in this study conducted a high number of interactions with their students, with and without disabilities, and the number of interactions conducted by each teacher was significantly more than the teachers from the Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001) studies. Although the high number of interactions, which were primarily academic, were a positive indication of what happened in the classroom, the type of academic interactions were a concern. The results show that a high percentage of
academic interactions, particularly with Becky, were comprehension monitoring. This result indicated that the general education teachers were not “pushing” their students, with and without disabilities, to extend their thinking beyond basic content knowledge. This result also demonstrated that teachers were the primary leaders in knowledge acquisition, and students are not initiators of academic interactions with their teachers.

These findings are supported by the previous research conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), in which teachers who were scored as Pathognomonic or Middle, like the three general education teachers in this study, conducted interactions at lower levels of cognitive engagement. One of recommendations from these previous studies was for Pathognomonic and Middle teachers to expand their levels of academic engagement.

Support of the findings of this study from other research on teacher interactions was inconclusive because most of the research in this area examined the frequency and/or academic versus non-academic interactions, not the level of academic interactions. The results of those studies that did examine academic interactions were also mixed. In one study (Lago-Delello, 1998), students with and without disabilities were treated the same in regard to academic interactions while in other studies varying groups of students were given more or less academic feedback (Alves & Gottlieb, 1986; Brady, Swank, Taylor, & Freiberg, 1998a; Brady, Swank, Taylor, & Freiberg, 1998b; Chapman, Larsen, & Parker, 1979; Montague & Rinaldi, 2001; Thompson, White, & Morgan, 1982).

The following section will discuss two themes revealed from the results of research question 3 and presented in Chapter 4. These two themes, co-teachers as
assistants and specific teaching styles, provide evidence of the general education teachers’ attitudes and beliefs reflected in their interactions in the classroom.

**Research question 3: Teacher attitudes and beliefs reflected in interactions.**

As mentioned earlier, this study duplicated and extended previous research conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001). In these previous studies, the researchers selected nine teachers of which there were three Pathognomonic, three Middle, and three Interventionist teachers. The interactions between these teachers and their students were examined to determine if their attitudes and beliefs were reflected in their interactions, and then compared against each other to determine if any differences existed among them.

Researchers found that Interventionist teachers interacted more with students and that these interactions were focused more on academics compared to Pathognomonic or Middle teachers. In addition, Middle and Pathognomonic teachers conducted significantly more non-academic interactions, primarily with at risk and students with disabilities. In their studies, the academic interactions initiated by Middle or Pathognomonic teachers focused on comprehension monitoring and partial cognitive extensions. Interventionist teachers also tended to interact more frequently with students with disabilities or at risk than students without disabilities, and these interactions were longer in duration (Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001).

Each of three general education teachers in this study scored as Middle; therefore, they could not be compared against each other for differences similar to the previous research by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001).
However, the results presented in Chapter 4 did reveal two themes that were present in the teacher interviews to determine attitudes and beliefs, and then reflected in the classroom. The first theme, co-teachers as assistants, was not a part of specific teacher-student interactions, but revealed the attitudes and beliefs of the teachers in regard to co-teaching in inclusive classrooms. The second theme, teaching styles, did impact the interactions between the teachers and students with disabilities, and was a reflection of each teacher’s attitudes and beliefs. These two themes will be discussed further in the section below.

**Co-teachers as assistants.** As discussed under research question 1, two of the general education teachers in this study worked in co-teaching situations with special education teachers, and based on statements from these two teachers in their interviews, the special education teachers assumed subordinate roles as assistants in the classroom. In addition, both general education teachers made statements that the role of the special education teacher in the classroom was primarily limited to those students with disabilities. These statements were reflected in the classroom during observations by the fact that neither special education teacher taught during either of the observed lessons, and they spent all of their time redirecting and keeping students with disabilities on task in the classroom.

*Howard.* Howard’s Pathognomonic attitudes and beliefs about working with special education co-teachers were reflected in the classroom during observations. Howard stated in his interview that “I try to make sure that the, the SPED, uh, teacher and the assistant realize what we’re going to do in class that day,” and “And I try to make
sure that, um that the SPED teacher will know that we’re going to be working”. Based on these statements, Howard scored as Pathognomonic is this area because he worked largely alone in planning, collaborating, and carrying out instruction for students with special needs (Jordan, Lindsay, & Stanovich, 1997). The special education teacher co-teacher in Howard’s classroom did not deliver any portion of the instruction, did not guide any reading, did not discuss any worksheets or homework, and he assumed a largely passive role during all of the observations, which reflected Howard’s Pathognomonic attitudes and beliefs in this area.

In addition to the special education co-teacher assuming the role of an assistant in Howard’s classroom, the co-teacher also had the primary responsibility of working with students with disabilities. This assigned responsibility was evident through statements made by Howard in his interview and reflected in the classroom during observations. In Howard’s interview he stated, “And, and one of the most important people would be the SPED teacher in your class working with a specific, um, group of individuals that are identified with IEPs,” and “Uh, it’s a SPED’s teacher’s job to make sure that all the goals are continuously being met. If I fumble the ball, they gotta let me know”. During the observations, the special education co-teacher was observed interacting only with students with disabilities, and at one point in one of the observations, Howard directed the co-teacher to assist a student with disabilities versus helping the student himself, “No, no. Mr. Kern (special education teacher), can you point it out where we are to him? John Brown a fervent abolitionist.” Howard and his special education co-teacher, Mr.Kern, rarely interacted throughout any of the observations, and this lack of interaction appeared
as if they had an “unspoken” understanding about the roles and responsibilities within the classroom.

Susan. Susan’s Middle attitudes and beliefs about co-teaching with special education teachers were also reflected in the classroom during observations. Susan stated in her interview,

Actually the teaching process and the grading process has always been one sided. She [Mrs. Franks] has probably taught 30 minutes out of the whole year, which is fine, because on the other hand I teach all my other…I like to have them taught consistently and if you have somebody else teach it, it is not…they might not cover the exact same things that you do that you are going to assess on that I have said in my other five classes, so that is tricky too.

Although Susan stated a preference to teach all of her classes “the same,” Susan and Mrs. Franks were observed interacting and discussing the lesson during observations. Mrs. Franks did not deliver or contribute to any portion of the instruction, but she was observed assisting the general education teacher in setting up the classroom and appeared to have a full understanding of the current lesson and its requirements for the day.

Based on observations, Susan and the special education co-teacher, Mrs. Franks, also appeared to have an “unspoken” understanding of their roles and responsibilities in the classroom, which reflected Susan’s statements from the interview of her Middle attitudes and beliefs. Susan stated in her interview “I will say I definitely rely on Mrs. Franks for his (Stefan’s) accommodations…”, and while Susan was observed assisting all students with and without disabilities in the classroom, Mrs. Franks was observed focusing primarily on students with disabilities.

As discussed under research question 1, previous research has indicated that special education co-teachers functioning as assistants and assuming the primary
responsibility for students with disabilities in the general education classroom is not uncommon (e.g., Hazlett, 2001; Olson, Chalmers, & Hoover, 1997; Magiera & Zigmond, 2005; Rice & Zigmond, 2000; Scruggs, Mastropieri, & McDuffie, 2007; Volonino & Zigmond, 2007; Zigmund & Matta, 2004). Although co-teaching was not a specific focus of this study, the reflection of Howard’s and Susan’s attitudes and beliefs in the classroom in regard to their special education co-teachers connects to another theme discovered in this study, the high levels of responsibilities of the teachers. Scruggs, Mastropieri, and McDuffie (2007) also discovered in their metasynthesis of qualitative research regarding co-teaching in inclusive classrooms that in order for co-teaching to be successful, the requirements of “sufficient planning time, compatibility of co-teachers, training, and appropriate student skill level” (p. 411) must be met. The results presented in Chapter 4 indicated that each general education teacher in this study had high levels of responsibilities in terms of the number of students he/she was responsible for overall; and therefore, may have impacted the teachers’ abilities to integrate their co-teachers fully into the general education classroom. This aspect will be further discussed in the implications for further research section of this paper.

**Teaching styles.** In the classroom, the teacher is generally considered as the “facilitator of knowledge” and his/her teaching style consists of “a teacher’s personal behaviors and media use” (Kaplan & Kies, 1995, p. 29). Flanders (1970) referred to teaching styles as the initiating and responsive behaviors of the teacher. These initiating and responsive behaviors of the teacher are based on the attitudes and beliefs that the teacher has formed based on direct observations of or inferences from outside sources.
(Fishbein & Ajzen, 1975). In addition, these teaching styles often “reflect teachers’ views on teaching and learning and their preferred behavior” (Opdenakker & Van Damme, 2006, p. 2). Each of the general education teachers in this study had very different teaching styles, and a more detailed examination of the interactions within his/her respective teaching style determined that each of the teacher’s attitudes and beliefs about students with disabilities were reflected within his/her teaching style.

Howard. The results of the observations presented in Chapter 4 indicated that Howard established a very controlled classroom environment, in which students were aware of and abided by the expectations established by Howard. As a result, Howard initiated almost all of the teacher-student interactions, and rarely did any student “shout out” or interject comments without Howard’s permission during his teaching. Howard also did the majority of speaking in the classroom, and his interactions with students tended to be quite short in duration at 13.7 seconds during the first observation and 8.6 seconds during the second observation.

A more detailed analysis of the results of Chapter 4 revealed that not only did Howard like to maintain a controlled classroom, but he tended to focus on those students without disabilities that could “keep the momentum going” during classroom discussions, and he praised those students for their academic thinking. He used praise such as “outstanding revelation”, “excellent point”, and “excellent argument” with the students without disabilities. In contrast, Howard used praise such as “I’m proud of you” with students with disabilities.
These interactions and choices made by Howard were a reflection of his attitudes and beliefs regarding students with disabilities. In his interview, Howard discussed how Frank, his selected student with an IEP, had been “…put in a, a situation here now with regular students that are at the higher end of the IQ scale where he would fall to, one of the lower end,” and he also stated that Frank “… has a hard time processing information. Um, but he can process information.” Therefore, during classroom observations, Howard had praised Frank for basically making a contribution in class and not for the content of the contribution itself.

The findings of this study in regard to opportunities to respond and types of teacher responses are supported by the previous research conducted by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), as well as other research (e.g., Cooper, 1979; Good & Brophy, 1991; Rosenthal & Jacobson, 1968). Pathognomonic and Middle teachers, such as the teachers in this study, tended to interact less with students with disabilities. Good and Brophy (1991) also determined that teachers, similar to Howard, tended to provide more opportunities to respond to students whom teachers perceive as high achievers, although students with disabilities need more response opportunities than students without disabilities (Wigle & Wilcox, 1996). The teacher’s preference to interact more with students perceived as high achievers was investigated by Good, Cooper, and Blakely (1980) in which they determined that teachers perceive low achievers, such as students with disabilities, are slower in response, and these longer interactions may become a negative issue in whole class situations. Teachers may avoid interactions with students with disabilities as a way to control pacing (Alves & Gottlieb,
1986) or to maintain a classroom environment that allows the teacher to “proceed with
the lesson with as few unpleasant interruptions as possible” (Vaughn & Schumm, 1994,
p. 159). In addition, teachers may interact more frequently with students perceived as
high-achievers in public, like the classroom, and then interact with students perceived as
low-achievers in private, like outside of the classroom, or before or after school (Cooper
& Good, 1983; Cooper, 1985).

**Becky.** The results of the observations in Becky’s classroom and presented in
Chapter 4 revealed that Becky’s teaching style is much different than Howard’s teaching
style. In Becky’s classroom, she taught with a very relaxed style, which included free
flowing open-ended questioning where students were allowed or instructed to shout out
answers. Becky initiated many interactions with her students, but many of these
interactions were open to the whole class and not directed toward any specific student.
She frequently responded to student interjections, but in some cases, she reprimanded the
student for shouting out, which made classroom expectations difficult to determine by the
observer and probably by the students as well. This type of teaching style was also
determined to have allowed some students to “coast” through class because there were
students in Becky’s class in which she did not interact with once during the observations.
In other words, students had probably determined that they could sit in class without
Becky challenging them to show their learning until an assessment because the students
knew, based on her teaching style that she would not specifically call on them.

A significant distinction from Becky’s classroom versus Howard’s or Susan’s
classrooms and was discussed earlier were the lack of academic extensions. In the many
of Becky’s interactions with students, she would respond with “fantastic”, “perfect”, “exactly” and “definitely,” and the academic discussion would move on to another question or topic. A further analysis of Becky’s interactions determined that in terms of her interactions with her selected student with an IEP, Sarah, she tended to let Sarah “off the hook” for answering academic questions in class. In one example where Sarah stated that she did not know an answer, Becky responded with “Ok, um, I’ll come back to you” and then called on a student without a disability.

Becky’s interactions with Sarah supported previous research, which were also discussed in regard to Howard’s interactions with his students. Teachers who perceived students as low achievers, such as students with disabilities, tended to interact with these students more in private (Cooper & Good, 1983; Cooper, 1985). In addition, Brophy and Good (1970) discovered in their research that teachers also tended to accept poor performances from students perceived as low achievers versus students perceived as high achievers, similar to Becky’s responses to Sarah.

Susan. The results of Chapter 4 demonstrated that in Susan’s classroom, her teaching style was relaxed, but she still focused on individual students, to include students with and without disabilities. The composition of Susan’s class made Susan’s job as a teacher quite challenging. In addition to the students with disabilities, Susan also had several students without disabilities who would consistently seek her attention. She maintained a relaxed but semi-structured environment, and demonstrated a great deal of patience while she managed the many demands of this class. However, further analysis of the results presented in Chapter 4 revealed that Susan’s attitudes and beliefs in regard
to her selected student with an IEP, Stefan, were reflected in her interactions with him in the classroom.

During Susan’s interview, she was asked about Stefan’s diagnosed disability on his IEP, in which she responded, “…has an IEP that I think says other issue. It does not list ED although he very much has that. There is an anger management issue, he gets frustrated very easily on the turn of a dime, and he can also be just as sweet as can be.”

A review of Stefan’s records indicated that he was diagnosed as Other Health Impairment for ADHD, with no additional diagnosis of ED. Susan further indicated in her interview that she viewed Stefan as a difficult student to work with in the classroom. She stated that Stefan does not always “interact positively with other students,” and he is “very judgmental” and is always trying to “get other people in trouble.” Susan also indicated that at times, she has had to walk away from Stefan because the interaction between them became “too abrasive” for her. Based on the classroom observation results presented in Chapter 4, her attitudes and beliefs were reflected in her interaction with Stefan in the classroom. For example, Susan was working with a student during one of the observations and Stefan interrupted the conversation to inquire about a Band-Aid for his finger. Even after Susan instructed Stefan where the Band-Aids were located in the classroom, he would not leave and continued to interrupt the conversation until Susan finally said, “Hey, there are Band-Aids on the back shelf. Okay, if you need to get a Band-Aid, then go grab one.” She appeared very frustrated with him.

Additionally, when Stefan tried to contribute to academic discussions in the classroom through interactions with Susan, she did not extend any of these academic
interactions. She appeared to almost cut off these interactions with blunt responses because she did not want to interact with him any longer than necessary, and she responded to him almost as if she resented having to call of him. For example,

Susan: Stefan, what is your comment?
Stefan: That’s Titans?
Susan: Yes.
Stefan: Are really, really, really big.
Susan: Titans are really, really big.

The types of interactions that Susan conducted with Stefan, whom she had characterized as a difficult student, were supported by research. Nelson and Roberts (2000) conducted a study in which they studied the interactions of teachers with students who displayed disruptive behaviors, such as off-task, noncompliance, rule violations, verbal and/or physical aggression, or defiance, in the classroom. They discovered that these types of behaviors are “offensive to those with whom they interact” (p. 36), and teachers initially responded to these students with a command or a reprimand, similar to Susan. Other studies have also revealed that students who display externalizing problems, such as Stefan, versus internalizing problems have deteriorating relationships with their teachers over time (Henricsson & Rydell, 2004), which supports Susan’s statements and behaviors that her interactions with Stefan had been negatively impacted by his behavior since the beginning of school. Additionally, Cook and Cameron (2010) discovered that as the relationships between teachers and “difficult” students deteriorates over time, the teachers developed strong attitudes of dislike and do not provide any
academic feedback to these students, similar to Susan’s feedback to Stefan in the classroom.

**Summary.** The overall purpose of this study was to replicate and extend previous research by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001) to investigate the attitudes and beliefs of three general education teachers towards students with disabilities, and to determine to what extent their attitudes and beliefs were reflected in the interactions with these students in the classroom. The teachers in this study all scored toward the middle of the Pathognomonic-Interventionist continuum and as a result, their interactions with students could not be compared against each other as the teachers in the original studies were compared. However, themes within each research question were revealed through data analysis. Research question 1, general education teachers’ attitudes and beliefs toward students with disabilities, discovered that each of the teachers held overall positive beliefs and attitudes, but they were challenged by high levels of responsibilities, which impacted their specific knowledge of students with disabilities and their ability to implement effective inclusion in the classroom. This research question also revealed that the general education teachers viewed their special education co-teachers as assistants and restricted their roles in the classroom to students with disabilities. The second research question, interactions between the general education teachers and their students with disabilities, determined that the teachers tended to limit academic extensions with all of their students, with and without disabilities. Research question 3, to what extent were teachers’ attitudes and beliefs reflected in their interactions with students with disabilities, revealed that the general education teachers
do treat their co-teachers as assistants. In addition, each of the general education teachers had varying teaching styles, and more detailed analysis of these teaching styles determined that their attitudes and beliefs were reflected in their interactions with students with disabilities.

**Implications for Future Research**

The importance of the interactions between teachers and students, especially students with disabilities, has been widely accepted, but the connection between the beliefs and attitudes of teachers reflected through their interactions in the classroom has not been widely explored. The findings of this research study did not completely support previous research by Jordan, Lindsay, and Stanovich (1997), and Jordan and Stanovich (2001), but it added to the body of knowledge to connect teacher attitudes and beliefs with interactions in the classroom.

This study provided evidence that middle school teachers do have positive attitudes toward inclusion despite the challenges, which are demonstrated through their caring statements and actions. This study also provided evidence that middle school teachers tended to provide basic academic interactions for all students, with and without disabilities. The findings of this research did support previous research that indicated that teachers do not tend to extend students’ thinking and understanding beyond the basic knowledge; therefore, this represents an area that requires additional research.

As demonstrated through the findings of this study, additional research is needed to fully explore all of the factors that affect teacher interactions with students. There is a complex relationship between teachers’ beliefs, their professional knowledge and
practices, and the impact on students (Pajares, 1992). Although this study did not focus on whether teachers were aware of the differences in their interactions with students, with and without disabilities, previous research has demonstrated that most teachers are unaware of these differences or the impact of these differences on student success in school, or they may be reluctant to state their beliefs in regard to these differences publically (e.g., Cooney, 1985; Montague & Rinaldi, 2001; Siperstein & Godding, 1985; Thompson, 1984). Therefore, research that also incorporates research methods such as stimulated recall would add to this body of knowledge.

In addition, professional development of pre-service and in-service teachers that incorporates awareness of and learning about the differences in interactions with students, with and without disabilities, in the actual classroom is essential. Because teachers form beliefs about students with disabilities based on direct observations or inferences from outside sources (Fishbein & Ajzen, 1975), professional development reading or classes in isolation is not an effective way to change beliefs and behavior (Hall & Loucks, 1982). According to Kagan (1992), one of the best ways to effect conceptual change in teachers is through the use of videotapes, in which the teacher videotapes himself/herself in the classroom and then reflects on the videotape with a group of fellow teachers.

Last, most of the research conducted to investigate the interactions between teachers and students with disabilities has taken place in the elementary school settings. There is only a small amount of studies that have investigated students with disabilities in middle school inclusive classrooms (Nitecavic & Aitken, 1988; York, Vandercook, Heise-Neff, & Caughey, 1989). The transition into middle school is a significant challenge for
students, especially students with disabilities (Elias, 2005; Knesting, Hokanson, & Waldron, 2008). Middle school students are required to meet the different expectations and rules established by each teacher as well as the more rigorous academic standards (Carter, Clark, Cushing, & Kennedy, 2005). Research has indicated that middle school is typically characterized by whole-group instruction with little differentiation in assignments or textbooks (e.g., Eccles & Midgley, 1989; Feldlaufer, Midgley, & Eccles, 1988; Ward, Mergendoller, Tikunoff, Rounds, Dadey, & Mitman, 1982). The subject-area content increases in both depth and breadth, and students are expected to accept more responsibility for independent learning (Carter, Clark, Cushing, & Kennedy, 2005).

In conclusion, further research is needed to investigate the interactions between teachers and students with disabilities at the middle school level, as well as the levels of academic extensions that middle school teacher conduct with all students, with and without disabilities. Research should also be conducted to determine the most effective method to assist teachers in becoming aware of their interactions as well as increasing the expectations for all students in the classroom.

Limitations

The limitations to this study include (a) small number of teachers; (b) short overall observation periods; (c) high number of unidentified students; (d) the interview protocol; and (e) the researcher as a teacher.

Due to the quality and thoroughness of audio and video recordings, the number of teachers in this study was reduced from six to three teachers for analysis. This small number of teachers can only provide a limited perspective, and this perspective was
further limited by the fact that all of the teachers toward the middle of Pathognomonic-Interventionist continuum. The similar scoring between the three teachers did not allow for comparison between teachers of varying attitudes and beliefs.

In addition, the three teachers in this study were only observed for two 90-minute blocks. This limited amount of observation time did not allow for enough time to determine if the findings for each teacher were accurate and consistent demonstrations of his/her attitudes and beliefs.

Although the researcher utilized audio and video tapings in addition to personal observations, there were a significant number of unidentified students, particularly in Becky’s class, that were not available for analysis. These students could not be identified for a couple of reasons. First, the size of the classroom was too large for the camera’s technical capabilities. Second, the researcher was limited in movement around the classroom during observations. The large number of unidentified students was an additional limitation to this study.

An additional limitation to this study was the interview protocol. Based on the analysis of teacher interviews, there were additional areas of concern that were not addressed in the interview protocol that may have revealed more insight into the teachers’ attitudes and beliefs. For example, since inclusive classrooms with co-teaching teams have become more prevalent, the interview protocol should include additional questions about the general education teachers’ views on co-teachers in the classroom.

The last limitation to this study is the researcher as a teacher. As a teacher in the classroom who interacts with students on a daily basis, the separation between the roles
of teacher and researcher were difficult during the analysis of data. The findings of the general education teachers from the study were similar to the challenges in my own inclusion classroom.
### APPENDIX A

**Teacher-Student Classroom Interactions Observation Instrument**

<table>
<thead>
<tr>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudonym of teacher/Grade/Subject:</td>
</tr>
<tr>
<td>Pseudonyms of students:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interaction/Student</th>
<th>Time of Interaction (seconds)</th>
<th>Non-Academic</th>
<th>Academic</th>
<th>Comprehension Monitoring</th>
<th>Partial Cognitive Extension</th>
<th>Full Cognitive Extension</th>
</tr>
</thead>
</table>
APPENDIX B

General Education Teacher Interview Protocol
(Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001)

Teacher Pseudonym: ____________________________________________

Date of Interview: ____________________________________________

Introduction: In today’s interview, I would like to talk to you about a couple of your students. Our discussion will cover the timeframe from when you learned that each student would be a part of your class to the current date. I will ask about your experiences with each student, your opinions about your experiences, and the actions and decisions you made during those experiences. There are no right or wrong answers to my questions. I am simply interested in your perspectives and you should answer as truthfully and candidly as possible.

First, let’s pick a couple of students from your inclusion class whose parents have given consent to participate in the study. Please choose a student who began your class with an established IEP in place and then choose a student from any of your classes that you feel struggles or has difficulties with learning in your classroom.

Let’s talk about the student with the established IEP first.

1. What is the student’s background? Tell me a bit about him or her. How is he or she currently doing in your classroom?

2. Tell me about the time that you learned the student would be in your classroom?
   What happened?
   What records did you check?
   What steps did you take to learn about him/her?
   Did you actively seek to familiarize yourself with him/her?
   Did you request or conduct any assessments?
How did you establish the student’s current level of knowledge of the curriculum?

**What else did you do?**

**Who was involved?**
With whom did you confer?
Parents? Resource? Previous teacher?
How many times? When?

**Why did you do that?**
What did you hope to find out?
Was that what you actually expected?
What did you decide to do?

2a. **Did you do anything special for this student in your classroom?**
What did you try? Why did you do that?
How did you deal with curriculum expectations?
Did you implement instructional accommodations? What did you hope these accommodations would do for the student or hope for him/her to achieve?
What do you think are the kinds of accommodations that the student needs? Do these match the current accommodations outlined in the student’s IEP?
Do you accommodate for other areas? Social needs? Self-concept? If so, how and how often?

2b. **How do you keep track of this student’s progress?**
Do you do anything to keep track of his or her individual progress?
Why do you do that? For what purpose? How often?
Do you monitor progress on the student’s IEP? If not, who does? Do you provide progress data to this person?

3a. **Do you work with any other teachers or staff?**
How does that happen?
Why do you do that? Can you explain how it functions?

4. **Did you make a referral for child study?**
Who, when, why, your role, hopes/expectations, satisfied?

5. **How did you evaluate/monitor the situation?**
What methods used? Frequency? How did you judge your success?

6. **Did you involve the parents?**
When were they first contacted? How often were they contacted? Tell me about how you involved them.

7. What about reporting to parents?
   When, how often, and who?

Let’s talk about a student in one of your classes that you feel struggles or has difficulties with learning in your classroom.

1. What is the name, gender, possible disability, and the amount of time spent in your classroom?
2. What do you see your role with this student being?
   Goals and expectations for him/her? For yourself?
   What information did you seek regarding this student and his/her potential disability?
   How useful was this information? How did you use the information?
   What steps or actions did you take based on this information?

3. With whom did you work with?
   Tell me how you worked with other staff members in the school.
   Who set objectives?

4. How do you coordinate information with special education staff members in the school?

5. Did you attend any team or child study meetings about this student?
   If yes, who, when, why, your role, satisfied?

6. What are your feelings about the collaboration regarding this student?

7. Have you done anything special in your classroom to accommodate the student?
   Class organization?
   Curriculum accommodations?
   Materials?
   Teachings practices?

8. What about evaluating and monitoring?
   Methods used?
   Your own? Others? Coordination of?
   Identification, placement, and review committees?

9. What about data collection and reporting?
Your own?
Others?
Shared?
When?
How often?

10. How would you determine your success with this student?

11. How did you work with parents?
   When first contacted? How often? How did you involve the parents?

12. How did you report to parents?
   When?
   How often?
   Who?

Is there anything else you’d like to tell me about your understanding of how inclusion or implementing accommodations for students with special needs is done at this school?
APPENDIX C

Pathognomonic-Interventionist Teacher Interview Scoring Criteria

(Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001)

Teacher pseudonym: ______________________________________________________

Date of interview: _______________________________________________________

Researcher/coder: _______________________________________________________

The following pairs of criteria establish the PATH (a. items = 1 point) and INT (b. items = 3 points) scores of general education teachers’ reports about their work with students in their current classrooms. A score between 2 can be assigned for descriptions that fall between the a and b items shown below.

1. Referral and Assessment:

A. At-risk student

1a. No pre-referral activities prior to bringing in the special education teacher, or pre-referral activities are used to confirm student problem only.

1b. Pre-referral activities (exploring student’s learning, collecting data, observations, conferring with others) are used to program for the at-risk student.

2a. Purpose of referral is to examine student’s deficits and confirm student’s problem.

2b. Purpose of referral is to clarify student’s learning characteristics and request alternative programming approaches for teacher to try.

3a. Teacher refers student for testing within one month of school year.

3b. Teacher refers student for testing after first month or later.
4a. Teacher attributes problem to characteristics of students and expect others (e.g., special education teacher) to deal with it.

4b. Teacher views problem as composite of environment, teaching and learning factors, and expects to deal with it in the general education classroom.

B. Student with disabilities (has an established IEP)

5a. Teacher sought no previous information about the student’s characteristics beyond the information in the IEP

5b. At start of year, teacher accessed a variety of sources (previous teachers, special education teacher, case manager, parents, principal) to find out about student’s learning characteristics.

6a. Teacher relies on IEP, regularly scheduled testing and system wide tests to assess student’s current level.

6b. Teacher conducts informal assessments, observations and uses frequent sources to assess student’s current level.

Subscore on section 1:

2. Programming (both students):
1a. Teacher does not set, copy, or record individual goals or objectives.

1b. Teacher records or copies and follows individualized education program goals or objectives.

2a. Teacher does not monitor student’s progress in order to adapt, update, or guide instruction. Student progress is checked only for purposes of reporting (e.g., interim or report card time, parent interviews).

2b. Teacher monitors student progress in order to adapt, update, or guide instruction. Student progress is checked regularly and frequently.

3a. Teacher does not make accommodations for students with disabilities (e.g., flexible groupings, peer pairings, seating arrangements, classroom and furniture layout).

3b. Teacher makes one or more accommodations for students with disabilities (e.g., flexible groupings, peer pairings, seating arrangements, classroom and furniture layout).
4a. Teacher does not adapt teaching techniques for student (e.g., peer tutoring, cooperative groupings, individualized program packages, adapted materials, tests or worksheets).

4b. Teacher adapts teaching techniques for student (e.g., peer tutoring, cooperative groupings, individualized program packages, adapted materials, tests or worksheets).

Subscore on section 2:

3. Review (both students):

1a. Teacher is unaware of student referral resources/meetings or sees it as a route only for getting student into special education.

1b. Teacher is aware of student referral resources/meetings to seek additional resources for self to use with student.

2a. Teacher sees the student referral resources as confirmation of the student’s deficit.

2b. Teacher sees the purpose of the student referral resources as the route to review student’s progress and supply further resources.

3a. Teacher reviews the student’s progress at regularly scheduled intervals for school and testing, and/or reporting to others.

3b. Teacher reviews student progress on an on-going basis.

Subscore on section 3:

4. Communication with Staff:

1a. Teacher works largely alone, except to refer student out.

1b. Teacher works cooperatively with special education teachers.

2a. Teacher does not collaborate to carry over classroom program to the special education program.

2b. Teacher collaborates with special education teacher/case manager to carry over classroom program to the special education program.
3a. Teacher does not collaborate or conduct planning to plan and carry out individual program in own classroom.

3b. Teacher collaborates or conducts planning to plan and carry out individual program in own classroom.

4a. General education teacher does not report to or receive report from special education teacher about progress of student, but assumes each keeps own records.

4b. Teacher meets at regular intervals with special education teacher to discuss progress of student.

**Subscore on section 4:**

**5. Communication with Parents:**

1a. Teacher contacts parents of at risk/student with disabilities only at times required for reporting, such as interim or report card time.

1b. Teacher contacts parents early in the school year, and prior to interim/report card time.

2a. Teacher contacts parents only when student exhibits major problems.

2b. Teacher keeps in touch with parents at least weekly, for example, by phone calls, notes home, e-mails, annotations to student work to which parents are asked to respond.

3a. Teacher reports student progress to parents for that portion of the program for which teacher is responsible. No coordination of reporting to parents is done.

3b. Teacher coordinates and shares the reporting of student’s progress to parents with special education teacher.

**Subscore on section 5:**

**Total Score:**
APPENDIX D

Teacher Demographic Questionnaire

The teacher participant will complete this demographic questionnaire prior to the teacher interview.

1. Teacher’s name and pseudonym:

2. Gender:

3. Race/Ethnicity:

4. Highest Earned Degree/Subject:

5. Overall Years of Teaching Experience:

6. Method of Teacher Certification (Traditional or Alternative):

7. Area of Teacher Certification(s):

8. Years of Experience Teaching Students with Disabilities:

9. Current Teaching Grade and Content Area:

10. Years of Experience Teaching at Brooks Middle School:
APPENDIX E

Student Demographic Questionnaire

The information on this demographic questionnaire will be collected from the school administration for each student with disabilities and without disabilities selected to participate in the study.

1. Student’s name and pseudonym: ________________________________

2. Disability classification(s) on IEP: ________________________________

3. Date of initial referral (if available) and/or date of initial eligibility: ______________

4. Age: _______________________

5. Male or female? ___________________

6. Grade: _______________________

7. Race/Ethnicity: _______________________

8. Standardized academic test scores:
   a. Test:________________________ Score(s):_____________________
   b. Test:________________________ Score(s):_____________________
   c. Test:________________________ Score(s):_____________________
   d. Test:________________________ Score(s):_____________________
   e. Test:________________________ Score(s):_____________________
   f. Test:________________________ Score(s):_____________________
Teacher Recruitment E-mail

Dear Teachers of Brooks Middle School,

I am currently completing a research study through George Mason University, and I am seeking twelve general education teachers (math, science, social studies, or language arts in any grade level) who would be willing to participate in my study. In my study, I will be studying interactions between you and your students as it relates to your teaching practices. Your participation would involve approximately one-half hour of pre-coordination, 2 90-minute blocks of videotaped observations in your classroom, and an approximate 1-hour audio taped interview at a time and place at your convenience. The data and information I collect from you during my research study would be kept strictly confidential and will not be shared with anyone or impact your position as a teacher. As a fellow teacher, I realize how valuable your time is therefore; teachers who complete my research study will receive a $25 gift card to Amazon.com.

If you are interested in participating in my research study, please reply to this e-mail and I will set up a separate time to meet with you to discuss more details. Thank-you in advance for your time.

Respectfully,

Jeannine Bagnall
Teacher Permission for Participation in Research: Informed Consent

Project Title: Interactions Between Teachers and Students

RESEARCH PROCEDURES
This research is being conducted to observe the interactions between general education teachers and students with and without disabilities in their classrooms as a part of your teaching practices. If you agree to participate, you will be asked to allow a trained researcher to videotape observations in your classroom for two 90-minute blocks of instruction, one week apart. You will also be asked to be interviewed after the classroom observations for approximately 1 hour at a time and place of your convenience to discuss the observations made in your classroom.

RISKS
There are no foreseeable risks for participating in this research.

BENEFITS
There are no direct benefits for participating in this study.

CONFIDENTIALITY
The data in this study will be strictly confidential and maintained in secured office available only to research personnel. All data collected will be identified only in terms of pseudonyms and only the researcher will have access to participants’ names in connection to the pseudonyms. All data reported will not be identifiable to any
individual. All video/audio tapings will also be analyzed under these terms and once data is collected, coded, and analyzed, these tapings will be destroyed.

PARTICIPATION
Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT
This research is being conducted by Jeannine Bagnall, a PhD student in the College of Education and Human Development at George Mason University and Gary Galluzzo, from the College of Education and Human Development at George Mason University. Jeannine may be reached at (202) 669-2738 and Dr. Galluzzo may be reached at (703) 993-2567 for questions or to report a research-related problem. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT
I have read this form and agree to participate in this study.

__________________________
Name
__________________________
Date of Signature
_______ I agree to video/audio taping.
_______ I do not agree to video/audio taping.

Version date: 10/25/09
APPENDIX H

Parent Permission for Participation in Research: Informed Consent

Project Title: Interactions Between Teachers and Students

RESEARCH PROCEDURES
This research study is being conducted to observe the interactions between your student and your student’s teacher(s) as a part of classroom practices. Your child’s teacher will be asked to be video/audio taped within his or her classroom to analyze these interactions. All students within the classroom are being asked to be video/audio taped in an effort to acquire realistic and meaningful context in an established setting as well as being the least disruptful to the day-to-day conduct of the classroom. Tapings will be conducted for two 90-minute blocks of instruction, one week apart, commencing on April 1st.

In addition to the classroom observations described above, the primary researcher will require access to your student’s school record to obtain demographic data. This demographic data will only be used to describe the overall student sample within the study. Your student’s specific demographic data will not be identifiable in any way.

This consent form and a student assent form were distributed to your child in his or her classroom by the primary researcher. At that time, the information contained in this letter and their assent form was described and any questions were answered. Students were encouraged to take their forms home and discuss the taping with you before signing them and returning them to a designated place in the school.

RISKS
There are no foreseeable risks for participating in this research.
BENEFITS
There are no benefits to you or your student as a participant.

CONFIDENTIALITY
The data in this study will be strictly confidential and maintained in secured office available only to research personnel. All data collected will be identified only in terms of pseudonyms, and only the researcher will have access to participants’ names in connection to the pseudonyms. All data reported will not be identifiable to any individual. All video/audio tapings will also be analyzed under these terms and once data is collected, coded, and analyzed, these tapings will be destroyed.

PARTICIPATION
Your child’s participation is voluntary, and your child may withdraw from the taping at any time and for any reason. If you decide not to participate or if you withdraw your child from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or your student.

CONTACT
This research is being conducted by Jeannine Bagnall, a PhD student in the College of Education and Human Development at George Mason University and Gary Galluzzo, from the College of Education and Human Development at George Mason University. Jeannine may be reached at (202) 669-2738 and Dr. Galluzzo may be reached at (703) 993-2567 for questions or to report a research-related problem. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research. This research has been reviewed according to George Mason University procedures governing your child’s participation in this research.

CONSENT
I have read this form and agree to my child’s participation in this study.

__________________________
Name

__________________________
Date of Signature

_______ I agree to my child being video/audio taped.
_______ I do not agree to my child being video/audio taped.

Version date: 10/25/09
APPENDIX I

Gary R. Galluzzo and Jeannine A. Bagnall
(703) 993-2567; FAX: (703) 993-2063
Email: ggalluzz@gmu.edu; jbagnall@gmu.edu

Student Permission for Participation in Research: Informed Consent
Project Title: Interactions between Teachers and Students

RESEARCH PROCEDURES
I am doing this study to find out about how you and your teacher interact in the classroom. I would like to video/audio tape you in the classroom with your teacher. This will help me to remember what your interactions with your teacher in the classroom. You are not required to do or say anything special. You will not be affected by helping me with this study and I will not share this information with anyone else. I will be taping at two different times in your classroom for 90-minute block of instruction. I will not talk or interact with you during the taping.

RISKS AND BENEFITS
You will not be affected in any way if you take part in this study. There are no rewards or money paid for being in this study.

CONFIDENTIALITY
Your name or identity will not be used. We will never tell anyone who you are and the only people who will see the tape are the researchers. Your principal, teachers, friends, or parents will not see the tape.

PARTICIPATION
You don’t have to be video/audio taped if you don’t want to. If you change your mind before or during the taping, you can stop. We will not get mad and nothing will happen to you.
CONTACT
Our names are Jeannine Bagnall and Gary Galluzzo. Jeannine is a student at George Mason University and you can call her at (202) 669-2738. Dr. Galluzzo is a professor at George Mason University. You can call him if you have any questions about this taping at (703) 993-2567.

The George Mason University Office of Research Integrity & Assurance knows about our research. You can call them at (703) 993-4121 if you have any questions about your rights as a participant.

CONSENT
I have read this form and agree to participate in this study.

__________________________
Name

__________________________
Date of Signature

________ I agree to video/audio taping.

________ I do not agree to video/audio taping.

Version date: 10/25
Thank you for taking time from your busy and demanding teaching schedule to help me with my research. I greatly appreciate your participation.

I would now like to tell you a bit more about my study. At the beginning of the study, I informed you that the purpose of this study was to study your teaching practices within the classroom. However, there was a more specific purpose to my study, which was to study your academic and non-academic interactions with 3-5 students with disabilities and 2 students without disabilities in your classroom. My purpose was not to “trick” you, but to allow you to naturally interact with your students as you would on a daily basis. If I had informed you of the specific purpose to this study prior to today, it may have influenced your behavior in a way that would make investigations of the research question invalid. So, there was a misleading aspect to this study, but I hope you understand this was an important consideration in the study. Do you have any questions at this point?

By studying general education teacher interactions with students with disabilities in their classrooms, I believe this will provide insight into the nature of providing instruction to students with disabilities within the inclusive general education classroom.

All of the information collected from during this study will be kept in complete confidentiality and there will be no way of identifying you or your responses with your identity. Please do not discuss this research with anyone else. If you are uncomfortable in any way with your participation in this study, please inform me.

Your participation was greatly appreciated and if you are interested, I can provide access to the final study at completion.
REFERENCES


CURRICULUM VITAE

Jeannine A. Bagnall is originally from Michigan. She retired from the United States Air Force in 2008 after 22 years of service. During her enlistment, she received a Bachelor of Science in Business and Management from the University of Maryland in 1993; a Master of Science in Education from Old Dominion University in 1991; and a Master of Science in Strategic Intelligence from the National Defense Intelligence College in 2003. She is currently employed as a science teacher in Loudoun County, Virginia.