


1-1-2009

# The relationship between instructional delivery and academic motivation of included elementary school students with special needs

Daniele L. Kass  
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2009

ABSTRACT

The Relationship Between Instructional Delivery and Academic  
Motivation of Included Elementary School Students With Special Needs

by

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M.A., New York University, 1998

B.A., University at Albany, State University of New York, 1996

Doctoral Study Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Education  
Teacher Leadership

Walden University  
August 2009

## ABSTRACT

Federal and local school system reports demonstrate an academic achievement gap in inclusive classrooms between students with and without disabilities, prompting attention to alternative instructional practices that support motivation and performance of included students. The purpose of this concurrent nested mixed method study was to fill a void in the literature and explore the impact of interdisciplinary thematic instruction on the motivation levels and performance outcomes of 6 included 5<sup>th</sup>-grade elementary students with special needs. A multiple case study design guided observations and interviews of 3 participants receiving interdisciplinary, theme-based instruction and 3 participants who continued to receive the traditional, single subject, textbook-driven instruction used prior to the study. Field notes and interview transcripts were analyzed using a coding system of pre-existing typologies derived from a constructivist theoretical framework. An academic content assessment was administered and analyzed with SPSS software using descriptive statistics to explore mean performance variation as an outcome of motivation. Individual and cross-case analysis revealed that participants receiving interdisciplinary thematic instruction had greater motivation for participation and better academic performance than participants receiving traditional instruction. Emergent themes of social integration, self-relevance, and cross-curricular connections identified collective factors that influence motivation and participation of included students, and provided implications for social change among school systems in instructional practices employed in inclusive classrooms. The researcher recommends training for administrators, educators, and parents to facilitate and support instructional delivery reformation among inclusive learning communities.



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## DEDICATION

This dissertation is dedicated to my family and loved ones, here and above, who unconditionally support and encourage my dreams: to my husband, Brian Kass, and my beautiful sons, Jordan and Brandon; to my parents and grandparents, Stewart and Victoria Einwohner, Victor and Annette Aiello, and Daniel and Constance Einwohner; to my “other” parents and grandparents, Loretta Kass, Sheldon Kass, and Irving and Gertrude Young; to my brothers and sisters, Victor, Stewart, Thomas, Kristin, Cheryl, and Tori; to my niece, Peyton.



## ACKNOWLEDGEMENTS

“Children are likely to live up to what you believe of them.”

Lady Bird Johnson

When a person believes in your efforts, the motivation to endure and succeed is undeniably profound. A heartfelt thanks is extended to my family, friends, and colleagues, who have shared their love, confidence, and support of my personal and professional goals and achievements.

First, I extend a loving thank you to my parents, Victoria and Stewart, who have always encouraged me to strive to reach my greatest potential and taught me love, compassion, and patience. Their faith in me and pride in my achievements have defined who I am and have inspired me to continuously improve. In support of the values my parents have instilled, I thank my extended family, my in-laws, Loretta and Sheldon, who continuously remind me that no goal is unattainable. I thank my grandparents, Annette and Victor, who have always expressed confidence in my abilities and continue to grace me with their wisdom and guidance. I thank them for reminding me that no honest effort goes unrewarded. My heartfelt gratitude and love is extended to my siblings, my brothers, Victor, Stewart, and Thomas, and to my sister-in-laws, Kristin, Cheryl, and Tori. Thank you for always being my greatest fans, for reminding me to keep smiling, and holding my hand through triumphs and difficulties.

My sincerest gratitude is extended to my friends, colleagues, mentors, and students. Thank you for sharing with me your own experiences, inviting me into your lives, your hearts, and your classrooms. I especially want to thank Jen, Cara, Erin, Sara, and Tara, for always listening and supporting my efforts. Your support and friendship is invaluable. Thank you to my doctoral committee and the Walden community who have been very supportive of my journey. Dr. Jones and Dr. Zamora, thank you for your patience, wisdom, and guidance. I am very fortunate to have had the pleasure of working with true professionals.

None of this would have been possible without the love of my life. Brian, as my husband, life partner, and very best friend, I cannot express enough gratitude for your faith and love. I am extremely grateful that I have you to share my accomplishments and achievements. Your confidence in me is unwavering. Thank you for encouraging me to take risks, for laughing with me, wiping my tears, easing my anxieties, and loving me as I am. Thank you for enduring this journey with me, and never letting go of my hand along the way.

Finally, I share my gratitude and unconditional love with the two sole individuals who are the very purpose for my being, and who encourage each personal and professional decision I make. To my angels on earth, my sons Jordan and Brandon, I thank you for the joy you bring to my life each and every day, and for reminding me how important it is to nurture and protect childhood innocence. You continuously encourage

me to reflect on the importance of my role as a parent and an educator, and the value of my work and passion in the lives of children with and without disabilities. You are and always will be my inspiration and my greatest gift.

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## SECTION 1:

### INTRODUCTION TO THE STUDY

#### Inspiration for Inquiry

Federal legislation and educational initiatives, including the No Child Left Behind Act (NCLB; 2002) and the reauthorization of the Individuals with Disabilities Education Act (IDEA; 2004), continue to guide a standards-based reform movement across the nation. In response to the demands of educational standards and an increasing number of identified students with disabilities, states have developed comprehensive evaluation plans to measure adequate yearly progress. IDEA mandated the practice of including students with special needs in this evaluation, increasing complexity for educators. While this mandate promises to ensure that students with special needs receive equitable learning opportunities as their peers who do not have disabilities, it charges educators with the daunting task of providing instruction that supports the needs of all learners, addressing variances in student learning styles, and attaining curricular and individual education plan (IEP) objectives, while maintaining motivation for learning in a shared collaborative setting.

The National Education Association (NEA; 2008) estimated that across the nation, more than 6 million students with disabilities are serviced in the public school system. According to the U.S. Department of Education (2007), approximately 55% of this population spends more than 80% of the school day in general education classroom settings. This percentage has increased by nearly 10% from a decade ago as federal initiatives have driven the inclusion movement and ultimately have guided an increase in

the number of students who are now serviced in the general education classroom. With a challenging responsibility at hand, many inclusive classroom environments continue to utilize a traditional teaching approach driven by paper and pencil tasks to ensure that all standards are addressed and curricular content introduced complies with state and federal mandates (Murray, Shea, & Shea, 2004). Studies have demonstrated that educators are overwhelmed by demanding curriculum and have difficulty managing time to address all subject domains (Pringle & Martin, 2005). Teachers seek refuge in provided textbooks and through the segregation of subject disciplines; thus, a textbook-driven curriculum becomes their primary means of instruction. Attention to IEPs is often left to special educators to assimilate into class lessons. Hence, students with special needs become accustomed to textbook learning with modifications to meet curricular and IEP-driven objectives. As a result, all students in the inclusive setting experience a reduction in opportunities for active participation in learning experiences that motivate expanded inquiry, self-discovery, and the establishment of authentic concept connections that model real-world situations. Experiences that honor student diversity, with lessons that differentiate content and socially integrate learners to develop concept connections, are minimal in a classroom that relies on traditional methodology (Broderick, Mehta-Parekh, & Reid, 2005). Ultimately, students with special needs often struggle with the disadvantages presented by a one-size-fits-all curriculum, reducing their motivation to participate in the learning process.

The Nation's Report Card (2007) recently reported that across the nation, students with special needs continue to lag academically behind their disabled peers who do not have disabilities. An examination of data from Grades 4 and 8 highlights an overall increase in reading and mathematical performance levels from a decade ago. However, the gap between special and general education students still remains fairly consistent. Across curricular areas, similar trends support evidence of the need for instructional reform that provides equitable learning experiences for diverse learners. Inequitable opportunities for knowledge acquisition among inclusive classroom settings present a significant concern about the rights of individuals with disabilities and the responsibility of educators and community stakeholders to support the needs of all children and afford them knowledge and experiences that will guide them to become productive citizens in the future.

Across the United States, debate among educators continues over the identification and implementation of an instructional methodology that best supports the needs of the inclusive population (Boyce & Hine, 2002; Saville, Zinn, & Elliott, 2005). Research on traditional and interdisciplinary pedagogical practices continues to stimulate the ongoing challenge of the educational community to concurrently identify an optimal inclusive instructional approach (Begency & Martens, 2007; Saville et al., 2005). Traditional practices, defined as textbook-driven instruction, and interdisciplinary instruction that overlaps curricular content in lessons have dominated much of the debate. Proponents of both teaching approaches argue the support that each methodology

provides to the inclusive learning community. Researchers in support of traditional practices contend that interdisciplinary instruction presents difficulty for students with special needs because of a lack of concrete single subject presentation and the isolation of minimal academic standards presented at once (Boyce & Hineline, 2002).

On the contrary, studies supporting interdisciplinary pedagogy for students with disabilities illustrate benefits from cross-curricular connections encouraging multiple opportunities for skill development and support for individual strengths and weaknesses (Barton & Smith, 2000; Tomlinson & Jarvis, 2006). Further, research on motivation complicates the arguments presented on behalf of each methodology, with studies illustrating the impact that instructional delivery has on motivation for participation in learning (Edmunds & Bauserman, 2006; Kluth, Straut, & Bilken, 2003; Marzano, 2003; Whitehurst & Howells, 2006). Questions among the educational community remain concerning which instructional practices yield the most beneficial learning opportunities for included students with special needs. Collective dialogue and further exploration of instructional methodology and motivational learning are warranted to develop and support the implementation of an instructional approach conducive to the needs of a heterogeneous population within an inclusive setting.

Educational reform must support attention to the academic gap existing between students with disabilities and their peers who do not have disabilities. The academic gap must be addressed in classrooms through an inclusive curriculum delivery approach that supports all levels of academic learning, models real world experiences, reinforces social

integration among students with and without disabilities, and encourages content skill development necessary to prevent a future society divided by productive and nonproductive individuals. Educators must direct attention to the inclusive environment and collaborate to align instructional methodology with student needs, goal achievement, and motivation for active participation in learning. In the following section, the researcher explores in detail the theoretical constructs that substantiate the factors examined in the current study.

#### Problem Statement

In 2008, the New Jersey Assessment of Skills and Knowledge (NJASK) documented that classified students with special needs included with their general education peers for content instruction continued to academically perform lower than their general education counterparts (New Jersey Department of Education, 2008). Within the small northern New Jersey community in this study, with a population of approximately 16,400 people, the 2008 NJASK elementary school score report revealed that elementary students with special needs demonstrated literacy and mathematics scores that were significantly lower than those of their general education peers. The collaborating general and special educators of the inclusive classroom settings within this community rely on traditional teaching practices, textbook-driven instruction with repetitive skill drills of pencil and paper tasks, to teach content as isolated subject disciplines.

Research on inclusive environments describes that heterogeneous populations require equitable differentiated opportunities for all learners to participate and apply emerging skills to strengthen concept development (Gordon, 2006; Tomlinson & Jarvis, 2006). Within the community in this study, the inclusive educators report that minimal opportunities currently exist for cross-curricular connections and peer collaboration with current teaching practices. Additionally, while modified with quality and quantity reductions of oral and written assignments for students with special needs, instruction followed a routine schedule of whole class lecture and independent assessment of content attainment for all learners. Educators in this community emphasize a lack of participation from students with special needs in the inclusive classrooms. The population of included students with special needs continue to perform significantly low in comparison to their general education counterparts on classroom content examinations, in addition to the annual state standardized assessment.

As research strongly supports the existence of a consistently high correlation between motivation and academic performance (Dweck & Elliot, 1983; Marzano, 2007), questions regarding low levels of participation and academic achievement of included students concern the community of this study. Inquiry into the teaching and learning constructs that identify an appropriate instructional delivery format of the inclusive classrooms within this community is warranted. This study explored the impact of instructional reform on changes in student motivation to promote equitable opportunities for increased levels of academic performance for included students with special needs.

### Nature of the Study

This study explored the impact of interdisciplinary thematic instruction on the motivation levels for participation of students classified with specific learning disabilities (SLD) who are included in the general education setting. A concurrent nested mixed methods approach that utilized a multiple case study design was employed to understand the impact of instructional delivery on motivation and the relationship between motivation and academic performance of included students. Further, participants' perceptions about their academic performance in the inclusive setting that utilized a multidisciplinary instructional approach were reviewed. The use of a multiple case study design enabled the researcher to evaluate the effects of implementing an interdisciplinary thematic instructional approach on the performance of several individuals. As Kazdin (1982) noted, with a multiple case study design, "The cases may be treated as a single group at the same time" (p. 93). Further, cases may be "accumulated into a final summary statement of treatment effects" (Kazdin, 1982, p. 93).

This design was selected because it "provides a strong basis for drawing valid inferences about the impact of treatment" (Kazdin, 1982, p. 94). The researcher employed a concurrent nested approach to collect qualitative and quantitative data simultaneously during a single data collection phase (Creswell, 2003). Quantitative methods were embedded within the guiding qualitative case study method. Qualitative data, collected through interviews and observations of study participants, guided the focus of this research. Quantitative data in the form of a content skill assessment was used to

substantiate findings enabling the researcher to enhance the details of the sample participants' perspectives and experiences (Creswell, 2003). Findings resulting from qualitative and quantitative methods were combined during data analysis and interpretation.

Six students from two elementary inclusive classrooms containing a general education teacher, a special educator, and an approximate ratio of 20% classified students to 80% nonclassified students were selected for participation in this study. Each participant was selected based on a score of 150-199 (partially proficient) on the 2008 New Jersey Assessment of Skills and Knowledge-4 (NJASK4). Participants' scores on two subtests of the NJASK4 were matched for equivalent grouping. Additionally, each participant was classified with an SLD, characterized by a perceptual disability or dyslexia as reflected in a developed IEP that had been in effect for a minimum of 6 months.

Each participant demonstrated, with parental consent, willingness for study participation. Three participants' perceptions about the instructional environment of an inclusive setting that utilized interdisciplinary thematic instruction were obtained and compared with the perceptions of 3 included students who received a traditional format of instruction. Data collection included a 1-week prestudy baseline phase, 4-week intervention phase, and 1-week poststudy phase. Observations and interviews that utilized an open-ended questioning format supplied detailed descriptions of student perceptions and motivation for participation. The researcher employed a coding process to organize



the data collected during interviews and observations. Academic assessments were reviewed pre- and poststudy to further explore the relationship of performance outcomes and motivation for each participant. A multiple case examination incorporated an in-case analysis of individual perceptions and motivation levels, as well as a cross-case analysis, which explored common themes among the outcomes of each case.

All students participated in lessons that incorporated the same content and objectives, with variations existing between the two instructional formats in activities and delivery approach. The general and special educators involved in this study each had experience with modification use for children with specific learning disabilities and utilized comparable adaptations to instructional delivery as specified by each learner's IEP to ensure consistent and equitable opportunities for student participation. Further methodological detail is disclosed in the third section of this study.

### Research Questions

A concurrent nested mixed methods approach incorporated a case study design with experimental conditions to qualitatively and quantitatively collect and describe study findings. Multiple case study analysis across individuals directed the data collection format of the study. Case study narratives for each participant, resulting from detailed outcomes of classroom observations and open-ended interviews, were guided by the following questions, which supported the inquiry:

1. What is the impact of multileveled lessons supported by activities that are thematically driven on the motivation levels of students with special needs?

2. How do students with special needs perceive their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers?

3. How is the academic performance of included students with special needs impacted by their motivation to participate in the learning environment?

### Study Purpose

The purpose of this concurrent nested mixed methods study was to explore the impact of interdisciplinary thematic instruction on motivation levels of included students with special needs in the elementary general education setting of a public school in northern New Jersey. This study employed a multiple case study design to direct exploration of included students' perceptions of the inclusive learning environment and motivation levels for participation in multi-subject thematic lessons as factors that influence the outcomes of this teaching methodology. Interdisciplinary thematic instruction is defined in this study as the implementation of curricular units of study that focus on a central theme (Gardner, Wissick, Schweder, & Canter, 2003). Such units offer multiple collaborative activities that vary according to learning styles and levels, while incorporating subject disciplines to establish connections between new and learned information. The inquiry format of this study included baseline and poststudy assessment of student perceptions and performance utilizing observations, interviews, and an academic content assessment of 6 students with special needs in a fifth-grade inclusive setting. Qualitative and quantitative data, collected and analyzed as a result of this inquiry, identified an approach to curriculum delivery that supports motivation for

participation in learning and improves academic performance within inclusive settings.

The researcher anticipated that the outcomes of this study would encourage reform of the instructional practices within inclusive learning communities.

### Theoretical Framework

The present study was based on six integrated theoretical frameworks. The frameworks described include constructivism, brain-based learning theory, learning styles, multiple intelligence theory, cooperative learning, and academic motivation theory. Constructivist theories assert that learning is the outcome of cognitive processing that constructs meaning from knowledge and experience. Piaget (1972) described cognitive development as a process in which a child internally establishes connections between related concepts, creating associations between new and previously acquired knowledge, and uses these webs of networked information to respond to external elements in the environment. As a child matures, advancing through developmental stages, cognitive comprehension is impacted by environmental influences (Piaget, 1990).

Like Piaget, Vygotsky (1978) emphasized the critical effect that environmental experiences have on cognitive development. Vygotsky stressed that a child's environment should be enriched with opportunities to construct meaning through social exchanges of knowledge. Through environmental interactions and social exchanges of knowledge, previously acquired concepts are strengthened and new learning results (Bruner, 1960). Research that supports constructivist ideals explained, "The intellectual development of a child responds to influences from the environment, notably the school

environment” (Bruner, 1960, p. 39). The development and implementation of instruction plays a vital role in providing each student with an opportunity to maximize personal understanding of the world. Educators must encourage and support students’ participation in the learning process by providing authentic educational experiences that foster fundamental skill development. Thus, instructional delivery practices that offer multiple opportunities to participate in varied, related experiences support a constructivist view of learning.

While constructivist principles stress the importance of internal and external factors on cognitive development, studies in brain research (Caine & Caine; 2006; Hart, 1983) offer insight into the biological processes of cognitive development and environmental influences that stimulate growth. According to Caine and Caine (2006), “Every student is biologically equipped to learn from experience” (p. 50). Information-processing theories demonstrate the brain’s utilization of patterns and organized networks to store learned concepts, recall information, and establish new connections. Kovalik and Olsen (1994) developed a model of integrated thematic instruction (ITI) based on the understanding of the organized system of the brain. The success of this model relies on an educational environment that stimulates information processing and produces learning opportunities that are related. Kovalik and Olsen asserted the need for a curriculum that is coherent and integrated to support the mind’s natural search for patterns and conceptual associations.

Learning styles are defined by the process in which external information is internalized by an individual (Pym, 2007). Generally, three dominating styles for information acquisition include auditory, visual, and tactile or kinesthetic input. Learning styles represent modes for information interpretation. Research demonstrated that attention to an existing variation of learning styles elicits optimal opportunities for collective learning (Olson, 2007).

Cognitive abilities and learning preferences are assorted among individuals. Multiple intelligence theory supports instructional delivery practices that are differentiated and interdisciplinary to support the range of intelligence profiles that exists among individuals. Gardner (2006) explained this theory as “a pluralistic view of [the] mind, recognizing many different and discrete facets of cognition, acknowledging that people have different cognitive strengths and contrasting cognitive styles” (p. 5). Multiple intelligence theory recognizes the diversity of cognition that is facilitated by each individual’s structure of the mind, resulting in various demonstrations of intelligence profiles among a population of learners. Therefore, student-centered instructional practices accommodate the interconnected skill development of learners, encouraging content attainment, comprehension, and associations across subject disciplines, which enable outcomes that are authentic and individually significant (Tomlinson & Eidson, 2003).

Employing differentiated instructional strategies to support present and emerging multiple intelligence abilities provides opportunities for social integration of students to

scaffold varying skill strengths. Research on cooperative learning theory (Coke, 2005; Fore, Riser, & Boone, 2006; Lave & Wenger, 2001; Slavin, 1987) explained that knowledge acquisition results from social exchanges in the environment. Social integration provides students of inclusive communities with opportunities to develop skills through a shared distribution of content. With peer interactions organized in lesson activities supporting cognitive development, students with special needs are more likely to experience self-confidence in their ability to participate in the learning process.

Motivation theories (Brophy, 1988; Carter & Kennedy, 2006; Glynn, Auttman, & Owens, 2005) supported the use of integrated, differentiated, and cooperative instructional strategies to encourage the maturity of academic self-confidence and skill development experienced by students with special needs. Research on motivation demonstrated that without instructional strategies to support motivation for participation in learning, students with disabilities are often lacking a sense of belonging (Whitehurst & Howell, 2006). However, when motivated, students with special needs may experience a greater sense of acceptance as a valued contributor to the learning community. Collectively, an integration of pedagogical practices that are rooted in theory may potentially affect the level of motivation for participation in the learning process experienced by all participants in an inclusive setting, thus impacting students' academic achievement performance outcomes.

### Definition of Terms

Throughout this investigation, several keywords and phrases were used that were unique to this study. The terms are described below as they apply to the study.

*Inclusion:* the education of students with special education needs in general education programs (Idol, 2006). While no legal definition defines inclusion, according to IDEA (2004), to the maximum extent appropriate, special education students must be placed in the general education classroom for academic instruction. Therefore, inclusion represents an environment in which students with special needs and their peers without disabilities are accommodated simultaneously, regardless of ability levels or learning preferences. For the purpose of this study, inclusion refers to a heterogeneous learning community, exhibiting a wide range of learning profiles, and sharing a common instructional environment throughout the school day.

*Interdisciplinary thematic instruction:* a teaching methodology that supports the integration of content from multiple subject disciplines into a common lesson or unit of focus. Gardner, Wissick, Schweder, and Canter (2003) characterized interdisciplinary instruction as a teaching strategy that employs variations in student groupings, utilizes connections between concepts through curriculum overlapping to develop understanding, and incorporates project-based activities that emphasize the blending of students and skills. Interdisciplinary instruction seeks to reduce fragmentation in learning that often results in curriculums that focus on single subject disciplines in isolation.

*Motivation:* explains why individuals behave in a particular way (Marzano, 2003).

Motivation can be driven by several constructs, including an individual's drive and ambition to succeed, perceptions of ability and task difficulty, self-worth and personal emotions, and an awareness of progress towards meaningful goals (Marzano). In the context of the present investigation, motivation refers to students' individual voluntary engagement in the learning processes that are defined by the instructional environment. Motivation is viewed as a necessary construct to facilitate participation in instructional lessons and activities.

*Perception:* commonly refers to an individual's view of a situation, event, or construct (Bandura, 1995). The present research explores the perceptions of students with special needs. Perceptions, in the context of this study, are individually based interpretations of one's beliefs about learning, the environment, and self-efficacy. Bandura described self-efficacy as personal beliefs about the ability to achieve success. Perceptions ultimately determine how individuals process and respond to environmental stimuli.

*Students with special needs (also students with exceptionalities and special education students):* a population of learners who demonstrate skill deficits or weaknesses requiring additional support to achieve functions that the average individual at each chronological stage of development can accomplish independently (New Jersey Department of Education, 2007). Disabilities that affect individuals vary, but may include cognitive, physical, emotional, and behavioral limitations. Further, the level of difficulty



experienced by a student can vary in domains and degrees among individuals. For the purpose of this investigation, students with special needs refer to individual learners who exhibit mild to moderate cognitive weaknesses with a learning disability classification and are included in the general education learning environment. Each individual receives special education services, as defined by an IEP.

*Thematic units of study:* an organized set of lesson plans that an educator can utilize to address multiple curricular concepts and accomplish standard objectives using a central idea to focus instruction. Thematic units of study are grouped according to the selected central theme to develop skills across subject disciplines. Previous research (Barton & Smith, 2000; Gardner et al., 2003; Jenkins, 2005) suggested that the use of a central theme that is authentic and familiar to students to organize curricular content enables the development of logical connections and produces new knowledge.

*Traditional instructional approach:* a teacher-centered model of direct instruction that encourages lecture-based learning with minimal student collaboration. The learning process is viewed as a transfer of knowledge from teacher to individual student. Teacher-provided content lecture and modeling, usually guided by individual curriculum guides, are followed by individual student participation in practice work and teacher review of paper and pencil tasks (Boyce & Hinline, 2002).

## Assumptions, Limitations, and Delimitations

### *Assumptions*

In the context of the study, the researcher assumed that increases in motivation produce greater levels of academic achievement based on numerous studies on motivation (Edmunds & Bauserman, 2006; Whitehurst & Howells, 2006) that lend support for a positive correlation between motivation and performance outcomes. It was also assumed that students offered their best effort on the baseline and postintervention measurement. The baseline measurement provided an accurate evaluation of student perceptions, motivation levels, and academic performance at the initiation of the study. Further, two different collaborating general and special education teaching pairs teach the fifth-grade inclusion classrooms in the research setting. It was assumed that the teachers of this study were proficient in the instructional delivery methods utilized within each class throughout the study and that each complied with the instructional delivery procedures as identified by the researcher.

### *Limitations*

Limitations in this study posed potential weaknesses. While the multiple case study design that guided the research provided reliability, examining several in-depth cases threatened external validity, as generalizations to a larger population were limited. Further, while all general and special educators within the treatment and control settings utilized the same content subject matter and had been trained to ensure appropriate utilization of their respective delivery formats, human behaviors are subject to differences

that may influence the instructional delivery under examination. While all of the lesson formats and activities were predetermined and assigned to the control or treatment setting, each teacher had different strengths, weaknesses, and character traits that guided his or her instructional style, which posed a potential internal validity threat. Similarly, human behavior of the study participants potentially threatened the validity of the study outcomes. The data collection of survey and interview responses relied on participant reporting. The researcher assumed that participants described their experiences honestly.

This research was confined to observations and interviews of 6 fifth-grade students with special needs. The student sample was limited to learners with mild to moderate cognitive deficits. Therefore, the study outcomes cannot be generalized to all students with special needs. Furthermore, the learning environment under review was an inclusive classroom setting consisting of a heterogeneous population of general education and special education students. Generalizations to non-inclusive classroom settings were limited. Finally, the 6-week data collection phase was a parameter established by the guidelines of the school district where the research had taken place. Thus, the length of time for data collection was a potential limitation of the study and its outcomes.

### *Delimitations*

The delimitations for this study included the setting where the study took place, participants, and processes. The setting for this research was a public elementary school, located in a suburban environment in northern New Jersey, largely inhabited by middle to upper middle class families. The setting contains inclusion classrooms on all grade levels,

with general and special educators collaborating within at least two of four classrooms for instruction. The participants were fifth-grade students with special needs from two inclusive classrooms matched for academic ability levels and identified disabilities. Participants were divided equally between the two settings with an almost equal gender distribution. While instructional delivery formats within each of the two inclusive classrooms varied, all curricular content, academic objectives, and instructional pace were aligned.

### Study Significance

#### *Professional Application*

Research into the influence of interdisciplinary thematic instruction on the motivation levels of students with special needs included in the general education setting is important for several reasons. First, with the recognition that the student population of an inclusive setting represents a range of learning styles and ability levels, further exploration into the curricular design of this instructional methodology can help educators understand what factors of the learning environment contribute to the success of all learners and fill a gap in current research. The concerns of the researcher's educational community highlight a lack of participation and poor academic performance of included students. This research facilitates exploration of the impact of alternative instructional formats on the motivation of included students and examines practices that encourage greater performance. Additionally, exploring motivational differences that may exist as a result of instructional delivery formats promotes professional development

and collegial dialogue among inclusive educators to examine components of instructional planning, activities, and lesson procedures that warrant redefining for application within the inclusive classrooms of the researcher's community. This research provides for an alternative curriculum delivery approach that motivates students to participate in the learning process, while modeling a method to accommodate individual education plan goals and state-mandated curricular objectives and build cross-curricular connections utilizing differentiated activities to support all learners.

### *Social Change*

Previous research on interdisciplinary thematic instruction has largely focused on homogeneous populations of either general education students or students with special needs. Few studies (Jenkins, 2005) have explored the use of this instructional strategy in an inclusive environment. Focusing on inclusive populations, little information has been contributed about the motivational elements that have influenced their outcomes, thus limiting generalizations to widespread inclusive learning communities. Other studies (Ben-Ari & Eliassy, 2003; Guthrie, Wigfield, & VonSecker, 2000) examined the relationship between instructional formats and motivation; however, they provided few details that capture students with needs' perceptions about knowledge acquisition and personal discoveries through participation in learning that is influenced by integrated thematic units of study.

The present study examined these details and contributes information lacking in the current literature. The research, aimed at influencing educational reform for students

with disabilities included in the general education setting, supports the equity and appropriateness of learning opportunities provided to students of all learning ability levels and styles to minimize the achievement gap that exists between students with disabilities and their peers without disabilities. By analyzing motivation and academic performance data, the researcher explored the impact of interdisciplinary thematic instructional delivery, compared with currently employed traditional instruction in the researcher's educational community. The research findings demonstrated which instructional method is most beneficial in supporting inclusive student learning, which was inconclusive in previous research. Outcomes of this study aspired to sponsor social change, encouraging the researcher's educational community to re-examine the current curriculum delivery approach utilized in inclusive settings and advocate for educators' participation in practice reformation to support the learning process for included students with special needs.

### Summary

Inclusive learning communities deserve educational environments that provide equitable opportunities for authentic exploration of curricular content, relating subject matter across disciplines, with assorted activities that promote social integration, and differentiated assessment formats for engagement across learning levels. The current research explored the underlying theoretical constructs of motivation, multiple intelligences, and social integration to define the elements of an interdisciplinary thematic instructional approach to curriculum delivery. An examination of the impact of traditional

and interdisciplinary thematic instructional formats on the motivation levels of students with special needs was compared. Student perceptions of the learning environment and participation in the learning process were detailed. The researcher corroborated findings from multiple data sources across multiple cases to form conclusions about the relationship between motivation and instructional delivery in the inclusive learning setting.

The remaining sections of this research will detail the framework of the study, methodology, outcomes, and proposed recommendations. Section 2 will describe the theoretical framework that supported the investigation. Section 3 presents the methodology of the research with an explanation of the mixed methods approach employed. Section 4 presents the data analysis. Finally, section 5 provides a summary of the research outcomes, implications, and recommendations for action and further study.

## SECTION 2:

### LITERATURE REVIEW

#### Introduction

The inclusive setting of a diverse learning community proposes many variables that affect the academic success achieved by each learner and the community as a whole. To determine pedagogical practices that best support the needs of included students, it is necessary to understand the foundation for this schooling approach, the dynamics that establish inclusivity, the impact of equitable learning experiences on motivation for participation, and the variables that ensure positive experiences for all learners. Exploring educational and psychological databases yielded previous research of the construct areas that contribute to a collective understanding of the needs of included students with disabilities and served as the premise of the current investigation. The researcher used search terms such as *inclusion*, *academic motivation*, *learning theories*, and *inclusive teaching practices* to search several databases including the Academic Search Premier, Educational Research Information Center, PsycArticles, and the Teacher Reference Center. The researcher reviewed and analyzed the findings yielded by the databases and grouped the information into four categories consisting of federal mandates that have supported inclusion, the debate over inclusive instructional practices, learning perspectives, and instructional perspectives. The researcher collected information from periodicals, professional journals, and prior studies to explore inclusion within each of these categories.



The literature review in this section examines each of these constructs as related entities that support the learning outcomes of students with special needs participating in a shared learning environment with their peers who do not have disabilities. The review initiates with an analysis of educational mandates that have guided the establishment of inclusive settings across the nation and have the intention to improve the quality of services provided to all students. Details of the dynamics that constitute an inclusive environment are explored as individual constructs that are supported by teaching and learning theoretical frameworks. Studies that have analyzed these factors and their relation to academic motivation collectively support the proposed theories of constructivism, brain-based learning, multiple intelligences, differentiation, and collaboration. Critical analysis of previous research and utilized methodologies conclude this review, supporting the contribution that the current study offers to educators and community stakeholders of inclusive environments.

#### Federal Legislation and Education Mandates Supporting Inclusion

For over 40 years, federal legislation and educational initiatives have provided a framework for the services and program delivery options available to students with special needs. Prior to the last 4 decades, individual states within the United States governed their own educational systems (Moore, 2005). Individual states experienced the freedom to develop their own content curricular objectives and evaluate criteria and processes for student identification, instructional academics, and teacher selection. However, in 1965, the Elementary and Secondary Education Act (ESEA, 1965)

introduced standards-based reform for all students. While this educational initiative was implemented to address the needs of “educationally deprived children from low-income families,” the mandate was the first of many proceeding in which the federal government established guidelines for the implementation of state educational policies (Smith, 2006, p. 332). The decade following would change the course of history with the enactment of several initiatives whose purposes were to ensure and protect the rights of individuals with disabilities.

In 1975, the United States Congress passed Public-Law 94-142, commonly known as the Education for All Handicapped Children Act. At that time, in the United States, approximately 8 million children were identified with special needs, with 3 million receiving inadequate services and 1 million excluded from services altogether (Smith, 2005). These findings prompted Congress to react with the initiation of Public Law (PL) 94-142, which provided students with disabilities the promise of a free, appropriate, public education in the least restrictive environment (LRE; Carpenter & Dyal, 2007). The introduction of the LRE was significant because for the first time, educational policy mandated that to the maximum extent possible, students with special needs should receive their education in a shared setting with their non-disabled peers (Smith, 2005). Further, the idea of mainstreaming and inclusion was brought forth and supported by educational policies (Idol, 2006; Smith, 2006).

To the maximum extent appropriate, the inclusion of students with disabilities in the general education setting ensured a commitment to equitable opportunities for all

learners. *A Nation at Risk* (1983) echoed these sentiments for the need for educational reform across America (Wakeman, Browder, Meier, & McColl, 2007). The report proposed goals of equitable and quality educational standards for all students that supported the needs of all learners. As a result, the Regular Education Initiative (REI; Will, 1986) was developed to emphasize the need for a collaborative responsibility of general and special educators to establish a learning community, which provided the LRE. REI promoted the initiation of inclusive environments across the nation and established social and academic integration of general and special education students. In 1987, several organizations such as the national LRE network and the California Research Institute on the Integration of Students with Severe Disabilities guided efforts that supported inclusion in the LRE to promote standards of academic achievement aligned with state performance (Smith, 2006). With growing recognition of need for reform to minimize the achievement gaps among America's children, the federal government implemented the Goals 2000: Educate America Act (Goals 2000, 1994) to establish goals for the educational system in providing quality programming to all children. Goals 2000 identified national academic standards by subject disciplines, and established national processes for the measurement of student progress. Of most significant importance for students with disabilities, Goals 2000 paved the way for the development of the IDEA of 1997. IDEA was supported by the Consortium for Inclusive Schooling Process (CISP), which focused on the implementation of the inclusion provisions originally enacted in special education law PL 94-142. IDEA required all

students to have access to learning in the general education curriculum and thus be included in local and state progress assessments (Henley, 2004; Roach & Salisbury, 2006; Wakeman et al., 2007).

With the failure of the nation to achieve all of the goals established by Goals 2000, President George W. Bush signed into law the No Child Left Behind Act of 2001 (NCLB, 2002), reinforcing fundamental policies of IDEA (2004). NCLB reauthorized and amended federal education plans originally recognized under ESEA (1965) and placed even greater emphasis on the inclusion of students with special needs. NCLB established a system of accountability for standards-based reform (Voltz, Sims, Nelson, & Bivens, 2005). NCLB requires all students, including those with disabilities, to demonstrate annual yearly progress (AYP) towards proficiency in reading and mathematics, academic areas which have demonstrated stagnant student achievement levels over the last 4 decades despite educational initiatives and federal funding (Wright, Wright, & Heath, 2004; Yell, Katsiyannas, & Shiner, 2006). NCLB is closely aligned with IDEA and does not require inclusion of students with disabilities in a general education setting for academic instruction. However, NCLB encourages this setting for students with mild to moderate disabilities as the least restrictive environment with access to the general education curriculum.

This inference to LRE has resulted in many additional inclusive settings to those already established by districts responding to earlier legislation (Wakeman et al., 2007). General and special educators deemed highly qualified under criteria set forth by NCLB

(2002) and mandated by IDEA (2004) are under pressure to collaborate in the general education classrooms of America to deliver scientifically based instruction grounded in research to a diverse population of learners (Smith, 2005; Wakeman et al., 2007). The challenge of today's inclusive educators is to identify and implement a curriculum delivery approach that successfully supports the learning of all students in a shared setting.

#### The Debate: Inclusive Instructional Methodology

Although educational initiatives support inclusive learning communities, there is debate about which instructional methodology provides optimal learning experiences for students with disabilities and their peers who do not have disabilities. Studies supporting and opposing traditional and interdisciplinary teaching methods continue to monopolize the continual search for the most favorable inclusive pedagogical practices. Proponents of a traditional instructional approach raise concern of the impact of interdisciplinary teaching practices on the learning process, environment, and assessment (Boyce & Hineline, 2002; Mansilla, Feller, & Gardner, 2006; Saville et al., 2005; Wright et al., 2004). Skepticism over the quality of performance outcomes have yielded questions concerning adequate assessment of skill attainment resulting from interdisciplinary practices. Research has suggested that standards for evaluation within individual subject disciplines may not effectively assess interdisciplinary learning (Mansilla et al., 2005). Further, opponents of an interdisciplinary instructional approach stress the difficulty imposed on students with special needs resulting from a lack of concrete single subject

presentation (Boyce & Hineline; Saville et al., 2002). They argued that instruction for students with learning difficulties must be broken down into simple units of academic content, unlike the multiple cross-curricular presentation style of an interdisciplinary approach to curriculum delivery.

Despite studies that support traditional methods of instruction, interdisciplinary teaching continues to gain considerable support among researchers in the educational community. Proponents of the curriculum delivery of interdisciplinary thematic lessons argued that the benefits include multiple learning opportunities and experiences for a range of cognitive levels and learning modalities, the development of connections across subject domains in support of emerging skills, and opportunities for social integration and cooperative learning (Barton & Smith, 2000; Coke, 2005; Jenkins, 2005; Tomlinson & Jarvis, 2006). Proponents of this instructional approach argued that students with disabilities have greater opportunities for knowledge acquisition in environments that support multiple experiences for skill attainment, model authentic real world opportunities, and provide interrelated subject lessons shared between students with special needs and their peers who do not have disabilities (Gardner, Wissick, Schweder, & Canter, 2003).

While a number of studies defend traditional teaching methods against interdisciplinary instruction, research on pedagogical practices suggested that traditional methods of instruction are often relied on because of past practice and a reluctance to accept alterations (Buskist, Cush, & DeGrandpre, 1991; Pringle & Martin, 2005; Saville

et al., 2005). Interdisciplinary instruction challenges educators to participate in detailed planning and implementation domains, which are minimally required under traditional methods. Reforming instructional practices is often hindered by a reluctance to accept change and reliance on existing instructional systems. However, today's inclusive communities continually represent change in the range of attributes that exist among learners in a shared setting, prompting educators to explore the dynamics of the inclusive setting and employ instructional methodology that will support the standards-based achievement of all learners (Yell et al., 2006). Understanding the characteristics that define learning in the inclusive setting is necessary to correlate instructional strategies with the needs of a multileveled learning community.

#### Learning Perspectives: Theories Supporting Inclusive Communities

Educational reform has resulted in the widespread development of inclusive classrooms across the nation. Inclusion represents collaboration. With the least restricted environment mandated by federal legislation, inclusion is more commonly found today in America's schools (National Education Association, 2008). To Idol (2006), "Inclusion is when students with disabilities receive their entire academic curriculum in the general education program . . . to educate students with disabilities in the least restrictive environment" (p. 78). Inclusive ideals propose that every learner should participate in the general education settings as a full member of the school environment (Freire & Cesar, 2003). A commune of general and special education students collaborating to acquire knowledge, supported by cooperating general and special educators, parents, and

community stakeholders characterize an inclusion classroom (Carpenter & Dyal, 2007; Haager & Klinger, 2005). Research demonstrates that all community stakeholders must assist and support educators and students for the successful outcome of inclusive education (Burstein, Sears, Wilcoxon, Cabello, & Spagna, 2004; Eason & Whitbread, 2006; Hick, 2005; Hyatt, Iddings, & Ober, 2005). It is not enough to simply share an instructional environment. The instructional approach of this setting must provide all students with appropriate tools that are conducive for academic, social, and emotional growth (Giangreco, 2006, 2007). The philosophy supporting this environment assumes that learning is equitable, providing access to skill-developing curricula with engaging and challenging experiences (Salend, 2005). Careful consideration must be given to the facets of teaching and learning when planning for the diverse needs of the inclusive environment. Comprehension of how learning occurs, the developmental stages, and various modalities of intelligence are essential to planning support for the range of attributes present among a diverse population.

### *Constructivist Theories*

A successful interdisciplinary approach to teaching is dependent upon the curriculum, instructional activities, and the environment established to support this methodology. An environment characterized by authentic, interactive experiences and an understanding of how children learn is vital for effective interdisciplinary teaching practices to ensue. Constructivist theories assert that learning occurs through cognitive processes in which the learner constructs meaning from experiences (Henson, 2003). As



Ledoux and McHenry (2004) explained, “Constructivism describes how one attains, develops, and uses the cognitive processes that are involved in constructing knowledge” (p. 387). Researchers and educational scholars like Piaget (1972, 1990), Vygotsky (1978), and Bruner (1960, 1966) established theoretical frameworks with principles that support the basis for constructivist teaching and define the development of cognition and the external forces (experiences and learning environment) that ensure optimum developmental growth.

Piaget (1972) was concerned with understanding how children adapt to their environment. He defined cognitive development as a process in which a child internally builds upon related concepts, creating associations between new and previously acquired information, and uses these webs of networked information to respond to external factors in the environment. With the concept of cognitive structures at the heart of his theory, Piaget defined four stages of cognition that describe the intellectual development of a child. As a child progresses through the sequence of developmental stages (sensorimotor, preoperations, concrete operations, and formal operations), his or her cognitive understanding is shaped by the environment (Piaget, 1990). Thus, the experiences of the learning environment are a critical component to cognitive development.

According to Vygotsky (1978), learning takes place in an environment that is rich with opportunities to construct meaning through social exchanges of knowledge, linking past and current experiences. Like Piaget (1972, 1990), Vygotsky stressed the environment’s role in shaping cognition. However, while Piaget attributed learning to the

shaping of internal cognitive structures by external factors of the environment, Vygotsky highlighted the value of social interaction. From this perspective, knowledge internalization is the outcome of social integration (Arievitch & Haenen, 2005).

Vygotsky (1978) stated:

Every function in the child's development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (p. 57)

Vygotsky emphasized that social exchanges establish the connections between new experiences and prior knowledge. He stressed that through participation in interactive dialogue, an individual can achieve higher levels of content mastery. Through experiences of shared knowledge, individual understanding is developed. Thus, experiences that are interrelated and encourage active engagement reinforce the understanding of previous learning, and contribute to the development of new understanding.

Modeling several of Vygotsky's (1978) principles, Bruner (1960) defined education as a process of discovery. Bruner asserted that individuals construct new understanding through discoveries within their environment. Like Vygotsky, he pointed out the importance of social interchanges as a means for expressing and sharing new knowledge:

The intellectual development of a child is no clockwork sequence of events; it also responds to influences from the environment, notably the school environment. Thus, instruction . . . can also lead intellectual development by providing challenging but usable opportunities for the child to forge ahead in his development. (p. 39)

Experiences that result from environmental influences are cognitively stored using a mental organized system of symbols (Bruner, 1966). New experiences are then built upon a previously developed mental concept and the individual's knowledge base is expanded upon to include newly processed information. This process is repeatedly revisited as the initial mental concept is built upon continuously. Instructionally, Bruner referred to the curriculum that supports this process as a *spiral curriculum*, which reinforces initial concepts, and gradually attaches new meaning, expanding cognitive understanding. Like Piaget (1972, 1990) and Vygotsky (1978), Bruner's theory contributed to the framework of constructivism with an understanding of mental processes and the impact of external experiences on cognition.

#### *Brain Research and Information-Processing Theories*

As constructivism recognizes the importance of internal and external factors on cognitive development, studies in brain research (Caine & Caine, 2006; Hart, 1983; Kovalik & Olsen, 1994) further lent support to the understanding of how the mind works. Brain research continues to offer many insights into the developmental process of cognition and the environmental influences that promote growth. Researchers (Caine & Caine, 2006; Hart, 1983) argued that it is impossible to design instructional curriculum and establish learning environments without awareness of how the brain learns.

According to Caine & Caine (2006), “Every student is biologically equipped to learn from experience” (p. 50). The brain utilizes patterns and organized networks to store learned concepts, recall information, and establish new connections. Curricular connections to previously acquired knowledge, and personal experiences strengthen long term memory (Henley, 2004). When educators understand this organized system of learning, they understand the need to develop instructional designs that honor the mental processes that students experience. By establishing instructional patterns, thereby encouraging connections between learned concepts, the brain is able to integrate new information with stored mental concepts (Caine, Caine, Klimek, & McClintic, 2005). As Hart (1983) explained, the process by which teachers present integrated instruction encourages natural learning, enabling the mind to network thought processes and establish associations between new and prior knowledge. Thus, as mentioned previously in a review of constructivism, the learning environment has a critical role in the development of cognition.

Understanding of the importance of fostering an educational environment that stimulates information processing and produces opportunities for learning that are conducive to all students, Kovalik and Olsen (1994) developed an instructional methodology that supports integrated instruction. According to Kovalik and Olsen, integrated instruction incorporates instructional lessons across subject disciplines to provide learning opportunities that model real world experiences and promote higher order thinking skills. Similar to Bruner’s (1960) explanation of the mind’s organization

of mental concepts, Kovalik and Olsen contended that the brain responds to organized and connected experiences that foster learning. When curriculum is disjointed and concepts are presented in isolation, the mind's natural search for patterns and associated meanings is inhibited. As meaningful occurrences translate into intelligence, Kovalik and Olsen asserted the need for a curriculum that models an organized pattern of skills connected to concepts and authentic experiences. By establishing an environment that integrates new information and provides opportunities for participation in real world problem solving in an organized thematic context, educators model skills for lifelong learning. Students are then empowered to utilize their intelligence to establish meaning and understanding of the world around them.

#### Instructional Perspectives: Theoretical Framework of Interdisciplinary Instruction

Educators have a responsibility to understand the mental processes that define intelligence, recognize the power of experiential influences in shaping cognition, and respond to these notions with the development and implementation of instructional practices that are conducive for all learners. Constructivist and brain compatible theories support differentiating instruction and recognize the existence of multiple intelligences and varying learning profiles among a heterogeneous population of students.

Interdisciplinary instruction as a differentiated approach to curriculum delivery is a plausible teaching strategy for consideration. With the use of thematic units of study, students are provided with theme-based instruction across multiple curricular domains while strengthening fundamental skills that are reinforced through curriculum

overlapping. Similar to Kovalik and Olsen's (1994) integrated instructional model, Parker (2005) described an integrated instructional approach as a curriculum that

draws together knowledge, perspectives, and methods of inquiry from more than one discipline to develop a more powerful understanding of a central idea, issue, person, or event. The purpose is not to eliminate the individual disciplines, but use them in combination. (pp. 452-453)

Interdisciplinary thematic instruction relies on instructional activities that are related to a central theme that makes them meaningful and organized across subject content disciplines. The concept behind this approach affords educators an opportunity to structure the study of standards imposed by the components of multiple curriculums (Gardner et al., 2003). Integrating the curriculum is no easy feat for educators in a general education setting and is an even greater task for educators in the inclusive setting. The integration of subject disciplines with consideration given to content standards, IEP objectives, and the vast range of student ability levels require much preparation and knowledge of student learning and instructional methodology (Brodesky, Gross, McTigue, & Palmer, 2007; Hinde, 2005). Attention must be given to the multiple intelligence and modality characteristics of the student population. Further, integration must include differentiated learning opportunities supported by collaboration and experiences which foster motivation for performance.

### Learning Styles

The process by which information is received and internally processed from the external environment defines an individual's learning style (Pym, 2007). Multiple models

exist for classifying learners according to how they engage in the learning process (Price, 2004; Saddler-Smith & Smith, 2004). Generally, individuals rely on the three predominant modalities for acquiring information—auditory, visual, and tactile or kinesthetic. The variation in processing modes for making sense of the information is defined as learning styles (Silverman, 2006). Among the literature that contributes typologies by which to characterize learning processes there is agreement that it is optimal to support a range of learning styles with a synchronized instructional approach (Pym, 2007). Research has shown that attention to representation and students’ processing variation elicits optimal opportunities for knowledge attainment by all students (Olson, 2006), supporting the need to examine student learning styles when considering instructional strategies. Providing a range of experiences for students to attain content knowledge and choices to demonstrate skill attainment supports the diversity of learning styles present in the heterogeneous inclusive setting (Tomlinson, 2001).

#### Multiple Intelligences and Differentiated Instructional Theories

Recognition of the various levels of cognitive ability and learning preferences that each individual hones supports the methodology of providing instructional variances that honor diversity. While learning styles describe the process by which individuals process an experience and thus implicate the need to consider instructional methodologies, “Multiple intelligences claim that we respond individually, in different ways to different kinds of content” (Gardner, 1999-2000, p. 100). Multiple intelligence theory has roots in

neurodevelopment and recognizes various intelligence profiles that individuals can hone. Gardner defined these intelligences as logical-mathematical, musical, spatial, linguistic, intrapersonal, interpersonal, bodily-kinesthetic, existential, spiritual, and naturalistic. Individuals display various degrees of each profile as demonstrated by their cognitive strengths and weaknesses. To facilitate cognitive development, instructional practices must reflect authentic experiences, enabling students to connect personally with their learning in a meaningful, rather than abstract, manner. Educators must be sensitive to the individual learning styles of students to support their intelligence attributes (Jones, 2005). McCoog (2007) emphasized that the most effective utilization of multiple intelligence theory is through differentiated instruction in the shared setting. Moran, Kornhaber, and Gardner (2006) further noted that within the inclusive community, learning opportunities often occur that emphasize multiple learning profiles simultaneously across subject disciplines. This idea supports instructional delivery practices that are differentiated and interdisciplinary.

Differentiated instruction, as defined by Tomlinson (2004), provides multiple opportunities for students to attain content, comprehend concepts, and produce outcomes ensuring that every child can learn successfully. Differentiated instruction promotes the skill development of learners of all ability levels and styles. Like Gardner's (2006) theory of multiple intelligences, differentiated instruction reinforces a student-centered approach to learning that honors individuality. Teachers who use this approach must get to know their students and understand their learning profiles to prepare lessons that will support



the range of aptitudes and experiences of a given classroom. Thus, differentiated instruction encourages the modification of curriculum to accomplish many goals at one time, representing different learning experiences for each individual. It is necessary for teachers in differentiated settings to pay particular attention to the range of student levels of readiness, interests, and learning preferences (intelligence profiles), which may be much broader than in the general grade-level classroom (Tomlinson, 2004; Tomlinson & McTighe, 2006).

Differentiated instruction presents a challenging task for educators of mixed-ability classrooms. Tomlinson and Eidson (2004) suggested the use of varied activity levels, student groupings, materials, and assessments, and the establishment of content connections to reinforce concepts at multiple levels. Using students' interests, experiences, and backgrounds to develop key ideas or themes provides motivation and confidence as learners feel personally connected to their learning (Tomlinson & Jarvis, 2006). By presenting students with key ideas or themes and providing multidisciplinary activities, educators support the learning levels of all individuals by reinforcing connections between new knowledge and prior learning across subject disciplines (Barton & Smith, 2000).

### Cooperative Learning

Differentiated instruction provides many opportunities for cooperative learning that support student strengths and weaknesses through a social support system. Research on social learning (Lave & Wenger, 2001; Slavin, 1987; Vermette, Harper, & DiMillo,

2004; Vygotsky, 1978) emphasized that social exchanges in classroom instruction benefit all learners. Incorporating the philosophy of Vygotsky's learner-centered and socially interactive model into their work, Lave and Wenger's situated learning theory posited that a community of practice is established through social interactions in which learning occurs. This community models the principles Vygotsky described where learning results from social experiences of exchange within an authentic context and environment. These communities in today's classrooms are often referred to as cooperative learning groups.

Slavin (1987) defined a model of cooperative learning as instructional strategies that grouped students for the purpose of accomplishing academic tasks and a common goal, while assisting each other in understanding new ideas. Instructional arrangements that support cooperative relationships and collaboration among peers provide multiple models and experiences to practice emerging skills (Baglieri & Knopf, 2004). Like Vygotsky, Slavin emphasized the value of learning through interactions and added that the most effective way of developing one's ideas is through the act of communicating and discussing with others (Fore, Riser, & Boon, 2006). The dialogue that exists among individuals assists in the construction of new meaning and the development of relationships between prior knowledge and new experiences. If student achievement is measured by individual growth, then all students within a group, regardless of ability level, are provided with an opportunity to thrive (Fore et al., 2006). For the students with a higher level of content mastery, collaboration with peers may yield deeper understanding and expanded connections as they explain material to others. For the

students who may have difficulty understanding a concept, peer support through explanations and modeling yield a chance for greater comprehension. For many students with special needs included in the general education setting with their peers who are not disabled, engaging in social learning experiences promotes opportunities for learning through peer modeling, discussion, and positive reinforcement.

Academic activities that require collaborative student participation and that incorporate small group assignments and whole-class activities provide students with a greater opportunity to learn from a sharing of distributed knowledge among the learning community (Coke, 2005). Activities can include group projects, educational games, math teams, and literacy groups. These cooperative engagements require each individual to contribute to a group utilizing an area of strength, while learning and developing an area of weakness from the contributions of group members (Coke, 2005). Further, cooperative learning opportunities demonstrate benefits on social skill building in support of cognitive development (Slavin, 1987). An integration of curricular standards and social learning strengthens the likelihood of developing skills in all areas (Kress, Norris, Schoenholz, Elias, & Seigle, 2004). As students with special needs improve self-esteem and self-confidence, supported by peer interactions, they experience higher levels of motivation for learning.

#### Motivation and Student Achievement

When struggling students are provided with experiences to participate in the learning environment at a level that demonstrates their self-confidence, they evidence

greater levels of motivation to pursue new opportunities (Marzano, 2003). Brophy (1988) defined motivation to learn as “a tendency to find academic activities meaningful and worthwhile and to try to derive the intended academic benefits from them” (pp. 205-206). For over 20 years, researchers have examined motivation as a factor that impacts the learning environment (Edmunds & Bauserman, 2006; Kluth et al., 2003; Marzano, 2003; Whitehurst & Howells, 2006). Studies demonstrated that motivation affects the type of learning that occurs inside and outside of the classroom. Higher levels of motivation have been linked to internalized learning that is permanent (Dweck & Elliot, 1983).

Researchers (Emmons & Thomas, 2008; Glynn et al., 2005) adopted multiple orientations of motivation to explain their impact across various constructs. Cognitively, a lack of motivation leads to negative thinking and minimal self-belief, resulting in a behavioral context of inactive participation or task avoidance behaviors. Psychologically, heightened levels of arousal can lead to stress factors, nervous responses, and anxieties. Affectively, students may experience feelings of fear, apprehension, and shame that could lead to anger and aggression. Students with special needs often experience a combination of these orientations, impacting their ability to equitably participate in the inclusive community. Research demonstrates that increased levels of motivation, supported by factors of the inclusive environment, affect the students with exceptionalities’ feelings of acceptance and validity in their contribution to the learning community (Carpenter & Dyal, 2007; Whitehurst & Howells, 2006). Carter and Kennedy (2006) asserted that the absence of instructional strategies that support motivation for participation in learning

leaves students' with disabilities disengaged and isolated from their peers. Students with disabilities' perceptions of belonging, social validity, and confidence for academic goal achievement affect their motivation to participate in learning, resulting in higher levels of academic performance.

### Formal and Practitioner-Based Research Results

#### *Experimental Research*

Over the past decade, several studies examined the impact of integrated instruction and motivation on student learning. In one quasi-experimental study, Guthrie et al. (2000) explored an integration of language arts and science content and the impact of curriculum overlapping on student motivation for participation. The study was conducted in four general education classrooms, Grades 3 through 5, within three schools bordering a mid-Atlantic state city. The schools were selected because of their low-achieving student population; however, the participating student population was largely characterized as general education with few participating special education students. The sample population experienced an integration of curriculum instruction with assessment outcomes compared with other grade level classes who maintained similar lesson content and instructional objectives throughout the duration of the study. Findings revealed that the difference in pedagogical strategies produced different levels of motivation. Students demonstrated significantly higher levels of motivation for integrated hands-on learning and collaboration. The researchers concluded that a combination of instructional and motivational variables produced higher levels of student

performance. Further, additional inquiry was recommended to provide a greater depth of analysis of the different motivation constructs (Guthrie et al., 2000).

Similar research by Ben-Ari and Eliassy (2003) explored the impact of interdisciplinary thematic instruction on learning through student perceptions. The purpose of this experimental study included an assessment of the differential effects of interdisciplinary thematic instruction compared with a traditional instructional approach and the effects of the two instructional methods on classroom goal orientations and student motivational levels. Participants included 267 sixth-grade students from a total of 10 classrooms among five elementary schools in Israel. Five classes received an interdisciplinary collaborative method of instruction, while the remaining five received a traditional instructional approach. The general education classes were matched according to student population attributes and academic status, in addition to teacher experience levels. Data collection included the administration of three Likert-scaled questionnaires. Findings revealed that each of the instructional methods produced effects on student achievement motivational patterns. Students experiencing an integrated approach described their classes as supportive of lifelong learning with qualitative mastery of content skills. On the other hand, students in classes utilizing a traditional approach perceived instruction as quantitative with attention paid to immediate performance for completion. Students in interdisciplinary instructional class settings demonstrated higher levels of motivation and participation and a greater willingness for investment in learning opportunities. Ben-Ari and Eliassy concluded that the type of instructional strategy

utilized encouraged students' perceptions of learning and their ability to achieve academic goals.

### *Case Study Research*

Several experimental methods in research demonstrated benefits of an interdisciplinary approach to instruction; however, to demonstrate the complexity of this instructional strategy and define its purpose for a heterogeneous population imposes demands on the research methodology implemented. Case studies represent an empirical research methodology that is capable of capturing the complexity of pedagogical practices (Creswell, 2007). Qualitative case study analysis provides in-depth understanding of data supplied by quantitative studies and allows researchers to explore deeper into phenomena with rich, detailed descriptions. Case studies focus on the quality of information, gaining deeper understanding of theory and practice (Ghesquiere, Maes, & Vandenberghe, 2004). A study by Petrosino (2004) explored curriculum integration, instruction, and assessment through the perspective of an experienced teacher. The experienced educator was a mathematics and science instructor of one class of 31 students ranging from Grades 9 to 12. Petrosino utilized extensive interviews, classroom observation, a collection of artifacts, and mathematics, science, and technology curriculum guides to explore the use of a thematic project-based approach to the integration of curricular content and assessment across subject domains. Astronomy represented a central theme, and students were provided with multi-layered activities in which student participation was encouraged and, in many activities, guided the lessons.

Multiple class grouping formats, including independent and small group work, were incorporated into daily lessons. Ongoing assessment helped to determine student comprehension. Teacher interviews and benchmark assessments demonstrated increased levels of achievement, participation, and motivation for further inquiry. Petrosino generalized study findings to students of all ages, and demonstrated the benefits of instruction that develops connections across content areas and inspires inquiry for further discovery and learning.

While several studies demonstrated positive outcomes of an employment of interdisciplinary thematic instruction in the classroom setting, few studies explored the impact of this instructional approach on the achievement levels of students with special needs in an inclusive setting. Jenkins' (2005) case study examined interdisciplinary thematic instruction as a teaching strategy that supports the scope of ability levels and learning styles existing within an inclusive classroom community. Jenkins, a fifth-grade elementary educator, collaborated with a team of two colleagues, a fellow fifth-grade classroom teacher and a special educator, to examine the development, implementation, and results of a colonial life, history-based theme unit. Jenkins recorded the details of the planning and implementation experiences of all three educators. Among the population of fifth-grade general education students, the teachers were additionally responsible for the instructional delivery to 6 students with IEPs for emotional disturbance, 4 students with IEPs for learning disabilities, 2 students receiving speech services, and 5 students who participated in gifted education services. The educators proposed that interdisciplinary



instruction would motivate all students to participate, address student ability levels and styles, and demonstrate collaborative working partnerships between students and teachers. The unit was designed with input from students, teachers, parents, and community volunteers. Project-based assessments were developed utilizing different formats to address student needs. Parent participation was encouraged to support the authenticity of learning experiences.

Student performance outcomes measured by project-based assessments, recorded observations of participation and motivation pre and post study, and the successful attainment of standard and IEP-based objectives revealed positive academic and behavioral outcomes. Teacher perceptions of instructional experiences were encouraged and recorded as collegial dialogue and reflective inquiry of their experiences. Students demonstrated improved classroom performance on lesson activities, motivation to engage in lesson opportunities, and successful mastery of goals and objectives. Students, parents, and community members offered Jenkins (2005) positive feedback regarding implementation and accomplishments resulting from the unit of study. Jenkins determined that interdisciplinary thematic instruction promoted academic and social benefits to the students and the overall learning community. Engagement in activities that represented authentic experiences both inside and outside of the classroom provided the students with learning opportunities within a real world context. Teachers were more successful in addressing student needs as a result of the various learning opportunities they offered. Students witnessed the value of their individual contributions to the

community, and learning occurred at various levels with multiple activity options and opportunities for participation. Each student benefited from the experiences according to his or her own unique learning style and strengths. Furthermore, interrelated concepts across all subject disciplines provided students with continual reinforcement of the primary content standards addressed. Interdisciplinary thematic instruction benefited all members of the educational community, promoting improvements in student academic achievement levels (Jenkins, 2005).

#### Critical Analysis of Related Literature

Years of societal changes reflecting educational reform efforts have produced initiatives and revisions of federal laws that have defined the identity and placement of students with special needs within the educational system. Theoretical perspectives of learning and instruction have long provided guidance for appropriate and adequate service to students of a heterogeneous population. Inclusive settings recognize the diversity of learning attributes within a shared environment. The inclusive setting has evolved as a result of educational initiatives which mandate the service of students with special needs in the least restrictive environment. Pedagogical practices, too, have evolved with support of theories on learning and instruction.

For decades, researchers (Bruner, 1960; Vygotsky, 1978) have contributed to society's comprehension of cognitive development and intelligence variance to support instructional methodology in the inclusive community. Constructivism, with its foundation in brain-based learning, emphasizes the important role that cognitive

development and the external influence of experiences in the learning environment have on the mental processes of young children. As a result, it is essential that educators understand how intelligence matures internally and construct curriculum that supports rational and conceptual growth. In addition, educators must support students' participation in the learning process by providing authentic educational experiences that encourage fundamental thought development. Learning is a result of participation in the process of obtaining knowledge (Bruner, 1966). By providing lesson activities that encourage personal discovery, students actively engage in the learning process, developing relevant meaning and establishing mental associations between new and prior knowledge. The more educators provide opportunities for pattern development, modeling the brain's ability to integrate information through the cognitive associations of pre-existing and newly acquired knowledge, the greater the opportunity for learning (Hart, 1983). Thus, the process of personal discovery is influenced by the activities teachers use to deliver curriculum and the opportunities for active participation in relevant and authentic experiences.

The process of promoting intellectual growth is challenging. Individuals have different cognitive capacities, and varying styles of instruction is appropriate to their learning needs. In the heterogeneous population that constitutes an inclusive learning environment, educators are confronted with delivering a multifaceted curriculum that considers the strengths and weaknesses of all learners. Educators must individualize their

teaching and assessments to adequately address educational goals defined by students' ability levels and intelligence profiles (Gardner, 2006). Education must be individually centered and offer students avenues to explore the world through enriched activities that reflect the learning preferences of each student. When teachers teach to student abilities instead of focusing on their deficits, they support the existence of multiple intelligence levels in inclusive classrooms and promote individual student achievement (Tomlinson & Jarvis, 2006).

Opportunities for collaboration among learners with varying intelligence profiles encourage knowledge acquisition and content mastery for all participants. Students have the opportunity to develop connections between prior knowledge and new information, sharing an area of strength and supporting areas of weakness through the contributions of content connections provided by others (Coke, 2005). Further, social integration into the learning environment fosters self-confidence as students experience the benefits of membership in a collaborative learning community. Strengthened self-confidence, supported by activities that consider multiple learning abilities and modalities nurtures motivation for greater levels of participation in learning. Thus, the presence of instructional opportunities that nurture the connectivity of content concepts, supported by socialization and varied experiences that benefit multiple modalities and levels, encourage increased motivation for active participation in learning.

Research supported the implementation of an instructional approach that motivates and supports learning among all community members. Guthrie et al. (2000)

found that a combination of instructional and motivational constructs resulted in increased academic achievement levels of students. The study compared an interdisciplinary instructional approach with traditional practices and utilized a motivational scale with demonstrated validity and reliability that had been employed in previous studies. However, in this study, the scale was not utilized as a pretest measure. Instead, previous measures of achievement, which were not identified by the researcher in detail, were utilized. The lack of consistency in pre- and poststudy measurement hindered the strength of the inferences drawn by the researchers. Further, while some students with special needs were included in the sample of this setting, the comparison of instructional approaches was not conducted in a true inclusive environment. Guthrie et al. explained that the sample groupings were predetermined and demonstrated little diversity in achievement and motivational levels prior to the implementation of the experimental condition. While the study's outcome links an interdisciplinary approach with increased motivation, details of learner perceptions to explain changes in motivation in relation to instructional formats is lacking.

Ben-Ari and Eliassy (2003) specifically examined interdisciplinary thematic instruction through the eyes of the learner. Assessment of 267 students' perceptions was collected to compare questionnaire responses between participants receiving interdisciplinary instruction and those receiving a traditional thematic approach. The researchers concluded that the format of instructional delivery encouraged students' perceptions of learning, with those participating in the interdisciplinary format

demonstrating higher levels of motivation for learning in their environment. While the study provided concrete data scores that supported correlations between variables through a comparison of questionnaire scale items, little information was available about student rationale or descriptive details of the ratings provided. With a lack of detail, validity of items responses may be questionable.

Petrosino's (2004) findings, on the other hand, provided considerable details about the interdisciplinary teaching and learning process. Petrosino used a retrospective analysis methodology for a case study of an experienced teacher's integration of curriculum, instruction, and assessment. Descriptive details of the educator's experiences highlighted outcomes that reflected collaboration among the learning community, opportunities for cross-curricular conceptual development, and the distribution of strengths and weaknesses that support reciprocal exchanges of knowledge. Petrosino honed in on specific characteristics of pedagogical practices in detail and isolated factors that contributed to the success of the interdisciplinary design utilized by the educator studied. However, discussion of the inclusion of students with special needs was not introduced in the research. While Petrosino generalized study findings to learners of all ages, if included, consideration to preexisting intelligence attributes and ability levels may have impacted the study findings. The recorded teacher accounts may have been confounded if the experience included inclusive pedagogical practices.

Supporting the use of interdisciplinary thematic instruction, Jenkins (2005) directed attention to the inclusive setting. Results of this study highlighted the value of

interdisciplinary instruction as a means for differentiating curriculum. With the use of a thematic unit, Jenkins and colleagues witnessed increased levels of success among students, supported by activities that united subject disciplines to teach overlapping and related concepts. This study supported the constructivist view of instruction, which encourages students to develop an understanding of new information through interactive engagement in authentic learning experiences. The study also supported the fundamental concepts of brain-compatible learning theories as it attempted to model the networking of theme-related ideas across areas of the curriculum. The detailed discussion between the collaborating teachers provided an in-depth analysis of the development process of an interdisciplinary thematic unit, including the difficulties, successes, and constraints experienced by the educators in implementing this instructional strategy within the inclusive environment. The qualitative research methodology of this study closely examined the instructional development process with an elaboration of detail that is often unavailable in quantitative studies. However, the study had boundaries. The study's history-based theme limited the incorporation of mathematics and science standards. In addition, minimal experiences that support logical-mathematical, interpersonal, and naturalistic intelligences were available throughout the unit (Gardner, 2006). Students who identified largely with these learning preferences might not have been afforded an equitable opportunity to engage in their learning. Perhaps the selection of a theme that was not heavily favored by a specific subject discipline would have allowed for more equitable benefits among all learners. Theme selection is most appropriate when the topic

is relevant to students' lives and interests, provides numerous avenues for investigation and inquiry, supports curricular standards, and is easily adaptable across subject areas (Barton & Smith, 2000). With a lack of concrete data on specific student achievement levels, it is difficult to attribute patterns of improvement in specific areas.

Each of the discussed studies lent contextual support for the influence of interdisciplinary thematic instruction on the motivation for participation in learning activities of students with special needs. While the studies each utilized a different methodology to demonstrate their findings, the case studies provided by Petrosino (2004) and Jenkins (2005) had several benefits that the others did not. A case study by nature provides detailed examination of the variable under inspection. Experimental designs typically employ a smaller sample for data collection (Creswell, 2003); however, this qualitative approach encouraged a magnified examination of the many factors that possibly contribute to the study findings. The other methodologies used by Guthrie et al. (2000) and Ben-Ari and Eliassy (2005) did not provide for the introspective analysis given by a case study. These studies employed scaled instruments for large samples, with no opportunity for elaboration of responses, resulting in questionable generalizability of the study results. The case study design provides more explicit detail deserving of a study that seeks to employ an investigation into the perceptions of individuals. The complex nature of analyzing perceptions warrants an instructional design that utilizes methodology supporting the explicit details of human variance, which is more difficult to generalize with larger sample investigations. The case study design used in the current study



allowed the researcher to analyze the data resulting from a variation of instructional delivery in depth to evaluate the perceptions of learning of students with special needs included in the general education setting. The collection of experimental data obtained pre- and poststudy supports and strengthens study conclusions.

Section 3 will describe the mixed methods approach that guided the current study. A description of the multiple case study design is provided, in addition to a description of the study participants, research setting, and data collection procedures.

SECTION 3:  
METHODOLOGY

Introduction

Traditional instruction remains a dominating pedagogical practice in some inclusive learning environments (Saville et al., 2005). Collaborating general and special educators often rely on textbook-driven instruction that teaches academic curriculum as isolated subject disciplines with minimal opportunities for attainment of cross-curricular objectives. Proponents of interdisciplinary instruction maintain that traditional methods deprive heterogeneous inclusive communities of equitable opportunities for the application of literacy and mathematics development, necessary in all content areas, to strengthen cross-curricular concept maturity (Barton & Smith, 2000; Coke, 2005; Jenkins, 2005; Tomlinson & Jarvis, 2006).

The purpose of this study was to explore the impact of interdisciplinary thematic instruction on motivation levels of included students with special needs in the elementary general education setting of a public school in northern New Jersey. The included elementary-level students with special needs within the researcher's New Jersey school community experience lack of motivation to participate in lesson instruction and activities and low levels of academic achievement. The elementary level 2008 NJASK score report revealed that students with special needs accommodated in the general education setting demonstrated reading and mathematics scores that were significantly lower than those of their peers without disabilities (New Jersey Department of Education, 2008). Many possible factors may contribute to this problem, among which include the

format of instructional delivery and the availability of activities that encourage the participation of all learners.

The current study utilized a concurrent nested mixed methods approach with a multiple case study design. The researcher considered other methodologies to guide the proposed study; however, these research designs were found inappropriate in the context of this inquiry. Unlike biographical studies, case study analysis enables the researcher to conduct an in-depth examination of experiences within an isolated case (within-case analysis), in addition to conducting a review of several cases in search of patterns or common themes (cross-case analysis; Creswell, 2003). Additionally, the case study design allows the researcher to study a small population of unique individuals, unlike in an ethnographic design, which would concentrate the research on a cultural group in order to identify similarities among participants, leading to the identification of a cultural system (Creswell, 2003).

While case studies are typically qualitative by nature, the researcher chose to include quantitative data collection in the research format to enhance the details of the qualitative findings (Creswell, 2003). In addition, triangulation of the qualitative and quantitative data increased the study's validity by corroborating different forms of data that explore the same trends in a single study (Rocco, Bliss, Gallagher, & Perez-Prado, 2003). Concurrent data collection occurred in a single collection period with quantitative data embedded within qualitative analysis. Quantitative data in the form of a content skill assessment were obtained for analysis of intervention effects between experimental and

control groups using descriptive statistics. Qualitative data resulting from open-ended interviews and observations of study participants were analyzed in detailed narratives of individual cases and incorporated the quantitative data into the in-depth analysis of individual participants' perceptions, experiences, and performance.

### Research Design

A history of research on inclusion and special education demonstrated the difficulty of defining a methodology that adequately addresses the complexity that characterizes the special needs population. The diverse range of participant attributes challenges research designs to appropriately associate inquiry processes with identified contexts and specific disability groups within a larger population as the special education domain (Guralnick, 1999). The prevalence of some disabilities is higher than others, which has implications for the feasibility of conducting quantitative research with larger populations. However, in other research contexts, the research process may be better supported by inquiry that explores pedagogical practices in naturalistic environments of smaller populations where the researcher employs a process-oriented approach to discovery rather than experimental methods (Cobb, Confrey, diSessa, Lehrer, & Schable, 2003). The complexity of special education research supports the use of mixing methodologies to produce detailed information resulting from a collective process of qualitative and quantitative inquiry (Greenwood & Abbott, 2001; Li, Marquart, & Zercher, 2000).

A concurrent nested strategy was selected because it supports the researcher's exploration with a greater range of data collection sources and combines findings from each to develop a broader perspective of the study's outcomes. During a single data collection period, a concurrent nested strategy employs a principal method of data collection and analysis supported by an embedded alternative method of less dominance (Creswell, 2003). In this study, the researcher employed the qualitative method as the predominant process for data collection and analysis, with quantitative measures embedded within the qualitative case study framework. Qualitative and quantitative data collection occurred simultaneously.

Qualitative practice was chosen as the predominant method to guide the study because of the researcher's intent to explore the perspectives of a small population of students with special needs. The multiple case study design directed the researcher to focus on 6 concurrent individual cases to gain a greater depth of understanding how instructional design impacts motivation for learning in inclusive settings. The researcher chose a guiding case study approach because the population of included students with special needs in the research setting is not an adequate sample size for acceptable quantitative processes alone. A multiple case study design was selected because this strategy supports the continuous assessment of participants within a small sample of cases (Kazdin, 1982). With several cases studied at once the researcher is able to examine the impact of an intervention and more closely detail the perceptions and experiences of the participants (Kazdin, 1982; Kennedy, 2005). The selected design establishes baseline

performance for all study participants and introduces the intervention to select participants, while baseline conditions continue for the remaining participants (Kazdin, 1982). The use of the treatment and control conditions characterized the quantitative processes embedded within the qualitative case study approach that guided the study.

Qualitative data collected in this research included the pre- and postintervention open-ended interviews conducted with each participant, including students with special needs. The researcher transcribed and coded participants' responses for analysis to identify indicators of motivation for participation in learning. The researcher observed participants in their classroom setting to gain and describe a firsthand experience of the participants' reactions to instructional delivery. Collected field notes were coded for observed behaviors as indicators of motivation. The researcher used the coded data from observations and interviews to triangulate data from multiple sources in the detailed narratives of each individual case and conduct cross-case analysis to support research conclusions.

The purpose of the quantitative data collection in this study was to enrich the details of the qualitative interviews and observations of each study participant. An academic content evaluation was given before and after a 4-week intervention phase to explore changes in academic performance, viewed by the researcher as a product of motivation. A comparison of pre- and postacademic measurement resulting from the content assessments provided supporting evidence of the qualitative data by

quantitatively identifying the relationship between instructional delivery and academic performance, viewed as an outcome of motivation to participate.

The integration of the qualitative and quantitative methods occurred during the data collection, analysis, and interpretation phases of this research study. A 6-week data collection period was selected based on the research setting's school district guidelines for a 6-week collection allowance. Qualitative and quantitative data were collected concurrently during a 1-week prestudy baseline phase, 4-week intervention phase, and 1-week poststudy phase. Outcomes of qualitative and quantitative strategies were integrated in the data analysis for inclusion in the detailed narratives of each individual case. Finally, descriptions resulting from study outcomes utilized qualitative and quantitative measures to support the conclusions of the study.

#### Research Setting and Participants

This study took place in grade 5 classrooms (total enrollment 86) of a small public school district in a northern New Jersey suburb with a total population of approximately 16,400. The fifth-grade setting within this elementary school consists of two general education classrooms and two inclusive classrooms. Within each inclusive setting, a general and a special educator collaborate to deliver academic instruction. Enrollment data of the central child study team office indicates that approximately 11 students in grade 5 currently receive inclusive services within one of the two inclusive settings. The population of this study consisted of included fifth-grade students with special needs. Included students with special needs are defined as all students classified with a specific

learning disability (SLD) characterized by mild to moderate cognitive deficits, receiving special education services as mandated by an IEP within a general education setting, regardless of how long they have been classified for services.

The use of a multiple case study design for data collection and analysis implies that a small number of cases or individuals are included in the participant sample (Kazdin, 1982). Yin (2003) justified the exploration of a small number of cases that replicate the same phenomenon under different conditions by allowing greater attention to detail among a smaller population. The convergence of qualitative and quantitative data collection warranted the selection of several participants as opposed to the single case typical of case study research (Creswell, 2007). The multiple case study design is appropriate for the inclusion of several study participants to establish a treatment and control group of participants, while maintaining focus on the detailed data collection and analysis procedures warranted by each individual case. Therefore, in this study, a small sample size, typical of multiple case studies, was sought to maintain the integrity of the research and produce credible outcomes.

The child study team of the school district employs a placement policy of students with special needs included in the general education setting. Each grade level has approximately two classrooms designated inclusive. With a relatively small population of included students at each grade level, each inclusive class demonstrates an approximate ratio of 20% special education and 80% general education students. Therefore, the researcher was limited to a sample selection without random assignment. Convenience



and criterion sampling methods were employed to determine the study participants. A convenience sample method, identified by Creswell (2003) as a sampling procedure based on naturally formed groups, was possible in this study because of the predetermined classroom settings and the assignment of students with special needs to one of the two inclusive settings. Criterion sampling, described by Patton (2002) as the selection of participants based on a set of criteria, was used to select the study participants from the possible participant pool based on several criteria. The total participant pool consisted of 11 fifth-grade students with special needs who are included in the general education setting for academic instruction. Six of the 11 students were selected for participation based on compliance with the following criteria: (a) a score of 150-199 (partially proficient) on the 2008 New Jersey Assessment of Skills and Knowledge-4 (NJASK4), (b) an SLD classification and a developed individualized education plan in effect for a minimum of 6 months; and (c) a demonstrated willingness for study participation with parental consent. Additionally, as criterion sampling emphasizes, the participants of this study have all experienced the phenomenon being studied (Patton, 2002). The two inclusive classrooms attended by the study participants had relied solely on a traditional format of instruction with neither setting having previously implemented an interdisciplinary thematic instructional delivery approach.

The explanation of the criteria that established the potential participant pool details the process the researcher employed to identify the 6 participants who were chosen and the participant characteristics that were used to identify equivalent treatment

and control conditions. The researcher selected 6 participants, attempting to attain an equivalent representation of gender, with a minimum of at least 2 males or 2 females. As noted previously, all potential participants had an overall score within a range of 150-199 points which is identified by the NJASK assessment standards as partially proficient. More specifically, the NJASK is composed of several subtests in literacy, mathematics, and science content areas. To identify 6 participants from the participant pool, the researcher matched the potential participants' scores on the geometry and reading comprehension subtests within a 10-point score range to ensure equivalent levels of academic performance between the study's treatment and control participants. These content skill areas were selected because they were reported by the researcher's school district administration as having the greatest academic performance gap between the students with special needs and their general education counterparts on the elementary level. Additionally, to further ensure equivalency between participants' achievement levels, the researcher selected the 6 participants from the potential pool of candidates who have an IEP classification of SLD. An SLD classification identifies learners that struggle with fundamental cognitive processes necessary to comprehend oral or written language. According to IDEA (2004), disorders that are comprised in this definition include perceptual disabilities, brain injury or dysfunction, and dyslexia. For the purpose of this study, the individuals selected for participation demonstrated a perceptual disability or dyslexia with characteristics that manifest in the limited ability to read, write, or spell as indicated in the participant's IEP.

All data collection took place in the elementary school of the research setting. All contact with the participants and their guardians was made from and within the researcher's office within the setting. All interviews were conducted in the researcher's office. The academic content assessment and lesson observations took place in each of the two classroom settings designated for participation in the study.

The assignment of the control and treatment conditions was based on the voluntary participation of the collaborative teaching pair responsible for each class. The inclusive classroom designated as the control setting employed a traditional format of instructional delivery during the intervention phase of the study and had 3 study participants. The inclusive classroom designated as the treatment setting implemented an interdisciplinary thematic instructional approach and had 3 study participants. The 2 general and 2 special educators that participated in this study were determined via convenience sampling based on their district-determined teaching assignments to the fifth-grade inclusive classroom settings. Each of the 4 fifth-grade elementary teachers has a minimum of 3 years of prior teaching experience within an inclusive classroom. Each teacher previously attended professional development workshops that supported understanding of the implementation of an interdisciplinary instructional format; however, prior to the study's initiation, a traditional approach to instructional delivery remained the only format used within each of the settings. Each teacher voluntarily participated in the study. The teachers were facilitators for data collection of the

experiences of participating students within their inclusive settings and were not represented in the study sample.

### The Role of the Researcher

The researcher of this study is a special educator in a suburban northern New Jersey public school district. The researcher has worked in this school district, collaborating with general educators within inclusive classroom settings, for the past 10 years. The two selected participating inclusive classrooms were from this school district. The research setting was selected because of the researcher's awareness of the existing problem within this school community and a desire to encourage changes in pedagogical practices that would better support the needs of students with special needs and the educators working with them. The geographical proximity of the research setting to the researcher was also a benefit. Proximity assisted the researcher in a more thorough data collection process. For the purpose of this study, the researcher identified students of the population that are affected by the existing achievement gap in the inclusive classrooms of this school community. The researcher obtained NJASK test scores for all fifth-grade participants with special needs to determine the participant pool from which the study sample was drawn. Further, the researcher utilized a multiple case study method to observe the participants in their learning environment, conduct individual interviews, administer an academic content assessment to each participant, and actively collect data for analysis. The researcher conducted all interviews and observations. In addition, the

researcher conveyed to each participant that she desired their truthful responses and that their participation would have no effect on their grades.

The researcher works with grade levels kindergarten through fifth-grade and, therefore, some of the participants of this study were familiar with the researcher. While the researcher sought to remain unbiased during data collection and analysis, the researcher's experience as a special educator may have resulted in interpretations of interview and observation data that reflect opinions based on prior experiences (Creswell, 2003). To control threats to validity and ensure optimal quality in the research design, the researcher employed multiple strategies. These strategies included the triangulation of multiple data resources, peer review, participant review of interview transcripts, and the use of richly detailed narratives to convey study outcomes. Use of quantitative and qualitative measures provided an advantage that supported the strengths and weaknesses of both research design methodologies and adequately converged for a mixed method approach that guided the investigation. Further, detailed descriptions of data and outcomes and peer review (allowing another to review and discuss the study) added additional support for the quality of the investigation (Creswell, 2003).

#### Data Sources and Collection Procedures

This study was guided by case study inquiry that employed multiple case study analysis and sustained a concurrent data collection format of quantitative data embedded within the predominant qualitative method. The case study narratives developed for each participant relied on a triangulation of data sources. Detailed open-ended interview and

classroom observation transcripts guided the following questions that supported the inquiry:

1. What is the impact of multileveled lessons supported by activities that are thematically driven on the motivation levels of students with special needs?
2. How do students with special needs perceive their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers?
3. How is the academic performance of included students with special needs impacted by their motivation to participate in the learning environment?

The quantitative data source, a pre- and postacademic content assessment, was embedded in the qualitative case study research format to enrich the details of participant responses and broaden the researcher's perspective of the participants' experiences.

#### Data Collection Procedure

Data collection was divided into three phases. The first phase, a pre-intervention or baseline phase, lasted 1 week. During this phase, all participants were exposed to the traditional format of instructional delivery. The researcher interviewed each participant individually in the researcher's office and followed an interview protocol. The interviews were conducted during students' recess period. Each student was provided with free time scheduled by their classroom teachers in their classroom on the day of the interview. This schedule avoided missed academic class time; all class members were provided an opportunity to engage in a free time activity and participants did not miss any class lessons resulting from their participation in the interviews.

The second phase, an intervention phase, lasted 4 weeks. The intervention phase commenced immediately following the pre-intervention or baseline phase. All participants in the two inclusive classrooms were administered the academic content assessment as a group in their respective classrooms. The collaborative teaching pair within each of the two inclusive settings distributed the assessment on the same day during the same class period with 40 minutes provided for completion. Nonparticipants within each of the two classrooms were given an academic textbook-driven test derived from the curriculum at the time the study participants completed the academic content assessment utilized in the study. The educators collected each assessment at the end of the allotted time and placed participants' assessments in the provided manila envelope, which was sealed and collected by the researcher at the close of school on the same day. Following the collection of the assessments, the educators initiated an interdisciplinary thematic instructional approach in the treatment setting, while educators in the control setting maintained traditional instructional practices. Each classroom was observed by the researcher once per week for 4 consecutive weeks for a duration of 40 minutes each. The researcher recorded observations of student participation and behaviors within the instructional setting.

The final phase of data collection for the study, an intervention conclusion or poststudy phase, lasted 1 week following the intervention phase. During this phase, all participants were administered the academic content assessment as a group in their respective classrooms following the same protocol utilized in the baseline phase. The

researcher concluded data collection with interviews of individual participants in the researcher's office, maintaining procedures practiced during the baseline phase.

*Concurrent Strategies: The Qualitative Sequence*

*Researcher and participant relationships.* Each of the 6 prospective participants that met the study criteria and their parents or guardians were contacted in writing and invited to meet with the researcher to discuss the details of the study proposal, determine voluntary willingness for participation, and obtain written consent for student participation. The researcher followed up with a telephone call to confirm a mutually agreed-upon date and time for the initial meeting. All prospective participants attended the confirmed meeting.

In this study, the researcher wished to explore the point of view of students with special needs in an inclusive environment. As Hatch (2002) noted, "Participants are the ultimate gatekeepers. They determine whether and to what extent the researcher will have access to the information desired" (p. 51). Trusting relationships between the researcher and participants is vital to elicit accurate detailed information that will contribute to the researcher's assertions and study outcomes (Hatch, 2002). The participants in this study were familiar with the researcher, having shared an educational setting previously. The researcher met with each participant and his or her parents or guardians individually to discuss the purpose of the research study, duration of the study, and the expectations of participation from each study participant. During this time, the researcher encouraged participants to ask questions, request clarification, and share concerns regarding



participation. Written details of the study process were provided, outlining areas of expected participation and contact information for questions or concerns that may be conceived at a later time. Written assent for participation was obtained from the participant and, due to the age of the study sample, consent from each participant's parent or legal guardian was secured. In addition, the first several minutes of each participant interview during the study was used to conduct polite conversation to maintain a rapport of trustworthiness and mutual respect between the researcher and each participant.

*Data instruments.* The instruments that were used to determine the motivation levels of students with special needs in the inclusive setting, as a product of the instructional delivery format, were a researcher-designed interview guide (see Appendix A) and observation protocol (see Appendix B). The interview guide was designed based on the suggestions of Janesick (2004). The interview protocol consisted of descriptive, structural, experience, and comparison and contrast questions (Janesick, 2004). Janesick noted that the purpose of the interview was to “exchange information and ideas through questions and responses, resulting in communication and joint construction of meaning about a particular topic” (p. 72). The interview guide included a selection of five open-ended questions that the researcher used to translate the research topic into a conversational discussion. The open-ended nature of the questions supported qualitative exploration to elicit richness in response details. The content of the questions was dependent upon the expert judgment of the researcher, with wording modeled after interview question examples provided by Janesick.

The observation protocol utilized a field note format to collect information observed by the researcher in each of the planned class observations. Each inclusive setting was observed during four class lessons throughout the intervention phase of the study. The purpose for the observations was to provide the researcher with a firsthand encounter of the experiences detailed by participants during one-to-one interviews (Hatch, 2002). The researcher utilized a field note page for each observation that graphically organized observation details and researcher notes (Janesick, 2004).

*Internal validity and reliability.* The researcher maintained confidentiality of all collected data and identity of study participants. Several methods were employed to ensure the reliability and accuracy of the researcher's recording of interview responses. All interviews were audio-taped and interview transcripts were transcribed. Within 3 days of the interview, the researcher provided each participant, in person, with a copy of the researcher's transcriptions to ensure that comments made by the participant were not misinterpreted. The researcher made any changes directed by the participant to correct inaccurately recorded statements. A peer reviewer reviewed the raw data and transcripts to verify accuracy of translation. The reviewer listened to the audio tape as she read through the transcript to compare and highlight any areas of discrepancy.

The peer reviewer was a fifth-grade inclusion teacher, who is New Jersey state-licensed in general and special education, and has a minimum of 10 years teaching experience. The peer reviewer provided written consent for participation and a signed

confidentiality agreement. All collected raw data were kept in a secure locked file in the researcher's office.

*Concurrent Strategies: The Quantitative Sequence*

*Instrumentation and materials.* The quantitative data collection tools consisted of two administrations of an academic content assessment. The researcher utilized the fifth-grade curriculum textbooks to create a 25 multiple-choice question academic content assessment and modeled questions from these standardized resources that use a multiple choice response format (see Appendix C). The researcher created the content assessment from the mathematics and literacy curriculum materials that are utilized by all fifth-grade students in the general education and inclusive settings. The academic content assessment was administered during the baseline and poststudy phases to compare changes in content comprehension and concept attainment for each study participant.

Prior to the initiation of the study, the researcher met with each of the 4 participating general and special education teachers to develop the lesson plans utilized within each of the inclusive classroom settings during the data collection period of the study. The researcher identified the curricular content objectives that remained constant and equivocally paced within both the control and treatment settings throughout the duration of the data collection phase (see Appendix D). Content presented in the curriculum textbooks, utilized as a resource within both settings, and previously identified by the district administration, was aligned with curricular objectives that were identical in both instructional settings. The lessons that were used to guide instructional

delivery varied between the treatment setting and control setting. Educators from each setting collectively established two bi-weekly lesson plans with corresponding activities and materials appropriate for each of the instructional delivery types compared. The lessons designed for use in each setting were compared for equitable pacing of content introduction, consistency of subject content objectives to ensure alignment with state standards and IEP objectives of included students, and evaluation criteria to ensure consistency in content attainment evaluation procedures.

*Instrument reliability and validity.* The academic content assessment was created in 2005 by the researcher under the direction of district administrators and has since been used by fifth-grade general and special educators of the researcher's educational community. The 25 multiple-choice assessment format was modeled after the standardized assessments provided in the mathematics and literacy curriculums and has demonstrated a high correlation of scores and test-retest reliability between the researcher-created and original formats. The researcher-created format includes two content areas for mathematics and literacy assessment. The mathematics section of the researcher-created format is a simplified modeled version of questions from the original fifth-grade, chapters 7 and 11, assessments of the *Silver Burdett Ginn: The Path to Math Success* program assessment guide (Fennell, Ferni-Mundy, Ginsburg, Greenes, Murphy, & Tate, 1999). The researcher extracted 18 questions from the original assessments and modeled content objectives with simplified language, substituting numerical values of questions to provide modified examples. The literacy section is composed of seven

questions modeled after the fifth-grade, *Macmillan/McGraw Hill Treasures Reading and Language Arts Program*, unit four assessments (Bear et al., 2004). The researcher used simplified language and grade-level modified vocabulary terms in the questions of the researcher-created format.

The designers of the original mathematics and literacy assessments (Bear et al., 2004; Fennell et al., 1999) demonstrated concurrent validity of the original assessments, as they have been aligned with over five national standardized tests. Fennell et al. (1999) reported that “more than 1,100 teachers in 36 cities across the country reviewed the [mathematics] lesson [assessments]” and that “more than 800 students nationwide tested them” (Program Overview section, p. 22). Bear et al. (2004) reported, “The assessments contain validated test items . . . validated test items [were] subjected to a rigorous item development process. Then statistical information about reliability and item difficulty [were] reviewed” (Unit and Benchmark Assessment Guide, p. 3). Bear et al. further explained that the original assessment instruments “align with the standards and objectives of standardized tests, most notably the Terra Nova 2<sup>nd</sup> Edition and the National Assessment of Education Progress” (Unit and Benchmark Assessment Guide, p. 5).

In 2007, the Dynamic Measurement Group reported that the *Macmillan/McGraw-Hill Treasures* program is a highly rated comprehensive reading program that supports all critical skills of a core reading program, measured against criteria outlined in *A Consumer’s Guide for Evaluating a Core Reading Program* (Macmillan/McGraw-Hill, 2007). Further, Bear et al. (2004) reported that the original assessment measures were

developed within the NCLB assessment framework and are supported by the National Assessment Committee. The researcher-created assessment that was employed in the current study used simplified examples from the original validated and standardized assessments and has demonstrated test-retest reliability with multiple administrations of this evaluation to many individual fifth-grade students over the past 4 years. Results confirmed a high correlation of responses between administrations.

#### Data Analysis

Qualitative and quantitative data were analyzed using several research tests and procedures to address each research question guiding the mixed method inquiry. All research protocols utilized for data collection and analysis are included in the appendices of the study. All qualitative analysis have been detailed in the case study narratives of each study participant. All descriptive statistics used for analysis of quantitative data are included in a table in the data analysis section of section 4. Raw data that were used for analysis will be kept in a secure locked file within the researcher's office for a minimum of 5 years following the study.

Table 1 matches each proposed research question with the planned data source and format for analysis reporting to demonstrate how each research question was answered.

Table 1

*Research Questions Matching to Data Analysis Sources and Reporting Procedures*

Research question (RQ)	Data source	Data analysis reporting
RQ1: What is the impact of multi-leveled lessons supported by activities that are thematically driven on motivation levels of students with special needs?	Classroom observations of participants' interactions in the inclusive learning environment coded for the following typologies: completion of an independent learning activity, completion of one objective in a group learning activity, verbal or kinesthetic contribution to the class lesson, and verbal expressions of learning experiences	Qualitative narrative summary

*table continues*

<p>RQ2: How do students with special needs perceive their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers?</p>	<p>Participant interviews utilizing and interview guide (see Appendix A) with responses coded by the typologies indicated above</p>	<p>Qualitative narrative summary</p>
<p>RQ3: How is the academic performance of included students with special needs impacted by their motivation to participate in the learning environment?</p>	<p>Academic content assessment of 25 questions assessing fifth grade level reading comprehension skill objectives and geometry content skill attainment and concept application</p>	<p>Summary of descriptive statistics (total scores for each participant) displayed via layered line graph</p>

### *Qualitative Analysis*

*Research Question 1: What is the impact of multileveled lessons supported by activities that are thematically driven on motivation levels of students with special needs?*

To answer the first research question, the researcher analyzed data from observations of each participant in his or her respective inclusive classroom setting. The researcher



employed a coding process to categorize raw data that were obtained from field notes that represented indicators of motivation for participation in learning. Typological analysis characterized the coding process. Hatch (2002) explained that predetermined typologies, or categories, generated from the research objectives are used to divide the data for analysis. The researcher utilized field notes that were organized graphically by viewed behaviors to categorize the observed experiences into each of the predetermined typologies. Each set of observation data was coded using the following typologies: (a) completion of an independent learning activity, (b) completion of one objective in a group learning activity, (c) verbal or kinesthetic contribution to the class lesson, and (d) verbal expressions of learning experiences. The typologies, based on the constructivist models of Bruner (1966) and Ledoux and McHenry (2004) that acknowledge social and instructional influences as the foundation of the learning process were derived from the main objectives identified by the research questions that guide the study. The researcher color-coded the transcribed data to correspond with an identified typology. Once the data from the observations were categorized, the researcher examined each typology for patterns, correlations, and topics (Hatch, 2002). All relationships, as identified by similar words, phrases, or responses, were used to form generalizations. The researcher then reviewed the observation field notes to identify additional data that supported the generalizations (Hatch, 2002).

The results of the data used to support the first research question of inquiry are reported in a summary narrative in the data analysis section of section 4. The key

emergent themes derived from this data analysis come from a constructivist theoretical framework, which supports the foundation of this study and the selected typologies that were used for analysis. The data collected from observations were triangulated with data from participant interviews to substantiate the case study narratives of the research. The comparisons and contrasts of the data analysis outcomes are included in the summary narratives in section 4.

*Research Question 2: How do students with special needs perceive their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers?* The second research question relied on participant interviews to identify students' perceptions of their ability to participate in the instructional environment in their own words. To obtain participant responses that answer the research question of student perception, the interview guide included open-ended questions that explored different constructs of participants' views of the instructional environment. The first question on the guide was designed to elicit descriptive details about the learning environment. The second question was composed of several small inquiries into the general experiences of the student in the learning setting. The third and fourth questions of the interview guide were structural questions that elicited the participant's perceptions of cause and effect relationships that contribute to viewpoints of the learning environment. The fifth question utilized a comparison and contrast format to elicit responses that compared and contrasted participants' perceptions about motivation to participate in the inclusive setting.

At the close of each interview, the researcher made a list of key points discussed. Each interview was audio-taped, and the dialogue was reviewed, scripted, and transcribed by the researcher within 1 day after the interview (Hatch, 2002). Following the preparation of the transcription draft, the interviewer asked the participant to read through the draft and indicate if any provided responses were misrepresented. The researcher made any necessary changes due to inaccurate transcription. Additionally, a peer reviewer was asked to review the transcript to ensure accuracy in the transcription.

Using the same typologies developed for observations, the researcher employed an identical coding system for participant interviews. Each interview transcript was reviewed for responses that corresponded to the predetermined typologies. Raw interview data were chunked and color coded to identify with each of the pre-established typologies. The coded interview transcripts were reviewed for patterns and themes that served as the basis for generalizations asserted by the researcher. Participants' responses pre- and postintervention were compared within each individual case and across cases to ascertain differences in perception pre- and poststudy.

The results of the interview data analysis were used to answer the second research question and are reported in summary narratives for each participant in the data analysis section of section 4. The key emergent themes of the data analysis were derived from a constructivist theoretical framework, which supports the foundation of this study and the selected typologies that were used for analysis (Bruner, 1966; Ledoux & McHenry, 2004). The qualitative analysis of interview data was compared with the observation data

analysis. Further, quantitative data analysis resulting from the academic content assessment was triangulated with the qualitative data analysis, with comparisons and contrasts reflected in the case study narrative summaries that are included in section 4. Quantitative analysis supported the primary qualitative research methods employed.

### *Quantitative Analysis*

*Research Question 3: How is the academic performance of included students with special needs impacted by their motivation to participate in the learning environment?*

The third research question relied on quantitative measurement to describe the impact of motivation on academic performance of students with special needs. The data analysis of an academic content assessment provided to participants pre- and postintervention compared any changes from baseline scores to scores on the second assessment. The study participants were previously matched according to academic performance and disability, as established by study participation criteria, thus limiting inherent existing differences between the two sample conditions on the prestudy measure. The analysis examined any existing relationships between demonstrated academic performance and instructional delivery format (interdisciplinary thematic instruction and traditional instruction). The researcher used descriptive statistics, with results demonstrated via layered line graph in the data analysis section of section 4, to demonstrate the pre- and postmeasurement of each participant. Additionally, the analysis of the academic content assessment was triangulated with the other data sources. Common themes and patterns

that resulted from analysis outcomes were compared and are reflected in the case study narratives included in section 4. Further, a cross-case comparison was conducted in a summary narrative to assist the researcher's development of assertions made concerning instructional format and academic performance, the foundational constructs for the third research question.

#### Validation Procedures

This mixed methods study employed several methods to support the credibility of the research. The concurrent nested strategy assumes triangulation of qualitative and quantitative data collection and analysis, which relies on multiple sources to support the assertions made by the researcher (Creswell, 2003). Data transformation occurred with a coding process for typologies to organize collected data from interview transcripts and observation field notes and assisted in the identification of existing patterns or themes, which enabled the researcher to compare quantitative and qualitative data (Creswell, 2003; Hatch, 2002). In addition to the researcher's review of participants' interview transcripts to ensure accuracy of the audio-taped transcriptions, a peer reviewer was employed to read interview transcripts and review the scoring of the academic content assessment to verify accuracy and identify any discrepancies within the documents (Janesick, 2004). Researcher bias, discussed in The Researcher's Role section, outlined the steps the researcher took to ensure truthfulness in participant responses.

The academic content assessment used for pre- and postmeasurement was developed by the researcher in 2005. Since then, this assessment has been utilized by

fifth-grade general and special education teachers in the research setting. Test-retest reliability has been demonstrated with multiple administrations of this evaluation throughout this extended time period with a high correlation of individual participant's responses. As discussed previously, the assessment is modeled after the two literacy and mathematics fifth-grade curriculums. The authors for Macmillan/McGraw-Hill and Silver Burdett Ginn reported that the original assessment formats demonstrated concurrent validity and are aligned with multiple national standardized evaluations (Bear et al., 2004; Fennell et al., 1999). Additionally, Macmillan/McGraw-Hill demonstrated an alignment of the original assessment content with the national NCLB assessment framework.

A triangulation of data from the academic content assessment and interview and observation transcripts assisted the researcher in developing valid assertions that were supported by multiple sources. The researcher employed a case study method of detailed narratives to describe the findings of the study based on each individual case and conducted a cross-case analysis. The researcher ensured that all conclusions drawn from the data were based solely on participants' responses and behaviors within the established context of the study. This assurance strengthened the internal validity of the data analysis and outcomes of the study. In addition, study participants were socially isolated from one another on the days of interviews to further support the internal validity of the research.

### Participants' Rights and Ethical Considerations

The researcher is a special educator who has worked within the elementary school of the research setting for the past 10 years. The participants of this study are familiar with the researcher. To maintain ethical standards and ensure participants' rights, prior to the initiation of the study, all participants and their parents or legal guardians were contacted in writing and scheduled to meet with the researcher in person. The researcher met with each participant and his or her parent or legal guardian individually in the researcher's office to describe the purpose of the research, participant expectations, and procedures for participation. All participants provided written assent (see Appendix E) and their parents or legal guardians provided written consent (see Appendix F), for participation. Additionally, the researcher met with the fifth-grade general and special education teachers of the two inclusive classrooms and the professional educator who would validate the accuracy of data collection procedures. The purpose of this group meeting was to obtain consent for voluntary participation and to review the roles of each individual in the context of the study (see Appendix G).

All study participants and assisting educators were assured that participation in the research was voluntary and that each had the right to withdraw from the study at any time. All identifying information was kept strictly confidential. Study participants were encouraged to respond truthfully and assured that participation or nonparticipation would have no bearing on their grades during the data collection phase of the study. All participants were identified via a coding system that employed alphanumeric symbols.

The two inclusive class settings were indicated as the treatment setting and control setting. The raw interview and observation data, in addition to study documents, were kept in a secure locked file within the researcher's office where they will remain for a minimum of 5 years.

The researcher obtained a signed letter of cooperation by the principal and director of special services for the school district of the research setting (see Appendix H). The researcher also obtained a signed data use agreement by the principal to establish approval to view the NJASK 2008 test results, which details scores that were used as criteria for participant selection. The researcher filed an application with the Institutional Review Board (IRB) of Walden University to ensure the fulfillment of appropriate research protocol and received documentation, IRB approval number 01-20-09-0333281, to conduct the research. The rights of all participants were strictly upheld in the data collection and analysis of the study.

Section 4 will present data and analysis resulting from the data collection procedures described. The researcher will present the findings of each research question and identify the emergent themes of the study outcomes.



## SECTION 4:

### PRESENTATION AND ANALYSIS OF DATA

Findings of this concurrent nested mixed methods study will be detailed in this section. Data collection in the form of qualitative interviews and observations and quantitative academic content assessments addressed the following three research questions that guided the study:

1. What is the impact of multileveled lessons supported by activities that are thematically driven on the motivation levels of students with special needs?
2. How do students with special needs perceive their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers?
3. How is the academic performance of included students with special needs impacted by their motivation to participate in the learning environment?

Research Question 1 was addressed using data from the observations of participants in their inclusive setting. Research Question 2 was explored using data from audio-taped interviews conducted at the suburban northern New Jersey elementary school where the study took place. Research Question 3 was examined using pre- and poststudy data collected from an academic content assessment.

Eleven fifth-grade included students comprised the initial participant pool. Six students were identified for study participation. Participants were selected based on three criteria: (a) an obtained score of 150-199 (partially proficient) on the 2008 New Jersey Assessment of Skills and Knowledge-4; (b) a classification of Specific Learning Disability (SLD) and a developed individualized education plan (IEP) in effect for a

minimum of six months; and (c) a demonstrated willingness for study participation with parental consent. Participants were assigned to a control or treatment condition based on the voluntary participation of the collaborative teaching pair (a general and special educator) responsible for the academic instruction of each of the two designated inclusive classrooms. Participants were identified in the data analysis via a coded alpha-numeric system to maintain participant confidentiality. The treatment setting participants were identified as AT (Participant 1), BT (Participant 2), and CT (Participant 3), while the control setting participants were identified as DC (Participant 4), EC (Participant 5), and FC (Participant 6).

The treatment and control settings had 3 participants each and included 2 females and 1 male per group. During the intervention phase, the control setting maintained a traditional instructional format of curriculum delivery, while the treatment setting introduced an interdisciplinary thematic instructional format.

The researcher utilized predetermined typologies to categorize coded observation field notes and interview transcriptions. The typologies that were used to chunk the data sets included (a) the completion of an independent learning activity, (b) the completion of one objective in a group learning activity, (c) verbal or kinesthetic contribution to the class lesson, and (d) verbal expressions of learning experiences.

The proceeding sections will detail the findings of each research inquiry. The findings that support the first research question are organized according to the typologies used in the data analysis. For Research Question 2, the findings are outlined in the

narrative summaries describing the perceptions and experiences of each participant. The third research question uses a layered line graph and narrative summary to report the findings of the inquiry. A summary of the findings concludes this section and compares the data results for participants in each setting. The emergent themes resulting from data analysis are presented, with detailed discussion to follow in section 5 to support the researcher's conclusions

#### Research Question 1: Observation Findings

The first research question asked, what is the impact of multileveled lessons supported by activities that are thematically driven on motivation levels of students with special needs? At the completion of the study, analysis of observation data supported findings that demonstrated positive classroom experiences for students who participated in thematically driven class lessons with increases in motivation for participation in learning.

The impact of interdisciplinary thematic lessons on the motivation of study participants to participate in class activities was documented during observations conducted throughout the 4-week intervention phase. Initially, all participants demonstrated similar behaviors of nonparticipation as reported prestudy by the classroom teachers, supporting the need and purpose for this investigation. The researcher observed each class setting, control and treatment, weekly to document similarities and differences between observed participant behaviors. Field notes were coded using the pre-established typologies described in section 3. After the initial week of observations, changes in

behavior were found among the participants in the treatment setting, while the behaviors of participants in the control setting maintained continuity across observations. The details of these findings are explained in proceeding paragraphs.

#### *Initial Intervention Observations*

During the first week of the intervention phase, the researcher observed each setting in 40 minute segments. The researcher noted similar behaviors among all 6 participants. The researcher conferred with the classroom teachers to confirm that the identified behaviors were typical of each student. The identified behaviors were similar to those described to the researcher by the classroom teachers prior to the initiation of this study, lending support for the researcher to pursue this investigation. The observed behaviors that characterized these concerns included a lack of participation in whole-class discussions, incomplete independent learning activities, noncontributory participation in a small group activity, a lack of independent fulfillment of activity objectives, and a lack of oral or body language indicative of positive expressions of learning experiences. Each student was reported to have typically demonstrated these behaviors prior to the study. The initial observations of the intervention phase confirmed these reports. As documented in the researcher's field notes, similar behaviors for each participant were noted. Common reports included "Students did not raise their hand to answer a teacher-directed question presented to the class" and "At the close of the lesson, students did not complete the assignment." It was noted that all participants remained

largely nonverbal during observed activities with “no facial affect or oral expression pertaining to the assignment given.”

During the first observation, students in both settings remained inactive throughout the lesson, which in the treatment setting consisted of a small group task of four objectives that invited a contribution from each group member. In the control setting, the lesson consisted of a whole class task, which included three objectives and opportunities for participation. In each of these activities, the researcher’s field notes described no observed verbal contribution to the lesson of any participant that would indicate comprehension of the content. Examples of the behaviors were described as “AT does not demonstrate any movement. AT is looking around the classroom and does not respond to the teacher-directed question.” “DC is called on to answer a question, but avoids eye contact with the asking teacher and replies, ‘I don’t know’ in a quiet voice.” Similar behaviors and responses were noted among all of the participants in both settings.

In addition to the lack of whole class participation, the researcher noted that limited kinesthetic participation in the assigned independent learning activities, as

AT, BT, and CT have not finished the task at the close of the lesson. AT closes the textbook prior to the teacher’s directions to do so. CT is doodling on the cover of her notebook. The picture is unrelated to the assignment.

These behaviors were similar to those found among the control setting participants; for example, “DC and EC do not readily take out their textbook needed for the independent activity. They delay getting started. DC is staring out the window. FC asks to use the bathroom.”

### *Subsequent Observations*

While the initial observed behaviors, characterized by the typologies established in this study as demonstrations for motivation and participation in learning, were very similar among the participants at the initiation of data collection, differences between participants in the treatment setting (receiving interdisciplinary thematic instruction) and the control setting (receiving traditional instruction) became more apparent with subsequent observations. As the intervention phase progressed, additional observations within each setting revealed clear differences that emerged between the observations of the treatment and control participants. The differences are organized in the following paragraphs according to the typologies in which they are associated.

*Independent learning activities.* The number of independent learning activities assigned to students varied based on the instructional format used in the setting. These activities were observed in greater frequency within the control setting. This format was not as common in the treatment setting during the intervention as group activities, peers working in small groups, were characteristic of the interdisciplinary thematic instructional format under investigation. During independent activities, students simultaneously completed an academic task with no interaction with other classmates. Typically, it was observed that these activities occurred after a whole class or group activity for reinforcement of presented academic concepts. Students worked on these assignments at their individual desks. Table 2 is a summative comparison of the observed differences found among students in the treatment and control settings. The findings

demonstrate an increase of motivation to participate in independent activities that are thematically driven with higher levels of participation among the treatment setting participants.

Table 2

*Observed Behaviors During Independent Learning Activities*

Observed behaviors	Treatment participants	Control participants
Onset of assigned activity	Immediate initiation action Willingness to participate	Task avoidance; Delayed-start
Attention to task	Maintained focus to the assignment; Assistance requested from the teachers/ peers when needed	High levels of distractibility; Limited eye contact with teachers/peers; Support avoidance
Activity completion	Independent completion of most assigned objectives	Less than half the objectives completed or attempted

As Table 2 indicates, the behaviors identified for the control setting participants were similar to those found in the initial intervention observation. Participants had difficulty getting started with the assignment, often requesting permission to leave the classroom at the onset of the activity. Participants were found to be distracted throughout the task time period, each frequently looking at the clock, outside windows, and around the room. Eye contact and advocacy for teacher or peer support were limited and typically, no more than 3 out of 10 problems were accomplished by the end of the work period.

The treatment setting participants demonstrated immediate responses to assigned independent activities. Participants appeared eager to begin assignments, and the researcher noted that no participant requested to leave the classroom at any time during the work period. On occasion, the treatment setting participants requested confirmation and approval of their work from the teachers. More commonly, particularly in the final observation in this setting, the participants sought peer assistance with objectives that presented difficulty. Overall, participants completed more than half the number of assigned objectives (approximately 8 out of 10) by the end of the independent task work period.

*Objective completion in group learning activities.* Group activities varied among the treatment and control settings dependent upon the instructional format and planned lessons of each (see Appendix I). The activities required students' participation in a small group for task completion. Observations revealed that participants in the treatment setting



demonstrated higher levels of motivation for participation in group activities that were interdisciplinary and thematically driven. Table 3 shows a summative comparison of the observed differences found among participants in the treatment and control settings.

Table 3

*Observed Participation for Objective Completion in a Group Learning Activity*

Observed behaviors	Treatment participants	Control participants
Accepts responsibility for a given objective	1 participant attempted attempted a peer-assigned objective 2 participants selected an objective	all participants attempted an objective assigned by the peer group
Voluntarily completes more than one objective	2 out of 3 participants volunteered completion of two objectives	no participants attempted completion of more than one objective
Objective completion	All participants completed the objective assigned or chosen with accuracy	2 out of 3 participants did not complete the objective 1 participant completed with inaccuracy

As shown in Table 3, the control setting participants maintained behaviors that were found in the initial intervention observation with minimal effort given to the assigned activities. No participant in this group voluntarily selected an activity objective and instead accepted a peer assignment of one. Similarly, the objective assigned was often incomplete. During one observation, a control setting participant completed an objective but further review demonstrated the work to be rushed, inaccurate, and nonapplicable to the assignment details.

Unlike the control setting participants, in the treatment setting, participants frequently selected the objectives they wished to contribute and often voluntarily chose to complete more than one objective. Unlike the control group participants, the treatment group participants worked with enthusiasm, chatting quietly within their peer groups about the activity and were frequently overheard verbalizing connections between the present content with other lesson experiences and subject areas. All of the treatment setting participants completed a minimum of one objective in the group activity and sought teacher and peer approval and confirmation of completed work.

*Whole class lessons: Verbal or kinesthetic contributions.* Each observed class lesson began with a whole group discussion that reviewed previously introduced concepts or presented new ones. The teachers in both settings utilized open- and closed-ended questions to assess for student comprehension. Table 4 provides a summative comparison of the differences observed between participants in each of the two settings.

Table 4

*Observed Verbal/Kinesthetic Contributions to Whole Class Lessons*

Observed behaviors	Treatment participants	Control participants
Response to a teacher-directed question when called upon	2 out of 3 participants attempted a verbal response; 1 participant verbally responded 50% of the time; No signs of physical discomfort	Body language indicated physical signs of discomfort; few verbal responses indicating indifference
Voluntary verbal response to a class discussion	On average, participants volunteered a verbal response to three out of four questions; 2 out of 3 participants made curricular connections	No observed voluntary participation
Voluntary kinesthetic response to a class discussion	All participants volunteered to participate during two observations	No observed voluntary participation

Table 4 shows that the control participants displayed visible discomfort during class lessons in which their participation was expected rather than voluntary. Evidence in body language included various demonstrations of physical discomfort. When called on during a lesson with a teacher directed question or prompt, avoidance of eye contact with the teacher and peers, sighing, or shrugging of shoulders were frequently apparent. Verbal responses, when provided, were often not contributory. Of further significance, no participant from the control setting voluntarily offered a verbal or kinesthetic response to an observed class discussion.

In contrast, the treatment setting participants demonstrated participation from all participants whether verbal or kinesthetic. When called upon with a teacher directed question, most of the participants attempted a verbal response 100% of the time. One student offered a response in 2 out of 4 occurrences. No visible signs of physical discomfort were apparent in the treatment setting as witnessed among the control setting participants. Further, students largely volunteered verbal and kinesthetic participation during at least two observations. Of great significance in this setting, 2 out of 3 students were found to verbalize cross-curricular content connections during voluntary verbal contributions to the class discussion. Another exchanged a content connection during a one-to-one conversation with a peer. Content connections between the subject areas supported the use of the interdisciplinary thematic approach.

*Verbal expressions of learning experiences.* As previously identified, participants in the treatment setting offered verbal expressions of the relationships among the

academic subject content they were learning in their classroom during the latter half of the intervention phase. While these connections were established in later observations, the initial intervention observation demonstrated no verbalized relationships among curricular content or positively expressed perceptions of the learning process and environment. This was also true of the observations within the control setting. Table 5 highlights a comparison of differences observed between participants in both settings during the second half of the intervention phase.

Table 5

*Observed Expressions of Learning Experiences*

Observed behaviors	Treatment participants	Control participants
Verbal expressions in a group setting	1 exchange of cross-curricular content connection with a peer; positive verbal expressions demonstrated interest	All participants remained non-verbal; 2 out of 3 participants expressed verbalizations unrelated to the task or subject content
Verbal expressions demonstrated during an independent learning activity	Positive verbal expressions demonstrate engagement and comprehension	Negative verbal expressions illustrate frustration, lack of comprehension
Body language supporting verbal expressions	Smiling, hand-clapping, laughing	Limited eye contact, sighing, clear lack of excitement

As Table 5 indicates, the observed expressions of the control setting participants can be best described as negative. Frustration was evident as students' oral responses were lacking, and supporting body language (sighing, avoidance of eye contact) was

characterized by negative emotions. Two students described independent work as “boring”, while another verbalized dislike for writing. It was clear that students did not see a purpose for the observed assignments, nor did they indicate the understanding of a relationship between subject concepts. In observed group activities, no participant in the control setting spoke of the present subject content, or provided an oral response related to the topic.

Unlike the control setting participants, participants in the treatment setting provided multiple expressions of positive learning experiences describing interdisciplinary lesson activities as “fun” and “making sense.” The participants’ body language indicated an eagerness to engage in the assigned tasks with hand-clapping and smiling observed as common responses to the presentation of an assignment. Significantly, findings suggested that students understood relationships between the multiple-subject content topics presented and readily explored these discovered relationships among peers. Students verbalized understanding of story content presented in the reading lessons of mathematics-based literature with geometrical concepts of the mathematics curriculum (see Appendix I for an example of the related interdisciplinary thematic lessons presented in the treatment classroom). Further, 1 participant voluntarily explained a mathematical concept to a peer struggling for comprehension using references to the mathematic-based literature used during reading lessons within a group activity (see Appendix J for a list of mathematics-based stories used in these lesson plans). The student further expressed an eagerness to “write [her] own math story when

[she was] done.” These responses to instructional lessons were markedly different from the responses of this group of participants prior to the intervention phase and similar to the continuity in expression found among control setting participants whom were not receiving the interdisciplinary thematic instructional approach to curriculum delivery.

*Observation Data Analysis: Emergent Themes*

The collective data analysis that resulted from multiple observations of study participants in the treatment and control settings revealed findings that suggest that interdisciplinary thematic instruction contributed to the increase in motivation of the included students in the treatment setting to participate in the learning environment. Three themes emerged from the data analysis that support factors contributing to these findings. These themes included social integration, cross-curricular conceptualization, and self-relevance.

Social learning experiences in the form of peer integration and interactions appeared to contribute to the participant level of engagement in the presented activities of each setting. The lessons used in the treatment setting were dominated by small group activities promoting social exchanges of information. The motivation levels for participation in the treatment setting were markedly higher than those of the control setting, in which lessons were largely independent or teacher-directed with minimal opportunities for social integration.

The presentation of lesson topics and skill objectives that were



curriculum-connected appeared to impact the comprehension of participants within the treatment setting. Increased understanding of presented information that was connected among subject areas appeared to support participants' motivation to engage in the lesson activities, unlike control setting participants who largely were inactive during presented lessons of isolated subject disciplines.

Participation in lesson activities was found to be more dominant in lessons in which participants utilized their interests and abilities to contribute to group lesson activities. Unlike the control setting, where instruction was largely supported by independent paper and pencil tasks, lessons that engaged treatment group participants with multileveled varied opportunities appeared to facilitate purposeful and personally relevant meaning for the lesson. Thus, motivation for participation in multileveled, thematically driven lessons was supported by the personal contributions and connections students experienced with instructional activities.

In section 5, the researcher will discuss in further detail, the themes of social integration, cross-curricular conceptualization, and self-relevance. The researcher will explore how these themes that have emerged from observation data analysis support the theoretical framework that guides the research study.

#### Research Question 2: Interview Findings

The second research question asked, how do students with special needs perceive their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers? Participants' perceptions were recorded during pre- and

postintervention interviews. Participant and peer review procedures ensured the accuracy of the interview transcripts (see Appendix K). The researcher coded the interview data using the predetermined typologies described previously. A comparison between the perceptions of students in the treatment and control settings indicated that the intervention impacted treatment setting participants' perceptions. The findings demonstrated that all 6 participants revealed similar descriptions of their learning experiences pre-intervention. Postintervention was significant because the shared perceptions of the treatment setting participants demonstrated higher levels of motivation and participation in their learning setting when compared with the control setting participants, whose perceptions remained fairly consistent postintervention with their pre-intervention reporting. Themes of social integration, cross-curricular conceptualization, and self-relevance, similar to those that emerged from the analysis of observation data, are echoed in the narratives resulting from participant interviews. Findings demonstrated that student perceptions of their ability to participate in class lessons with their peers were impacted by social integration, cross-curricular connections, and self-relevance. The narratives in the proceeding paragraphs detail these findings.

*AT (Participant A, Treatment Setting)*

AT is an 11-year and 2-month-old male who has been receiving special services for the past 2 years. AT resides with his mother and father and younger sibling. His interests include bike riding and skate boarding: "I can do neat ramp tricks like Tony Hawk. My brother tries to follow me, but he can't keep up. I am really good at it." He

was less hesitant speaking of his skate boarding skills compared with latter parts of the interview, and showed a true enthusiasm for his beloved hobby.

During the first interview session and after a friendly chat about his personal interests, AT became quiet and hesitant in his responses about school. He shared that he enjoyed time at recess with his friends and physical education class. AT spoke about his interest in reading, particularly sports magazines and Goosebump books, but disliked many of the textbooks utilized in his fifth-grade inclusive classroom. AT shared,

It gets boring. We usually get right to the textbooks and sometimes it gets hard to read the words by yourself. Most of the pages don't have pictures. I like to look at pictures, but for most of the stuff we read there isn't a picture there to help. Usually in science, I can't understand the words.

AT's description of his strengths and difficulties identified him as a visual and kinesthetic learner. AT explained that much of his academic class work was with the use of the textbooks; science and social studies his least favorite as they contained the least number of pictures. Much of the class activities described depicted independent learning activities with few opportunities for group interaction. When asked of his preferences for working alone or in a group, AT shared, "We pretty much work on our own and the teachers come over to us if we need them. We don't do too many things together with our friends." The researcher asked about the activities that are done in groups, and AT explained, "Mostly we do review stuff. It's usually things that we already worked on and have to go over." AT perceived working with peers as helpful. He explained that opportunities to work alongside peers can support a student when they are struggling with comprehension.

It's more comfortable because then you wouldn't have to be by yourself and get the answers wrong. They'll help me and help me to understand the words that I don't know. They may have another way to help me get it. If I could read with friends that could help too, so when I don't understand the words, someone else may get it and explain it or we could figure it out together. I wouldn't have to be alone.

AT clearly demonstrated a desire for more interactive opportunities in classroom learning. AT's conveyed perceptions described social integration as a benefit to assist in concept acquisition. As a participant of the treatment setting, AT was introduced to an interdisciplinary thematic instructional format during the intervention phase of the study. The researcher interviewed AT at the close of the intervention phase.

AT entered the interview session with excitement and a warm cheerful greeting. The researcher and AT chatted briefly about a new book AT was reading and he described a new skating game he had received as a gift in which he had learned a new skating trick from. As the conversation led to the classroom and learning environment, AT demonstrated little hesitancy to respond to the researcher's questions as recalled from the initial interview session.

AT reported that his class recently had participated in different types of activities. "We're doing a lot of projects that go together. We talk about the different things that we are learning. Some of them are the same. We do activities and it's a lot of fun." The researcher was interested in exploring AT's enthusiasm further and asked him to explain what he meant by "projects that go together." AT shared, "It's really cool. The stuff we read in reading is also in our math. The knight in our story had to solve some problems

and we actually did the problems in math class.” AT explained further that he found the opportunity to revisit the information in more than one lesson helpful: “If you didn’t understand it in reading, you got to do it again in math, and maybe then you would get it. It’s another chance.” AT conveyed the identification of connections between the subject disciplines and the opportunities that accompanied the interdisciplinary thematic unit in which central topics were taught with varying skills across the subject disciplines.

AT’s enthusiasm was conveyed during the discussion with facial expressions that correlated to his verbalizations. Frequent smiling and laughing were common occurrences as he spoke of the activities he had participated in. AT described his experience comparatively with lessons that had occurred prior to the intervention phase, making specific references to the increase in social interaction.

When we did our vocabulary, we didn’t have to find the words from the glossary. That was hard before when I didn’t understand the word and the meaning. I liked the new way better, working with the other people. We would make picture dictionaries and since I am not that good at writing, I drew a lot of the pictures. I am a good drawer. I still didn’t always get the words but sometimes someone else did and they could explain it to me, or if I knew it, I could tell them. We helped each other.

Social integration is described as a benefit by AT, who had previously shared in the first interview a desire for increased interface with class peers during activities. After the intervention phase which introduced a greater frequency of social learning opportunities, AT established a clear preference for group interaction. This preference was supported by his explanation that students were able to help one another in areas of difficulty. AT

clearly stated areas of personal strength and weakness in his responses and supported those identifications with a description of how group interaction facilitated his learning.

I have a hard time with writing. I can't always think of the words and get my ideas down. It helps me to draw pictures so I don't forget. When we did the chart in reading, we had to put on it the facts about the character and then illustrate what we were writing. We all had to do something to help and since I am a really good drawer, I did all of the pictures for the chart and another person filled in the words on one side. Another person did some more of the writing and then the other person who is also not a good writer wanted to read what we did to the class. We worked together to help each other with the things we are not good at. It was fun.

Finally, when the researcher asked AT how he felt about working with others, AT explained, "I didn't have to be by myself. I didn't worry about getting it wrong because I wasn't up there by myself and I didn't embarrass myself. We all worked together."

Clearly, the group interaction provided a comfortable learning atmosphere where AT felt he was supported and an active contributor to the learning process. The motivation to participate was supported by the comfort of social interactions.

*BT (Participant B, Treatment Setting)*

BT is an 11-year and 4-month-old female who has been receiving special education services for 2 years and 6 months. BT resides with her mother, father, and older sister. BT is very social and is well liked by her peers. Her interests include drawing and pet caretaking, and she is an avid sticker collector. When asked what she aspires to be as she grows, she enthusiastically exclaimed, "A veterinarian!" BT spoke quickly and confidently throughout the interview sessions with the researcher.

BT demonstrated no reservations about sharing her feelings with the researcher. She swiftly identified “art and sometimes science” as her favorite subjects to learn about in school, in addition to recess time. BT explained that she selected science because of the occasional experiments that accompanied some lessons, but this was clearly not the case when it involved “answering questions from the book.” BT explained,

It’s so boring. Most of what we do is in the book and we have to read and then write about it. It’s hard to write when you don’t even know what you are reading! The reading stories aren’t so bad because they mostly have pictures but there aren’t that many and I get stuck on a lot of the words and then I have to ask a teacher to help me which I don’t like to do in case the other kids see me.

Clearly, a social concern for BT is the recognition by her peers that she is struggling to comprehend. When probed further, BT noted that she does not see many kids asking for help and that she would prefer not to “stand out.” She provided an example and shared,

When my teacher was calling on us to answer questions, I didn’t know the answers to the question and it made me feel uncomfortable because I didn’t want anyone to know I didn’t get it. I didn’t want to feel embarrassed that the kids were going to make fun of me.

The researcher asked BT to consider how she feels when she is working within a group and does not understand the information. BT conveyed that she has had limited opportunities to participate in group activities within her current classroom. She shared that she felt it would be easier to learn or develop understanding with the support of her peers “because then I would be able to talk with other people and we could come up with the answer together.” BT described herself as an inactive class participant for fear of social ridicule. Admired by her peers, her concerns for their perceptions of her silenced

her class contributions and she adamantly chose to avoid lesson participation with the fear that embarrassment might jeopardize her social status among her peer group.

BT revisited this concern and discussion in the follow-up interview with the researcher. As in the initial meeting, BT appeared confident and enthusiastic about the interview meeting and was eager to share her experiences of recent classroom interactions. When the researcher prompted her to describe the more recent routine of the class, BT offered much information with minimal probing.

It is very different. I spend a lot less time by myself and we get to do projects. Sometimes we do questions by ourselves but not a lot. We mostly work with others and we all have to do our share. You really have to pay attention to the story of the week because we talk about it a lot, even in math and science. We even did an experiment in science with how much could fit in a container and it was the same one that Sir Knight, the character from the reading story, had to figure out. It was neat. I figured it out for my group and showed my friend because she didn't get it so fast.

Several themes were noted during this conversation with BT. First, BT's enthusiasm in her explanation was evident through her eagerness to share a detailed, unprompted example and the sense of accomplishment and pride that she had effectively contributed to her group task by supporting a peer who was struggling with comprehension via interdisciplinary content connections that BT had acquired. Secondly, her demonstration of cross-curricular content connections was evident as a means for supporting her own knowledge acquisition. And finally, BT's social concerns were supported through the interactive learning opportunities she was provided as she portrayed herself as a valued member of a peer group, accepting an exchange of



information to support her own strengths and weaknesses. BT supported this example with several others in which she detailed lessons that she struggled with and willingly accepted support from a peer member, as well as those lessons during which she was able to support the needs of others, exercising her own strengths.

BT was identified as a visual and kinesthetic learner and noted her interests in art and her enthusiasm for group tasks that allowed her to exercise this strength in her academic learning.

When we had to make a display to show what happened in the story, I liked setting up the story map on the poster paper for the group. My friends like the way I draw. We would then all talk about the story and add ideas. If I didn't remember a part or understand it, I would ask them [peer group] and they would give me the directions to figure it out and if they didn't know, we would ask one of the teachers and then all figure it out together.

BT appeared more willing to expose her areas of weakness in learning as her responses conveyed a sense of community with her peers in which all members participated in a give and take exchange of support. "We help one another and sometimes we'd get it right and sometimes we wouldn't, but it was all together so no one was embarrassed." It was clear that the change in the class instructional format was welcomed by BT and that it encouraged her to take a more active role in the learning process.

*CT (Participant C, Treatment Setting)*

CT is an 11-year and 1-one month-old female who has been receiving special services for the past 3 years. CT resides with her mother, father, and two younger siblings. Her interests include reading Hannah Montana storybooks, the *Disney*

*Magazine*, and photography. CT enjoys taking pictures of her friends and family and her pet hamster. She was excited to share with the researcher that she had recently received a new digital camera as a birthday present and explained all of the features that she had learned of. CT is liked by her peers and seeks approval from peers and adults alike. She expressed a sense of uncertainty in the initial interview and a concern about how she would be perceived. The researcher provided verbal confirmation throughout the session to assure CT that she was very helpful in her participation in this study.

During the initial interview, CT spoke freely about her experiences in her current classroom setting. She described typical morning routines as “boring” and explained that she did not particularly care for the reading textbook. She expressed a desire to read chapter books, but followed with, “We have to read the story that’s assigned to us and then do the questions. They’re usually not interesting.” Of further interest, CT explained,

I like talking about the stories with my friends. I like the Babysitter Club books because my friends and I are babysitters and it’s funny when something happens that we know about because we do it. We have our own club and we like to talk about some of the funny stuff that happens in the stories. Some of the things that may seem silly really do happen.

CT expressed a clear desire for opportunities to engage in reading experiences that have personal meaning or interest to her and that demonstrate real world authenticity. Her example, previously mentioned, displayed a connected experience with her reading that she drew meaning from. It is clear that she perceived the stories presented in her class as irrelevant to her personal interests and with no apparent meaning or connection to the material. Thus, her enthusiasm for participating in such lessons is limited. Further, she

conveyed a desire for social interaction as she shared her enjoyment of communication with peers about stories that she has read.

CT shared that she finds little time during class to share ideas with her friends and that much of their discussions about the reading engaged in at home occurs during recess or after school during parent-arranged play dates. CT explained that most of the content that is read in school is done independently and describes herself as an inactive participant in class discussions relating to these lessons. She shared,

We have so much writing to do after we read to answer the questions we get and it is so boring. We have to do most of it on our own and then go over it with the whole class but if you don't get it than you have to wait for someone in the class to give the answer and write it down. It's boring.

Further discussion revealed that CT is concerned with how others perceive her in class. She highlighted that she would prefer not to respond to a discussion if she is unsure of her information. "I don't like to stand out and I get scared that I might get the answer wrong," she explained. CT's desire for peer acceptance inhibits her from contributing to class activities and thus is her justification for identifying herself as an "independent worker."

CT entered the second observation happily chatting about her interests in photography and shared with the researcher several pictures she had recently taken. As the discussion about her school experiences initiated, CT noted that she had an opportunity to use her new camera in class. She enthusiastically explained an activity she had worked on with two other students to produce a poster display of story-related

content. CT contributed real photographic images to the group's final product. CT shared, "We skipped around the group to think of things we could put on our chart and I asked if I could bring in some pictures. Everyone thought it was a great idea and liked them." The researcher probed further to inquire about her perceptions of the reading and writing tasks involved in this and similar lessons. CT's responses demonstrated that the group projects offered her an opportunity to contribute in a way that established personal relevance and contribution to her learning.

Working with a group we do the things we are good at and get help with the things we aren't. So I am good at taking pictures and I could use that in my assignment. It was easier to write about the things I had taken pictures of than trying to imagine what they looked like.

Her strengths offset her weakness in writing, and she appeared more willing to accept peer and teacher support for her struggles with writing after having been able to contribute something that others in the group had not. CT explained that she enjoyed working in the group setting because it "wasn't so scary. There were some things that I knew that someone else didn't and I could help them and then when I didn't get it they could help me." Motivation for self-advocacy resulted from the personal interests that CT took in the group activities in which she could utilize a connection to experience or interest to complete a task objective. Because the assignment now had personal meaning, CT exhibited a greater level of motivation to participate with her peers without fear of disapproval or embarrassment. CT explained that she now preferred working with other students because

When we get something wrong, the group can help us with it. We could assign some things to each other based on what we are good at and then show each other what we did and explain it so that everyone learns it. We could teach each other ways that we know and not be worried that we didn't know it in the first place.

CT demonstrated a change in perspective after participation in the intervention in which she found opportunities to make connections with her own experiences and utilize content from different areas and media to acquire new concepts. Her perceptions demonstrated that social acceptance is important to her progress and that her need for peer approval was better satisfied when she was engaged in a group as a valued and equal member. Through her classroom experiences, her need for approval transferred to a developing sense of acceptable self-advocacy, in which her growing confidence appeared to result from an increased motivation to engage with peers in the learning setting.

*DC (Participant D, Control Setting)*

DC is an 11-year and 4-month-old male who has been receiving special services for the past 20 months. DC resides with his mother and father, younger brother, and older sister. His hobbies include train collecting, singing, and drawing. DC tells the researcher that his favorite trains are "CSX locomotives because they are really fast and [he] has many collector's magazines about them." He shared information about his interest and demonstrated a thorough knowledge of his hobby. DC chatted happily and with details about his interests, but as the researcher began introducing questions prepared for the interview pertaining to the study, DC was more subdued and gave less detailed responses.

DC described himself as a “quiet student.” He enjoys drawing but shared that limited opportunities exist for him to draw during the school day. Of the academic subject disciplines, DC explained that he did not truly have a favorite subject, but if he had to pick one, he would choose math because

It is the only one that you sometimes get to draw out your answer, and it is not always about writing. The textbook has more pictures than most of the others and sometimes you have to figure things out with different math tools. My favorite thing in math is graphing.

DC can best be described as a visual learner because he explained that pictures help him to “see things” that he may not understand if he read about them. His interest in drawing supported his choice for mathematics as a preferred academic subject.

DC described a typical day in his classroom as repetitive, following a routine about which he was clearly unenthusiastic: “We pretty much do the same thing in reading and social studies. It usually starts with talking about something. Sometimes we have to copy notes and then we always have questions we have to do.” Textbooks guide the instruction in DC’s class. He described himself as a struggling reader and made it clear that he finds the use of the textbooks to be a challenge without support. With the dominance of textbook-guided lessons, DC depicted himself as an inactive participant. He acknowledged his reluctance to ask for assistance with reading, writing, or comprehension within the whole class setting out of fear that he would stand out among his peers. When the researcher asked if he felt comfortable seeking support from his peer group, DC shared that when permitted he prefers to work with peers because, “They could

share and everyone could help each other. No one would have to stand out by themselves if the teacher called on them for the answer and they didn't know it. I don't like that." DC further explained that he was uncomfortable in class discussions and preferred not to contribute. When called upon to respond to a teacher-directed question or prompt, DC reported that he often remained silent if he was unsure of himself and waited for another student to respond. Fearful of peer ridicule, DC chose silence to protect himself from social embarrassment.

The tone of the second interview during the postintervention phase echoed the sentiments shared during the initial interview. DC's class continued to utilize the traditional instructional format employed prior to the study implementation; therefore, the learning environment had maintained a consistency that DC had previously described as daily routine. In this interview, DC elaborated on his view of group activities. When asked if he prefers independent work or participation in a group activity, DC shared,

I would like working in a group. It helps when you can talk things out. If you don't know something and you talk with other people about it, sometimes you can figure it all out together. You could know different things and if everyone shared a little bit than you may be able to figure out the whole thing all together.

The researcher identified several factors of DC's described experiences that contributed to his expressed perceptions of the inclusive learning environment. DC described his social concerns as factors, which directed his perception of his ability to comfortably participate and ultimately guided the level of contribution he offered to the learning environment. Of additional significance, DC recognized his visual-spatial

ability, which supported his interest in drawing and associated it to his learning. DC chose mathematics as a subject discipline of preference because of the ability to apply this strength and interest to some problem-solving situations.

*EC (Participant E, Control Setting)*

EC is an 11-year, 5-month-old female who has been receiving special services for the past 2 years. EC resides with her mother, father, and older sister. Her interests include dancing, singing, and swimming. “I won two regional competitions for dance,” she proudly described when she spoke of her passion for the performing arts. EC confidently spoke throughout the interview sessions and shared her perceptions of classroom learning.

During the initial interview, EC described herself as an inactive class participant, explaining, “I’m scared because I usually don’t know the answers and I feel weird asking the teachers for help because everyone else seemed to get it and I didn’t want them looking at me like ‘oh, she didn’t get it’.” EC demonstrated a strong sense of social awareness and concern for peer opinions of her academic abilities. She described her strengths and weaknesses:

There are some things I am really good at like dancing and moving around. My friends always like to watch me sing and dance. I put on shows for them. But there are other things I am not so good at like writing. I always get the words mixed up and sometimes I am not good at spelling so people have a hard time reading what I write. It is a little embarrassing.

EC conveyed a strong sense of ability awareness, verbalizing her own strengths and weaknesses. She is keenly aware of her social surroundings and worried about others’



impressions of her: “I hate being called on. It makes me nervous to talk in front of everyone and I get really worried when I don’t know the answer.” In lessons where students are paired for discussion or participation, EC shared that she believed,

It’s better because then you can get help from a few people and you don’t have to be so nervous about what everyone thinks. Talking out the problems sometimes makes it easier to understand. People have different ways of looking at things and so maybe if they share their way it may help you learn because you didn’t see it that way before.

Her perceptions indicated that she understood that strengths varied among individuals and that she could receive peer support for her areas of difficulty and provide support to another for his or hers. She indicated a clear preference for small group assignments that are conducive for social interaction and informational exchanges to support comprehension during class lessons.

EC’s descriptions of her schooling experiences and the classroom environment were echoed in the postinterview session. EC described typical school lessons as requiring “a lot of writing”, a skill area in which she demonstrated minimal enthusiasm: “My favorite is when we have to make something, but we usually always have some kind of writing and I don’t really like that so much.” EC’s activity preference conveys her partiality toward kinesthetic participation.

As documented in the initial interview, EC again conveyed a preference for group interaction as opposed to independent learning activities. When asked how she felt about requesting teacher assistance during an independent writing activity, she described her perceptions of many whole class lessons with individual accountability for task

completion as “uncomfortable” and noted her concerns about embarrassment and peer scrutiny of her academic difficulties. Most class work, discussions, and content review activities were in the format of a whole class question and response framework, a characteristic of the traditional instructional format utilized in her class setting. EC shared that opportunities for partnered or small group peer support were limited. The researcher asked her to share how she felt participating with her peers in a group with shared responsibilities, in which she responded,

I might understand it better and other people may have problems understanding too and we could work it out. It wouldn't be as scary talking with a few people as it is when the whole class is listening and then if everyone in the group did not understand the information, one person wouldn't stand out.

Clearly, EC's perceptions of the classroom environment are affected by her social awareness and awareness of her own abilities, creating concern for how other's will perceive her academic difficulties. The motivation to participate is minimal when activities are not conducive for group interaction that is perceived as nonthreatening. Social learning factors impacted this student's willingness to freely engage in the learning process.

*FC (Participant F, Control Setting)*

FC is an 11-year, 2-month-old female who has been receiving special services for 2 and a half years. FC resides with her mother, father, and older brother. Her interests include painting, drawing, and soccer. FC attends the town soccer program throughout the school year and plays in both indoor and outdoor soccer programs. Like her older

brother, she enjoys painting in her free time and told the researcher that she has worked with her brother to paint several canvases that are proudly displayed in the family's home. FC appeared to take her time to respond to most questions throughout the interview process. She demonstrated patience to compose thoughtful responses to the questions asked and offered elaborate and detailed responses.

During the initial interview, FC described her classroom activities as part of a routine, sharing that each morning students followed a set of procedures to begin their day, which was typically followed by a daily writing lesson in which students responded in their writing journals to a teacher-provided writing prompt. She further detailed, "The journal question is usually about something we did in reading and you have to answer it with your own opinion." When the researcher probed further, FC explained that the course of the day included individual lessons "from the textbooks" in reading, math, science, and social studies, and various special periods such as physical education, art, music and health. FC conveyed that she felt school was a hard and exhausting daily experience. She expressed uncertainty about the importance of individual subject discipline topics and explained that she saw no relevancy to them to her own life:

I am not sure why I will ever need some of the things we learn. They have nothing to do with anything else. Like why do I need to know about the Mayas or the Aztecs. What do they have to do with anything?

FC further detailed that school was hard because she struggles with writing. She shared that she believes that she has good ideas for writing but that it was difficult to organize her thoughts and communicate them in a written format:

When we do things in the textbooks, the reading is always followed by writing. There is so much writing and it is really hard for me. It makes me feel nervous and upset because most of what my teachers give us a grade on is in writing. We always have to write our answers and I am really not good at it.

FC is conscious of her academic struggles and appeared to the researcher to be frustrated by them as she repeatedly shared that she has “good ideas”, but that she truly cannot express them with accuracy. When asked if she felt comfortable participating in class, she openly responded, “No, I don’t like sharing what I wrote. I am worried about everyone hearing what I wrote down and if I wrote something in the wrong way, they may laugh.” Clearly aware of her social surroundings, FC fears sharing her “good ideas” with her peers based on her writing abilities and their social responses to her academic contribution to the class discussion.

During the second interview, the researcher had an opportunity to revisit this concern, acknowledging FC’s fear of social disdain and frustration from her struggling ability to adequately express herself in written communication. The researcher asked FC how she felt about participating in a smaller group of peers. FC replied,

It would be more comfortable with less people. I could say what my ideas were and then maybe we could write it down together so that my friends could help with the writing part and then what I wanted to say wouldn’t get so mixed up. With less people, they wouldn’t make fun of you. It’s laughing together at your mistakes. But then with the mistakes, they will help you. They won’t make fun of you. They won’t say anything bad.

FC perceived a smaller group activity to be supportive of her learning needs. She further commented, “I wish we did that more because we always do stuff with the whole class and by ourselves and then I feel uncomfortable alone.” She expressed the desire for a

greater degree of social support within the learning setting and indicated that her descriptions of school as being “hard and exhausting” were associated with the social isolation she perceives in the independent and whole class lessons.

The researcher recognized factors of self-relevance and social integration that emerged from FC’s responses. FC questioned the intent for some of the academic content topics presented in class lessons and did not comprehend the purpose or relevancy for learning about these content areas. She expressed difficulty applying meaning to these topics and associating their relevance to her own personal interests. Further, as FC conveyed her understanding of her own abilities, particularly about her writing skills, she perceived her social surroundings as having an impact on her ability to participate within a whole-class setting. Her social concerns inhibited her level of participation. Additionally, FC identified social integration within smaller group interactions as an opportunity that is supportive of academic growth and concept comprehension.

#### *Comparative Analysis: Participant Perceptions*

Self-relevance, cross-curricular conceptualization, and social integration, emergent themes that resulted from the analysis of observation findings presented earlier in section 4, are echoed in the analysis of participant interview transcripts used to explore the second guiding research question of the study. Participants in the control and treatment settings shared perceptions of the inclusive learning environment that detailed these themes as underlying contributors to their motivation and affecting their levels of participation with their general education peers in their respective learning environments.

*Prestudy interviews.* Prior to the initiation of this study, all participants received a traditional instructional format of curriculum delivery in their respective inclusive classrooms. Participants in the initial interview conveyed minimal levels of motivation, with social factors as the prominent indicator of participant perceptions. All participants shared concerns for their academic difficulties and their peers' impressions of their ability levels. Many provided examples that indicated a conscious choice not to participate because of their fear of peer ridicule. Participants commonly indicated that their classroom experiences were largely characterized by whole class lectures or discussions and independent paper and pencil tasks. Some verbally expressed a desire for greater social interaction and the opportunity to explore a group learning environment. Participants largely employed negative verbal expressions such as "worried, embarrassed, bored, and uncomfortable" to describe their perceptions of their ability to participate in a shared environment with their classmates.

The association between lesson content and participants' personal lives and interests was introduced in several participant responses. Some participants perceived the routine writing and question-answer exercises as redundant and meaningless. Many found little connection of the content they were learning to their own lives and, had minimal motivation to participate. Finally, no participant indicated a recognized connection between curricular areas. Students conveyed a sense of disjointed curricular lessons with each subject area presenting independent topics for learning.

*Poststudy interviews.* The findings of data analysis from each individual participant described earlier in this section reveals a clear distinction between the perceptions of the control and treatment participants. The findings support positive perceptions of included students with increased levels of motivation to participate in an inclusive learning environment that utilizes an interdisciplinary thematic instructional format for curriculum delivery. While the perceptions conveyed by the control setting participants who continued to experience a traditional format of curriculum delivery remained consistent with prestudy data collection, the treatment setting participants' interviews were largely characterized by an increased enthusiasm for classroom participation, supported by the increase in social group learning activities and a reduction in independent paper-and-pencil tasks. Participants' shared perceptions conveyed a "comfortable" sense of belonging in which students felt supported and shared accountability for class assignments. All 3 treatment setting participants utilized verbal expressions of positive feelings for their participation and each conveyed their value as a contributing group member who was supported by peers and also offered support to peers with an exchange of skills and content.

Significantly, treatment setting participants verbalized connections between content areas, as the lessons they described spoke of activities that were cross-curricular and theme-related. Students further expressed connections between their participation in the group-shared activities with their own personal interests, with contributions such as illustrating or role-playing utilized in the group activity. Thus, participants perceived

their contributions as valuable and worthy and associated with a personal area of strength or interest that supports their self-confidence to succeed.

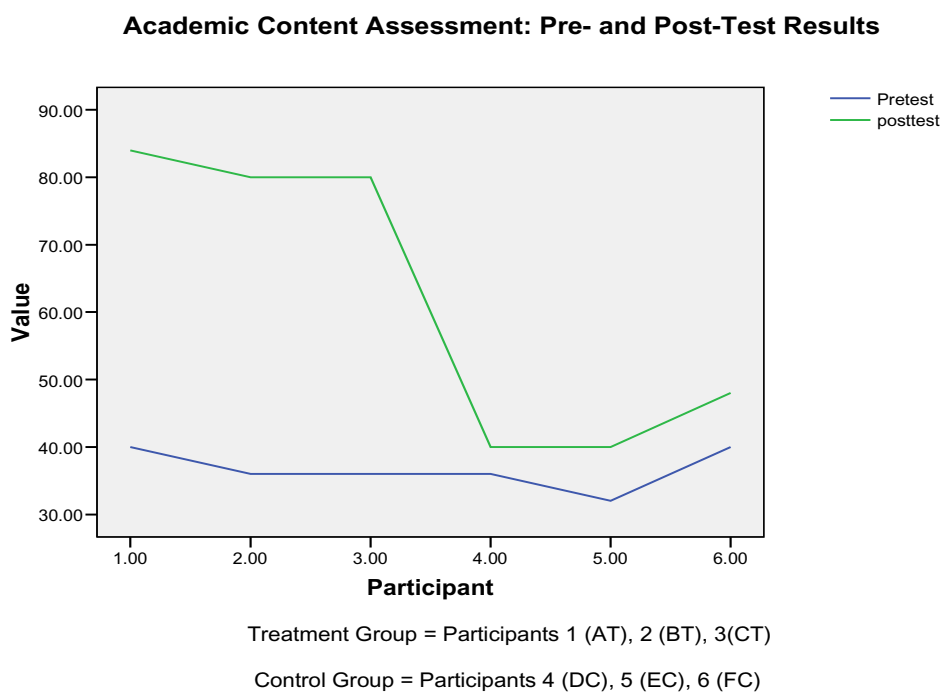
### Research Question 3: Academic Content Assessment Results

The third research question asked, how is the academic performance of included students with special needs impacted by their motivation to participate in the learning environment? Participants were administered an academic content assessment pre- and postintervention to examine the level of content and skill acquisition resulting from the instructional academic delivery throughout the intervention phase of the study. The initial administration of the assessment served to establish baseline levels of content knowledge. The baseline levels established were similar among all 6 participants. Changes in the participants' scores on the postassessment were attributed to the instructional format of delivery, which supported knowledge acquisition. The findings demonstrated a significant increase in the treatment setting participants' posttest scores when compared with the results of the control setting participants. The findings support the assumption that the instructional format utilized in the treatment setting facilitated greater levels of motivation to participate in instructional lessons, resulting in increased levels of academic performance. In the following paragraphs, the results are presented via line graph and supported by narrative analysis of the findings.

The Academic Content Assessment was comprised of 25 multiple-choice questions designed to assess student comprehension of literacy and mathematics content skills derived from the New Jersey Core Curriculum Standards and the fifth-grade



curriculum. The targeted skills incorporated into the lesson plans for both the treatment and control settings were identical and used varying instructional formats (interdisciplinary thematic instruction or traditional instruction) for content delivery throughout the intervention phase of the study (see Appendix I). The academic content assessment was administered at the initiation and conclusion of the intervention phase to all study participants. Figure 1 demonstrates the achieved score values on the pre and postassessment attained by each participant. The score value range reflects the percentage of accurate responses participants achieved.



*Figure 1.* Score value comparison of pre and postacademic content assessments of the treatment and control setting participants

The line graph in Figure 1 displays the significant variance between the treatment setting participants' pre- and postintervention assessment results compared to the control setting participants' pre- and postintervention assessment results. On the pre-intervention assessment, all participants achieved analogous scores within a range of 32-40% accuracy, establishing a similar level of baseline measurement. However, postintervention assessment results reflected a much greater range of scores between 40-

84% accuracy. Table 6 identifies the achieved scores of all treatment and control setting participants on the pre and postintervention assessments.

Table 6

*Academic Content Assessment Scores*

Participant	Setting	Pretest*	Posttest*
AT	1	40.0	84.0
BT	1	36.0	80.0
CT	1	36.0	80.0
DC	2	36.0	40.0
EC	2	32.0	40.0
FC	2	40.0	48.0

*Note.* Setting 1 = treatment setting; Setting 2 = control setting

\* Values are percentages based on the number of accurate responses out of the total number of 25 questions.

Of significance, the score range on the postintervention assessment was 40-48 % accuracy for the control participants, and the treatment participants' accuracy range was 80-84%. The mean score of the control participants increased from 36% to 43%, reflecting an overall improvement in academic performance of 21% (see Appendix L). The mean score of the treatment participants increased from 37% to 81%, reflecting an overall improvement in academic performance of 118% (see Appendix L). While both

groups demonstrated improved levels of academic performance, the findings highlighted a much greater level of achievement attained by the participants of the treatment setting. The results demonstrated that the intervention received by the treatment participants affected their level of content acquisition. Thus, greater academic gains by the treatment participants support the assumption that the instructional environment impacted academic achievement.

#### Summary

Section 4 presented the analysis of the data collected in this concurrent nested mixed methods research study on the relationship between instructional delivery and academic motivation of included elementary students with special needs. The researcher ensured the accuracy of the findings through a triangulation of data from multiple sources. Student perceptions, classroom behaviors, and academic performance guided the investigation supported by the research questions. Answers to the research questions were presented in detailed narratives supported by Tables 1-6 and Figure 1. Qualitative observation field notes and individual interview transcripts were coded utilizing a predetermined set of typologies to organize the data sets. Quantitative assessment results were presented via line graph supported by statistical analysis comparing percentages and group means. Procedures for participant and peer review were followed to ensure the accuracy of transcriptions and reported data (see Appendix K).

Several themes emerged in the data analysis as factors that impacted student perceptions and motivation to participate in the inclusive instructional environment.

Self-relevance, cross-curricular connections, and social integration were found to imprint a participants' view of his or her ability to engage in the learning environment. The first theme, self-relevance, identified the association a participant established between the presented content or skills and his or her own personal interests and abilities. When content was recognized as meaningful to a participant, a greater exhibition of motivation to engage in the learning process prevailed. Similarly, when participants recognized presented skills or objectives as comparable with their ability level or learning style, they exhibited greater levels of motivation to participate in academic activities. On the contrary, when limited connections between the content and personal interests or abilities were established, participants exhibited minimal academic motivation.

A second theme was the impact of cross-curricular conceptualization on students' perceptions of their ability to participate in lessons that were thematically driven. Similar to self-relevance, the connections established between subject disciplines assisted students with special needs to expand their comprehension of content skills with repetition and reinforcement. Cross-curricular connections provided students with support for concept acquisition. Further, students' strengths and weaknesses were assisted with multiple opportunities to revisit the central skills presented across several contexts to help them interpret and apply the knowledge they acquired throughout the unit. When students recognized connections between content areas, they established meaning for the association, resulting in heightened motivation to engage in the learning activities.

Finally, the theme of social integration emerged from the data analysis as a factor that affected students' perceptions of individual ability to participate equivocally in the learning community. When participants perceived their ability to contribute to class lessons as feeble due to recognized areas of academic weakness, they were minimally motivated to participate. Several participants cited concerns of social humiliation and peer ridicule as causes for the lack of participation. Additionally, all participants referenced a preference for group learning activities supported by social interaction within a small group setting as opposed to whole class lessons or individual tasks. Some of the reasons supporting this preference included the opportunity to discuss content information with peers to assist in comprehension and the experience of contributing as a group member with shared responsibility as opposed to the independent production of assigned tasks.

The quantitative data collection and analysis of pre- and postassessments embedded within the qualitative framework that guided this concurrent nested mixed methods approach supported the emergent themes and demonstrated the impact that self-relevance, cross-curricular conceptualization, and social integration had on the academic performance of the participants. In the treatment setting, participants' responses and observed behaviors showed that the motivation to participate in academic activities that were interdisciplinary and thematically driven was higher than in the control setting. Evidence of the quality of these findings is demonstrated in the convergence of data from multiple sources and participant and peer review checks employed during analysis. Data

triangulated from observations and interviews collectively demonstrated that perceptions and behaviors of participants receiving the treatment were significantly positive compared with participants who did not receive interdisciplinary thematic instruction. Interview data, which detailed participants' perceptions and experiences in their own words, were reflected in the behaviors recorded during classroom observations. Further, the academic content assessment measures of the treatment setting participants supported these findings, revealing a significant improvement between pre and postintervention measures. Thus, a triangulation of the data analyzed among all collected sources supported the findings that an interdisciplinary thematic instructional approach to curriculum delivery benefits the academic motivation of included students to participate in learning and improve academic performance outcomes.

Section 5 will review the importance of this study and the interpretation of the presented findings. Conclusions, social significance, and recommendations will be presented. Implications for further study will be discussed.

## SECTION 5:

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In the last decade there has been an increase in the number of inclusive settings that deliver academic services to public school children throughout the nation.

Approximately 6 million students nationwide are identified with special needs (NEA, 2008). To the maximum extent appropriate, students with disabilities must receive their academic instruction in the general education setting (IDEA, 2004). An estimated 55% of students with special needs presently receive at least 80% of academic instruction during the school day in an inclusive setting (United States Department of Education, 2007). However, The Nation's Report Card (2007) demonstrated that included students with disabilities continue to academically lag behind their general education peers. With a growing increase in inclusive learning environments, educators must consider the instructional practices employed among a heterogeneous population to support equitable learning opportunities for knowledge acquisition of students with special needs and their peers who do not have disabilities.

This concurrent nested mixed methods study was designed to fill a void in the literature that explores the relationship between interdisciplinary thematic instruction and motivation for included students with special needs and their participation in the learning process. Quantitative data collection was nested in the guiding qualitative multiple case study approach with concurrent data collected during a single data collection period (Creswell, 2003). Classroom observations and individual student interviews were conducted with 6 participants from two inclusive fifth-grade settings. An intervention



phase was included to compare the perceptions, behaviors, and performance outcomes of 3 participants introduced to an interdisciplinary thematic instructional format with 3 participants who continued to receive the traditional instructional format in effect prior to the study. Interviews were conducted over a 4-week intervention phase with classroom observations conducted weekly in each setting. Concurrently, an academic content assessment was given to all participants, pre- and postintervention to assess the impact of the intervention on participants' academic performance. The researcher utilized the data collected to answer the three research questions that guided the study:

1. What is the impact of multileveled lessons supported by activities that are thematically driven on the motivation levels of students with special needs?
2. How do students with special needs perceive their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers?
3. How is the academic performance of included students with special needs impacted by their motivation to participate in the learning environment?

This section will summarize the findings of observation, interview, and content assessment data to explore the themes that emerged from the analysis of these data sources. The findings will be explored in the context of the constructivist theoretical framework that supports this research. The researcher will explore practical applications of the findings and make recommendations based on the conclusions drawn from the data analysis.

### Summary of the Findings: Emergent Themes

Triangulation of data results showed the emergence of three central themes found across findings from each of the data sources. Social integration, self-relevance, and cross-curricular conceptualization were common factors to all participant data that affected students' motivation to participate in the inclusive setting and their perceptions of the instructional environment and ability to engage in learning with their peers who did not have disabilities. Based on the study findings, an interdisciplinary thematic instructional format of curriculum delivery provided included students with opportunities for social integration, personally relevant, and connected learning experiences that improved students' motivation to participate in the learning process, resulting in greater levels of academic performance.

#### *Observations*

The data analysis of weekly observations of study participants in each of the two inclusive classroom settings demonstrated a change in similar participant behaviors from the onset to the conclusion of the data collection. Observations were categorized by independent, group, and whole class participation and by students' verbal expressions of learning experiences. Initial data collection findings suggested that students were minimally active participants during instructional lessons, with a lack of independent contribution to individual or whole class activities. Additionally, negative expressions of learning experiences were identified via verbal comments and physical gestures of the participants. Task avoidance, distractibility, limited self-advocacy, lack of interest, and

minimal effort predominantly characterized participants' responses to the instructional format used at pre-intervention.

At postintervention, while the traditional format employed and student responses remained consistent in the control setting, the treatment setting participants, supported by an interdisciplinary thematic instructional format throughout the intervention, demonstrated increased motivation to engage in the instructional environment.

*Social integration.* Social integration (or lack of social integration) among students played a critical role in the positive or negative perceptions that students held about their learning experiences within the inclusive environment. Students in the treatment setting who were provided with multiple opportunities for group participation demonstrated greater levels of motivation to actively engage in social exchanges that supported content acquisition. Students demonstrated enthusiasm for social interactions that supported group responsibilities and contributions. When social isolation was eliminated, students were more willing to participate at a level that complimented their abilities and engaged interests and personal strengths, demonstrating self-confidence in their contribution to a group task.

*Cross-curricular conceptualization.* The interdisciplinary format of the treatment group setting encouraged theme-based curricular connections among subject disciplines and demonstrated authentic fictional and nonfictional events, problems, and solutions. When students established associations between subject content, content comprehension and skill attainment increased across academic subjects, as demonstrated by active

participation in discussions. Participants verbalized connections in peer group and whole class discussions that linked mathematical concept emergence with story events to demonstrate conceptual comprehension of the curriculum objectives that were introduced. Further, through social exchanges of curricular connections students were provided with repeated opportunities for content exposure, increasing the likelihood of knowledge acquisition. Interdisciplinary curricular content presentations supported the development of meaning and purpose for the instructional experiences.

*Self-relevance.* Observation findings produced demonstrations of higher motivational levels resulting from participation in activities in which student interests and abilities were complimented. Evidence of positive verbal and kinesthetic contributions to learning experiences, supported by demonstrations of positive body language during interactions, indicated the benefits of engagement in educational experiences that supported multiple levels of ability and learning styles. Student participation allowed students to demonstrate their understanding of task importance and relevance of the presented activities to support conceptual comprehension. Verbal expressions such as “This makes sense” and “I got it,” in addition to peer exchanges that verbalized connections between story events, mathematical concepts, and real life experiences, socially supported students development of concepts that held personal meaning and purpose. Students were more likely to contribute to a group or whole class activity when they established a connection between their interests and the content lesson.

*Interviews*

Pre- and postintervention interviews with individual participants revealed a similar shift in perceptions clearly identified among the treatment and control setting participants. In the initial interviews participants conveyed minimal enthusiasm for participation in each of the inclusive classrooms. All participants shared perceptions that identified social concerns, a lack of confidence, and a lack of understanding of the purpose for various learning experiences. The participants expressed minimal levels of confidence in their ability to contribute to instructional lessons, many citing fear of peer ridicule. Participants predominantly employed negative expressions to convey their lack of connection with the learning environment and their perceived limited ability to effectively participate in the shared learning environment with their peers who did not have disabilities.

Postintervention interviews maintained participant perceptions of disconnect and isolation among control setting participants. Participants in the treatment setting, however, who were exposed to a thematically driven interdisciplinary instructional format expressed markedly altered perceptions of the learning environment and their membership in the inclusive learning community.

*Social integration.* Participants in the treatment setting expressed enthusiasm for group activity participation. Participants conveyed positive perceptions of learning tasks that distributed responsibility among members of a small group. Student perceptions conveyed a sense of support from social exchanges that assisted concept development in

areas that proposed academic difficulties, predominantly the foundation of each individual's disability. Participants shared a developing confidence when they were able to contribute to a collective task based on their personal strengths and interests. Similarly, all treatment setting participants welcomed the community membership for group learning activities in which they conveyed perceptions of social exchanges as nonthreatening and supportive.

*Cross-curricular conceptualization.* All participants cited academic difficulties imposed by labored literacy skill development and long term acquisition of content and were recognized as impediments to successful contributions to the learning environment. The participants in the treatment setting expressed enthusiasm for the overlapping curricular concepts that were presented across multiple subject disciplines during the implementation of an interdisciplinary thematic instructional unit. Participants conveyed an established understanding of the purpose for the activities in which they engaged and established meaningful connections between content areas. Students perceived these lessons as an opportunity to revisit concepts that were repeatedly explored in a variety of contexts. Recognition for associations between subject disciplines attributed to the comprehension of content attainment.

*Self-relevance.* Participants in the treatment setting perceived their ability to engage in many of the presented group learning tasks as a result of the personal relevance that the content, skill, or task had in their own lives. When content was particularly interesting and was relevant or was presented using real life examples that students could

apply, they perceived meaning in the value of the instructional lesson. When students perceived their ability to successfully contribute to the learning experience, they were more motivated to engage in the instructional lesson. Participants conveyed confidence and enthusiasm for the group activities for which they were able to apply a personal strength to a task objective and offer a worthy contribution that benefited all group members. Thus, students' perceptions demonstrated the relevance of the lesson and content to their own lives and motivated them to participate in the shared instructional environment.

#### *Academic Content Assessment*

The pre- and postintervention administration of the academic content assessment to all study participants established a baseline measure of student comprehension for the content skills that would be introduced during the intervention phase and a follow-up measure to assess for changes in content acquisition. Differences in the pre- and postassessment were attributed to the impact of the instructional format intervention that supported students' perceptions and behaviors. Changes in the way students perceived the inclusive instructional environment and their participation in learning experiences thus affected their academic performance.

Perceptual and behavioral participant outcomes of social integration, cross-curricular conceptualization, and self-relevance, as described in the findings of treatment setting participants' observations and interviews, appeared to significantly impact the academic performance of the participants. The treatment setting participants

demonstrated an effect size of .44, reflecting an overall increase in academic performance of 118%. This is in contrast to the control setting participants' effect size of .07, an overall increase in academic performance of 21%.

### Interpretation of the Findings

With an increase in inclusive learning communities across the nation, attention must be directed to the shared instructional environment of students with special needs and their peers who do not have disabilities. Research highlighted the arguments of proponents of traditional versus interdisciplinary instructional formats to support a heterogeneous group of learners (Saville et al., 2005). Proponents of traditional instructional formats contend that students with special needs require concrete, single subject content for reinforcement supported by repetition and drill of independent skills (Boyce & Hine, 2002). Proponents of interdisciplinary thematic instructional formats contend that students with special needs and their peers who do not have disabilities experience shared benefits from instructional lessons that integrate subject areas and content and encourage multiple opportunities for engagement across various ability levels and personal interests (Barton & Smith, 2000; Tomlinson & Jarvis, 2006). Further, research implied that motivation to participate in each of these instructional environments may impact content and skill acquisition (Marzano, 2003; Whitehurst & Howells, 2006).

The first research question in this concurrent nested mixed method study addressed the impact of thematic multileveled lessons on motivation levels of included students with special needs. The outcomes presented in section 4 demonstrated higher



levels of motivation for participation when the instructional environment relied on thematic lessons that supported a range of ability and interest levels. The researcher observed enthusiasm for lesson activities among participants of the interdisciplinary instructional environment, particularly when tasks are varied and students have the opportunity to work with a group of peers. The participants conveyed greater levels of self-confidence when the lessons offered multiple opportunities to engage in the presented tasks. Students identified components of assignments that correlated with their individual recognition of skills, empowering them to participate confidently in contributing to a group assignment. Students also demonstrated a greater level of verbal and physical comfort when working with a smaller group. The exchanges of content information resembled a conversation among peers in a group activity rather than a classroom presentation that isolated students and drew focused attention to them. Shared responsibility was an outcome of social integration, motivating students to contribute as worthy members of a community.

The findings of participant observations described previously in section 4 demonstrated a positive impact of thematic multileveled lessons on motivation for participation of included students with special needs and supported the literature that exists on the implementation of an interdisciplinary thematic instructional approach to curriculum delivery. The importance of social integration, cross-curricular conceptualization, and self-relevance, emergent themes that provided a foundation for the outcomes of each individual participant, are similar to theories in the literature that

support increased motivation for learning (Carter & Kennedy, 2006; Gardner, 2006; Slavin, 1987; Tomlinson, 2004) . While much research explored these themes as individual factors (Caine & Caine, 2006; Lave & Wenger, 2001; Vygotsky, 1978), the findings of this mixed methods study suggest the need for their integration to maximize the impact of an interdisciplinary thematic instructional format on motivation for participation in the learning process.

Student participants demonstrated greater levels of engagement in lesson activities that combined their individual talents and knowledge with that of their peers. Participants of the treatment setting demonstrated higher levels of motivation for group participation than for independent task completion. Support through social integration and shared responsibility encouraged participation, enabling participants of all ability levels to participate and contribute to the collective learning experience (Gardner, 2006; Slavin, 1987).

Varied cross-curricular opportunities to participate that supported multiple ability levels and learning styles were available in the treatment setting lessons. Rather than individual completion of a task that relies on a single student to carry out all skill objectives independently and risks expectations for contribution that are not compatible with the student's ability level, multileveled opportunities in group tasks supported the needs of each individual learner. The literature on differentiation and multiple intelligences supports the findings of this study that demonstrated a positive impact of variation in learning activities on students with special needs' motivation levels to

participate (Gardner, 2006; Tomlinson & Jarvis, 2006). When students experienced opportunities to participate with varying levels of ability and learning styles, they were more likely to engage in the instructional lesson. Self-relevance, in which students established associations between instructional content, activity objectives, personal skills, and interests, was supported in the interdisciplinary lessons of the treatment group participants in which opportunities for various levels of contribution encouraged active engagement. Further, research on information-processing theories supports repeated concept exposure across a variety of contexts to support conceptualization through multidisciplinary connections. The reinforcement of skills across subject disciplines, cross-curricular conceptualization, supports the academic difficulties often experienced by students who struggle with long-term memory retrieval and content comprehension (Caine & Caine, 2006). This study expanded the literature on differentiation and information-processing theories to incorporate implications of each and explore the collective employment of variation across multileveled activities and curricular subject disciplines. Integration of these implications was demonstrated by the findings as factors that produced higher motivation than may have resulted with each independent factor.

The second research question explored the perceptions of included students with special needs of their ability to participate in interdisciplinary thematic lessons in collaboration with their general education peers. Student perceptions shared through individual interviews were impacted by factors, similar to those identified in the

observation data analysis, of social integration, cross-curricular conceptualization, and self-relevance.

Opportunities for social exchanges of content and peer modeling of skills were available to students participating in the treatment setting. Unlike the control setting, where students relied on independent engagement with lesson content of isolated subject disciplines, students participating in the interdisciplinary instructional setting demonstrated higher levels of active engagement in activities that grouped students with special needs with their peers who did not have disabilities for cooperative learning experiences. Constructivist principles supported the social exchanges of information that accompanied group participation. The opportunity for conceptual understanding and improvement was supported by a distribution of shared cognition through social exchanges of knowledge in small collaborative groups sharing a common task (Vygotsky, 1978). Participants in the treatment setting perceived their ability to contribute to group activities as contingent upon their association between content and task objectives with personal interests and recognition of their academic strengths. Student interviews conveyed preferences for social collaboration to address activity objectives in which students could choose a personal contribution towards achievement of a common group goal.

Marzano (2003) expressed the importance of multiple exposures across content areas to encourage cross-curricular conceptualization through supportive social integration with a learner's existing knowledge necessary for adequately acquiring new

content. The variation in activities that was utilized in the interdisciplinary setting encouraged students to employ their interests and talents to approach tasks differently, supporting self-relevance by empowering their use of skill strengths to demonstrate comprehension of the content presented (Tomlinson, 2004). This instructional format provided them with open-ended opportunities that they perceived to be nonthreatening. Participants conveyed in their interview a sense of group membership that they felt they had supported with worthy contributions. Participants perceived their experiences to have provided them with a safe, nonthreatening opportunity to demonstrate their level of content attainment and support new concept development through membership in a small group of learners that each contributed various strengths and abilities to the collective learning experience. These experiences are supported by the literature on cooperative learning (Slavin, 1987).

The collaboration of students with special needs and their peers without disabilities was perceived as supportive socially and instructionally. Students' academic difficulties demonstrated by weak literacy skills were supported by the opportunities for visual and kinesthetic participation to demonstrate conceptual understanding. The findings of this study support the literature on the advantages of social integration, cross-curricular conceptualization, and self-relevance in the instructional environment. This study contributes to the literature a demonstration of the increased benefit of integrating factors to encourage greater levels of motivation to participate in the learning process in inclusive settings. Student perceptions expressed enthusiasm for shared responsibilities

and exchanges of academic support using collective modalities and attributed these factors to the comfort they experienced in the shared learning environment. The comfortable atmosphere described by the participants supported their motivation to actively engage in shared experiences with their peers who were not disabled.

The third research question explored the impact of motivation to participate in the learning environment on the academic performance of included students with special needs. A comparison of pre- and postintervention assessments revealed that students who continued to receive traditional instruction demonstrated minimal improvements in academic performance when compared to the students who participated in an interdisciplinary instructional environment. Treatment setting participants demonstrated a significant increase in performance outcomes from the initial assessment. Based on the data, improvements in academic performance were attributed to higher levels of motivation for engaging in instructional activities. Social integration, cross-curricular conceptualization, and self-relevance contributed to improved levels of motivation.

Marzano (2003) explained that an individual's drive for success is linked to achievement. The data of this study indicated that changes in the instructional environment supported the increase in academic performance of the students. Evidence of a lack of motivation was evident in the observation and interview findings of the control setting participants in which students demonstrated task avoidance behaviors and described negative emotions pertaining to the instructional environment. Control setting participants conveyed feelings of fear, minimal self-belief, and negative thinking, leading

to a lack of participation. Academic performance measurement of these participants demonstrated a limited improvement in acquisition of content skills. The absence of an instructional format that supports motivation results in a lack of student participation and skill attainment (Carter & Kennedy, 2006).

The interview and observation findings of students who experienced interdisciplinary thematic instruction and who were provided with opportunities for cross-curricular and personally-relevant connections and multileveled activities that supported social integration demonstrated higher levels of motivation. Student perceptions and behaviors indicated a sense of social validity and meaningful and purposeful connections that supported a drive to achieve. Academic motivation was evidenced by a high level of improvement between pre- and postassessment scores. Thus, an assimilation of factors in the instructional environment that contributed to increased levels of participant motivation supported improved academic performance. The findings of this study contributed statistical evidence to the literature in support of an instructional delivery approach that integrates social, cross-curricular, and personally relevant factors to provide an optimal inclusive learning environment.

#### Implications for Social Change

Students with special needs must receive academic instruction in the least restrictive environment, and, to the maximum extent possible, integration with their peers who do not have disabilities (IDEA, 2004). As a result of NCLB (2002), the number of inclusive classroom settings across the country has risen over the last decade. However,

while overall academic performance levels have increased as a result of federal legislation and improved programming, the academic achievement gap between elementary students with special needs and their peers who do not have disabilities has remained fairly consistent (The Nation's Report Card, 2007). The debate over instructional methodology continues in search of pedagogical practices that are most conducive to support the needs of a heterogeneous population with consideration to standards-based reform. Implications can be drawn from the findings of this study about personal applications and social changes necessary to support the growing demands of inclusive educational communities.

Local school communities and school systems must continue to explore the implications of student integration into the learning environment. Placement of students with special needs in a shared setting warrants attention to the accessibility of materials, equipment, and media to accommodate modifications necessary for equitable learning experiences, the assignment of certified educators to develop and implement instructional plans and strategies, and improved professional development opportunities to support the needs of personnel. The educational community must consider the factors that will support the achievement of all learners placed in an inclusive environment.

School districts must consider the resources necessary to support an interactive learning environment that encompasses a range of needs to encourage academic growth for all learners. Budgetary decisions will need to consider the materials needed beyond the curricular textbooks that will encourage authentic experiences across a range of



modalities. In support of visual and auditory learners, for example, audiovisual technology and classroom equipment and supplies should be provided that enable students to interact with lesson content and use their visual and auditory senses. Similarly, tactile materials to support hands-on experiences may be necessary for kinesthetic learners. Additionally, budgetary considerations for the larger classroom needs, such as furniture that would encourage collaboration among students, must be considered. Classroom environments must be conducive to instruction and learning. Therefore, it is essential that school districts consider the physical needs of the inclusive learning environment that would motivate students to engage in learning.

School district administrators must give special consideration to the assignment of personnel in each inclusive learning environment. Cooperating educators must have strong interpersonal skills and leadership qualities, which will support their collaboration to serve students with special needs and their peers who do not have disabilities. The special and general educator team must demonstrate effective communication and share instructional planning, and classroom responsibilities. The teacher partnership must set an example for students, demonstrating collaboration and cooperative strategies for shared responsibilities and common goal achievement. Educators must demonstrate expertise in their respective areas to ensure that the appropriate modifications, student needs, and grade-level curriculum are accommodated in accordance with IEPs and state core curricular content standards. Careful planning of the inclusive teaching pair assigned to

each shared setting must be considered to ensure an optimal instructional environment that promotes student achievement.

Core curriculum standards identify the skills and objectives deemed appropriate and necessary for attainment at each grade level. Based on federal mandates, the core curriculum content standards implemented across grade levels within each state are ultimately delivered to students through various strategies employed by general and special educators. Students with special needs who are included with their general education peers for academic instruction must be supported with instructional lessons that address the imposed standards of the general education population in addition to IEP objectives. As stated by Gardner (2006), “Those who teach them are faced with the choice of either writing them off or finding educational regimens and prostheses that are effective” (p. 143). As demonstrated in the findings of this study, the instructional format of curriculum delivery can significantly impact the academic achievement of students with special needs sharing instruction with their peers who do not have disabilities. Thus, educators must participate in professional development opportunities that will support their understanding of the various skill and ability levels that exist within their classrooms. An examination of pedagogical practices must include a redefining of the instructional delivery approach to encourage participation among a heterogeneous student population. Educators must be trained to implement cooperative learning activities into their daily instruction to facilitate opportunities for knowledge acquisition with social integration and the establishment of interest, skill, and cross-curricular connections.

Additionally, professional development training can support educators in the development and implementation of lesson plans that are interdisciplinary with focused themes to encourage content acquisition across multiple levels and curricular areas. School administrators must support the professional progress of their personnel by making available training to expand pedagogical practices and ensure that students in their care are provided with optimal opportunities for equitable learning experiences.

#### Recommendations for Actions

It is important to consider strategies to support educators to prepare and implement an interdisciplinary instructional format of curriculum delivery within the inclusive setting. To maximize the opportunities available to all learners that will motivate students with special needs to participate in instructional activities, it is necessary to consider the factors that support the needs of struggling learners in a shared learning community. This study presented findings that demonstrate the benefits of an integration of factors that promote increased participation and improvements in academic performance. Social integration, cross-curricular connections, and opportunities that promote self-relevance and associations between instructional content and personal interests were found to collectively maximize the motivation of students with special needs to participate and increase academic achievement. Thus, school districts and inclusive class settings must consider several steps warranted for effective planning and implementation of an interdisciplinary thematic instructional approach to assist in the transition of instructional planning and implementation.

The roles of collaborating general and special educators are vital to the successful outcomes of instruction. To facilitate positive learning experiences, the general and special educator must clearly understand their roles and contribution to the instructional process. Clear expectations must be established to identify teacher participation. Teachers must establish routines for classroom presentation in which both educators share the responsibilities of classroom instruction. Emphasis must be placed on the collaborative efforts of both educators to model cooperative learning strategies. Teachers will require training to expand their understanding of strategies that facilitate collaboration between students with special needs and their peers who do not have disabilities and encourage positive experiences of social integration. Additionally, school administrators will benefit from professional development that facilitates support for their educational staff and promotes teamwork among teaching pairs.

Effective planning is vital to the successful implementation of interdisciplinary units of instruction. Collaboration between educators must be supported with common planning time and the availability of resources for thematic lesson plan development. School administrators must consider the need for time when preparing teacher schedules, aligning common time periods to support teacher dialogue and preparation of lesson plans. Further, professional development training that supports comprehension for the development of thematic units that associates cross-curricular content may be warranted. Educators may need experiences which model the development of such plans and provide suggestions for instructional activities that support content learning across multiple

ability levels and learning styles. Such training experiences would provide a platform for educators to explore variations of an interdisciplinary instructional approach that would accommodate the needs of each teaching pair for utilization within their own learning setting.

Finally, the study findings demonstrated the impact of connections between student interests and content skills and objectives. Increased levels of motivation resulted when students found meaning in and application of the instructional activities. Personal connections between academic content and student interests can be further supported beyond the classroom. Opportunities for parental involvement that reinforce concepts presented in the inclusive classroom can contribute to student academic achievement. The reinforcement of connections within and outside of the instructional environment provides an opportunity for content skill attainment. As the study findings revealed, motivation levels for instructional participation were higher when students had opportunities to establish associations between instructional content with other experiences. School administrators can encourage parental involvement with invitations to workshops and training sessions that support parental understanding of effective strategies that facilitate the home and school connection.

#### Recommendations for Further Study

The outcomes of this study invite exploration into other instructional components that would support academic motivation of students with special needs. Participants of this research demonstrated motivation for instructional activities that integrated social,

cross-curricular, and personally-relevant factors. Research into variations in assessment that would compliment this integrated instructional approach is warranted. While this study addressed a transition from traditional to interdisciplinary instructional formats, assessing knowledge acquisition will also be necessary to gauge performance levels. In an educational culture that is driven by federal legislation supportive of standards-based assessment, further research is necessary to explore optimal assessment strategies that would encourage performance-based measures that align with an interdisciplinary instructional method.

#### Reflection of Experience

The researcher is a member of the educational community where this study took place. As described previously in section 3, The Role of the Researcher, some of the participants were familiar with the researcher. Also described in section 3, the researcher explained to all participants that truthful responses were desired, and that responses would not affect the researcher's opinion of the participant or impact the participant's academic grades as a result of their participation. While the researcher sought to remain unbiased, experience as a special educator may have resulted in interpretations of the data that reflect personal biases. Additionally, the researcher began this study with a preconceived philosophy that supports the inclusion of all students with special needs in shared instructional environments with peers without disabilities. The researcher believes in recognizing individuality and diversity among students and attention to differentiation of instructional practices to support an inclusive learning community.

Prior to the development and implementation of this study, the researcher had minimal experience with a mixed method research approach. The complexity of the process of data collection and analysis from multiple sources was learned. While the data provided rich details that assisted the researcher in drawing conclusions and formulating recommendations, the researcher experienced the complexity in capturing human emotions, perceptions, and behaviors with unbiased detail. The data collection and analysis experience of this investigation encouraged the researcher to reflect on human variance and recognize within the confines of this study the range of impact of the instructional environment on individual perceptions and behaviors. The experience highlighted the many variables that must be taken into consideration when studying human beings, diverse and unique individuals, and their response to their environment.

#### Summary and Conclusion

This concurrent nested mixed method study used a multiple case study design. The study results demonstrated instructional factors that impacted the motivation levels of students with special needs in the inclusive setting. Through participant observations and individual interviews that compared students' perceptions and behaviors before and after the implementation of an interdisciplinary thematic instructional approach to curriculum delivery, the researcher documented changes in participation, expressed feelings, and attitude toward the shared classroom instruction and environment. Additionally, pre- and postcomparisons of student academic performance on presented content skills and objectives were measured. The findings elicited several

recommendations for action that would provide optimal opportunities to increase motivation and promote equitable engagement in the learning process among students with special needs and their peers without disabilities.

The outcomes of this study demonstrated positive influences of an interdisciplinary thematic instructional format for lesson plan development and implementation on the motivation of included students with special needs to participate in a shared learning environment. Observed behaviors, perceptions, and participants' interview responses highlighted three factors that contributed to changes to improved motivation levels. Increased motivation correlated with improved academic performance outcomes. Despite differences in learning styles, abilities, and interests, students with special needs demonstrated greater levels of participation and improved academic performance in inclusive instructional lessons that supported social integration, cross-curricular connections, and established self-relevance of the content and skills presented. Instructional practices must support the diversity that exists among members of an inclusive setting. School districts, administrators, and educators must direct attention to the needs of a growing inclusive population and explore the implications of a shared learning environment on the design and implementation of instruction.

The products of this study inspired the local school district where the research took place to plan an opportunity for participants in the control setting to participate in an interdisciplinary thematic instructional environment. Further, the outcomes of the research were shared with other schools and educational communities. The intent of the



distribution of outcomes was to support refined instructional methodology employed within various professional settings. Further, among the global educational community, the study's findings advocated for professional development opportunities that support administrators and teachers in designing and implementing instructional environments conducive for inclusive learners.

Included students with special needs deserve educational services in instructional settings conducive to the development of their knowledge and skills. In part, their success depends on the support of the instructional environment to facilitate knowledge acquisition and provide an authentic variety of experiences that scaffold a range of learning styles, intelligences, and abilities. The educational community must reflect on instructional practices to ensure they support student diversity and encourage academic motivation for included students with special needs. All students of inclusive settings deserve equitable opportunities to achieve.

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APPENDIX A:  
INTERVIEW GUIDE

Interview Guide  
Interview

Pre / Post

Participant/Coded  
ID: \_\_\_\_\_

Researcher Protocol and Notes:

1. Describe a regular day in your classroom. (*descriptive details about the learning environment*)
  
2. What are some of your favorite activities that you have done in class?  
Tell me about one of your favorite lessons.  
Who was involved?  
What was the topic of the lesson?  
What did you learn?  
What did you enjoy most about the lesson? (*experience question*)
  
3. Would you describe yourself as someone who joins in class activities often? Tell me why you describe yourself as you do. (*structural question*)
  
4. Describe a time when you felt uncomfortable during a class lesson. What parts of the class environment made you feel uncomfortable? (*structural question*)
  
5. Are you more comfortable when called on to participate in class by yourself or when you are asked to work with a group of peers? Explain your feelings. (*compare and contrast question*)

APPENDIX B:  
OBSERVATION PROTOCOL

Observer\_\_\_\_\_

Date\_\_\_\_\_

Location\_\_\_\_\_

<u>Time</u>	<u>Observations</u>	<u>Notes to Self</u>

APPENDIX C:

ACADEMIC CONTENT ASSESSMENT

Name \_\_\_\_\_ Date \_\_\_\_\_

Academic Content Assessment

*Read the story below. Answer questions 1 – 7.*

The sun was shining and the weather was warm. It was a beautiful September afternoon and the very first day of school. Billy was starting a new grade. He knew starting fifth grade today meant that he was going to see all of his school friends again and he was looking forward to it. Billy loved playing at recess with his friends just as much as he enjoyed art class. Billy was a very good artist. He enjoyed reading class too, however, he was very worried about how well he would understand the new math lessons. Billy struggled in math the year before and knew that this year was going to mean studying even harder to understand what his class was learning. He was especially nervous to be in the same class with his friend Lisa. Lisa was a good math student. Billy felt **intimidated** when they were in math class together because Lisa always knew the answers and Billy always felt nervous and unsure of himself.

After the morning introductions, Mrs. Flint told the class it was time for their first math lesson of the new year. Billy suddenly felt dizzy like his thoughts were moving in **circles**. Mrs. Flint began the lesson by asking the students to pick a friend in the class that would become their math study partner. Before Billy could even think, Lisa stood in front of him and asked if she could be his partner. Billy was surprised. “Why do you want to be my partner?” Billy asked. Lisa responded, “This year we will learn a lot about **geometry**. You are wonderful at drawing so I know that you could really help me to understand the math lessons better than I can on my own”. Billy agreed with excitement and thought, “Math just might become one of my favorite subjects this year!”

**1. In the story, the word *circles* BEST refers to**

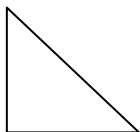
- a. around
- b. underneath
- c. between
- d. below

**2. In the story, the word *geometry* refers to a \_\_\_\_\_ unit of study.**

- a. reading
- b. mathematics
- c. writing
- d. science

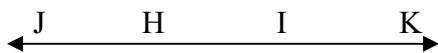
3. In the first paragraph, the word *too* means the same as \_\_\_\_\_.
- instead of
  - about
  - also
  - without
4. The setting of the story includes which of the following details:
- a snowy cold day
  - the sand at the beach
  - a school
  - Billy's uncle's house
5. The setting of the story does NOT include which of the following details:
- Mrs. Flint's classroom
  - the month of September
  - bedtime
  - a warm and sunny day
6. Which word BEST explains how Billy felt in the beginning of the story?
- worried
  - silly
  - strong
  - tired
7. What words does the author use to help the reader understand the meaning of *intimidated*?
- nervous and unsure
  - knew the answers
  - good math student
  - enjoyed art class

8. Classify the following triangle by its angles and sides.



- a. acute triangle
- b. obtuse triangle
- c. equilateral triangle
- d. right triangle

9. Name a ray on line  $JK$ .



- a. ray  $IK$
- b. ray  $KM$
- c. ray  $HC$
- d. ray  $CH$

10. Parallel lines are two lines that

- a. lines in a plane that intersect at the midpoint
- b. lines in the same plane that do not intersect
- c. two lines that intersect and form right angles
- d. two parts of the same line that have an endpoint

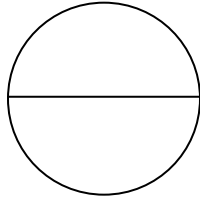
11. A line segment that has one endpoint on a circle and another endpoint in the center of the circle is called a \_\_\_\_\_.

- a. rhombus
- b. diameter
- c. ray
- d. radius



12. The line segment stretching across the center of the circle below is called a

\_\_\_\_\_.



- a. diameter
- b. ray
- c. protractor
- d. sphere

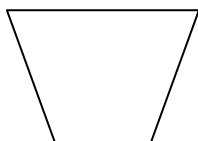
13. Miss Lolly planted a vegetable garden. The rectangular garden is 8 feet long and 5 feet wide. What is the perimeter of the garden?

- a. 48 feet
- b. 12 feet
- c. 26 feet
- d. 24 feet

14. Sam is arranging furniture in a small room. He would like to determine the area of the room. If the square room is 10 feet long, what is the area?

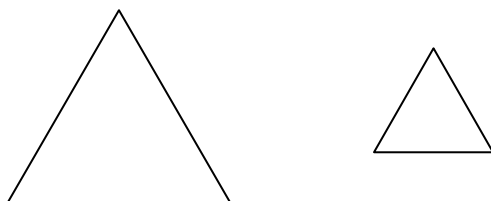
- a. 81 feet
- b. 64 feet
- c. 100 feet
- d. 121 feet

15. Classify the figure.



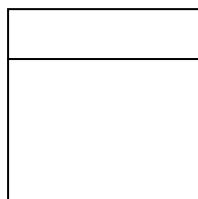
- a. octagon
- b. pentagon
- c. trapezoid
- d. rhombus

16. The two shapes below are \_\_\_\_\_.



- a. similar
- b. congruent
- c. perpendicular
- d. circles

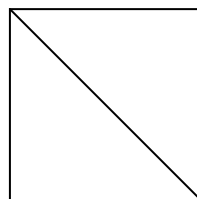
17. Which shape below demonstrates a line of symmetry?



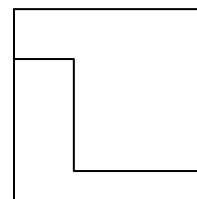
a.



b.

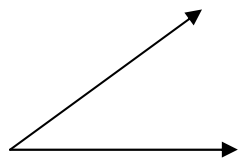


c.



d.

18. Estimate the measure of angle  $ABC$ .



- a. 45 degrees
- b. 180 degrees
- c. 90 degrees
- d. 120 degrees

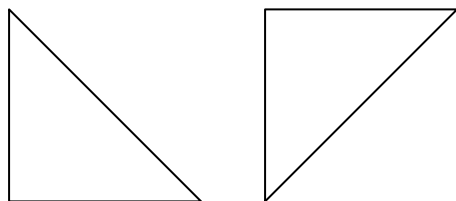
19. Which of these statements are true?

- a. A trapezoid has six sides.
- b. A hexagon is a quadrilateral.
- c. A triangle is a parallelogram.
- d. A rhombus is a parallelogram.

20. A wheel has a diameter of 20 inches. Estimate the circumference around the wheel.

- a. 60 inches
- b. 70 inches
- c. 80 inches
- d. 90 inches

21. The following shapes are \_\_\_\_\_.

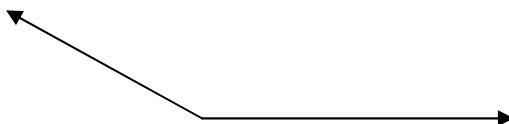


- a. parallel
- b. perpendicular
- c. congruent
- d. trapezoids

**22. The width of a rectangle is six inches. The perimeter of the rectangle is 28. What is the length of the rectangle?**

- a. 5 inches
- b. 6 inches
- c. 7 inches
- d. 8 inches

**23. Classify the angle.**



- a. right angle
- b. straight angle
- c. obtuse angle
- d. acute angle

**24. A triangle with three equal sides and three equal angles is called**

\_\_\_\_\_.

- a. acute triangle
- b. right triangle
- c. scalene triangle
- d. equilateral triangle

**25. An instrument used to measure angles is called**

\_\_\_\_\_.

- a. microscope
- b. protractor
- c. scale
- d. calculator

APPENDIX D:

TOPIC AND CONTENT SKILLS ALIGNMENT CHART

Week / New Jersey Core Content Standards(NJCCS) Addressed	Mathematical Concept Objectives	Vocabulary Introduced / Reviewed	Reading Comprehension Objectives
<p><b>Week 1</b></p> <p>Literacy Standards: 3.1.12.A, 3.1.12.D, 3.1.12.E, 3.1.12.G</p> <p>Math Standards: 4.1, 4.2, 4.3, 4.5</p>	<ul style="list-style-type: none"> <li>-lines and line segments</li> <li>-rays</li> <li>-classifying angles</li> <li>-classifying triangles</li> <li>-circles</li> </ul>	<p>Circumference, Radius, Right angle, Degrees, Obtuse, Acute, Parallel, Protractor</p>	<ul style="list-style-type: none"> <li>-summarize important story events</li> <li>-analyze story structure</li> <li>-draw conclusions</li> <li>-describe story setting and characters</li> <li>-compare and contrast</li> </ul>
<p><b>Week 2</b></p> <p>Literacy Standards: 3.1.12.A, 3.1.12.D, 3.1.12.E, 3.1.12.G</p> <p>Math Standards: 4.1, 4.2, 4.3, 4.5</p>	<ul style="list-style-type: none"> <li>-polygons</li> <li>-classifying triangles by the sums of angles</li> <li>-classifying quadrilaterals</li> <li>-patterns</li> </ul>	<p>Circumference, Radius, Rectangle, Parallelogram, Quadrilateral, Oval, Polygon, Diameter</p>	<ul style="list-style-type: none"> <li>-evaluate the author's purpose</li> <li>-describe the setting and characters</li> <li>-summarize story events</li> <li>-draw conclusions</li> <li>-make inferences</li> </ul>
<p><b>Week 3</b></p> <p>Literacy Standards: 3.1.12.A, 3.1.12.D, 3.1.12.E, 3.1.12.G</p> <p>Math Standards: 4.1, 4.2, 4.3, 4.5</p>	<ul style="list-style-type: none"> <li>-solid figures</li> <li>-spatial reasoning</li> <li>-problem solving</li> <li>-perimeter</li> </ul>	<p>Vertex, Edge, Cube, Pyramid, Cylinder, Cone, Prism, Perimeter</p>	<ul style="list-style-type: none"> <li>-summarize information from the text</li> <li>-make generalizations</li> <li>-evaluate author's purpose</li> <li>-identify facts and opinions</li> </ul>
<p><b>Week 4</b></p> <p>Literacy Standards: 3.1.12.A, 3.1.12.D, 3.1.12.E, 3.1.12.G</p> <p>Math Standards: 4.1, 4.2, 4.3, 4.5</p>	<ul style="list-style-type: none"> <li>-area of squares and rectangles</li> <li>-area of triangles and parallelograms</li> <li>-area of irregular polygons</li> <li>-congruent figures and transformations</li> <li>-similar figures</li> <li>-symmetry</li> </ul>	<p>Edge, Inners, Rectangle, Perimeter, Area, Symmetry, Congruent, Similar</p>	<ul style="list-style-type: none"> <li>-analyze text structure</li> <li>-identify the characteristics of description as a text structure</li> <li>-synthesize text information</li> <li>-describe author's purpose</li> </ul>

**Literacy Standards Defined:**

3.1.12A (concepts about print/text)

3.1.12.D (fluency)

3.1.12.E (reading strategies)

3.1.12G (comprehension Skills)

**Mathematics Standards Defined:**

4.1 (number and numerical operations)

4.2 (geometry and measurement)

4.3 (patterns and algebra)

4.5 (mathematical processes)

(New Jersey Department of Education, 2007)

APPENDIX E:

ASSENT FORM

My name is Mrs. Daniele Kass. You may know me as a special education teacher in our school, but I am also a doctoral student at Walden University. I am doing a six-week research study that will help teachers understand how class lessons and activities support you to take part in learning within your classroom. This is important because this study can help teachers to plan better lessons that will help you to learn and do well in school.

I am asking you to take part in this study because you are a fifth grade student with special needs in an inclusive classroom. I would like to understand how you feel you learn best and what activities you would enjoy doing that may help you improve.

This study will last for six weeks. If you would like to be in this study, I will ask you questions and visit you in your classroom. You will be asked to share your feelings about the activities in your class, and take a test that will see what you have learned.

It is up to you! You do not have to join this study if you do not want to. You will not get into any trouble if you say no. You can always change your mind later. You can ask questions at any time. If you have a question later that you did not think of now, you can ask me later.

You may feel nervous sharing information with me. Anything you tell me during this study will be kept between us. That means that no one else will know your name or what answers you gave.

I will ask your parent(s) for permission for you to join this study. Even though your parent(s) must give permission, you still can choose if you want to join. Remember, being in this study is up to you and no one will be upset if you do not want to join or if you change your mind later.

Signing your name below means that you choose to be in this study. I will give a copy of this form to you and your parent(s) after you have signed it.

Please sign your name below if you want to join this study.

Name of Child

---

Child Signature

---

Researcher Signature

---



## APPENDIX F:

### PARENTAL CONSENT FORM

#### “The Relationship Between Instructional Delivery and Academic Motivation of Included Students With Special Needs”

My name is Mrs. Daniele Kass and I have been a special education teacher at [REDACTED] Elementary School for the last ten years. I am also a doctoral student at Walden University. I am doing a six-week research study to understand how students with special needs view lessons and activities in their classroom, and how the instruction affects their participation, and ultimately their academic achievement.

I would like to invite your child to join in this research study. Your child was chosen because he/she is: (1) a fifth grade student; (2) classified with a learning disability; (3) has received a score within the partially proficient range on the New Jersey Assessment of Skills and Knowledge; and (4) attends an inclusive general education classroom for academic instruction.

The results of this research are important because they can help teachers to improve lesson planning and produce activities that will better support the learning needs of students with special needs. The details that students can share will improve teachers' understanding of students' feelings and experiences, and help them to plan learning opportunities that will support each individual's needs.

Participation in this research is expected to last approximately six weeks. Students invited to join in this research study are from two classrooms. During the study, each classroom will use different instructional lessons and activities to teach the same topics and skills. If you agree for your child to be in this study, I will interview him/her and we will discuss his/her views of learning experiences, and rate his/her feelings on a survey. The interviews will be conducted during students recess period, with each student participating in a total of two interviews. Students will be given free time within their classrooms on each of the two days during the study that they will miss their regularly scheduled recess. This is to avoid missed academic class time and eliminate any missed class lessons. Additionally, I will observe lessons in your child's classroom. Participants will also be given a test, similar to others they have taken, to determine what has been learned from the instruction. Upon conclusion of the study, if a particular instructional approach is found to demonstrate greater levels of learning support, with the school district's review and approval, all students will have an opportunity to receive this format of instruction.

Your child's participation in this study is voluntary. This means that no one at [REDACTED] Elementary School will treat your child differently if you decide not to grant permission for study participation. If you decide to consent to permission now, you can still change your mind later. If your child feels stressed during the study, he or she may stop at any time.

While participating in this study, your child may feel uncomfortable responding honestly to the questions asked of him/her or nervous when I am observing. I assure you that all responses will be kept private and will not change your child's school grades or our professional relationship. Being in this study, however, may help your child's teachers to better understand how they can best support students' learning needs.

No compensation is provided for participation in this study.

Any information you or your child provide will be kept confidential. I will not use your information for any purposes outside of this research project. In addition, I will not include your name or your child's name on anything else that could identify you in any reports of the study.

You may ask any questions you have now, or if you have questions later, you may contact me via telephone at (201) 491-6489, or via email at [daniele.kass@waldenu.edu](mailto:daniele.kass@waldenu.edu). You may contact my advisor, Dr. Don Jones, at [don.jones@waldenu.edu](mailto:don.jones@waldenu.edu). If you want to talk privately about your child's rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

I will give you a copy of this signed form to keep.

**Statement of Consent:**

I have read the above information. I grant consent for my child to participate in this study. I understand that I may ask questions at any time and that I may change my mind at a later time with no consequences.

Printed Name of  
Participant's  
Parent/Legal Guardian

\_\_\_\_\_  
Parent/Legal Guardian's  
Written or Electronic\*  
Signature

\_\_\_\_\_  
Researcher's Written or  
Electronic\* Signature

\_\_\_\_\_

APPENDIX G:  
SUPPORTING EDUCATOR'S CONSENT FORM

You have been invited to take part in a research study of "The Relationship Between Instructional Delivery and Academic Motivation of Included Students With Special Needs" within the [REDACTED] Elementary School. You were chosen for the study because you are: (1) a fifth grade student general or special educator within an inclusive classroom setting (2) have a minimum of three years teaching experience, (3) have attended professional development workshops on interdisciplinary instruction. Please read this form and ask any questions you have before agreeing to be part of the study.

I am a graduate student at Walden University. I am working on my doctoral degree. I have been a special education teacher at [REDACTED] School for 10 years and have supported students' academic development as both a resource room educator and as a collaborative inclusive educator in general and special education classrooms throughout this time.

**Background Information:**

The purpose of this study is to understand how students view their inclusive classroom, learning, and how the instructional methods used affects their participation, and ultimately their academic performance.

**Procedures:**

If you agree to support this study, you will be asked to:

- Meet with the researcher and grade level colleagues to develop two bi-weekly lesson plans utilizing two different instructional formats. (Your setting may utilize one of two different instructional formats. Your setting may participate as the control group who will continue to participate in the same instructional lesson format as prior to the study or the treatment group which will participate in an alternative instructional format, interdisciplinary thematic instruction)
- Instruct your classroom for four weeks according to the assigned study lesson plans and format utilizing established content, objectives, student grouping, and assessment as indicated in the assigned plans.
- Distribute and collect an academic content assessment pre- and post-study, as determined by the researcher. This assessment, distributed during class time will be given to all study participants, while non-participants will receive an academic assessment as directed by the adopted school curriculum that is not a part of this study.

In addition, your classroom will be observed once per week for 40 minutes by the researcher.

**Voluntary Nature of the Study:**

Your support and cooperation in this study is voluntary. This means that everyone will respect your decision of whether or not you consent to participate as an educator in the study. No one at ██████████ School will treat you differently if you decide not to participate. If you decide to participate now, you can still change your mind later. If you feel stressed during the study you may stop at any time.

**Risks and Benefits of Being in the Study:**

While participating in this project, you may feel uncomfortable instructing when the researcher is present and observing. Knowing the researcher personally may increase anxiety. I assure you that all observations will be kept confidential and in no way will they affect your professional ability or my professional relationship with you. You will be able to view any notes taken during the observation to ease any anxiety. Being in this project, however, may help you and other educators to better understand how we can best support included students' learning needs.

**Compensation:**

No compensation is provided for participation in this study.

**Duration of Participation:**

Each school day throughout four weeks of the six-week study duration, in addition to three meetings after school with an approximate duration of two hours each to develop the lesson plans used in the research.

**Confidentiality:**

Any information you provide will be kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name on anything else that could identify you in any reports of the study.

**Contacts and Questions:**

The researcher's name is Daniele Kass. The researcher's faculty advisor is Dr. Don Jones. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via (201) 491-6489 / [daniele.kass@waldenu.edu](mailto:daniele.kass@waldenu.edu) or the advisor at [don.jones@waldenu.edu](mailto:don.jones@waldenu.edu). If you want to talk privately about your rights as a participating educator, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

The researcher will give you a copy of this form to keep.

**Statement of Consent:**

I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study.

Printed Name of  
Participant

Participant's Written or  
Electronic\* Signature

Researcher's Written or  
Electronic\* Signature

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

APPENDIX H:  
LETTER OF COOPERATION

█ Elementary School  
█ School District  
█ Place  
█, New Jersey 07█

November 14, 2008

Dear Mrs. Daniele Kass,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "The Relationship Between Instructional Delivery and Academic Motivation of Included Elementary School Students With Special Needs" within the █ Elementary School. As part of this study, I authorize you to invite members of the fifth grade teaching staff of this school to support the research and selected elementary students with parental permission, whose names and contact information I will provide, to participate in the study as interview and observation subjects. It is acknowledged that you will be comparing two instructional formats within the research setting and that participants will participate in assessments that compare pre and post study behaviors. Their participation will be voluntary and at their own discretion. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,

School Principal

## APPENDIX I:

### LESSON PLAN EXCERPTS

#### *Mathematics Goals and Objectives (for both treatment and control settings):*

- **NUMBER SENSE:**  
Demonstrate understanding of numbers and numerical values in different contexts  
Compute problems of various numerical values utilizing different operations
- **GEOMETRY and MEASUREMENT:**  
Identify, describe and compare shapes  
Identify similar and congruent shapes  
Apply appropriate forms of measurement to measure angles  
Compute area and perimeter  
Recognize attributes of various polygons  
Utilize a protractor for angle measurement
- **MATHEMATICAL PROCESSES:**  
Comprehend a variety of problem solving strategies to compute problems  
Apply various problem solving strategies to word problems

#### *Reading/Language Goals and Objectives (for both treatment and control settings):*

- **ORAL LANGUAGE: Listening and Speaking-**  
Listening
  - (a) Listen to determine a speaker's purpose, attitude, and perspective.
  - (b) Demonstrate competence in active listening by interpreting and applying received information to new situations and in solving problems.Speaking
  - (a) Use details, examples, and reasons to support central ideas or clarify a point of view.
  - (b) Reflect and evaluate information learned as a result of the inquiry.
- **WRITTEN LANGUAGE:**  
Demonstrate writing skills for different purposes and audiences  
Writing to share information and demonstrate knowledge
- **COMPREHENSION:**  
Analysis and evaluation of story and text structure  
Interpretation of character and story setting  
Development of generalizations regarding author's purpose
- **VOCABULARY**  
Infer specific word meanings in the context of reading passages.  
Use a grade level appropriate dictionary independently to define unknown words.

\* Designated goals and objects apply to the treatment and control group settings.



### *Treatment Group Lesson Plans*

#### **Week 4 - Mathematics Lessons/Procedures:**

*Day 1* (Math Textbook Lesson 11-12: Area of Squares and Rectangles)

- 1) Introduce geometry terms: area, perimeter, rectangle. The definitions presented in this lesson will be provided by the teachers to each student. Students will insert the definition sheet into their geometry vocabulary books created at the beginning of the unit. The teachers will review their terms, identifying geometric illustrations in the reading story to convey meaning of the terms (\*Language Connection). After review of the terms, students will include their own geometric drawings to illustrate each term.
- 2) Whole class lesson. The teachers will utilize class objects that are shaped as squares (tissue box) or rectangles (eraser) to illustrate the computation of the area of a three-dimensional quadrilateral. The teachers will provide the formula and model the computation for students.
- 3) Students will work with a partner to identify other objects in the room that are squares and rectangles. Each student pair will create a small chart to identify the item and detail it's length and width to determine the area of the object.
- 4) Students will share their findings in discussion with the class at the close of the activity.

#### **Week 4 - Reading Lessons/Procedures – “Sir Cumference and the Isle of Immeter”:**

*Day 1*

- 1) Introduce weekly vocabulary: edge, inners, rectangle, perimeter, area, symmetry, congruent, similar
- 2) Students will work in teacher-designated small groups (3-4 students) to define vocabulary words using context story clues, glossary and/or dictionaries.
- 3) Students within groups to create a vocabulary quilt. In groups, students will create fabric quilt squares of each vocabulary word. Each group will work on a minimum of six squares to demonstrate the meaning of a vocabulary word. Students will create a visual display as well as describe their picture, applying the vocabulary word into sentence format. Completed squares will be attached.
- 4) Mathematics Connection: Students will determine the area of their fabric square within their groups. Students will be asked to problem solve various solutions for arranging the squares to create the quilt, computing the area and perimeter of the quilt.

### ***Control Group Lesson Plans***

#### **Week 4 – Math Lessons/Procedures:**

*Day 1* (Math Textbook Lesson 11-12: Area of Squares and Rectangles)

- 1) Introduce geometry terms: area, perimeter, rectangle. Students will write the teacher-provided definitions in their math notebooks.
- 2) Whole class lesson. Students will read pages 454-455 in the math textbook. The teachers will direct with guided questions about the text-presented information. The teachers will model the computation of the area of a rectangle and square using the formula for area. The teachers will model examples on the whiteboard for students to take notes.
- 3) Students will work independently to complete the problems on page number 455 of the math textbook. The teachers will review solution in whole class discussion upon completion.

#### **Week 4 - Reading Lessons/Procedures – “Hurricanes”:**

*Day 1*

- 1) Introduce weekly vocabulary: damages, property, available, contact, atmosphere, destruction, hurricanes, surge
- 2) Students will work independently to define each vocabulary word and use each in a sentence. The teachers will review vocabulary definitions as a whole class discussion, placing the vocabulary meanings on the board for students to check against their independent work and make changes/corrections.
- 3) Students will complete workbook page 133 (Vocabulary Practice) using the vocabulary words in sentence

## APPENDIX J:

### MATH-BASED LITERATURE

Neuschwander, C. & Geehan, W. (1997). *Sir circumference and the first round table: A math adventure*. Watertown, MA: Charlesbridge.

Neuschwander, C. & Geehan, W. (2001) *Sir circumference and the great knight of angleland: A math adventure*. Watertown, MA: Charlesbridge.

Neuschwander, C. & Geehan, W. (2003). *Sir circumference and the sword in the cone: A math adventure*. Watertown, MA: Charlesbridge.

Neuschwander, C. & Geehan, W. (2006). *Sir circumference and the isle of immeter: A math adventure*. Watertown, MA: Charlesbridge.

## APPENDIX K:

### INTERVIEW TRANSCRIPT EXCERPT: PEER REVIEW FEEDBACK

*Excerpt extracted from Participant E's post-interview.*

R= Researcher, EC=Participant E, Control Group

#### Researcher's Original Interview Transcript

R: What are some of your favorite activities that you have done in your class?

EC: I like it when we don't have to answer questions from the textbook. My favorite is when we get to make something, but we usually always have some kind of writing and I don't really like that so much.

R: Can you tell me about one of the projects you got to make that you enjoyed working on?

EC: Once we got to do a storyboard in reading and it was fun because we had to make this long strip with pictures of the things that happened in the story. We didn't have to write very much so that was good.

R: Can you explain why you feel the way you do about writing activities?

EC: I am not a good writer and we have to do it on our own. The teachers will help us, but I don't ask for them to help me. It gets uncomfortable.

R: Share with me what you mean when you say 'uncomfortable'.

EC: Well, the other kids will know what I am doing. They will find out that I don't get it. I don't really want anyone to know because then it is embarrassing if I am the only one who doesn't understand. It makes me uncomfortable and I don't want my friends to think I am not smart.

R: Could you ask a peer or a friend for some help?

EC: I would but we usually go over it as a whole class and most times we don't work with anyone when we are writing answers to the questions the teacher gives us.

R: If you could ask a peer for help, what would that experience be like for you?

EC: Well then we could all talk about it and help each other. I might understand it better and other people may have problems understanding to and we could work it out. It wouldn't be as scary talking with a few people as it is when the whole class is listening and then if everyone in the group did not understand the information, one person wouldn't stand out.

### Peer-Reviewed Transcript

*(Any omissions /substitutions from the researcher's original transcript are highlighted to indicate that the peer reviewer identified this information on the audio-recording and applied it to the transcript for accuracy In some cases an asterisk (\*) follows highlighted text to indicate the importance of this finding by the peer reviewer.)*

R: What are some of your favorite activities that you have done in your class?

EC: I like it when we don't have to answer questions from the textbook. My favorite is when we get to make something, but we usually always have some kind of writing and I don't really like that so much.

R: Can you tell me about one of the projects you got to make that you enjoyed working on?

EC: Once we got to do a storyboard in reading and it was fun because we **each**\* had to make this long strip with pictures of the things that happened in the story. We didn't have to write very much so that was good. *\*Omitted in the original: signifies that each student worked independently on this project.*

R: Can you explain why you feel the way you do about writing activities?

EC: I am not a good writer and we have to do it on our own. The teachers will help us, but I don't **like asking**\* for them to help me. It gets uncomfortable. *\*The word 'like' was omitted in the original transcription. With the omission of 'like' it signifies an action/behavior. "Like" was included in the audio recording, signifying the student's preference.*

R: Share with me what you mean when you say 'uncomfortable'.

EC: Well, the other kids will know what I am doing. They will find out that I don't get it. I don't really want anyone to know because then **it's** embarrassing if I am the only one who doesn't understand. It makes me uncomfortable and I don't want my friends to think I am not smart.

R: Could you ask a peer or a friend for some help?

EC: I would but we usually go over it as a whole class and most **of the time** we don't work with anyone when we are writing answers to the questions the teacher gives us.

R: If you could ask a peer for help, what would that experience be like for you?

EC: Well, then we could all talk about it and help each other. I might understand it better and other people may have problems understanding too and we could work it out. It wouldn't be as scary talking with a few people as it is when the whole class is listening and then if everyone in the group did not understand the information, one person wouldn't stand out.

APPENDIX L:

ACADEMIC CONTENT ASSESSMENT STATISTICAL ANALYSIS

*SPSS Statistical Analysis of Treatment and Control Group Mean Scores*

Group		Pretest	Posttest
Treatment	Mean	37.3333	81.3333
	<i>N</i>	3	3
	Std. Deviation	2.30940	2.30940
Control	Mean	36.0000	42.6667
	<i>N</i>	3	3
	Std. Deviation	4.00000	4.61880
Total	Mean	36.6667	62.0000
	<i>N</i>	6	6
	Std. Deviation	3.01109	21.42895

CURRICULUM VITAE

**DANIELE L. KASS**

405 Valley Road  
River Edge, New Jersey 07661  
dlk1016@gmail.com

**EDUCATION**

**WALDEN UNIVERSITY** Minneapolis, MN  
Doctorate of Education, Teacher Leadership, 2006-Present  
Doctoral Research Study: The Relationship between Instructional Delivery and  
Academic Motivation of Included Elementary Students with Special Needs


**NEW YORK UNIVERSITY** New York, NY  
Master of Arts, Special Education, January 1998

**THE STATE UNIVERSITY OF NEW YORK AT ALBANY** Albany, NY  
Bachelor of Arts, Psychology, Cum Laude, May 1996

**CERTIFICATION**

N.J. State Certified, *Special Education Supervisor*  
N.J. State Certified, *Special Education N – 12, Elementary Education N - 6*  
N.Y. State Certified, *Special Education K – 12, Elementary Education N - 6*

**HONORS**

 *Public School District Teacher of the Year Award Nominee, 2009*  
*Public School District Teacher of the Year Award Recipient, 2001*  
*Psi Chi - National Honor Society for Psychology, 1992 – 1996*  
*Alpha Omicron Pi National Sorority, Chapter President 1994-1995*



## PROFESSIONAL EXPERIENCE

- 1999-Present      ██████████ **ELEMENTARY SCHOOL** ██████████, NJ  
 New Jersey State Public School  
*Teacher, Special Education, Grades K–5*
- Develop and maintain curriculum and Individualized Education Plans in accordance with New Jersey State Core Curriculum Standards.
  - Implement teaching methods, utilizing a multi-modality approach, to instruct students with learning disabilities and diverse learning styles in a replacement academic program.
  - Mentor teacher for graduate students and novice educators, modeling professional responsibilities, teaching practices, and collegial interactions.
- 2008-Present      ██████████ **PUBLIC SCHOOL DISTRICT** ██████████, NJ  
 New Jersey State Public School District  
*Professional Development Provider*
- Provide staff development workshops to local school systems.
  - Implement developed workshops on topics including *Multi-sensory Language and Reading Instructional Strategies*, *Modifying Instruction in General Education Settings*, and *Inclusion*.
- 12/97- 8/99      **KENNEDY CHILD STUDY CENTER** New York, NY  
 Special Education School  
*Teacher, Self-Contained Special Education Class - 12:1:2, Pre-Kindergarten / Kindergarten*
- Developed curriculum and provided specialized classroom instruction to children with learning disabilities and developmental delay.
  - Implemented behavior modification techniques and maintained academic and functional skills training in an environment conducive to diverse learners.
  - Communicated with service providers assessment results to coordinate services and related therapies.

- 9/97 - 12/97      **THE LILLIAN WEBER SCHOOL P.S. 84M** New York, NY  
Elementary School  
*Assistant Teacher, MIS 1, Grades 4 & 5*
- Developed and implemented lessons and unit plans with ongoing assessment across all academic areas for students with mild to moderate learning and behavioral disabilities.
  - Created and executed a literacy program for a group of students with mild disabilities in reading and writing.
  - Exercised behavior modification techniques instrumental in managing classroom behavior.
- 9/96 - 12/96      **THE LITTLE RED SCHOOL HOUSE** New York, NY  
Elementary School  
*Shadow Teacher, Kindergarten*
- Provided individual attention to the needs of a student with Attention Deficit Disorder and mild cognitive impairment in a kindergarten classroom setting.
  - Implemented intervention strategies in support of academics and social-emotional interactions.
- 9/95 - 12/95      **UNIVERSITY AT ALBANY** Albany, NY  
Educational Laboratory Facility  
*Research Assistant*
- Examined and recorded sibling interaction behaviors in a structured environment.
  - Paralleled research with current issues in child development.

### **PROFESSIONAL ORGANIZATIONS**

- |                            |   |
|----------------------------|---|
| 1999-Present               | New Milford Education Association (NMEA)                      |
| 1999-Present               | New Jersey Education Association (NJEA)                       |
| 2007-Present               | Association for Curriculum and Supervision Development (ASCD) |
| 2009- Present<br>1997-1999 | Council on Exceptional Children (CEC)                         |

**RESEARCH INTERESTS**

Special Education

Elementary Education

Inclusion

Differentiated Instruction

Motivation and Achievement

**REFERENCES**

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