LEADERSHIP TO PROMOTE INCLUSION:
PERCEPTIONS OF ELEMENTARY PRINCIPALS ON INCLUSION, CO-TEACHING,
AND DIFFERENTIATED INSTRUCTION

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LEADERSHIP TO PROMOTE INCLUSION: PERCEPTIONS OF ELEMENTARY

PRINCIPALS ON INCLUSION, CO-TEACHING, AND DIFFERENTIATED

INSTRUCTION

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The Individuals with Disabilities Act mandates that all students with or without disabilities should be included in the regular education classroom to the greatest extent appropriate. Research shows the importance of the principal's ability to shape programs, policies and school cultures that are supportive of inclusion.

Deploying a modified version of the Principals and Inclusion Survey (PIS) developed by Praisner (2000), this study examined the attitudes, beliefs and behaviors of elementary principals in the state of Pennsylvania regarding inclusion and two inclusive instructional practices, co-teaching and differentiated instruction. Findings compared the responses of principals representing the top 20% of school districts practicing the highest percentage of inclusion of students with disabilities into the regular education classroom (as measured by the state's Least Restrictive Environment Index) with those of the bottom 20% of school districts practicing the least percentage of inclusion. The objective was to investigate any association of the principals' self-reported support for inclusion and inclusive practices with their ranking on the Pennsylvania's Least Restrictive Environment Index.

Findings concluded there was no statistically significant difference in the responses of the two groups in most areas. Overall, principals of both groups scored favorably regarding their

attitudes and behaviors in support of inclusion, co-teaching and differentiated instruction. Both groups reported high percentages of teachers employing co-teaching and differentiated instruction.

The greatest limitation of this study is the relatively small sample size, making it difficult to generalize any findings. There is, however, evidence to suggest that the attitudes and practices of elementary principals in Pennsylvania regarding inclusion are more favorable than previously documented. In addition, two promising inclusive instructional practices (co-teaching and differentiated instruction) are purportedly being embraced by these same principals.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

PREFACE

There are many people I must thank. Without the guidance, expertise and support of others, this work would never have come to fruition. The encouragement, patience, and expertise of my advisor, Dr. Cynthia Tananis, have guided me through this arduous process. I am also indebted to my other committee members, Dr. Naomi Zigmond, Dr. Mary Margaret Kerr, and Dr. Charlene Trovato, whose insightful critiques and suggestions provided direction and clarity in the development of this study. The kindness and support shown by all four of these professionals helped sustain me when self-doubts emerged.

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Simpson, Doug Simpson, Preston and Andrea Simpson, and Brian Simpson, truly sustained me. Although they are no longer with us, the desire to make my parents proud, Suzanne L. Smith Simpson and John M. Simpson, III, has also been a driving force. I humbly thank them for the gifts they gave me and hope they get a kick out of my brothers calling me "Dr.!"

My beautiful grandchildren, Eliana and Wynn Buries, and Declan Murray, inspire me daily. They already make this world a better place just by their presence. My hope is that they embrace learning and strive to discover their unique gifts. I also hope they truly appreciate and honor diversity in the world.

1.0   INTRODUCTION

Many researchers have described the important role of the principal as instructional leader (Marzano, 2003; Marzano, Waters & McNulty, 2003; Fullan, 2001; Reeves 2006). Marzano (2003) and others have identified the role of the principal as secondary only to the classroom teacher in affecting student achievement. In addition, there is a growing body of research that describes the important role of principal in leading and supporting any kind of educational reform. In recent years, more emphasis has been placed on school reform that embraces diversity and promotes inclusion of all students in the general education setting, especially those who have traditionally been marginalized. Federal laws also mandate that schools must find ways to include all students in the general education setting to the greatest extent appropriate. Principals have a critical role in promoting inclusion in school settings.

Although Salisbury and McGregor (2005) write specifically about role of the principal in urban schools, their conclusions are applicable in any school setting trying to implement change to promote inclusion. Principals serve as the necessary leaders and "catalysts" in the collaborative effort of many team members that include teachers, students, parents and administrators. Principals must be knowledgeable about inclusion and inclusive practices to utilize the appropriate resources and direct personnel to facilitate inclusion that goes beyond the academic classroom to include the entire school culture.

"At the core of all the change efforts lie the beliefs, attitudes, practices, and characteristics of the school that defines its culture" (Salisbury & McGregor, 2005, p.4). Given the important role of the school principal as instructional leader, it made sense to examine the beliefs, attitudes, and practices of the principal who is expected to promote inclusion in his or her school.

1.1   STUDY QUESTIONS

This was a study of the perceptions of elementary principals (K-6) on inclusion, co-teaching, and differentiated instruction. Utilizing an online survey, quantitative data was collected and analyzed to answer the following questions:

1) What are the self-reported attitudes and behaviors of selected elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?

2) Is there a relationship between principals' self-reported attitudes toward inclusion and their self-reported attitudes and behaviors regarding the implementation of co-teaching and differentiated instruction?

3) Is there a relationship between principals' self-reported attitudes and behaviors regarding inclusion, co-teaching and differentiated instruction and their school's ranking of inclusivity as measured by their placement on the Pennsylvania Least Restrictive Environment (LRE) index?

School districts across the country are charged with increased academic achievement for all students, including those with special needs. This has never been truer than in the current era

of high stakes testing. Standards of accountability have been raised by legislation such as No Child Left Behind Act of 2001, 20 U.S.C.A. §§ 6301–7941 (NCLB). Increasing the academic progress of all students is a goal embedded in my school district's mission: *To provide the best education possible for each and every child.* This school district is also committed to promoting the inclusion of all learners in the least restrictive environment as charged by the Individuals with Disabilities Education Act of 1997 (IDEA) and its subsequent reauthorization in 2004, 20 U.S.C. §1412 (a)(5). More than ever, as a result of the court case Gaskin vs. Pennsylvania, 389 F. Supp. 2d 628 (E.D. Pa. 2005), school districts are compelled to exhaust all possible resources and methods to address the needs of diverse learners within the general education setting. This means that teachers need an expanded repertoire of skills and tools to challenge and accommodate the needs of a wider range of learners within the same classroom.

To accomplish these worthy goals, my school district began implementing several initiatives. First, a district Inclusion Team was formed with representation from each of the district's building inclusion teams. The goal of this team was to identify and promote activities and programs that advance inclusion in the broadest sense. In addition, the district initiated co-teaching, an instructional delivery model designed to enhance instruction and include students who have special learning needs within the general education setting. Third, over the past few years, the administration also integrated Differentiated Instruction (DI) into the professional development for all district teaching staff.

As an administrator, I was interested in helping to facilitate effective alignment and implementation of these related initiatives. To better understand the concepts that are critical to these local decisions, my review of research literature in Chapter 2 focused on three broad topics: inclusion, instructional practices that support inclusion, and leadership for organizational change.

First, however, it is important to define several key terms and specifically the concept of inclusion, including some legal and philosophical underpinnings. This background is necessary to establish a rationale for this study.

1.2 DEFINITION OF TERMS

1. Attitude –A mental position with regard to a fact or state ; *b***:** a feeling or emotion toward a fact or state (Merriam –Webster online Dictionary, 2012).

2. Behavior - a: The manner of conducting oneself b: anything that an organism does involving action and response to stimulation c: the response of an individual, group, or species to its environment (Merriam-Webster online Dictionary, 2012).

3. Beliefs - **:** b: Something believed; *especially***:** a tenet or body of tenets held by a group; c: conviction of the truth of some statement or the reality of some being or phenomenon especially when based on examination of evidence (Merriam-Webster online Dictionary, 2012).

4. Co-teaching – The pairing of two teachers in the general education classroom, typically one general education teacher (presumed content expert) and one special educator (presumed accommodations expert). "Theoretically, co-teaching draws on the strengths of both the general educator, who understands the structure, content, and pacing of the general education curriculum, and the special educator, who identifies the unique learning needs of individual students and enhances curriculum and instruction to match those needs" (Thousand & Villa, 1989, p. 13).

5. Differentiated Instruction – "Differentiation of instruction is a teacher's response to learners' needs guided by the principles of differentiation, such as respectful tasks, flexible grouping, and ongoing assessment and adjustment….Teachers can differentiate content, process, and product according to students' readiness, interests, and learning profile" (Tomlinson, 1999, p. 15).

6. General or Regular Education – Educational experiences that occur in the public neighborhood school that any child beginning in kindergarten until high school graduation would have without receiving special services or being labeled as exceptional.

7. Inclusion – "A service delivery model in which there is a commitment to meet the educational needs of special education students within the regular classroom to the

maximum extent appropriate. It implies an opportunity to have full membership in the social and learning contexts of their nondisabled peers" (Praisner, 2000, p.31).

8. Least Restrictive Environment - The Individuals with Disabilities Education Act, 2004 (also known as the Individuals with Disabilities Education Improvement Act), requires …(1) *That to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are non-disabled; and (2) That special classes, separate schooling or other removal of children with disabilities from the regular educational environment occurs only if the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.*

    [20 USC 1412 Section 612 (a) (5), and its implementing regulation found at 34 C.F.R. §300.114(a)].

9. Mainstreaming – Practice from the 1960s; "*Mainstreaming* referred to the practice of 'integrating students with special needs into the general education classroom' or setting for some part of the school day while they usually still received some instruction in a special education classroom. Mainstreaming was more about shared physical space than shared instruction. Students with disabilities could participate with their non-disabled peers as long as they could engage in the same activities with little or no modifications" (Hardeman et al., 1993, p.20).

10. Principals – Instructional and administrative leaders of a school building; holding a state licensure for school leadership (Standards for School Leaders, 1996).

11. Special Education –The provision of specially designed instruction (and any related services needed) to meet the unique needs of an individual child at no cost to the parents. (Individuals with Disabilities Education Act (IDEA) *(20 U.S.C.A. §§ 1400–1485)* of 1990.

12. Specially Designed Instruction - 'Specially designed instruction' means adapting, as appropriate to the needs of an eligible child under this part, the content, methodology or delivery of instruction (i) to address the unique needs of the child that result from the child's disability; and (ii) to ensure access of the child to the general curriculum so that the child can meet educational standards within the jurisdiction of the public agency that apply to all children (Levin, 2008, p. 43).

13. Students with Disabilities – A child having been diagnosed with one or more of the 13 handicapping conditions outlined by IDEA: (mental retardation, hearing impairment, visual impairment, speech or language impairments, serious emotional disturbance, orthopedic impairments, deaf-blindness, traumatic brain injury, specific learning disabilities, multiple-disabilities, or other health impairments) and who requires specially

designed instruction and /or related services as a result of those impairments (IDEA, 1997).

1.3   DEFINITION OF INCLUSION

Inclusion, in the context of public education, refers to a philosophy that all students, regardless of disabilities or other exceptionalities, have the right to access the general education curriculum with their peers. Falvey and Givner (2005) maintain:

> Inclusive education is about embracing everyone and making a commitment to provide each student in the community, each citizen in a democracy, with the inalienable right to belong. Inclusion assumes that living and learning together benefits everyone, not just children who are labeled as having a difference (e.g., those who are gifted, are non-English proficient, or have a disability) (p. 4).

Typically, discussions about inclusion in the public schools center on students with disabilities or other exceptionalities, like non-English proficient students. There are, however, broader implications regarding the concept of inclusive education. Falvey and Givner (2005) describe the growing diversity of the student population in U.S. public schools which encompasses differences of culture, religion, sexual preference, socioeconomic status, etc.

Falvey and Givner (2005) argue the need to restructure an American education system that builds inclusive schools "to change a society and world intolerant and fearful of difference into one that embraces and celebrates the natural diversity with meaningful, student-centered learning" (p.6). Philosophically and practically, teachers, administrators, parents, and students continue to grapple with the challenges of inclusive education in the spirit of providing quality educational experiences to all students. Certainly these broader issues of inclusion warrant

exploration and research. For the scope of this study, however, the context of inclusion will be limited to the inclusion of students with disabilities into the general education classrooms.

The term "full inclusion" is used by individuals and organizations who believe that all students, regardless of the severity of their disabilities, should be educated in the general education classroom with special supports and accommodations provided within that setting (Vaughn, Schumm, & Fogan, 1998). A more widely practiced interpretation of inclusion, which has been endorsed by the Council for Exceptional Children as well as the National Association of State Boards of Education (as cited by Vaughn et. al., 1998), refers to a continuum of services and placement options which maximize a student's access to the general education classroom and participation in the general curriculum to the greatest extent appropriate.

The continuum of special education services is typically described (Vaughn et. al., 1998; Hardman, Drew, Egan, & Wolf, 1993) as the following six levels progressing from Level 1 as the least restrictive environment to Level 6 as the most restrictive environment:

Level 1 – General education classroom with consultation from specialists

Level 2 – General education classroom; cooperative teaching or co-teaching

Level 3 – Part-time placement in special education classroom

Level 4 – Full-time placement in the special education classroom within a general education school

Level 5 – Special education day school

Level 6 – Residential treatment facility or homebound instruction (Vaughn et. al, 1998, p. 9)

In determining the level of support services for a particular student, the emphasis should first be on appropriate services and accommodations to meet the individual student's needs

rather than on a particular place where this must occur. Both interpretations of inclusion fulfill the mandate of the Individuals with Disabilities Act (IDEA) which states that students with disabilities must be educated in the *least restrictive environment* (LRE),[20 USC 1412 Section 612 (a) (5), and 34 C.F.R. §300.114(a)]. This means they must be included in general education classrooms with their non-disabled peers to the greatest extent appropriate while still addressing their special learning needs (Vaughn et. al., 1998).

Having a disability as defined by IDEA does not necessarily guarantee eligibility for services. As Levin (2008) states, "To be identified as a child who qualifies for special education services, he or she must meet two conditions: 1) he or she must have a disability as defined in IDEA; and 2) he or she must be in need of specially designed instruction" (p. 41). Furthermore, Levin (2008) clarifies:

'Specially designed instruction' means adapting, as appropriate to the needs of an eligible child under this part, the content, methodology or delivery of instruction (i) to address the unique needs of the child that result from the child's disability; and (ii) to ensure access of the child to the general curriculum so that the child can meet educational standards within the jurisdiction of the public agency that apply to all children (p. 43)

The shift in education to include students with disabilities into the general education setting with their peers who do not have disabilities happened gradually over the past few decades. It has taken different forms and has been accomplished with varying degrees of success. The following sections will explore a brief history of special education law which provides the legal foundation for inclusion. Subsequent sections will examine academic and social benefits to inclusion for students with and without disabilities as well as concerns about the impact of inclusion. Research on the implications of inclusion for student achievement will

be explored. Additional research will explore the kinds of optimal conditions that are needed to enable inclusion to flourish within a school community.

2.0   REVIEW OF THE LITERATURE

2.1   INCLUSION – HISTORICAL AND LEGAL BACKGROUND

A discussion of inclusion warrants a brief review of the historical background of special education law which governs the education of students with disabilities. Hehir (2007) states, "We can best frame the purpose of special education as minimizing the impact of disability and maximizing the opportunity for students with disabilities to participate in schooling and the community"(p. 11). Starting in the early 1900s, children in this country who had exceptionalities or disabilities were usually educated by professionals in separate, specialized settings. Some students were educated in special classrooms within the public school, and others with more severe disabilities were educated in separate facilities apart from the public schools. The majority of these programs served "children who were slow learners or deaf or blind" (Hardman, Drew, Egan, & Wolf, 1993, p. 20).

Historically, therefore, *special education* usually meant *separate education.* In fact, according to the U.S. Department of Education (as cited by Schiller & O'Reilly, 2003), "Twenty-five years ago, children with disabilities were routinely denied access to public schools – 80 percent were placed in institutions or separate facilities where they frequently received little schooling" (p. 1). Beginning in the 1950s, several important court cases began to challenge the assumption that the needs of students with disabilities would be best served in separate settings.

In 1954, the landmark case of *Brown v. Board of Education of Topeka, Kansas* 347 U.S. 483, 74 S. Ct. 686, 98 L. Ed. 873, the courts ruled against racial segregation in education and affirmed that education is a right, not a privilege, afforded to all citizens on an equal basis. Although this case did not specifically address the needs of students with disabilities, it established all students' right to a public education. In the early 1960's the term *mainstreaming* referred to the practice of "integrating students with special needs into the general education classroom" or setting for some part of the school day while they usually still received some instruction in a special education classroom (p.20). Mainstreaming was more about shared physical space than shared instruction. Students with disabilities could participate with their non-disabled peers as long as they could engage in the same activities with little or no modifications (Hardeman et al., 1993).

Then in 1971, an important class action suit won by Pennsylvania Association for Retarded Citizens against the Commonwealth of Pennsylvania stipulated that children with mental retardation could not be denied access to free public education based on intellectual deficiency. This was followed that year by the case of *Mills v. District of Columbia Board of Education* No. 08-7127, in which the courts ruled that the previous Pennsylvania decision would be expanded to include all children with disabilities. Furthermore, this case established that the District of Columbia was required "to provide a free and appropriate public education to every child with a disability…. and when regular public school assignment was not appropriate; alternative educational services had to be made available" (Hardman et al., 1993, p.22).

The precedents established by these important cases, as well as passage of the Vocational Rehabilitation Act of 1973 *[Pub. L. 93-112] [29 U.S.C. 794]* and the Educational Amendments Act of 1974, laid the foundation for the passage of Public Law 94-142, Part B of the Education

of the Handicapped Act (EHA) in 1975. Public Law 94-142 established the right of all school age children with disabilities to a *free and appropriate public education* (FAPE). Essentially, this law mandated that no individual citizen could be discriminated against, denied the services of - or participation in – any program which received federal funding (including public education) on the basis of his or her disability. In addition, any special education services an individual needed to access their education were to be available through the public school system at no charge to the student. Later amendments to this law (1986) expanded the coverage to include infants, toddlers, pre-school age children, and children who are gifted and talented (Hardman et al., 1993).

The Education of the Handicapped Act of 1975, *P.L. 94-142,* was amended, renamed, and signed into law by Congress as the Individuals with Disabilities Education Act (IDEA) *(20 U.S.C.A. §§ 1400–1485)* of 1990. Americans with Disabilities Act of 1990 (ADA) *(42 U.S.C.A. §§ 12101–12213).* IDEA broadened the scope and definition of special education to include instruction in all settings, such as training centers or the workplace. Related services such as occupational therapy or special transportation arrangements would also be provided.

Among other things, "IDEA provided for:

1) Nondiscriminatory and multidisciplinary assessment of educational needs

2) Parental involvement in developing each child's educational program

3) Education in the least restrictive environment (LRE)

4) An individualized education program (IEP)" (Hardman et. al., 1993, p. 25)

The individual education plan (IEP) is the legal document that results from the multi-disciplinary evaluation, and is revised annually. The IEP team is comprised of a special education teacher, at least one general education teacher, parent(s), student, LEA (local

education agency representative – typically an administrator from the student's home school), and any relevant specialists such as a speech therapist, occupational therapist, or any other professionals or advocates that the parents wish to include. The team reviews the student's present education levels, academic progress or lack thereof to date, and identifies the student's strengths and areas for growth. The team formulates annual goals based on the student's identified needs which impede his or her ability to access and make adequate progress in the general education curriculum. The IEP team will describe specially designed instruction (i.e., accommodations for testing, or modifications to instructional materials, methods or assessment strategies) that is appropriate for this student.   `

The special education teacher is responsible for ensuring that all teachers working with this student understand and implement the IEP. This teacher also must collect data to monitor the progress on the IEP goals at least quarterly and report to the parents. Any member of the IEP team can request an IEP meeting to discuss concerns or revise the IEP. Students whose behavior impedes their academic progress (and/or that of others) must also have a Behavior Support Plan (BSP). A Functional Behavior Assessment must be conducted to identify the problem behavior, determine antecedent behavior, and design appropriate reinforcement and consequence strategies to help the student learn positive behavior strategies.

In addition, IDEA delineated 13 disability categories for eligibility which included:

        1) Mental retardation

        2) Hearing impairment

        3) Deafness

        4) Speech or language impairment

        5) Visual impairment (including blindness)

6) Serious emotional disturbance

7) Orthopedic impairment

8) Autism

9) Traumatic brain injury

10) Other health impairment (e.g., ADHD)

11) Specific learning disability

12) Deaf-blindness

13) Multiple disabilities (Levin, 2008, p. 42).

Students who have disabilities that are not included on the list covered by IDEA may be eligible to receive accommodations or special services under the Americans with Disabilities Act (ADA) Section 504 of the Rehabilitation Act of 1973, *[Pub L 93-112] [29 U.S.C. 794]*. "Section 504 defines disability as '(a) a physical or mental impairment that substantially limits one or more of the major life activities of such individual; (b) a record of such an impairment; or (c) being regarded as having such an impairment.' See 42 U.S.C.A. §§ 121102(2)" (Levin, 2008, p. 50). Students protected under this law may have a condition like diabetes or Chrohn's Disease that limits their ability to participate in school or school activities unless they are provided certain accommodations, but they do not require specially designed instruction. These students would have a service agreement, a legally binding document like an IEP, which justifies and outlines the accommodations needed.

As Jolly, Logan, Martin, & McGowien (2007) state, the passage of IDEA in 1990 "marked a shift in the philosophy of special education. The shift was based on the belief that special education programs must address what is needed for children to learn as opposed to

simply placing them in separate locations where special services are provided based upon labels" (p.18).

IDEA has undergone reauthorization twice since it was first established in 1990. The first authorization occurred in 1997, and then again in 2004. As Schiller & O'Reilly (2003) report:

> In general the 1997 amendments to IDEA set expectations for states, districts, and schools designed to compel them to offer the same challenging curriculum to students with and without disabilities. With this, there was the likelihood that when students with disabilities graduated from high school, they would be as prepared as any of their peers to attend college, take a job, or live independently. Schools and families would determine the accommodations and supports necessary to help students with disabilities succeed (p.1).

Title I of the Improving America's Schools Act of 1994 *(20 USC 6301 et seq.)* was followed by The Individuals with Disabilities Education Act (IDEA), *(20 USC 1400 et seq.)* of 1994 and its subsequent reauthorization in 1997, followed by the reformed and renamed Elementary and Secondary Education Act, the No Child Left Behind Act of 2001 *[PL 107-110]* (NCLB). These reform laws guaranteed that students with disabilities or other exceptionalities (e.g., non-English proficient students) must be included in high-stakes assessments. As school districts are now accountable to demonstrate that all their students are making adequate yearly progress (AYP) on standardized, state-wide achievement tests, many have allocated special resources and created programs to address the academic needs of students with exceptionalities. Districts and states are now required to report tests results for students with disabilities or any other subgroups, holding them accountable for the academic performance of all students.

Another requirement imposed by NCLB is that all teachers must be "highly qualified." Prior to NCLB, special education teachers only needed to possess a current teaching certificate in special education to enable them to teach pull-out classes in any subject they felt qualified to teach. Now teachers must possess a secondary certificate (or bridge certificate) in the specific content area they wish to teach. So, for instance, a special education teacher would need to possess a teaching certificate in math to teach a pull-out pre-Algebra class for special education students.

These requirements have caused many schools to restructure some classes to incorporate co-teaching (i.e., typically indicating that a special education teacher collaborates with a content area teacher). This concept will be discussed in more detail in subsequent sections of this literature review.

A recent settlement agreement was reached in 2004 regarding the provision of special education services and placement as an outcome of the court case *Gaskin v. Pennsylvania Department of Education, No. 94-CV-4048 (E.D. Pa.)*. In this class action suit, "the courts affirmed that a child with special needs should always begin in the regular education environment and be removed only when appropriate support services cannot be provided in that regular classroom" (Jolly et al., 2007, p. 19). As an outcome of this court case, school districts are being held to greater scrutiny regarding the placement of any students with disabilities in programs outside the public school setting. Districts must demonstrate that all resources within the regular school setting have been exhausted before they can determine that a student's needs would be better met in a separate special education facility.

The Gaskin settlement and NCLB have re-emphasized the requirement for school districts to implement inclusive practices as much as possible. Indeed, as part of the settlement,

the court decreed that school districts would be required to submit specific data regarding the percentage of time that every student with a disability would be spent inside the general education classroom. Reports of each school district would be generated annually on the Pennsylvania Department of Education website to indicate the percentage of students with disabilities who are included in the "regular" classroom for 80 percent or more of the school day; those who are included in the regular classroom for less than 40 percent of their school day; and those students with disabilities who are educated "in other settings" indicating the most restrictive environments. The outcomes result in each district receiving a Least Restrictive Environment Index (LRE Index). Districts are then ranked across the state regarding the degree to which they implement inclusion as measured by this LRE index. Schools in the bottom half of the state ranking are further categorized into three Tiers. These tiers rank districts according to the need for further monitoring or intervention by the Department of Education to increase their implementation of the least restrictive environment principle. Site visits and other monitoring activities or corrective actions follow accordingly.

By 2001 the U.S. Department of Education (as cited by Schiller & O'Reilly, 2003) claimed, "More than 6 million children with disabilities have been identified and are receiving an array of educational and related services. In fact, 96 percent of students with identified disabilities are now being educated in our nation's public schools" (p.1). Given the number of students receiving special education in our public schools, inclusion is a prevalent topic of debate among educators and parents.

2.1.1 Inclusion - Benefits

Inclusion is a controversial topic, often evoking emotional responses from supporters as well as critics. Vaughn et al. (1998) summarize the position of the strongest proponents of inclusion:

> Individuals and organizations that support full inclusion believe that all students regardless of severity of their disability should be educated in the general education classroom. They feel the social benefits from full inclusion for students with disabilities are sufficient reason to place students in the general education classroom, even if academically they are working substantially below the level of the other students (p. 2).

The inclusion classroom more closely represents the diversity students will encounter following secondary school than what exists in pull-out classrooms or other specialized settings for students with disabilities. Students without disabilities benefit from inclusion because they learn greater empathy and tolerance for differences in others (Willis, 1994).

Some advocates of inclusion also argue that exclusively placing students together with the same disabilities, such as emotional disturbance and the resulting behavior problems, does not provide these students with any positive role models for more appropriate behavior. Likewise, it is difficult for students with social skill deficiencies to observe and practice naturally occurring positive social interactions when they are not exposed to any role models who engage in typical social behavior.

Advocates cite several other benefits to an inclusive model. They maintain that richer, more rigorous curriculum opportunities exist in the general education classrooms and should be accessible to all students (Roberts, Keane, & Clark, 2008; Vaughn et. al., 1998). Perhaps, most significantly, Wagner (1993), (cited by Hehir, 2007, p. 13) claims, "'Research has shown that including students with disabilities in the general education environment improves [their]

academic achievement.'" Furthermore, Villa & Thousand (2000) cite "research reviews and meta-analyses known as the special education efficacy studies [Lipsky & Gartner, 1989, p.19] [which] already showed that placement of students outside general education had few or no positive effects for students, regardless of the intensity or type of their disabilities" (p.17).

Similar outcomes have been reported by other researchers. When comparing the academic and behavioral outcomes for students with learning disabilities in pull-out special education programs versus inclusive classes, Rea, McLaughlin, and Walther-Thomas (2002) found some significant differences: "Students served in inclusive classrooms earned higher grades, achieved higher or comparable scores on standardized tests, committed no more behavioral infractions, and attended more days of schools than students served in the pullout programs" (p.203). The authors postulate that interdisciplinary teams used the student's IEPs and focused more on mastery of the standard curriculum in the inclusive classrooms which, in part, accounted for better student outcomes.   These authors also cite the importance of collaborative planning time between general and special education teachers and administrators to facilitate the success of students with mild to moderate learning and behavioral disabilities in the inclusive classrooms.

Many supporters of inclusion believe that a one-size-fits-all approach is too limiting. While full inclusion is a worthy goal, this writer agrees with the position of Roberts, Keane, and Clark (2008) that a full range of placement options is necessary to effectively meet the special needs of students with disabilities. Based on my own experience as a teacher and administrator in an alternative school, an approved private school, as well as the general education setting of public schools, I believe there is still a need for a range of placement options for students with the most severe disabilities. It is not that I believe these students' needs could not be met in the

general education classroom; it is rather that I do not believe the resources, training, and education needed for faculty, parents, students, and the community, are at the level they need to be to facilitate full inclusion in the purest sense. Students who have severe disabilities and are medically fragile may require highly specialized equipment and trained personnel to manage their needs. Some would argue that students who have profound or multiple disabilities may be better served in specialized settings.

Specific schools and communities are at varying states of readiness. Kudos to those who have made the commitment of resources to facilitate full inclusion; however, many educators and parents raise concerns about the implementation of inclusion that warrant examination.

2.1.2   Inclusion - Concerns

Critics who oppose inclusion or have reservations do so for a variety of reasons. Many researchers suggest that the instructional needs of students with learning disabilities are not always adequately addressed within the general education classroom (Roberts, Keane, & Clark, 2008; Vaughn, Scumm & Forgan, 1998). There are concerns about the quality of instruction that students with disabilities receive in the general education classroom. Volonino and Zigmond (2007) specifically assert that many students with learning disabilities are not making adequate academic progress. This may be due to the way special education instruction is delivered currently.

Volonino and Zigmond (2007) describe characteristics of special education teachers who historically provided a very specific kind of instruction to meet the needs of students with disabilities in the special education classrooms. Zigmond (1997) summarizes the distinct responsibilities of the special education teacher: "The special educator provided instruction

based on the student's individual need. Special education was intensive, urgent, and goal-directed and it was delivered by a uniquely trained teacher. The role of the special education teacher was to teach what could not be learned elsewhere – it was special teaching" (pp.384-385).

Zigmond (1997) further elaborates:

Within the era of separate special education, specially trained teachers delivered instruction tailored to student needs in individual or small group settings. Students' learning needs were carefully diagnosed through a variety of initial and ongoing assessments followed by carefully designed instruction tailored to meet individual student learning needs. This type of instruction has been referred to as clinical teaching, diagnostic – prescriptive- teaching, or response contingent instruction (p.292)

It remains to be seen if this kind of intensive support and instruction can occur in the general education classroom. These researchers indicate that this phenomenon is occurring despite research to point the way for effective instruction for students with learning disabilities.

Volonino and Zigmond (2007) describe a substantial body of research on effective special education practices and specifically cite Swanson (2000) who found that improved academic performance for students with Learning Disabilities (LD) resulted from a combination of direct instruction and strategy instruction. Furthermore, they identified several other key instructional strategies that have been shown to improve achievement of students with learning disabilities:

1) Sequencing

2) Drill-repetition-practice

3) Segmentation

4) Directed questions and responses

5) Control of task difficulty

6) Use of technology

7) Teacher-modeled problem solving

8) Small group instruction (six or fewer students)

9) Strategy cues

10) Procedures that promote thinking aloud (p. 292).

Despite these findings, Kutash and Duchnowski (2006) maintain the implementation of these research based instructional practices is poor or inconsistent at best. They cite the work of others (Greenwood & Abbott, 2001; Landrum, Tankersley, & Kauffman, 2003) as attributing poor outcomes for special education students on the "failure to implement and sustain effective practices in the classroom" (p.1). Vaughn et al. (1998) also concur that "a consistent finding for elementary, middle, and high school teachers is that they make few adaptations to meet the special learning needs of students with high-incidence disabilities [as cited in Baker & Zigmond 1990; McIntoch, Vaughn, Schumm, Haager & Lee 1993; Schumm & Vaughn 1991; Vaughn & Schumm 1994]" (p. 10).

Vaughn et al., (1998) gleaned an explanation for these discouraging findings by examining general education teachers' perceptions about adaptations and accommodations: "General education teachers do not find instructional and material adaptations feasible and are unlikely to make them" (p. 10). They also found that general education teachers are willing to include students with disabilities within whole-class activities – as long as adaptations to environment, materials, or instruction are not needed. The same researchers (Vaughn et. al., 1998) also described a few misconceptions commonly held by general education teachers that

are barriers to the implementation of some adaptations and accommodations. Specifically, teachers believe that adaptations are excessively complex, time-consuming, require expensive equipment or materials, only benefit the students with disabilities, and will detract from the learning of the students without disabilities.

Vaughn et. al., (1998) also cite numerous concerns of other skeptics regarding inclusion. First, many fear that non-disabled peers will be exposed to negative behavior from students with emotional/behavioral disabilities. Second, the teacher's time and energy will be consumed by these students with disabilities, detracting from instruction for students without disabilities. Third, some administrators claim they do not have adequate resources to address the needs of all students with severe disabilities in the general education classes. Critics of full inclusion fear these conditions cannot be safely met within the general education classroom – or only at great cost. General education teachers often express concerns about their own lack of training and preparation to effectively manage and teach students with more severe disabilities.

These opponents of inclusion would also argue that the general education teacher cannot address the needs of students with severe disabilities without compromising the quality of instruction for others. Moreover, parents of high-achieving students fear that their children will not be academically challenged in classrooms that encompass a wide spread of ability and academic readiness. In fact, some of these parents fear that their children will be called upon to tutor lower-achieving students to the detriment of their own studies (Vaughn et al., 1998). Proponents of inclusion would argue that specialized equipment and highly trained personnel can be placed in the general education setting if the funding is allocated, and the culture is created to be accepting of students with severe disabilities.

Again, the question about full inclusion versus a continuum of services is critical. Curricular concerns are less difficult to address than some issues related to climate. Authentic inclusion necessitates a social and cultural shift to truly assimilate all students with disabilities or exceptionalities into the life of a school. Swedeen (2009) writes from the perspective of a parent of a student with developmental disabilities. She describes the conditions, attitudes, and experiences needed for a student with significant disabilities to truly become a participating and contributing member of the school community. The role of school principal is emphasized as important in communicating expectations, providing opportunities, and generally facilitating this kind of environment.

2.1.3   Inclusion - Barriers

In reviewing the research about effective instructional practices for students with disabilities, Kugelmass (2001) contends, "This knowledge has not, however, radically altered either the grounding assumptions, instructional practices or organizational arrangements that dominate both general and special education in the USA. Public schools continue to be organized in ways that support and maintain differentiated roles and status among teachers identified as specialists and classroom teachers" (p.50). Inclusive schools require professional collaboration in a learning community. Rigid role boundaries are counterproductive to establishing a culture of collegiality and mutual respect.

Other researchers concur: "One of the most contentious issues surrounding inclusive education is the modification or changing of the general education curriculum. This issue is especially poignant in secondary schools where there is a general tendency for teachers to be more narrowly focused on content within academic areas. This rigid focus is only one of several

potential barriers that may actually impede inclusive education on the secondary level" (Dukes & Lamar-Dukes, 2009, p. 17). These researchers elaborate to say:

> In order to cultivate inclusive practices in secondary schools, special education teachers must expand their focus beyond individual student needs, and general educators must release themselves of an exclusive focus on academic content. The collaborative effort of all educators around the tenets of effective instruction can serve as a solid foundation for inclusive education to take hold (p. 17).

2.1.4   Inclusion – Conditions for Successful Implementation

Various researchers and advocacy groups have examined ways in which some schools and school districts have successfully implemented inclusion. Falvey and Givner (2005) identify several **core beliefs** needed by schools intending to restructure themselves to meet the needs of all students in an inclusive setting:

- Each student can and will learn and succeed.

- Diversity enriches us all, and students at risk can overcome the risk for failure through involvement in a thoughtful and caring community of learners.

- Each student has unique contributions to offer to other learners.

- Each student has strengths and needs.

- Services and supports should not be relegated to one setting (e.g., special classes or schools).

- Effective learning results from the collaborative efforts of everyone working to ensure each student's success (p.5).

The National Down Syndrome Society (1995) identified **eight conditions or factors** needed in order for inclusion to flourish:

1. Visionary leadership at all levels

2. Educational collaboration

3 Refocused use of assessment

4 Support for students and staff

5 Effective parental involvement

6. Collaborative teaching models (i.e., co-teaching, parallel teaching,

7. General education "best practices"

8. Funding (pp. 1-3).

These core beliefs and conditions mirror the principals delineated by ten national education organizations [NEA, AASA, AFT, CEC, CGCS, NAESP, NASSP, NASBE, NASDSE, NSBA]* in "acknowledging the characteristics that enable schools to implement inclusive education practices fully and successfully" (Villa & Thousand, 1995, p.15).

If one accepts that the goals of inclusion are important (as this writer does), then it becomes necessary to review the literature that describes "best practices" within an inclusive setting. In other words, what kinds of instructional practices have been shown to be effective, or suggest promise for improving student achievement while promoting and supporting inclusion?

* National Education Association, American Association of School Administrators, American Federation of Teachers, Council for Exceptional Children, Council of Great City Schools, National Association of Elementary School Principals, National Association of Secondary

School Principals, National Association of State Boards of Education, National Association of State Directors of Special Education, and National State Boards Association]

2.2   INCLUSIVE INSTRUCTIONAL PRACTICES

A review of the research on instructional practices purporting to support inclusion is important to understand the rationale for this study. Literature cited will support the emphasis on co-teaching and differentiated instruction as two of the most researched and widely used inclusive instructional practices. It is necessary to establish an understanding of these practices in terms of meeting the needs of diverse learners and the implications for student achievement.

IDEA doesn't just mandate education in the least restrictive environment; it also means the need to provide access to the general education curriculum. According to Dukes, C., and Lamar-Dukes, P. (2009), "A definition of inclusive education is the process by which educators provide appropriate supports and services to students with disabilities in the least restrictive environment, namely the general education classroom (Idol, 2006)" p.17. "The mechanisms by which these supports and services are formulated are referred to as *inclusive practices*" (Dukes & Lamar-Dukes, 2009, p. 17).

There are numerous instructional practices that are designed to meet the diverse needs of learners with different learning styles, readiness levels, cognitive abilities, language, cultural, and physical differences. Several of these practices have been researched to some degree. The following review of some "*inclusive practices*" is not intended to be exhaustive, but rather is focused on the strategies that research suggests have the most promise in helping all students experience success within an inclusive setting (i.e., the general education classroom).

Vaughn, Schumm, and Forgan (1998) identify "The Planning Pyramid" in which teachers determine the essential content to be learned and then plan "degrees of learning" adapting for various levels of learners (p. 12-13). These researchers also cite the work of Christenson, Ysseldyke, and Thurlow (1989): "In a review of literature on instructional effectiveness as it pertains to students with mild handicaps [the authors] identified several instructional factors that impact student success" (p. 13):

1) "Monitoring student learning during a lesson": informal member checks; student summaries of main points; student summaries of directions; lesson reaction sheets; learning logs; K-W-L (Ogle, 1986); and Think-Pair-Share (McTighe & Lyman, 1988).

2) "Textbook adaptations": provide direct assistance (i.e., read aloud, individual or small group instruction, etc.); simplify reading assignment; supplemental reading assignment; structured lesson to promote comprehension; and teach reading/study strategies.

3) "Multi-level activities": making word walls; class wide peer tutoring; collaborative reading comprehension monitoring (i.e., cooperative groups provide support in reading and learning from text).

4) "Writing process (Graves 1983)": student conferences with teachers and peers on prewriting, composing, revising and editing was found to improve student writing competence and confidence (Zaragoza & Vaughn, 1992)" (Vaughn, Schumm, & Forgan, 1998, pp.13-14).

It should be noted that the numerous adaptations and strategies just mentioned are effective instructional strategies for all students, not just those with learning disabilities. Villa and Thousand (2000) discuss various instructional practices that support inclusion in their book *Restructuring for Caring and Effective Education:*

> General education school reform initiatives that Udvari-Solner and Thousand (1995) identified as offering great promise for facilitating inclusive education included multicultural education; outcomes-based education; multiple intelligences theory; interdisciplinary curriculum; constructivist learning; authentic assessment of student learning; multiage groupings; use of technology in the classroom; forms of peer-mediated instruction such as cooperative group learning; teaching responsibility; and peacemaking; and collaborative teaming among adults and students" (p.14).

2.2.1 Grouping for Instruction

Danielson (2002) summarized several findings on the effectiveness of different types of grouping for instruction:

- "Tracking – the practice of separating students into different academic programs according to their perceived abilities and prospects – tends to relegate many students, typically poor and minority children, to a less challenging curriculum and less qualified teachers" (p. 28).
- "The research on flexible instructional groups is more encouraging than that on tracking: evidence indicates that grouping can increase student achievement and allow for remediation or enrichment when necessary (Slavin, 1987)".

- "Lou, Abrami, and Spence (2000) found small-group instruction to have a small but significantly positive effect on student achievement."

- "According to Wynne and Walberg (1994), small groups exert a powerful emotional influence on members."

- "Grouping schemes must be properly implemented if they are to succeed; study after study indicates that cooperative learning is ineffective unless properly implemented (Johnson & Johnson, 1999)."

- "Students who are taught how to cooperate within a group demonstrated better reading comprehension (Battistich et al., 1993), mathematical problem solving, (Leikin & Zaslavsky, 1997; Nichols & Hall, 1995) and conceptual understanding of science (Balkcom, 1992)."

- "Cooperative learning can produce desired learning outcomes and promotes social acceptance and positive student interactions (Johnson et al., 1981)" (Danielson, 2002, pp.28-29).

2.2.2 Co-Teaching

Clearly, there are a number of instructional practices which are designed to facilitate inclusion of students with special needs into the regular classroom. The delivery of special education was traditionally delivered outside the general education classroom. According to Volonino and Zigmond (2007), Madeline Will's 1986 "landmark address" called "for the 'shared responsibility' of educating students with special needs" (p. 294). This resulted in a broadened role of the special educator and an increased emphasis on the collaboration between general and

special educators to provide instruction within the general education classroom. This model was the impetus for the development of collaborative teaching, or co-teaching.

"In 1995, the National Center on Educational Restructuring and Inclusion reported that co-teaching was the most frequently used special education service-delivery model for inclusive classrooms. Now, more than a decade later, its popularity has only increased – and for good reason," according to Kloos and Zigmond (2008, p. 12).

Co-teaching provides a way to deliver the general education curriculum to students with special needs by highly qualified, effective teachers. Kloos and Zigmond (2008) cite numerous researchers (Darling-Hammond & Youngs, 2002; Sanders & Horn, 1998, Wilson, Floden, & Ferrini-Mundy, 2002) who have shown that "highly qualified teachers significantly increase student performance for students without disabilities in the general education classroom…In these settings, teacher quality contributed more to student achievement than did any other factor, including student background, class size, and class composition" (p.12).

Kloos and Zigmond (2008) go on to cite the National Council on Teacher Quality (2004) and Rice (2003) as "equating teacher quality with teachers' content knowledge and content-specific pedagogical expertise…. Essentially, highly effective teachers are content specialists. Co-teaching has been proffered as one way of ensuring that students with disabilities benefit from content instruction taught by specialists in general education classrooms" (p. 13).

Typically, co-teaching means that two teachers are paired in one classroom. Generally, one is the content area teacher (i.e., math certified teacher) and the other is a special education teacher. The underlying assumption of this model is that the content area teacher has specialized knowledge and training in that particular subject, and the special education teacher has

specialized knowledge in pedagogy, particularly in modifying or adapting curriculum and instruction for students with a variety of special needs. As stated by Kloos and Zigmond (2008):

> Theoretically, co-teaching draws on the strengths of both the general educator, who understands the structure, content, and pacing of the general education curriculum, and the special educator, who identifies the unique learning needs of individual students and enhances curriculum and instruction to match those needs. Co-teaching accomplishes multiple objectives. First, students with disabilities are taught the general education curriculum by a general education content specialist. Second, it provides students with disabilities (and their at-risk but not-yet-identified peers) greater access to that curriculum through the special education teacher who provides help and support (Thousand & Villa, 1989). (p. 13).

In addition, Fattig and Taylor (2008), cite several other advantages to co-teaching:

- Downsizing an overcrowded classroom

- Managing behavior challenges

- Designing curriculum to meet a greater variety of student needs

- Sharing various classroom responsibilities, including grading, providing feedback to students, and communicating with families

- Modeling teamwork for students (p. 4)

Moreover, Fattig and Taylor (2008) argue that the benefits outweigh the additional time and cost needed to implement co-teaching: "Developing differentiated units and lessons does require time and creative energy, which a single teacher may rarely possess in the current educational climate. It makes perfect sense, therefore, to team up and share with another" (p.5).

There are several configurations and models of co-teaching that researchers describe. Fattig and Taylor (2008) describe several models based on the work of Marilyn Friend. Similar configurations were also identified by Scruggs, Mastropieri and McDuffie (2007) in their meta-synthesis of qualitative research on co-teaching:

- One teach, one assist (or "drift"), where one teacher (usually the general education teacher) assumes teaching responsibilities, and the special education teacher provides individual support as needed.

- Station teaching, where various learning stations are created, and the co-teachers provide individual support at the different stations.

- Parallel teaching, where teachers teach the same or similar content in different classroom groupings.

- Alternative teaching, where one teacher may take a smaller group of students to a different location for a limited period of time for specialized instruction.

- Team teaching (or interactive teaching), where both co-teachers share teaching responsibilities equally and are equally involved in leading instructional activities (Scruggs, Mastropieri & McDuffie, 2007, p. 392-393).

Despite several variations of co-teaching described in the literature, the primary approach of co-teaching usually implemented is the version identified as "One Teach, One Assist" (Zigmond & Magiera, 2001; Cook & Friend, 1995; Scruggs et. al., 2007). There are some logical reasons why this is probably occurring. This version is relatively simple to implement and does not require extensive training. Traditionally, the regular education teacher (i.e., the content area expert) assumes the primary responsibility for planning and instruction, while the special education teacher circulates in the classroom during instruction to provide clarification or

33

assistance to individual students. The benefits of this model are readily evident. A greater number of students receive assistance during instruction. The caveat is that it is an expensive model to implement and does not fully exploit the range of benefits possible using other applications of the co-teaching model. Scruggs et. al. (2007) also conclude that "the co-teaching model of instruction is apparently being employed far less effectively than is possible" (p. 412).

2.2.2.1   Efficacy of Co-teaching

Does co-teaching significantly improve student achievement? Preliminary review of current research yields some promising but inconclusive results regarding the effectiveness of co-teaching o increasing student achievement. Scruggs et al. (2007) cite researchers (Friend & Reising, 1993; Welch, Brownell, & Sheridan, 1999) who conclude that teachers' perception of some models of co-teaching is positive.

Volonino and Zigmond (2007) also cite many other researchers (Friend & Reising, 1993; Welch, Brownell & Sheridan, 1999; Weiss & Brigham, 2000; Murawski & Swanson, 2001; and Dieker & Murawski, 2003) who conclude that very little empirical research has been done to show co-teaching's effect on student achievement. Furthermore, according to Volonino and Zigmond (2007), there is little conclusive evidence to indicate that co-teaching, as it is currently being implemented, has produced significant academic gains for students with learning disabilities. Kloos and Zigmond (2008) conclude there is a need for "large-scale, long-term research using non-co-taught comparison groups to examine academic and behavioral outcomes for students with disabilities" (p. 14).

Reviews of studies on co-teaching (Zigmond, 2006; Magiera & Zigmond, 2004) have concluded that co-teaching did not change "the instructional experience for middle school students with disabilities in ways that would likely enhance achievement (e.g., producing smaller

instructional groups, more time on task, more teacher-student interactions, and greater student participation)" (p. 14). Furthermore, Volonino and Zigmond (2007) cite Weiss (2004) when they assert, "Although intuitively appealing, inclusion practices – such as co-teaching in which special educators work side-by-side with the general education teachers in regular classroom settings – often bear little resemblance to the research based on effective teaching" (p. 292). Many of these instructional strategies were described in the section on Inclusion.

As stated previously, Volonino and Zigmond (2007) describe the particular skills and instructional strategies traditionally provided by special education teachers. Other researchers concur with them that this kind of specially designed instruction does not seem to be occurring in co-taught classrooms. In her examination of student outcomes in co-taught secondary English classes, Murawski (2006, July) concluded:

Results of this study, however, do not appear to support the hypothesis that teachers in the co-taught setting use an array of instruction techniques different than their peers in other settings…There does not appear to be much 'specially' designed instruction for students with learning disabilities. Even in the special education only resource class, very little individualizing of instruction was observed…. The predominant role of the special educator appeared to be that of assistant to the general education teacher" (p. 240).

Zigmond (2007) found in her review of studies on co-teaching that, "Special educators frequently assume the role of instructional aide and a variety of factors inhibit their ability to provide specialized instruction within the general education classroom" (p. 295). Zigmond and Matta (2005) elaborate to state specifically, "There was no sustained instruction for students

having particular difficulties, no re-teaching for students who had not reached mastery, and no strategic instruction for students who tended to need explicit instruction in strategies" (p. 14).

Other researchers indicate that teachers' perceptions of their experience with co-teaching are generally positive. Various studies (as cited by Kloos & Zigmond, 2008) have reported "high levels of satisfaction among all constituents once a co-teaching model has been implemented" (p. 13.) Furthermore, they indicate that general education teachers, initially reluctant to share their classrooms, find they enjoy having another teacher in the classroom to assist students. The special education teachers report positive feelings about expanding their services beyond the self-contained classroom and helping other students. Other studies have supported the social benefits of co-teaching. Kloos and Zigmond (2008) cite Vaughn, Elbaum, Schumm, & Hughes (1998) as concluding that co-teaching has increased the "social competence and social acceptance of students with learning disabilities" (p. 14).

Kloos and Zigmond (2008) contend that many researchers focus on the logistics of implementation. These studies conclude that "co-teaching is difficult to do well without careful, ongoing co-planning; enthusiastic pairs of teachers compatible in teaching philosophy (as well as temperament and personality); and strong administrative (principal) support (Bauwens, Hourcade, & Friend, 1989; Friend & Cook, 2003; Gately & Gately, 2001; Reeve & Hallahan, 1994; Vaughn, Schumm, & Arguelles, 1997; Walther-Thomas, Korinek, McLaughlin, & Williams, 2000)" (p.13).

Kloos and Zigmond (2008) propose specific guidelines for when and how co-teaching should be implemented to optimize responsive instruction, "For instruction in skill subjects such as reading and mathematics, co-teaching should increase students' opportunities to respond and engage" (p. 15). Two teachers should simultaneously teach two small groups, thus increasing

opportunities for student participation and more frequent corrective feedback. "Small group instruction rather than whole-class instruction should be the norm. Increased use of parallel teaching, station teaching, or alternative teaching should result" (p. 15).

Clearly, further research on the efficacy of co-teaching on student achievement is warranted. The practice holds promise but researchers need to examine the optimal conditions for implementation. What are the practical considerations for implementation, and do the benefits outweigh the costs? While more research on co-teaching is needed, it is clearly one instructional delivery model that purports to facilitate inclusion. It is not, however, feasible for every classroom to be equipped with two certified teachers. Other models should also be explored. Differentiated Instruction (DI) as described by Tomlinson (1999) provides another way to address the needs of diverse learners in the same general education classroom.

2.2.3   Differentiated Instruction

Differentiated Instruction provides an effective means to meet the needs of diverse learners in virtually any classroom. According to Carol Ann Tomlinson's important book, *The Differentiated Classroom: Responding to the Needs of All Learners* (1999), "Differentiation of instruction is a teacher's response to learners' needs guided by the principles of differentiation, such as respectful tasks, flexible grouping, and ongoing assessment and adjustment" (p. 15). Furthermore, she states that "Teachers can differentiate content, process, and product according to students' readiness, interests, and learning profile" (p. 15). She outlines an array of instructional and management strategies the teacher can use to accomplish the goals of differentiation, such as varied texts, tiered lessons, tiered learning centers, small group investigation, varied questioning strategies, and independent study, to name a few.

37

Tomlinson (1999) outlines key principles of a differentiated classroom:

- The teacher is clear about what matters in subject matter.

- The teacher understands, appreciates, and builds upon student differences.

- Assessment and instruction are inseparable.

- The teacher adjusts content, process, and product in response to student readiness, interests, and learning profile.

- All students participate in respectful work.

- Students and teachers are collaborators in learning.

- Goals of differentiated classroom are maximum growth and individual success.

- Flexibility is the hallmark of a differentiated classroom (p. 48).

In their later work, *The Differentiated School,* Tomlinson, Brimijoin, and Narvaez (2008), identify "non-negotiables aimed at one shared goal – greater academic success for the broadest possible student population: respecting individuals, owning student success, building community, providing high-quality curriculum, assessing to inform instruction, implementing flexible classroom routines, creating varied avenues to learning, and sharing responsibility for teaching and learning" (p. 3).

In her synthesis of current literature on differentiated instruction, Subban (2006) attempts to "shed light on the rational for supporting differentiated instruction" (p. 935). She asserts much educational research "including current student diversity, brain research, theories concerning learning styles and multiple intelligences" illustrates many reasons to consider a new instructional model that considers the needs of the individual student (p. 937). Subban (2006) also cites the research of many others that "has proved the argument that individuals do not learn in the same way (Fischer and Rose, 2001; Green, 1999; Guild, 2001; Mulroy and Eddinger,

2003)" (p. 937). Subban's (2006) synthesis of research indicates that although most educators understand that individual learners have different needs and do not necessarily learn in the same ways, "few teachers accommodate these differences in their classrooms (Gable, Hendrickson, Tonelson, and Van Acker, 2000; Guild, 2001)" (p. 938).

2.2.3.1   Efficacy of Differentiated Instruction

Definitive research on the effectiveness of differentiated instruction on student achievement is limited to date; however, as Tomlinson (2001) points out the philosophy of differentiated instruction is grounded in solid research about how students learn. For example, The National Research Council (1990) indicates factors like a student's prior knowledge of a subject, personal interests, beliefs, preferred learning style, and her attitudes about self and school influence how she learns. Tomlinson (2001) also reminds us that "Learning takes place more effectively in classrooms where knowledge is clearly and powerfully organized, students are highly active in the learning process, assessments are rich and varied, and students feel a sense of safety and connection (National Research Council, 1990; Wiggins & McTighe, 1998)" (p. 8).

Tomlinson (2001) cites the works of Delpit, 1995; Gardner, 1983; Heath, 1983; Sternberg, 1985; and Sullivan, 1993, to establish that individuals approach learning in many varied ways influenced by culture, gender, and the different ways our brains are wired (p.9). Tomlinson (2001) also references the work of Piaget in discussing the positive impact of interest and passion for a topic on the motivation to learn.

Instead of homogenizing a lesson and teaching to the mean ability level within a classroom of diverse learners, the teacher assesses and studies her students (i.e., their ability levels, readiness, interests, and learning styles) and then designs multiple mini-lessons or activities within a lesson to address each student's instructional level. The goal is that each

student should be challenged with meaningful tasks and should be stretched to demonstrate growth and learning. Tomlinson (2001) reminds us that this notion of the optimal instructional level for each learner is based on the work of Howard (1994) and Vygostsky (1962). Knowing the curriculum content (presumably aligned to the state standards) is a first vital step. Citing the work of Green, (1999), and Fine, (2003) Subban (2006) asserts that students can increase academic gains as well as their attitudes toward learning if teachers provide opportunities to engage their particular learning styles. In fact, Fine (2003) concluded that when the individual learning styles of students in special education programs were accommodated in the classroom instruction, they achieved significant gains compared to when the instruction was presented in a more traditional way.

There are not many efficacy studies available to show the outcome of differentiated instruction on student academic achievement. Subban (2006) cites such an efficacy study by McAdamis (2001) that reported:

> Significant improvement in the test scores of low scoring students in the Rockwood School District (Missouri), following the use of differentiated instruction. Apart from this tangible impact of the differentiated model, teachers in this study indicated that their students were more motivated and enthusiastic about learning" (p. 943).

There are numerous studies about teacher perceptions regarding the implementation of differentiated instruction. Subban (2006) cites a study by Hodge (1997) on the use of DI on students' standardized test scores and teacher's perceptions about their ability to meet the various needs of students and parent expectations. Teachers' perceptions about their ability to meet the needs of various individual students were not affected by DI or traditional instructional methods. The study by Hodge (1997), however, did find that students who received differentiated

instruction to prepare for tests demonstrated gains in math scores. They did not show similar gains in reading scores.

Koeze (2007) concluded in her study that students increased reading scores when teachers used "choice charts" appealing to student interest (p. 96). Koeze (2007) further cited the work of Shaughnessy (1998) whose meta-analysis of forty-two experimental studies on teaching to student learning style indicated that "students whose characteristics were accommodated by educational interventions responsive to their learning styles could be expected to achieve 75 percent of a standard deviation higher than students whose styles were not accommodated" (p. 97). Koeze (2007) also found that the specific components of differentiated instruction had positive impact on student achievement included choice, interest, learning style, and pre-assessment.

Despite all the research touting the benefits of differentiated instruction, it is not yet clear that sustainable change has occurred to support the widespread implementation of DI. In fact, Tomlinson, Brighton, Hertberg, Callahan, Moon, Brimijoin, Conover, and Reynolds (2003) assert:

> Research has suggested clearly that, while such an argument for differentiation may be promising, there is considerable distance to span before the argument translates into pervasive practice. It is the case that, currently, few teachers make significant changes to teaching and learning routines in response to learner variance. Research and theory on change in schools indicate that such a scope of change is profoundly difficult, calling for persistent, sustained leadership and support for the change (p. 10).

More efficacy studies on differentiated instruction are needed, as it appears to be an instructional approach that has great potential to support inclusion.

2.3   CREATING AN INCLUSIVE SCHOOL

Villa and Thousand (2000) also analyzed reports and data from 1,000 school districts on their inclusive efforts in the National Study of Inclusive Education (NCERL, 1994-1995), and they identified at least eight factors for success: visionary leadership, collaboration, refocused use of assessment, support for staff and students, funding, effective parental involvement. These eight factors are congruent with the factors identified in a study of 12 inclusive schools conducted by the Working Forum on Inclusive Schools (Council for Exceptional Children, 1994) convened by 10 national organizations" (p.43-44).   These studies concluded that schools successfully implementing inclusion understand that best practices in general education are a necessary foundation, and sound instructional strategies for students with disabilities benefit all students.

Dukes and Lamar-Dukes (2009); Kugelmass (2001); and Jolly, Logan, Martin, and McCowien, (2007) all cite similar core beliefs, and identified conditions necessary to enable the successful implementation of inclusion. It is critical for the school community and leadership to articulate a shared commitment to the idea that all students are important and deserve to have their needs met. Faculty and staff need to have the support of leadership, meaning ongoing professional development on inclusive practices, dedicated collaborative planning time, and training to use student assessment data regularly to drive and adjust instruction.

Jolly, Logan, Martin, and McCowien (2007) specifically address the critical role of leadership to promote inclusion. They assert that the principal must communicate a clear vision of inclusion and ensure all members of the school community embrace it. In addition, the teacher's perception of the principal's support is vital to the success of inclusion. Equally important is the teacher's perceived ability to implement inclusive practices (Jolly et al., 2007). These researchers conclude: "With the proper preparation of administration and teachers,

implementation of a variety of educational strategies and support, and, ongoing follow up through an appropriate array of assessment procedures, inclusion programs can be quite effective" (p. 21).

To better understand how educational organizations successfully embrace and implement change, it is appropriate to review the literature on the role of leadership as a key component of organizational change. The research is replete with models for reform in education and provides descriptions of various instructional strategies purporting to improve student performance and to support inclusion. Adopting any "new" instructional strategies or change in philosophy for instruction requires some kind of change in behaviors or attitudes within an organization. To facilitate the kind of organizational change that may be needed to promote inclusion, it is important to understand how change occurs within an educational organization. The principal (or instructional leader) must lead the way and understand her role in facilitating and sustaining any change in the organization.

It is logical, therefore, to briefly review the literature on organizational change. This literature review explores change theories, as well as possible barriers to organizational change. The main focus of this discourse is the critical role of school leaders (i.e., principals) in implementing change. This review may offer possibilities to school administrators for the successful integration of inclusive instructional practices into the culture of schools.

2.4   ORGANIZATIONAL CHANGE TO PROMOTE INCLUSION

School reform of any kind necessitates some level of organizational change. Although the statement is often incorrectly attributed to Charles Darwin, Clarence Darrow (1988) actually

said, "It is not the strongest of species that survive, not the most intelligent, but the most responsive to change."

To best understand the role of leadership required by an organization that has the goal of promoting inclusion, there are several subcategories of literature that are helpful to review. First, the concept of organizational change for schools is not new. School reform movements are plentiful and sometimes cyclical. The news media is replete with stories of various school reform movements intended to improve American public education for the changing economic and socio-political environment of the 21st century. Marzano (2003) has published much of his own research on how to make schools better, and he has written several meta-analyses of the voluminous research literature that others have published. As a respected and well-known education researcher, his works are cited heavily as excellent sources of research synthesis on pertinent topics.

In his seminal book, *What Works in Schools,* Marzano (2003) identifies three broad categories of factors that impact student achievement: school factors, student factors, and teacher factors. He defines critical school-level factors as a rigorous and relevant curriculum, parent involvement, and a safe and collegial environment. Student-level factors encompass influences of home, individual intelligence, and personal motivation. Teacher-level factors are identified as instructional strategies, classroom management, and classroom curriculum design. It is not the intent of this writer to delve into all of these factors, but to focus on those that most significantly impact student achievement relevant to inclusion.

In his synthesis of research on the impact of various factors on student achievement, Marzano (2003) specifically identified the teacher's mastery of instructional strategies, classroom management, and classroom curriculum design as the most important. He concluded,

"Researchers agree that the impact of decisions made by individual teachers is far greater than the impact of decisions made at the school level." (p. 71). To that end, the previous review of literature addressed teacher-level factors that impact inclusion.

Clearly, the importance of the classroom teacher cannot be overstated; however, the instructional leader (i.e., the principal) has a critical impact on student achievement as well. Apart from the classroom teacher, Marzano (2003) asserts, "Leadership could be considered the single most important aspect of effective school reform…Leadership is a necessary condition for effective reform relative to the school-level, the teacher-level, and the student-level factors" (p. 172). Throughout this review of the literature, the terms instructional leader, and school principal will be used interchangeably.

Most instructional leaders charged with effectively addressing the needs of diverse learners in the general classroom recognize that schools must evolve into more inclusive settings. To facilitate this kind of evolution, school principals need to understand the organizational change process and the crucial role they must play as leaders. This writer is interested in organizational change that supports inclusive instructional practices for reasons previously discussed.

Fullan (2001) describes the complex and dynamic nature of organizational change. Specifically, this review of literature will explore the change process, the importance of a systems approach, the relevance of learning communities, common barriers to change, and especially the critical role of leadership in initiating and sustaining organizational change aimed at promoting and sustaining inclusive instructional practices. In examining the role of leadership for change, it will also be important to review research that describes leadership behaviors for effective change. The hope is that conclusions drawn from this analysis might then be utilized

by school administrators to promote inclusive practices (such as co-teaching and differentiated instruction) in schools.

2.4.1   The Change Process

With the goal of better understanding how schools can successfully embrace and implement positive changes like co-teaching and differentiated instruction to promote the mission of inclusion, it is helpful to apply conclusions from the current literature on organizational change. Educational researchers (Villa & Thousand, 2000) define or describe the change process within this context:

> In a simplistic sense, the intellectual aspect of change can be framed by addressing the how-to questions associated with inclusive practices (e.g., how to design instruction in heterogeneous classrooms so that all children develop successfully). In a parallel manner, the emotional and spiritual aspects of change can be framed by addressing questions associated with understanding the belief systems of inclusive education (e.g., why all children should learn together in their local neighborhood schools). Facilitating inclusive change requires a comprehensive approach that attends to both the how and why of the process of change (p.94-95).

This writer attempted to explore some elements of "how" and "why" of inclusion in the previous two sections on inclusion and instructional practices that support inclusion. The next step in this review of literature is to explore the concept of organizational change and then to apply those ideas to the particular context of promoting inclusion.

Kotter (2002) interviewed approximately 400 people in 130 organizations and drew several conclusions about the nature of organizational change. In general terms, he asserts that

people change their behavior when it appeals to their emotions rather than to their thinking. In other words, individual members of an organization tend to be influenced to change their behaviors if they believe the change is for the greater good. Fullan (2001) states, "Most people want to be part of their organization; they want to know the organization's purpose; they want to make a difference" (p.52). They must see the change as being aligned to their basic values and beliefs about the organization and its mission.

Marzano, Waters and McNulty (2005) write about the need for a school leader (i.e., principal) to communicate a vision that is aligned with the organization's overall mission. They maintain that people will be motivated to do difficult work that is aligned to their own sense of purpose and values. The leader plays a crucial role in facilitating the development and articulation of the organization's mission and core values. As Elmore (2003) asserts, "The first step for sustained and meaningful improvement in any school is an establishment of common direction and a commitment to sustained effort" (p.26).

Senge (1990) asserts, "The organizations that will truly excel in the future will be the organizations that discover how to tap people's commitment and capacity to learn at all levels in an organization" (p.4). He, too, discussed the need for the development of a shared vision and mission. He describes the role of leadership as being comprised of a team that compels the organization to engage in meaningful self-assessment and to challenge their current mental models toward improvement and innovation. He also asserts the importance of a systems approach to organizational change.

2.4.2   Systems Approach to Organizational Change

Thornton, Shepperson, and Canaveral (2007) recommend a systems approach to school improvement: "Educators who understand that schools are complex interdependent social systems can move their organizations forward" (p.48). They advocate ongoing program evaluations at a systems level in order to facilitate continual improvement and organizational learning. To that end, Thornton, Shepperson, and Canaveral (2007) cite Senge's (1990) five disciplines of a learning organization:

> The relationship of systems thinking, program evaluation, and organizational learning triangulate in that an organization undergoing deep learning and paradigm shifts integrate each of these approaches, leading to reflection and learning resulting in beneficial transformation. Program evaluation provides organization leaders with data on implementation levels, goal achievement, and program effectiveness (p.54).

> Thornton et al. (2005) recommend a six step continuous improvement plan for

focused, systemic staff development. In brief, they are: 1) articulate the core values and beliefs of the school culture; 2) establish a shared vision of what these core beliefs will look like in practice; 3) analyze appropriate data to clarify the gap between the current reality and the desired outcome; 4) identify the specific changes needed to achieve the desired vision; 5) develop specific action plans to be implemented in every classroom, providing ongoing support to teachers; and 6) embrace collective accountability for implementing and sustaining the changes.

Zmuda, Kuklis, and Kline (2004) identify similar steps in *Transforming schools: Creating a culture of continuous improvement.* They maintain that an effective organization must focus "change from the inside out" and employ a systems approach to improvement. Data must inform change not perceptions. An atmosphere of collegiality must support collective

accountability (p.1). In addition, these writers and others recommend that any program for change should be adapted to fit the unique needs of the specific organization.

2.4.3   Change Theory

One of the most profound changes in recent education history is the current "culture of high-stakes testing" as a result of NCLB (Wheatley & Frieze, 2007). These writers acknowledge that what began as a noble goal of achievement for all students through a system of accountability, the implementation of NCLB "has failed in its attempt to create a culture of achievement for all. Instead, what has emerged is a culture of high-stakes testing that actually subverts achievement and learning" (p.2).

Wheatley & Frieze (2007) blame this failure on a reliance on traditional change theory. They describe traditional change theory as a top-down process in which a vision is developed, and then a strategy is designed, a policy written, steps delineated and delegated, and then a timeline created. Assessment tools are created to measure desired outcomes, and then the process is carefully managed and controlled to follow that script. There is an inherent assumption that all large scale change requires equally large-scale efforts.

These writers argue, conversely, that real change occurs when networks develop between small groups of people with a similar vision and common goal. As these small group efforts synergize and connections are made, momentum builds and gradually leads to broader change.

2.4.4   Professional Learning Communities for Change

Numerous researchers tout the importance of the developing an organization into a learning community.   Wheatley and Frieze (2007) as well as Wallace, Engle, and Mooney, (1997) advocate schools and districts form learning communities to share ideas, innovations, and best practices.   Wheatley and Frieze (2007) elaborate: "As separate, local efforts connect and strengthen their interactions and interdependence, a system of influence develops – a powerful cultural shift that influences behaviors and defines practices" (p.1).

Wallace, Engle, and Mooney, (1997) wrote about vision-based leadership and the concept of school as a learning community. They cite the work of Sergiovanni (1994) and Senge (1990) as advocating that parents, teachers, administrators, and community leaders all work together to improve the quality of education. They assert that such learning communities are based on the evolution of these important relationships. Members of the learning community engage in powerful thinking and generate new ideas which are essential for meaningful change.

Much has been written about the concept of professional learning communities within schools. This refers to a very specific mode of professional development in which teachers, administrators, other support staff, and counselors regularly engage in meetings to analyze student data, to discuss shared readings on relevant topics, or perhaps to formulate and evaluate program changes, with the ultimate goal of improving student learning. This kind of focused learning community uses the kind of approach to continuous improvement advocated by the previous writers regarding organizational change.

2.4.5 Stages of Organizational Change

Identifying the need for change and defining the problem are basic first steps. Numerous researchers and writers identify various, predictable stages of the change process within an organization. Elmore (2003) eloquently delineates several stages that are fairly representative of those defined by others. His first stage, "the problem recognition phase" is similar to that of other writers. Kotter (2002) describes the leader's responsibility to help articulate the needed change and align it to the organization's mission. Kotter (2002) and Marzano (2003) both point out the need for a guiding team with the ability and power to develop a clear vision and lead change.

Establishing a clear vision and mission for an organization is identified as a critical step for any organizational leader, particularly those intending to implement change. While it is important to encourage buy-in from the stakeholders prior to implementing change, Reeves (2006) cautions that it is not necessary or advisable to wait for 100 percent acceptance. Once the appropriate problem is identified and aligned to the learning organization's mission, small incremental steps that create immediate success can create the needed momentum. Elmore calls this the "low-hanging fruit stage." Making relatively simple low-level changes like a minor realignment of the curriculum or providing a targeted instructional intervention for a group of students can yield immediate and positive results. These results need to be shared and celebrated. As faculty members begin to see progress, they are more likely to embrace the change.

Following the "low-hanging fruit" stage, Elmore (2003) describes a "stagnation" phase. This often occurs in an organization following initial, small change efforts that tend to produce short-term effects. Other researchers describe this stage in slightly different terms. All agree

51

that it is critical for the leader to build and sustain momentum for change, pushing through temporary plateaus. Ongoing professional development must be provided. If such an organization has made a commitment to improve student performance, this can be the stage where they begin to push on to more rigorous goals and to develop the necessary internal accountability to sustain change.

The next phase Elmore (2003) defines is called the "external help" phase. Just as it sounds, this is when the organization recognizes the need to bring in some outside expertise to help redefine goals, and to establish ongoing, consistent professional development. Change aimed at improved student performance takes time and is not necessarily implemented in a linear fashion. Roadblocks are common during the process. Time to reflect and evaluate progress must be permitted. At times, it seems that the organization simply cannot move forward in the process. When the change process seems to be stymied, Elmore (2003) delineates the "impossible work" phase as a critical point in the change process. Marzano (2003) specifically writes about the need for effective leaders to embody optimism for just such times in the change process. The role of leader is especially crucial in maintaining focus, providing support and leading honest internal assessment.

Elmore (2003) describes the "transformed organization" phase as that when several roadblocks have been overcome and the organization emerges as stronger and more focused on sharing the responsibility for improved student achievement. The staff morale and general expectations for instructional practice and student performance have been raised. If another plateau should occur because the practices have become part of the culture but are not firmly entrenched enough to produce the full effects, this is a time when administrators must re-commit

to providing continued guidance, motivation, and focused professional development to build sustainability.

The final phase that Elmore (2003) describes, "'the self-management of improvement,' is an elusive phase for many schools. During this phase, the school collectively takes over managing its own improvement process, and administrators, teachers, and students internalize the values of managing and monitoring their own learning. (p. 13). This is the lofty but meaningful goal that instructional leaders should set for their schools.

Kotter (2002) identified similar stages for successful large-scale organizational change. The role of the organizational leader is implicit within each step, such as establishing vision and communicating for buy-in. Clearly the literature on organizational change in education establishes the critical role of the leader in guiding, facilitating, and sustaining the change process.

2.5 LEADERSHIP FOR ORGANIZATIONAL CHANGE

Much has been written about the specific attributes and responsibilities of leaders of business and education to successfully implement change within their organizations. Fullan (2001) describes effective leaders for improvement as "change agents who can manage complex challenges in ways that energize rather than hinder commitment to organizational goals. These leaders constantly urge an organization to operate at its cusp of competence, always striving for improvement, even in the face of uncertainty" (p. 52).

Leadership clearly plays a critical role in the success or failure of attempts to create or sustain organizational change. The role of the school principal has been described and studied

within this context. Marzano, Waters, and McNulty (2005) conducted a meta-analysis of 69 studies that were completed or published during 1978-2001. They concluded that the principal can have a profound effect on student achievement.

As a result of their research, Marzano, Waters, and McNulty (2005) identified 21 leadership responsibilities or competencies that have a statistically significant correlation with student academic achievement. These competencies ranged from being an effective change agent, to establishing strong lines of communication with all stakeholders, to the ability to adapt his or her leadership style according to the needs of the situation.

In examining the principal's role as a change agent, Marzano, Waters, and McNulty (2005) distinguish two types of change: First- and Second-Order Change. The leadership roles and characteristics shift according to the type of change encountered. First-order changes tend to be more gradual and incremental, fine-tuning systems but not creating radical systemic changes. Second-order changes are deeper fundamental changes which alter the system in dramatic ways. These changes require new ways of thinking and acting.

According to Marzano, Waters, and McNulty (2005), in first-order change "All 21 [leadership] responsibilities are important to first-order change at least to some degree" (p. 69). The authors rank ordered 21 traits to indicate their relative importance to first-order change. These traits are all needed to manage the day-to-day operations of school. Elmore (2003) describes various "low-level changes" which can be made to address a specific problem. This kind of problem might require small or simple changes for example a realignment of curriculum, a change in the daily schedule, or a targeted instructional intervention for a group of students.

In Second-order change, the authors found that seven of the 21 identified responsibilities are specifically needed in their factor analysis. They are the following (listed in rank order):

1. Knowledge of Curriculum, Instruction, and Assessment

2. Optimizer

3. Intellectual Stimulation

4. Change Agent

5. Monitoring/Evaluating

6. Flexibility

7. Ideals/Beliefs (Marzano, Waters & McNulty, 2005, p. 70).

Cotton (2003) conducted a narrative review of 81 reports and studies on the influence of principal leadership. She maintains this influence tends to be indirect and mediated through teachers. Not unlike the work of Marzano et al., "Cotton identified 25 categories of principal behavior that positively affect the dependent variables of student achievement, student attitudes, student behavior, teacher attitudes, teacher behaviors, and dropout rates" (Marzano, Waters & McNulty, 2005, p.24-25).

Liethwood, Louis, Anderson, and Wahlstrom (2004) conducted a narrative synthesis study similar to that of Cotton. Their findings are very similar according to Marzano, Waters and McNulty (2005): "One of their major conclusions is that leadership is second only to classroom instruction among all school-related factors that contribute to what students learn in school…Leithwood and colleagues identify three basic practices as the 'core of successful leadership': *Setting direction; developing people; and redesigning the organization*" (p. 26).

Others describe specific leadership characteristics required to facilitate urgently needed organizational change, particularly in education. Mai (2004) maintains, "In a growing number of organizations, including schools and districts, the need to challenge the status quo impels leaders to assume two related roles: *critic/provocateur* and *learning advocate/innovation coach*" (Mai,

2004, p. 212).   Mai describes these two roles as being critical in an era of increased

accountability for improved school performance. The leader must establish a climate where it is

safe and, in fact, an integral part of the culture to question the status quo, always with the goal of

improvement. Asking the right questions to provoke meaningful examination of current practice

is an essential role of the principal. He or she needs to promote a collegial atmosphere where all

are free and encouraged to debate current practices and proposed improvement plans. Faculty

must feel free to unleash their best thinking to solve problems without fear of criticism or

reprisal.

Marzano, Waters, and McNulty (2005) cite others (Liethwood, Jantzi & Steinbach, 1999)

as asserting, "instructional leadership is one of the most frequently mentioned educational

leadership concepts in North America" (p. 18). Numerous researchers define the concept of

instructional leader in slightly different terms.   "Smith and Andrews (1989) identify four

dimensions, or roles of an instructional leader: resource provider, instructional resource,

communicator, and visible presence" (Marzano, Waters & McNulty, 2005, p. 18). Marzano et.

al. (2005) cite Fullan (2001) as summarizing what is known about leadership.   Educational

research indicates that all school leaders can become effective. The collective research on

leadership for change identifies "five characteristics for change: moral purpose; understanding

the change process; strong leadership; knowledge sharing; and coherence, or connecting new

knowledge with existing knowledge" (Marzano et. al, 2005, p.22).

Leadership clearly plays a critical role in the success or failure of attempts to create or

sustain organizational change.

2.6   BARRIERS TO ORGANIZATIONAL CHANGE

Several researchers write about various obstacles to organizational change. Keeping the goals in the forefront of the organization and ensuring that all understand the nature and purpose of a proposed change is also critical. Recruiting new supporters and providing rewards and recognition for successful implementation is also important. Obviously, leaders must provide the resources and support needed to implement the change. Lastly, the instructional leader must model the professional behavior and actions being asked of others.

Marzano, Waters and McNulty (2005) maintain that Fullan offers a "blueprint for leading change in his book *Leading a Culture of Change* (2001). The researchers quote Fullan (2001): It is probably closer to the truth to say that the main problem in public education is not resistance to change but the presence of too many innovations mandated or adopted uncritically and superficially on an ad hoc fragmented basis (p. 23)

Reeves (2006) gives another name to this common barrier to organizational change. He describes "The Law of Initiative Fatigue," a term originally used in the *Harvard Business Review*. The law states:

> When resources of time, money, and emotional energy are held constant while the number of old, continuing, and new initiatives rises, organizational implosion is inevitable (p. 107).

It is imperative, therefore, for the instructional leader to prioritize the goals of the school given the overall mission. There is never a shortage of exciting educational innovations (or "recycled" programs with new names), or new technological developments which claim to improve instruction, curriculum, or classroom management. Discerning the wheat from the chaff becomes an important job for the learning community led by the instructional leader. Keeping

abreast of current educational research is an obvious goal. Determining the relevance of a particular new program or initiative for the specific school or school district is another role of the learning community. Collaborating with the administrators at the district level is critical in regulating the quantity and quality of initiatives undertaken in terms of those most important to the advancement of the mission (i.e., increasing student achievement, and/or promoting inclusive practices).

Usually, the role of the school principal is not to unilaterally mandate which changes are necessary, but to provide the research, tools, and time for educated discourse to facilitate the decision-making process by key professional learning community members. At times, it may become necessary for a leader to take an unpopular stand regarding a needed change, but most researchers agree that those leaders who are most successful in leading and sustaining that change will be those who take the time to elicit buy-in from as many stakeholders as possible. Convincing others that a specific change is aligned to the organization's mission and values and is in the best interest of the students and the organization as a whole is the job of the instructional leader.

Once the needed change has been established, it is imperative that the school leader provides ongoing, meaningful, focused professional development that is differentiated based on the needs of the faculty. Fragmented or one-shot professional development workshops may stir some temporary enthusiasm, but without ongoing support and accountability, there are too many reasons for teachers to slip back into their usual practices. In this way, many seemingly great innovations slide into oblivion. If administrators want teacher to commit to a particular innovation, the leaders must commit the time and resources needed to support teachers to that end. If the goal is to build capacity within organizational members, administrators must

encourage and reward educated risk-taking. For instance, if teachers are to embrace innovative instructional practices, they must be given the tools and support to take risks, seek feedback and engage in self-assessment.

Professional development must be systemic and aligned to specific targets of increased student achievement. Teachers must be encouraged to collaborate and support one another. Administrators must provide the time for this collaboration to occur. Without the appropriate, collegial professional development, Elmore (2003) describes the phenomenon of individual isolation experienced by many teachers. He states, "Privacy of practice produces isolation; isolation is the enemy of improvement" (p. 20). Elmore (2003) elaborates on this barrier to change when he states, "The pervasive individualism that exists in schools prevents the staff from coming together as colleagues with a common sense of purpose and a commitment to improve the system" (p. 9). Promoting collaboration among professional peers is critical. Fragmented staff development means systemic improvement is highly unlikely.

In *The Learning Leader: How to Focus School Improvement for Better Results,* Reeves (2006) also identifies several erroneous assumptions that are commonly made by administrators. These assumptions can undermine efforts for change. First, there is a commonly held belief that change will be resisted because teachers are content to continue doing what they always do. Reeves contends that most teachers *want* students to succeed. They need only be presented with specific practices that will help students succeed to inspire their commitment to the change.

Reeves (2006) maintains that teachers do not resist change out of some irrational fear of the unknown. Most teachers' skepticism is based on experience with other innovations or programs that were poorly planned and not adequately supported. If administrators provide a

well organized plan and evidence that they will be supported in the plan of action, generally skeptics can become supporters.

As previously mentioned, it is not necessary to have buy-in from everyone to initiate change. As Reeves asserts, often real buy-in does not occur until participants see some evidence of success. He states, "Resistance to change is an organizational reality…. The cycle of organizational improvement is not 'vision, buy-in, and action' but rather 'vision, action, buy-in, and more action.' The buy-in does not occur until employees first see the results of their actions" (p. 96).

In addition, it is not necessary to have perfect research to support a proposed change or initiative. Reeves (2006) quotes Waters et al. (2005) when he asserts, "Astonishingly, the vast majority of research over the past two decades purporting to address the topic of 'educational leadership' does not even use student achievement as a dependent variable (Waters et al., 2005)" (Reeves, 2006, p. 97). Reeves (2006) goes on to allude to "deep flaws in the reasoning that suggest effective policies depend on perfection in research…. The quality model that prevails throughout successful organizations is not waiting for perfection but rather 'Try it, test it, improve it.'" (p. 98).

Even when administrators attend to the described barriers to change, setbacks in the process are inevitable. Organizational change does not necessarily evolve in a linear fashion. Here again is where leadership plays a critical role. Maintaining the energy and focus on the intended goal, as well as facilitating realistic organizational assessment of the process is the responsibility of the instructional leader. Flexibility and commitment to continuous improvement are necessary characteristics of the school leader who intends to successfully implement positive change.

2.7   IMPLICATIONS – LEADERSHIP TO PROMOTE INCLUSION

This writer has attempted to describe organizational change and some change theories, delineate various phases of the change process, and to establish the importance of a systems approach to change as well as the relevance of the learning community to the success of organizational change. The critical role of leadership in facilitating organizational change has also been explored. In addition, some common barriers to organizational change have been identified. Clearly, there are many complex factors to consider in successfully implementing change in schools. It makes sense then to prioritize those factors and focus on those that could potentially have the greatest impact on implementing the proposed change.

Schmoker (2006) and others contends that instruction has the greatest impact on student achievement. He also emphasizes that most instruction could be improved "significantly and swiftly through ordinary and accessible arrangements among teachers and administrators" (p. 10). Again, the impact of the relationship between school principals and their teachers cannot be underestimated regarding student performance.

Synthesizing what is known about implementing successful, sustainable, organizational change, Marzano, Waters, and McNulty (2005) present a five-step plan for effective school leadership. The first step entails developing a school leadership team within the framework of a focused learning community. Next, the leadership responsibilities need to be distributed among the leadership team, with the principal embracing the core leadership responsibilities previously described. The third step is the definition of the "right work" for the school, given its mission and prioritized goals for improvement. Fourth, it is important to analyze related works and determine the change level (i.e., first or second-order) required by the faculty. Lastly, the

appropriate leadership behaviors need to be matched to the nature of the proposed change initiative.

Overall, organizational change in education should be based on efforts toward continuous improvement of student achievement. It is therefore helpful for school leaders to examine not only current educational research but also the practices of schools with proven track records in improving student achievement. Reeves (2006) identifies specific trends in the schools with the greatest gains in student achievement and equity. These trends include accepted accountability for teachers, administrators, and students. The frequent use of nonfiction writing across the content areas is a common practice among high performing school. In addition, the use of common assessments also characterizes these schools. Perhaps the most critical trends are the implementation of specific, targeted interventions and the constructive use of data. Previously mentioned writers have also emphasized the importance of basing any educational change on appropriate data.

With the goal of better understanding how schools can successfully embrace and implement positive changes like co-teaching, and differentiated instruction to promote the mission of inclusion, it is helpful to apply conclusions from the current literature on organizational change. Simplistically, this means that instructional leaders must help each school to develop or clarify its mission, core values, and goals. Are the mission and core values aligned to the goal of promoting an inclusive environment? They must present evidence from research to induce buy-in from a majority of stakeholders (i.e., teachers, support staff, parents, community leaders, and students) regarding reasons to establish and sustain an inclusive environment. School leaders must show evidence that the improved achievement of all students

should be at the heart of the school district mission, and that embracing inclusive practices will benefit all students.

School leaders must be willing to provide meaningful and differentiated professional development. Outside expertise must be provided if needed to support these endeavors. Resources must be committed to provide dedicated collaborative planning time and the development of professional learning communities. Teachers within the district already skilled in inclusive practices should be enlisted to become coaches and peer supporters. Building capacity within the school faculty is important to sustain such change. An atmosphere of trust must be established so that novices and skeptics can feel unafraid to take risks and try inclusive teaching practices. Professional development must be ongoing and eventually tied to teacher performance assessment once a baseline level of expertise has been established. Internal accountability is essential for the success of any initiative.

Data analysis of student assessments (diagnostic, formative and summative) must become an integral part of the school culture. School leaders should model this practice and establish professional learning communities to facilitate this process. Professional development should be provided if needed to help teachers become proficient at understanding data and using it to plan and adjust instruction.

Instructional leaders must share responsibility and leadership for implementing and supporting inclusive practices. These principals must anticipate inevitable setbacks and obstacles in the change process. Trouble-shooting to maintain energy and momentum will be a focus of the school leader. Successes (small or large) should be recognized and acknowledged publicly. Sharing and celebrating successes with students, teachers, and parents is a natural and

critical factor in sustaining meaningful change.   All these factors are necessary steps in establishing and maintaining an inclusive school community.

3.0   METHODOLOGY

3.1   STATEMENT OF THE PROBLEM

School principals have a critical role in creating an environment that is supportive of inclusion (Villa & Thousand, 2003). Praisner (2003) described new responsibilities and specific training needed for principals charged with facilitating ever more inclusive schools. Praisner (2003) and others (Vazquez, 2010) identified some factors that can influence a principal's attitudes about inclusion: positive experiences with students who have disabilities, years of teaching and/or administrative experience, as well as specific training.   These researchers have reported interesting results in attempting to analyze factors influencing principals' attitudes toward inclusion. The one common denominator across the studies points to the undeniable importance of principals' attitudes toward inclusive education.   Leadership that demonstrates positive attitudes and a commitment of resources is fundamentally crucial for the success of policies and practices that support inclusion.

Vazquez (2010) conducted one of the few studies which examined the impact of principals' attitudes toward inclusion on their least restrictive placement decisions and found a positive correlation between principals' attitudes and beliefs about least restrictive environment for the inclusion of students with disabilities and the actual placement data reported for the school.   Martin (2004) also studied principals' attitudes, beliefs, and perceptions regarding

inclusion and inclusive strategies. Her findings showed little difference between higher and lower inclusive schools. Martin (2004) also found limited use of co-teaching despite professional development opportunities. Findings of the study also showed that principals in highly inclusive schools provided resources like training and collaborative planning time for teachers, and supported co-teaching as ways to support inclusion. Vazquez (2010) also summarized several studies that examine factors influencing principal attitudes about inclusion, concluding that special education training and teaching experience generally produced more positive attitudes toward the inclusion of students with disabilities in the general education classrooms. Few studies specifically compare principals' perceptions of inclusive practices and least restrictive placement outcomes.

For inclusion to be successfully implemented in a school, the administrators and teachers need to be committed and informed. The importance of the principal's attitude in the successful implementation of inclusion has been explored by other researchers (Martin, 2004; Praisner, 2003; Salisbury & McGregor, 2005; Vazquez, 2010). My hope is that the results of this study will further address the hypothesis that principals' attitudes and behaviors are critical in promoting inclusion in the school setting. Furthermore, few studies have specifically examined principals' attitudes and beliefs regarding the inclusive instructional practices of co-teaching and differentiated instruction. Do principals who believe they promote inclusive practices actually have higher percentage of students educated within the general education classroom?

Effective implementation of any instructional practice is determined by teacher expertise, administrative support, as well as quality professional development. Other than the classroom teacher, the role of the school principal as instructional leader has the greatest impact on student achievement (Marzano, et al., 2005). In The Wallace Foundation Report of 2012, Wahlstrom,

Louis, Leithwood, and Anderson (2010), concur that their "research confirms leaders' potential influence, as well as limits on their ability, to be the central figure and catalyst for authentic and lasting systemic educational reform" (p.32). Moreover, the role of leadership was clearly emphasized throughout the review of literature on organizational change. Surveying the perceptions and attitudes of principals on two inclusive instructional practices, should provide some insight into current practice.

Through an analysis of quantitative data, the goals of this study were to identify elementary principals' perceptions of inclusion, co-teaching, and differentiated instruction. The researcher surveyed two samples of elementary principals in Pennsylvania according to their self-reported attitudes, beliefs, and behaviors about inclusion, co-teaching, and differentiated instruction in relation to their school districts' ranking in either the top 20% or the bottom 20% of the Least Restrictive Environment Index. Findings from this study should help to identify and study the nature of any relationship that may exist between the principals' self-perceived support for inclusion and their school district's actual LRE ranking.

Analysis of principals' responses about their perceived attitudes and behaviors regarding inclusion, co-teaching and differentiated instruction yielded four subscores: an "Attitude" score, indicating relative support of inclusion; an "Inclusivity" score, indicating the principal's views of the most appropriate placement for students with each of several disabilities; a "Co-teaching" score; and a "Differentiated Instruction" score. The derived scores indicated those who perceived themselves to be highly supportive of inclusion and inclusive instructional practices versus those who were perhaps less enthusiastic supporters.

While it is reasonable to expect principals to answer questions honestly, examining self reported perceptions has limited value except when compared to some objective measure of their

actual inclusivity ranking. The LRE (Least Restrictive Environment) Index reported by the Pennsylvania Department of Special Education will serve as an available objective measure. (See Appendix H.) Data from the 2010-2011 report identify the school districts ranked in the top 20 percent and bottom 20 percent of the LRE index. The districts in the top 20 percent are those whose data indicate they include the highest percentage of students with disabilities in the regular education classes. Districts identified in the bottom 20 percent are those whose data, by contrast, report including the lowest percentage of students with disabilities in the regular education classes. A comparison of the scores for these two groups was used to illustrate whether there was a relationship to the school's placement in the commonwealth's LRE ranking index.

Results of this study may help to inform elementary principals charged with promoting inclusion and two specific instructional practices that support the inclusion of students with disabilities in the general education setting. Moreover, findings may provide some useful information to school districts committed to promoting inclusion in the spirit of the law, as they should be seeking out principal candidates who are knowledgeable and committed to supporting inclusion and inclusive instructional practices.

3.2 DESCRIPTION OF THE STUDY

From a pragmatic perspective, this study surveyed elementary principals' perspectives on inclusion and two specific inclusive instructional practices, co-teaching and differentiated instruction. Anonymous responses of principals who participated in this study yielded an "inclusivity" score, as well as an "attitude" score framing their perceptions of inclusion and least

restrictive placement for students with disabilities, independent of the type of disability. A mean inclusivity score for each of the two sample groups was calculated. Each principal's responses also yielded an assigned score indicating their perceived support of each of the two inclusive instructional practices, "co-teaching" and "differentiated instruction."

This study compared the responses of two purposefully selected samples of elementary school principals based on an objective measure of their schools' inclusivity, as defined by their school district's LRE ranking according to the Pennsylvania Department of Education. Group A includes the elementary principals whose schools are ranked in the top 20% of school districts that, according to the state data, include the most students with disabilities in the general education classroom. Group B includes the elementary principals whose schools are ranked in the bottom 20% of school districts in the state that include the least number of students with disabilities in the general education classroom.

Praisner's (2000) *Principals and Inclusion Survey* was adapted and deployed to conduct an online survey of these principals' perceptions of inclusion, co-teaching, and differentiated instruction. (Appendix A – original PIS used by Praisner; Appendix B – survey modifications; Appendix C – Modified PIS survey used in this study.) Mean scores and standard deviations were calculated for each of two sample groups (Top 20% vs. bottom 20%) for 4 areas: "inclusivity" score (section II), least restrictive placement "attitude" score (section III), "co-teaching" score (section IV), and "differentiated instruction" score (section V). The perceptions of each of the two groups (as measured by scores in each of 4 subsections) were compared to their placement in one of two groups – top 20% (Group A) or bottom 20% (Group B). Was there any relation or correlation of scores in each of the 4 subsections and belonging in group A or B? In other words, the principals' self reported attitudes, beliefs and behaviors regarding (1)

inclusion, (2) least restrictive placement, as well as (3) co-teaching, and (4) differentiated instruction were compared to the more objective LRE index (i.e., belonging to the top 20% of districts or to the bottom 20%). The purpose was to determine if there was a statistically significant relationship or correlation between each group's perceptions of the degree to which their schools practice inclusion in relation to the state's measure of inclusive practices. In addition, the data were analyzed to determine if there was any correlation between principals whose scores indicate a higher degree of familiarity and favorable attitudes toward the inclusive practices of co-teaching and differentiated instruction and a higher LRE index.

3.2.1 Study Questions

The guiding research questions focused on the principals' perceptions of their leadership beliefs and behaviors to support inclusion, co-teaching, and differentiated instruction. The questions also sought to describe the principal's perceptions of the possible impact of inclusion, co-teaching and differentiated instruction on student achievement. They were also asked to identify obstacles they have encountered to the implementation of these practices.

1) What are the self-reported attitudes and behaviors of selected elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?

2) Is there a relationship between principals' self-reported attitudes toward inclusion and their self-reported behaviors regarding the implementation of co-teaching and differentiated instruction?

3) Is there a relationship between principals' self-reported attitudes and behaviors regarding inclusion, co-teaching and differentiated instruction and their school's

ranking of "inclusivity" as measured by their Pennsylvania Least Restrictive Environment (LRE) index?

3.2.2   Sample

Elementary principals in the state of Pennsylvania comprised the experimentally accessible population for this study. The target population represented a fairly large and diverse geographic region and includes rural, urban, ex-urban, and suburban school districts across the commonwealth of Pennsylvania. It provided a cross section of socio-economic areas and school sizes. Pennsylvania was also selected, in part, for convenience and feasibility as some of the necessary data are accessible through the Pennsylvania Department of Education's website. The Special Education State Data Report referenced in this study was from the 2010-2011 school year. This region encompassed 500 public school districts (including 1528 elementary schools spanning grades K-6. Some of the schools served slightly different configurations such as K-5, K-1, K-2, K-3, 1-6, 4-5, and 2-5, but the majority of schools served grades K-6, representing a wide range of sizes and demographic areas (i.e., rural, suburban, ex-urban, and urban). (Appendix D). Specific school district data was also obtained from the National Center for Education Statistics for the school years 2009-2012 and 2010-2011.

The overall state data for the 2010-2011 school year included a total school enrollment (K-12) of 1,780,413 students. This included special education enrollment (pre K – 12) of 270,288 students, indicating that 15.2 percent of the total school population received special education services (excluding students receiving gifted services). Of those students, 61 percent received special education services inside *the regular education classroom for at least 80 percent or more of the day*; 9.6 percent received special education services *inside the regular*

education classroom less than 40 percent of the day; and 4.3 percent received special education services *in other settings*.

As inclusive practices may vary in elementary versus secondary settings, this study was limited to elementary principals (K-6) across the state. This also happened to be a personal area of interest as an elementary administrator. It should be noted that the Pittsburgh Public Schools (ranked in Group B of school districts and includes 38 elementary schools) was excluded from the study due to logistical issues. The 169 elementary schools within the city of Philadelphia School District (also included in Group B), however, were included, so schools within a large urban area were represented in the study. Although there were 100 school districts in each of the two groups (A and B), the inclusion of this largest school district in the state of Pennsylvania accounted for the disproportionate number of schools originally included in the potential list of for Group B (407) versus those of Group A (199).

As a result of IDEA 2004 (Individuals with Disabilities Education Act (IDEA) Amendments of 2004, P.L. 105-117, 20 U.S.C. §§ 1415 *et seq.*) and the Gaskin Settlement Agreement, (*Gaskin v. Commonwealth of Pennsylvania,* No. 94-CV-4048 (E.D. Pa.), the Pennsylvania Department of Education is obliged to rank each of the 500 school districts in the state according to a LRE (Least Restrictive Environment) Index. This index is derived in three categories and based on information submitted to Pennsylvania Department of Education (PDE) by each district regarding the percentage of students receiving special education services, by disability and by placement. PDE collects the data and reports the results according to three categories: Tier 1 – On-site monitoring, Tier 2 – Warning, and Tier 3 – Alert. (See figure 3 below.)

The researcher compiled a list of all the elementary schools and their principals within the school districts identified as being in the top 20% and the bottom 20% of this state ranking by the LRE Index. [See Appendix H for description of ranking process.] Principals were asked to take one of two identical forms of the *Inclusive Practices Survey.* (Two identical forms of the survey were assigned and coded Form A and Form B so that the anonymous responses could be tracked according to which group they belong - the top 20 % or the bottom 20%. This allowed data from each group to be disaggregated for comparison as there was no other identifying information on survey responses.)

Form A was sent to the elementary principals within the top 20% of the school districts where the LRE Index indicated the highest level of inclusion practiced in the state. Form B was sent to the elementary principals within the bottom 20% of the school districts where the LRE Index indicated the lowest level of inclusion practiced in the state. Data from the two groups of principals (i.e., their respective attitudes, beliefs and behaviors regarding a) inclusion, b) least restrictive placement, c) co-teaching and d) differentiated instruction) were analyzed and compared to each other to identify and describe the existence of any relationship between these factors.

3.2.3 Instrument and Measures

Quantitative data were collected through an online survey deployment and data capture. As stated by Kalogeraki (2012), "Researchers decide which mode of data collection adequately answers their research questions by balancing the potential practical and methodological benefits and constraints of the selected survey mode (Groves, et al., 2009)" (p. 239). There are benefits and costs associated with all modes of administration; however, the online survey is used in this

73

study because of "decreased costs [versus hard copy mailings] and faster response times" (Kalogeraki, 2012, p. 240.)

Units of analysis for this study were responses from elementary principals who completed the *Principals and Inclusion Survey* (PIS) adapted with permission from the original work by Praisner (2000). (See Appendix K – Permission from Praisner.) Principals' reported attitudes, beliefs and behaviors regarding inclusion, co-teaching, differentiated instruction, and some basic demographic information comprised the data to be analyzed. Each received an "Attitude Score" and "Inclusiveness Score" based on the *Principals and Inclusion Survey* created by Praisner (2000):

The *Principals and Inclusion Survey* (PIS) was designed to determine the extent to which variables such as training, experience, and program factors were related to principals' attitudes. Additionally, the impact of those attitudes on perceived most appropriate placements for students with disabilities was measured (p.136). The survey included a total of 40 questions. The first 4 questions (Section I) were basic demographic questions regarding school size, average class size, percentage of students identified as needing special education, and the percentage of students with IEP's (excluding Gifted students) who are included in the general education classroom for at least 75% of the school day. Specific questions in the survey soliciting principals' attitudes and behaviors regarding inclusion (Section II, questions 1-10) and least restrictive placement (Section III, questions 1-10) were taken directly (with the author's written permission) from Praisner's (2000) *Principals and Inclusion Survey.*

Questions related to the effective implementation of two inclusive instructional practices were derived from current research on co-teaching (Section IV, questions 1-8) and differentiated instruction (Section V, questions 1-7) as well as research related to specific leadership beliefs,

attitudes, and environmental factors identified by advocates of inclusion. The conditions needed for the successful implementation of inclusion in schools have been defined and described by numerous researchers, as previously described.

As previously mentioned, this author chose to modify the PIS to include sections on principals' attitudes regarding co-teaching and differentiated instruction (permission to modify the PIS was obtained from Praisner - see Appendix K) to more fully explore these practices. These two sections also yielded a "Co-teaching score" as well as a "DI score" for each principal. Due to concerns about participant burden with an excessively lengthy survey, the PIS Section II (13 items on Training and Experience with Special Education) was omitted.

Section I (Demographics) was comprised of four multiple choice questions addressing total school enrollment, average class size, approximate number of students with IEPs (excluding gifted), and the approximate number of students with IEPs included in regular education for at least 75% of the school day. Cross tabulation between each demographic feature and each of the four other sections of the survey was conducted to determine if there were any observed differences.

Section II (Attitudes Toward Inclusion of Students with Special Needs) was comprised of the 10 statements taken from the original Section III of Praisner's PIS (2000). Principals were asked to respond to 10 statements about students with disabilities being included in the general education classroom. Responses were ranked on a 5 point Likert scale from Strongly Agree to Strongly Disagree. Total scores on this section could range from a high of 50 (most inclusive attitude) to 10 (least inclusive attitude). Praisner (2003) originally based this portion of the survey on the "Superintendents' Attitude Survey on Integration (SASI) adapted by Stainback

(1986) from the Autism Attitude Scale for Teachers (Olley, Devellis, Wall, & Long, 1981)" (Praisner, 2003, p.137.) Attitude scores were derived for each principal.

Section III (Most Appropriate Placement for Students with Disabilities) was comprised of 11 items. Each item identified a disability category. Respondents were asked to which of the six possible special education placements were generally most appropriate for students with the given disability, recognizing each placement decision is very individualized. Six identical choices for each item were provided: a) Special education services outside the regular school (most restrictive placement); b) Special class for most or all of the school day; c) Part-time special education class; d) Regular classroom instruction and resource room; e) Regular classroom instruction for most of the day; and f) Full-time regular education with support (least restrictive placement). The results of this section yielded a computed "Inclusiveness" score for each principal, as well as a mean score for each disability category. The validity of this section was based on the disability categories "identified by the Commonwealth of Pennsylvania through special education services as defined by the Individuals with Disabilities Education Act (IDEA 1990) and subsequent Regulations (34 CFR Part 300)" (Praisner, 2003, p. 137).

Section IV (Co-teaching) consisted of 8 multiple choice questions based on a review of the research literature on this instructional practice (Cook & Friend, 1995; Kohler-Evans, 2006; Magiera & Zigmond, 2005; Murawski, 2002; Murawski, 2001; Scruggs, Mastropieri, & McGuffie, 2007). Questions in this section surveyed the principals' attitudes and behaviors regarding the implementation of co-teaching. These items reflected the best practices recommended in the research literature on this instructional practice.

Section V (Differentiated Instruction) consisted of 7 multiple choice questions based on a review of the research literature on DI (Tomlinson, 1999, Tomlinson, 2001;Tomlinson,

Brimijoin & Narvaez, 2008; Tomlinson & McTighe, 2006; Tomlinson & Allen, 2000; Stanford & Reeves, 2009; Wiggins & McTighe, 2005). Questions attempted to ascertain principals' attitudes and behaviors regarding the implementation of DI. Again, the items on differentiated instruction were based on the best practices recommended in the research literature. (APPENDIX B delineates each additional question to the modified PIS and lists rationale and research references for each.)

A pilot survey was conducted with six elementary principals in my own district in November 2011 to solicit feedback on the format and content of a draft survey. Based on that feedback, some redundant or unclearly structured questions on co-teaching and differentiated instruction were eliminated or re-worded. The general format, font, and page breaks were changed to be more user-friendly. The participants in the pilot survey reported that the survey took between 15 – 20 minutes. The revised survey is estimated to take between 20-25 minutes to complete. The participants in the pilot survey were excluded from the actual study.

3.3   DATA COLLECTION AND ANALYSIS

A quantitative descriptive design was used to measure principals' attitudes toward the inclusion of students with disabilities into the general education classroom as well as their attitudes toward two inclusive instructional practices. These measures were compared to their school district's inclusivity ranking in either Group A – top 20% inclusive districts or Group B – bottom 20% inclusive districts according to Pennsylvania's Least Restrictive Environment Index (See Appendix H.) to determine if there was a relationship. Quantitative data were collected using an anonymous online survey. This instrument was chosen because surveys can be used to generate

77

quantifiable data that can be analyzed objectively and scientifically. In addition, as Yin (2003) states, "Surveys provide an indication of the prevalence of the phenomenon" (p.151). In addition, an online survey is cost effective and yields timely results compared to mailing hard copies. The anonymity of the survey was intended to encourage administrators to participate in the study without fear of reprisal for any attitudes they may report. In an era of technology proliferation, it was reasonable to expect that most, if not all, principals had easy access to a web-based survey.

Anonymity of responses was maintained by using randomly assigned ID numbers embedded in the response link to the survey. No one had access to the identity of participants; therefore, the risk to participants was minimal to none. Two identical forms of the survey (Form A for Group A; Form B for Group B) with separate URLs were sent to the principals from each of the two groups (i.e., those whose school district were identified in the top 20% of the LRE ranking were sent Form A, and those whose school district were identified in the bottom 20% were sent Form B). Responses were anonymous but were coded by the form of the survey they took (i.e., A or B). Data were collected separately for each of the two forms of the survey. This researcher obtained permission from the school district's technology director to deploy this survey using the school district's server. The only information that was tracked for survey responses was the IP address of the responder. This system did not use cookies or any other identifying agents.

Quantitative data on the survey identifying the principals' perceptions of inclusion (Inclusivity score and Attitude score) and implementation of two specific instructional practices (Co-teaching and Differentiated Instruction) were scored and analyzed to determine if there was a relationship or correlation between principals' perceived "inclusiveness" and "attitude" about

least restrictive placement and their school district's placement in one of two groups (Group A - top 20% or Group B - bottom 20%) according to the LRE index. Excel and SAS software were used to conduct the statistical analysis. Item analyses were reported for frequency distribution including means and standard deviation. Chi-square and two-tailed tests were calculated to determine if the mean scores for each subsection were statistically different between Group A and Group B. Cross-tabulation tables were used to identify interesting variables to allow for disaggregated analysis by group (e.g., high and low inclusion).

Descriptive statistics using graphs provided summaries about the sample population, demographics, and the measures regarding support for inclusion. Responses were scored to determine the reported degree of support each principal claims to provide for inclusion, co-teaching, and differentiated instruction. Moreover, principals' attitudes were compared to the LRE Index ranking to determine if there was a statistically significant relationship (i.e., responses of Group A representing the top 20% were compared to those of Group B representing the bottom 20%).

3.4   PARTICIPANT RECRUITMENT AND RESPONSE RATE

An introductory email with the link to one of the two respective surveys was sent to 606 potential respondents on April 30, 2012. (See Appendix F.). Principals of 606 elementary schools identified from 200 of the 500 Pennsylvania school districts representing the top 20% of LRE index ranking and the bottom 20% LRE Index ranking were included in the initial email list. Contact information provided on the Penn Data website list of school districts, as well as the National Center for Education Statistics (2011), was compared to that provided on a commercial

database purporting to list "all elementary principals' email addresses. Information was compared, researched, and compiled to form the potential participant list. Forty-four duplicate listings were reduced so that if a principal was listed for more than one school (i.e., K-2 and 3-5), he or she was only counted once. The database purchased online was not a complete list and was used primarily as a cross reference or secondary source to the district websites.

Two identical introductory emails were sent simultaneously that explain the purpose of the study, identify any risks or benefits associated with participation. Each included a separate link to one of the two respective forms (A or B) of the survey according to each principal's school district placement in the (A) top 20% or (B) bottom 20% LRE ranking. As this survey data was collected anonymously, implied consent by completion of the survey was all that was required.

Mertens (2005) summarizes research findings on the primary factors influencing response rates in online surveys. In general she recommends sending out an introductory appeal to survey recipients. In addition personal contact and follow-up contacts (balancing persistence with annoyance) also yield higher response rates. Incentives offered can also increase response rates; therefore, participants were informed in the introductory email that their completion of the survey would direct them to a URL address where they could submit a mailing address to enter a random drawing for one of two $100 Visa gift cards. Two winners were randomly drawn from the names submitted. Visa cards were mailed within two weeks of the survey deadline, July 22, 2012.

After the initial survey was sent on April 30, 2012, one reminder email (See Appendix G.) was sent one week later to all potential participants to encourage those who had not yet participated to do so. Principals were offered access to the results of the survey by request. (One

principal emailed the researcher directly to request a copy of the completed report which will be sent via email when it is completed.) Participants that completed surveys were assigned random ID numbers to protect their anonymity. All data were analyzed and reported without including any identifying information.

The initial email yielded 102/606 responses (30 from Group A, and 70 from Group B) for 17% return rate. Out of the initial list of 606 principals, there were 146 emails "undeliverable bounce backs"; therefore, a possible 460 participants were included in the target sample. (It should be noted that "undeliverable bounce backs" were checked again for accuracy compared to the purchased database as well as district websites where possible. Those which were correctable have been subtracted from the total "bounce backs." Because the initial response rate (after one week follow-up email) was low, an additional reminder was sent on May 12, yielding an increased response rate of 22%.

Originally, the survey deadline was June 30, 2012. Due to the disappointingly low response rate and recognizing that May is an extremely busy time of the school year for most principals, the decision was made to extend the deadline to July 22, 2012, in the hopes of capturing principals who might have a less hectic pace in the summer months allowing them to reconsider participation in the survey. Two additional invitations to participate were sent on June 20 and on July 16. Survey data collection closed on July 22, 2012.

In July, after receiving 17 "out of office" replies, as well as additional "undeliverable bounce backs," the total number of potential respondents was 460 (147 in Group A and 313 in Group B). Efforts were made to obtain corrected email information for "bounce backs" by checking multiple listings and contacting school districts by telephone in some cases. Those email addresses that were available and corrected are included in the total 460. It is curious that

there were 123 additional "undeliverable bounce backs," following the last email attempt, and only an additional 21 completed surveys were returned (only 2 additional surveys for Group A were returned after this last e-mail). It is difficult to surmise why email addresses that were not returned as "undeliverable" in the first or second email attempt would "bounce back" on the third attempt. Recipients may have blocked the survey, their server may have interpreted the email as SPAM, or their mailbox may not have had sufficient space to accept the email. Following the last email, there were 40/147 responses from Group A for a subtotal response rate of 23%; while there were 104/313 responses from Group B for a subtotal response rate of 32%. Of these responses, several IP addresses appeared twice, including one IP address that appeared 6 successive times on the same day. It seemed obvious that the respondent (in Group A) started and stopped the survey several times in a row. The first, most complete response was counted, and additional answers to sections not answered the first time were transferred to the original entry. The other duplicates, unless they listed significantly different demographic information (in one case) were presumed to be answered by the same person who may have thought they did not submit the survey. Eleven such duplicates (5 from Group A and 5 from Group B) were omitted from the final count. The total responses were 35 in Group A and 99 in Group B or 134/460 for a final, total return rate of 29%.

3.5   LIMITATIONS

There were a few limitations inherent in this study. First, self-reported principals' perceptions are by definition subjective. As their anonymity was preserved in the survey, there were no risks inherent to participation in the study. It was hoped that these professionals would desire to

contribute to the collection of accurate data on these instructional matters. As inclusion, co-teaching, differentiated instruction, and leadership skills have been widely explored in professional development literature, workshops, and conferences, it is reasonable to think that these concepts would be known to the participants of the study; however, they may not have been.

An important limitation of this study involves the role of the researcher's own biases. As the interpreter of the survey data, my own bias for inclusion and for the implementation of inclusive practices such as co-teaching and differentiated instruction must be acknowledged at the outset and particularly regarding interpretation of the data. I have strived to accurately capture, interpret (as objectively as possible), and reported all data collected as part of this study.

One question of this study asked principals to describe their perceptions of the impact of inclusion, co-teaching, and differentiated instruction on student achievement. Of course, this is not empirical evidence; however, it is important to note whether principals at least believe that these instructional strategies could have a positive impact on student achievement. It would be counter intuitive to seek buy-in for instructional practices that a principal does not believe could improve student achievement or, at least, not have a negative impact.

An important limitation of this study pertains to the relatively narrow definition of inclusion. Clearly, as previously stated in the review of the literature on inclusion, this concept can be applied in many contexts, including race, religion, socio-economic status, gender issues, and alternative lifestyles. For the purposes of this study, it was my intention to focus on the definition that pertains to students with disabilities being included in the general education classroom. Broader contextual studies are certainly warranted, but are not the subject of this particular study given its specific scope.

Another obvious limitation of this study concerns the relatively low response rate of 29 percent. This is in contrast to the 54 percent response rate obtained by Praisner (2003) when she sent out the original PIS survey. Additional research on response rates for online surveys versus mailed surveys revealed some other possible explanations. Despite the proliferation of web-based surveys described by Kalogeraki (2012), Sheehan (2001) asserts, "Response rates to e-mail surveys have significantly decreased since 1986" (p. 2). It should be noted that Praisner mailed hard copy (28 item) surveys on April 22, 2001, and including one follow-up post mailing on June 4, 2001, she obtained a total 54% return rate. The similar timing of her survey (April 22 versus April 30) seems to belie the assumption that timing of this researcher's survey is the main reason for the low response rate. Praisner also included post cards for respondents to send back to the researcher indicating they had completed the survey. This enabled her to filter out those principals who already completed the survey for each successive mailing. By contrast, the Principals and Inclusion Modified Survey was completely anonymous; therefore, it was not possible to contact participants who had not responded to inquire why they had chosen not to respond. It should also be noted that this survey was bit longer than Praisner's (i.e., 40 items versus 28 items) which may, in part, account for the lower response rate.

Intuitively, survey length would seem to be a factor relevant to response rate. Sheehan (2001) found in her review of research that survey length has yielded mixed results. Some researchers found that shorter surveys yielded higher response rates; however, she cites others (Eichner & Habernehl, 1981) who found that longer surveys actually had somewhat higher response rates. Sheehan (2001) concludes that other factors than survey length may have greater impact on response rates including follow-up contact, the year a survey was sent, and salience or relevance of topic to potential respondents. In her review of 31 studies that used email surveys

between 1986-2000, Sheehan (2001) found they yielded a "mean response rate of 36.83%...The 1998/9 period, in contrast, showed thirteen studies using e-mail surveys with an average response rate of about 31%" (p. 4).

As Cook, Heath, and Thompson (2000) maintain, "Election polls make clear that the *representativeness* of our samples is much more important than the response rate we obtain" (p. 821). Hamilton (2009) conducted a meta-analysis of 199 surveys conducted using SuperSurvey© in which he concluded that "response rates vary greatly, but in our experience most surveys receive a 26% response or better…Average survey response rate is 32.52%, and the median survey response rate is 26.45%" (p.1). There may be a number of factors that impact return rates. Various sources identify different acceptable return rates.

The comparatively lower response rate of this study versus the original PIS in 2000 might be due to a number of other unique factors. First, it must be noted that the original PIS survey was sent out 11 years ago (Praisner, 2000). The role of principals as instructional leaders has changed somewhat in the past decade. Different responsibilities and mounting pressure for increased student achievement as measured on state standardized assessments place great demands on principals. These factors, combined with the significant budget concerns currently facing Pennsylvania administrators, may have posed priorities that deterred participation in voluntary questionnaires. It may also be that the proliferation of online surveys means administrators can be inundated with such requests. Some organizations have firewalls and filters to send mass emails to spam or junk files. It is impossible to know how many of the surveys sent actually were received by those intended. In any case, it is important to consider the response rate in the interpretation of findings.

Limitations of the study also include making generalizations based on the findings of the data. Although this survey covers a fairly large geographic region, the samples are not randomly selected, and the 29% response rate may not be robust enough to provide conclusive data that can be generalized across all elementary settings. In fact, this was not the aim of this study. Rather, I hoped to provide some quantitative data indicating the extent to which elementary principals perceived they have embraced and supported inclusion, co-teaching, and differentiation across Pennsylvania. In addition, I hoped responses would provide some insight regarding leadership behaviors related to successful implementation of inclusion and these instructional practices in this context.

4.0   DATA – FINDINGS

4.1   DEMOGRAPHIC DATA

The elementary principals who participated in the study were first asked to answer some basic demographic questions about their specific schools. Questions 1 through 4 asked principals to approximate the number of students in their buildings. They were also asked to indicate the average class size and the approximate number of students who had IEPs in their buildings (excluding students receiving Gifted Support). Last, they were asked to indicate the approximate number of students with IEPs in their buildings that are included in the regular education classrooms for at least 75 percent of their school day. Table 1 indicates the frequency and percentage data for Section 1 – Demographic Information. The overall totals are provided for each question, and then the data is disaggregated by Group A (top 20% inclusive schools) and Group B (bottom 20% inclusive schools).

Comparing the mean scores and standard deviations for each subtest (Section II – Attitudes; Section III – Inclusivity; Section IV – Co-teaching; and Section V – Differentiated Instruction) with each of the four demographic factors (school size, average class size, percentage of students with IEPs in the school, and the percentage of students with IEPs that are included in the regular education classrooms for at least 75% of the school day) showed most responses were very similar, with the obvious exception of percentage of students with IEPs who

were included in the regular education classrooms for at least 75 percent of their school day. This was the only factor that was significantly different for the two groups. This coincides with the two groups' placements in the highest 20 and lowest 20 percent of school districts based on their LRE (Least Restrictive Environment) index ranking in Pennsylvania. Otherwise, the difference in the demographics of the two groups was not statistically significant at <0.05 % with 95% confidence level.

As expected, based on the PA LRE index, the percentage of students with IEPs that are included in the regular education classes for at least 75% of the school day is higher in Group A than Group B. As illustrated in Table 1 below, for Group A: 77.1% (27/35) of respondents reported that 81-100% of students with IEPs are included in the regular classroom at least 75% of the day; 2.9% reported 61-80% of students with IEPs are included in the regular classroom at least 75% of the day; 8.6% reported that 41-60% of students with IEPs are included in the regular classroom at least 75% of the day; and only 5.7% (2/35 respondents) reported that 0-21% of students with IEPs are included in the regular classroom at least 75% of the day. (The small sample size should be noted.)

This is compared to responses from Group B: 46.5% (46/99) of respondents reported that 81-100% of students with IEPs are included in the regular classroom for at least 75% of the day; 19.2% reported 61-80% of students with IEPs are included in the regular classroom at least 75% of the day; 15.2% reported 41-60% of students with IEPs are included in the regular education classroom for at least 75% of the day; 6.1% reported that 21-40% of students with IEPs are included in the regular classroom at least 75% of the day; and 13.1% respondents reported that 0-20% of students with IEPs are included in the regular classroom at least 75% of the school day.

School size appeared to be a demographic factor that was significantly different for the two groups. Due to the relatively small sample size, however, answers were grouped together into small schools (99-750) and large schools (751-1000) to perform a Chi-square test. The test was run to determine if Group A differed in its distribution of answers from Group B. Using SAS, the chi-square value is 9.7 with a p-value of 0.05. This is statistically significant; however, 40% of the cells have < 5. Calculating the Bonferroni correction [k = (r!/2!(r-2)!)*(c!/2!(c-2!)], the new alpha value shrinks to 0.005 which results in a non-significant finding.

Although, evidence suggests that Group A tended to come from smaller school size than Group B, it would be interesting to investigate this factor with a larger sample pool to determine if school size is a factor influencing attitudes and behaviors of principals regarding inclusion.

Table 1. Demographic Information for Group A and Group B

Section I Variable	Range	Group A		Group B *		p value
		Frequency	*%*	*Frequency*	*%*	*p value*
Number of Students	99-250	6	17.1	4	4.0	.05*
	251-500	14	40.0	49	49.5	
	501-750	12	34.3	39	39.4	
	570-1000	1	2.9	6	6.1	
	1000 or more	2	5.7	1	1.0	
		(n=35)		(n=99)		
Average Class Size	1- 9	0	0	0	0	.0002*
	10-19	10	28.6	4	4.0	
	20-29	25	71.4	93	93.9	
	30-39	0	0	2	2.0	
	40 or more	0	0	0	0	
		(n=35)		(n=99)		
Percent of students w IEPs	0-5%	5	14.3	10	10.1	.91
	6-10%	13	37.1	39	39.4	
	11-15%	10	28.6	29	29.3	
	16-20%	6	17.1	15	15.2	
	20% or more	1	2.9	6	6.1	
		(n=35)		(n=99)		
Percentage of students w IEPs included in regular classrooms at least 75% of school day	0-20%	2	5.7	13	13.1	.04*
	21-40%	2	5.7	6	6.1	
	41-60%	3	8.6	15	15.2	
	61-80%	1	2.9	19	19.2	

		27	77.1		46	46.5
81-100%		(n=35)			(n=99)	

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pvalue ≤ .05 is significant

Table 2. Chi-square Results for School Size (Question #1)

School size		≤250	251-500	501-750	751-1000	≥ 1001	Total
Actual Value	A	6	14	12	1	2	35
Expected Value	A	2.6	16.5	13.3	1.8	0.8	35
Actual Value	B	4	49	39	6	1	99
Expected Value	B	2.4	46.6	37.7	5.2	2.2	99

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Chi Square = 9.7 (9.6856)

Using SAS, the Chi-Square was calculated resulting in   = 9.7 with 4 degrees of freedom, with

a p value of 0.05. This is statistically significant; however, our expected values are shown

above, and 40% of the cells have < 5 which calls this finding into question. Chi-square may not

be a valid test. The Bonferroni Correction method was also calculated to adjust results:

Using the Bonferroni Correction where r = 2 and c = 5, K=(r!/2!(r-2)!*(c!/2!9c-2!); new alpha

value = 0.005. The Bonferroni correction reduces the alpha value; resulting in non-significant

differences between Group A and Group B.

Table 3. Chi-Square Results for Class Size – Question #2

Average Class Size	10-19	20-29	20-39	Total
Actual Values A	10	25	0	35
Expected Values A	3.7	30.8	0.5	
Actual Values B	4	93	2	99
Expected Values B	10.3	68.7	1.5	
Total	14	118	2	134

Chi-Square was calculated, resulting in   = 17.09, with 4 degrees of freedom, with a p value of

0.0002. This is statistically significant; however, 50% of the expected values < 5 which calls this

finding into question.   The Chi-Square may not be a valid test.   (Although 5 choices were

provided in the survey question, only 3 were selected; therefore, the table and calculations were

modified to reflect only 3 choices.)   The Bonferroni Correction method was also calculated to

adjust results: Using the Bonferroni Correction method where r = 2; c = 3,

k = (r!/2!(r-2)!)*(c!/2!(c-2!); the new alpha value = 0.02. The Bonferroni correction reduces the

alpha value; resulting in non-significant differences between Group A and Group B.

Table 4. Chi-Square Results on % of Students w IEPs – Question #3

% Students w IEPs	≤ 5%	6-10%	11-15%	16-20%	≥ 20%	Total
Actual Values A	5	13	10	6	1	35
Expected Values A	3.9	13.6	10.2	5.5	1.8	
Actual Values B	10	39	29	15	6	99
Expected Values B	11.1	38.4	28.8	15.5	5.2	
Total	15	52	39	21	7	134

Chi-Square was calculated, resulting in   = 1.02, with 4 degrees of freedom, with a p value of 0.91. This results in non-significant findings. The Bonferroni Correction method was also calculated to adjust results: Using the Bonferroni Correction, where r = 2 and c = 5, k = (r!/2!(r-2)!)*(c!/2!(c-2!); the new alpha value = 0.0005 also indicating no statistical difference. The Bonferroni Correction reduces the alpha value, also resulting in non-significant differences between Group A and Group B.

Table 5. Chi-Square Results for %Students with IEPs Included in Regular Classroom for ≥ 75% of School Day –

Question #4

% Students w IEPs In Reg Class ≥ 75% of school day	≤ 20%	21-40%	41-60%	61-80%	81-100%	Total
Actual Values A	2	2	3	1	27	35
Expected Values A	3.9	2.1	4.7	5.2	19.1	
Actual Values B	13	6	15	19	46	99
Expected Values B	11.1	5.9	13.3	14.8	53.9	
Total	15	8	18	20	73	134

Chi-Square was calculated, resulting in   = 11.2, with 4 degrees of freedom, with a p value = 0.0244. This is statistically significant; however, our expected values are shown above, and 30% of the cells < 5 which calls this finding into question. Chi-square may not be a valid test. The Bonferroni Correction method was also calculated to adjust results: Using a Bonferroni Correction where r = 2 and c = 5, k = (r!/2!(r-2)!)*(c!/2!(c-2!); the new alpha value = 0.005. The Bonferroni correction reduces the alpha value, resulting in non-significant differences between Group A and Group B.

4.2   RESEARCH QUESTION #1

The first research question addressed by the findings is *"What are the self-reported attitudes and behaviors of elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?"*

After completing Section I of the survey which elicited some basic demographic information, principals were asked to respond items divided by four subsections: Section II focused on the principal's "Attitude" about the inclusion of students with disabilities in the general education classroom. Section III elicited responses designed to reveal the principal's beliefs about the most appropriate placement for students having each of 11 disability categories. Section IV addressed the principal's self-reported attitudes and behaviors regarding the "Co-teaching; and Section V focused on the principal's self-reported attitudes and behaviors regarding "Differentiated Instruction."

Scores for each survey item were reported by frequency and percentage in the aggregate and also for each of the two groups. Individual items were scored by assigned values on a scale of 1-5 (with the higher score indicating a response more favorable to inclusion). Mean scores and standard deviations were calculated for each subsection of the survey. This information was analyzed to determine how favorably principals described their own attitudes, beliefs, and behaviors regarding inclusion and inclusive instructional practices.

In Section II, "Attitudes Toward Inclusion of Students with Special Needs," scores yielded a possible range of 10-50. The higher scores indicated more favorable attitudes toward inclusion, and the lower scores indicated less favorable attitudes. Overall, the actual scores ranged from 16-40. The mean score was 29.5 with a standard deviation of 5.5 at a 95% confidence level. The median score was 30 and the modal score was 30. In general, both groups responded favorably in their attitudes about the inclusion of students with special needs into the general education classroom. In addition, responses from Group A were strikingly similar to those of Group B. Group A's mean score for Section II was 28.2 with a standard deviation of 6.2 at a 95% confidence level. The median score was 28, and the modal score was also 28. Group

94

B's mean score for Section II was 29.9 with a standard deviation of 5.2. Group B had a median score of 30 as well as a modal score of 30. An independent t-test on equal variance showed that the median scores for the two groups in Section II differed by 0.9, which was not statistically significant at a p value ≤ 0.05.

The most positive scores (pro inclusion) were found for the following items: 2) "Schools with both students with severe and profound disabilities and students without disabilities enhance the learning experiences of students with severe/profound disabilities."; 4) "A good regular educator can do a lot to help a student with a severe/profound disability." 6) "Students without disabilities can profit from contact with students with severe/profound disabilities." In addition, principals from both Groups A and B generally disagreed with the following items (indicating a pro-inclusion position): 3) "Students with severe/profound disabilities are too impaired to benefit from the activities of a regular school."; 8) "It is unfair to ask/expect regular teachers to accept students with severe/profound disabilities."; and 9) "No discretionary financial resources should be allocated for the integration of students with severe/profound disabilities."

Items for which responses tended show more variability by both groups were: 1) "Only teachers with extensive special education experience can be expected to deal with students with severe/profound disabilities in a school setting."; 5) "In general, students with severe/profound disabilities should be placed in special classes/schools specifically designed for them.";
7) "Regular education should be modified to meet the needs of all students with severe/profound disabilities."; and 10) "It should be policy and/or law that students with severe/profound disabilities are integrated into regular educational programs and activities." For these items, there was a 40-50% split between positive and negative responses for both groups.

Closer examination of Section II revealed responses to two items which appeared to differ between Group A and Group B. Item #2 asked principals to respond whether they strongly agreed, agree, were uncertain, disagreed or strongly disagreed with the statement, "Schools with both students with severe and profound disabilities enhance the learning experiences of students with severe/profound disabilities." Grouping the affirmative answers and the negative answers to make a simpler comparison, 80% of Group A responded affirmatively (strongly agreed or agreed) while 91.9 % of Group B responded affirmatively. 8.6% of Group A was uncertain compared to 3.0% of Group B. 8.6% of Group A responded negatively (disagreed or strongly disagreed) compared to 4.0% of Group B. The p value = 0.03, resulting in non-significant findings. Although the findings must be examined with reserve due to the small sample size, it is interesting because one would intuitively expect Group A (representing higher inclusive schools) to respond at least as positively as Group B, if not higher.

Table 6 illustrates the responses to each item of Section II for Group A and Group B. Appendices G and H provides a more detailed report of each groups' responses by item.

Table 6. Comparison of Group A and Group B – Responses to Individual Items of Attitude Scale

Section II – Attitudes Toward Inclusion of Students with Special Needs   (*f=frequency; %=percentage*)

Question	Ranges	A - f	A - %	B – f	B - %	p value
1. Only teachers with extensive special education experience can be expected to deal with students with severe/profound disabilities in a school setting.	Agree Uncertain Disagree	8 0 27	22.9 0 77.1	15 4 80	15.5 4.0 80.0	.26
2. Schools with both students with severe and profound disabilities and students without disabilities enhance the learning experiences of students with severe/profound disabilities.	Agree Uncertain Disagree	28 4 3	80.0 11.4 8.6	91 3 3	91.9 3.0 4.0	.11
3. Students with severe/profound disabilities are too impaired to benefit from the activities of a regular school.	Agree Uncertain Disagree	2 3 30	5.7 8.6 85.7	3 3 93	3.0 3.0 93.9	.33
4. A good regular educator can do a lot to help a student with a severe/profound disability.	Agree Uncertain Disagree	34 0 1	97.1 0 2.9	89 8 2	89.9 8.1 2.0	.34
5. In general, students with severe/profound disabilities should be placed in special classes/schools specifically designed for them.	Agree Uncertain Disagree	10 7 18	28.6 20.0 51.4	18 19 61	18.2 19.2 61.6	.29
6. Students without disabilities can profit from contact with students with severe/ profound disabilities.	Agree Uncertain Disagree	33 1 1	94.3 2.9 2.9	94 2 2	95.0 2.0 2.0	.13
7. Regular education should be modified to meet the needs of all students with severe/profound disabilities.	Agree Uncertain Disagree	19 8 8	54.3 22.9 22.9	64 17 17	64.7 17.2 17.2	.56
8. It is unfair to ask/expect regular teachers to accept students with severe/profound disabilities.	Agree Uncertain Disagree	4 3 28	11.4 8.6 80.0	6 11 81	6.1 11.1 81.8	.52
9. No discretionary financial resources should be allocated for the integration of students with severe/profound disabilities.	Agree Uncertain Disagree	2 3 29	5.7 8.6 82.9	4 7 88	4.0 7.1 88.9	.31
10. It should be policy and/or law that students with severe/profound disabilities are integrated into regular educational programs and activities.	Agree Uncertain Disagree	16 5 14	45.7 14.3 40.0	40 28 30	40.0 28.2 30.3	.46

p value ≤ .05 is significant

In attempting to address research question #1 (*"What are the self-reported attitudes and behaviors of elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?"*), it is also necessary to examine the responses to Section III – Most Appropriate Placement for Students with Disabilities. In this section, principals were asked to select the "most appropriate placement" for each of 11 disability categories. Total responses to the items in this section yielded scores from a low of 0-55. Choices were the same for each item: a) special education services outside the regular school; b) special class for most or all of the school day; c) part-time special education class; d) regular classroom instruction and resource room; e) regular classroom instruction for most of the day; f) full-time regular education with support. The disability categories were: 1) specific learning disability; 2) mental retardation; 3) serious emotional disturbance; 4) blindness/visual impairment; 5) deafness/hearing impairment; 6) speech and language impairment; 7) other health impairment; 8) physical disability; 9) multiple handicap; 10) autism/pervasive developmental disorder; and 11) neurological impairment. The higher the score indicated a more inclusive the placement choice selected by the respondent. For the purposes of this study, the scores for this section were analyzed in the aggregate for general attitude toward inclusion rather than specifically examining attitudes for each disability category.

Overall combined scores yielded a mean score of 40.1 with a standard deviation of 8.2 at a 95% confidence level. The median score was 42, and the modal score was 41. Group A responses yielded a mean score of 40.5 with a standard deviation of 8.0, a median score of and a modal score of 42. This is compared to Group B responses yielded a mean score of 40.0% with a standard deviation of 8.3, a median score of 42 and a modal score of 41.

Scores for both groups were generally favorable for placements in the least restrictive environment. The only item that showed a statistically significant difference between the two groups was Section III, Item #2, "Mental retardation." The Overall mean for this item was 2.7 with a standard deviation of 1.0 at the 95% confidence level. The mean score for Group A was 3.0 with a standard deviation of 1.1, compared to a mean score for Group B of 2.6 with a standard deviation of 1.0. This difference is statistically significant because, $p \leq .05$. Again the small sample size requires caution in examining the findings.

Two other items in this section were somewhat notable for the scatter of responses among answer choices for both groups. Although analysis did not yield a statistically significant difference between groups, responses revealed a wider variety of responses for these two disability categories. Item #3, "Serious Emotional Disturbance" and Item #9, "Multiple Handicap," yielded a wider spread of responses than most other disability choices. For item #3, "Serious Emotional Disturbance," Group A's responses were: 5.7% for a) special education services outside the regular school; 22.9% for b) special class for most of all of the school day; 20% for c) part-time special education class; 28.6% for d) regular classroom instruction and resource room; 11.4% for e) regular classroom instruction for most of the day; and 11.4% for f) full-time regular education with support. Similarly, Group B's responses were: 1.0% for a) special education services outside the regular school; 26.3% for b) special class for most of the school day; 17.2% for c) part-time special education class; 40% for d) regular classroom instruction and resource room; 6.1% for e) regular classroom instruction for most of the day; and 7.1% for f) full-time regular education with support.

A similar pattern of responses was observed for Item # 9, "Multiple Handicap." Group A's responses were: 0% for a) special education services outside the regular school; 14.3% for b)

special class for most or all of the school day; 17.1% for c) part-time special education class; 20% for d) regular classroom instruction and resource room; 25.7% for e) regular classroom instruction for most of the day; and 20% for f) regular classroom instruction with support. Likewise, Group B's responses were: 1% for a) special education services outside the school; 10.1% for b) special class for most or all of the school day; 16.2% for c) part-time special education class; 24.2% for d) regular classroom instruction for most of the day; 17.2% for e) regular classroom instruction for most of the day; and 27.3% for f) full-time regular education with support. The distribution of responses indicates that principals in both Groups A and B have the most differing beliefs about the most appropriate placements for students with these two particular disabilities compared to others. This may suggest that more professional development opportunities are warranted for principals to help them understand students with serious emotional disturbance as well as multiple handicaps, or it may be that principals feel more training and resources are needed for staff to support students with these disabilities in an inclusive environment.

Table 8 presents a detailed comparison of Group responses by item to Section III, "Most Appropriate Placement for Students with Disabilities."

Table 7. T-test Results of Mean Scores by Section

	Mean		_SD_			Sample	
Section	Group A	Group B	A	B	_p_-value	A	B
II Attitude	28.2	29.9	6.2	5.2	0.09	35	99
III Inclusivity	40.5	40	8	8.3	0.8		
IV Co-teaching	32.5	33.3	5.5	5	0.4	35	99
V DI	32.8	32.9	3.6	4.3	1		
T-test indicates that the two groups are not significantly different, in all cases P ≤ .05.							

Table 8. Comparison of Group A and Group B - Responses to Individual Items

Section III – Most Appropriate Placement for Students with Disabilities *(f=frequency; %= percentage)*

Disability Category/ Most Appropriate Placement	A - f	A - %	B – f	B - %	p value
1. Specific Learning Disability					
a. Special education services outside the regular school	0	0	0	0	.62
b. Special class for most or all of the school day	0	0	0	0	
c. Part-time special education class	3	8.6	4	4.0	
d. Regular classroom instruction and resource room	7	20.0	28	28.3	
e. Regular classroom instruction for most of the day	13	37.1	34	34.3	
f. Full-time regular education with support	12	34.3	32	32.3	
	(n=35)		(n=98)		
2. Mental Retardation					
a. Special education services outside the regular school	0	0	0	0	.24
b. Special class for most or all of the school day	4	11.4	14	14.1	
c. Part-time special education class	6	17.1	30	30.3	
d. Regular classroom instruction and resource room	16	45.7	43	43.4	
e. Regular classroom instruction for most of the day	5	14.3	6	6.1	
f. Full-time regular education with support	4	11.4	5	5.1	
	(n=35)		(n=98)		
3. Serious Emotional Disturbance					
a. Special education services outside the regular school	2	5.7	1	1.0	.38
b. Special class for most or all of the school day	8	22.9	26	26.3	
c. Part-time special education class	7	20.0	17	17.2	
d. Regular classroom instruction and resource room	10	28.6	0	40.4	
e. Regular classroom instruction for most of the day	4	11.4	6	6.1	
f. Full-time regular education with support	4	11.4	7	7.1	
	(n=35)		(n=97)		
4. Blindness/Visual Impairment					
a. Special education services outside the regular school	0	0	0	0	.59
b. Special class for most or all of the school day	1	2.9	4	4.0	
c. Part-time special education class	4	11.4	6	6.1	
d. Regular classroom instruction and resource room	3	8.6	18	18.2	
e. Regular classroom instruction for most of the day	6	17.1	14	14.1	
f. Full-time regular education with support	20	57.1	56	56.6	
	(n=34)		(n=98)		
5. Deafness/ Hearing Impairment					
a. Special education services outside the regular school	0	0	0	0	.65
b. Special class for most or all of the school day	1	2.9	3	3.0	
c. Part-time special education class	4	11.4	6	6.1	
d. Regular classroom instruction and resource room	4	11.4	14	14.1	
e. Regular classroom instruction for most of the day	7	20.0	12	12.1	
f. Full-time regular education with support	19	54.3	61	61.6	
	(n=35)		(n=96)		
6. Speech and Language Impairment					
a. Special education services outside the regular school	0	0	0	0	.38
b. Special class for most or all of the school day	0	0	0	0	
c. Part-time special education class	1	2.78	1	1.0	
d. Regular classroom instruction and resource room	1	2.78	4	4.0	
e. Regular classroom instruction for most of the day	9	22.22	14	14.1	
f. Full-time regular education with support	24	61.11	79	79.8	
	(n=35)		(n=98)		

Disability Category/ Most Appropriate Placement	A - f	A - %	B – f	B - %	p value
7. Other Health Impairment					
a. Special education services outside the regular school.	0	0	0	0	.06
b. Special class for most or all of the school day	0	0	0	0	
c. Part-time special education class	2	5.7	0	0	
d. Regular classroom instruction and resource room	1	2.9	9	9.1	
e. Regular classroom instruction for most of the day	9	25.7	31	31.3	
f. Full-time regular education with support	22	62.9	55	55.6	
	(n=34)		(n=95)		
8. Physical Disability					
a. Special education services outside the regular school	0	0	0	0	.38
b. Special class for most or all of the school day	0	0	0	0	
c. Part-time special education class	1	2.9	0	0	
d. Regular classroom instruction and resource room	2	5.7	8	8.1	
e. Regular classroom instruction for most of the day	6	17.1	14	14.1	
f. Full-time regular education with support	24	66.7	62	71.3	
	(n=33)		(n=95)		
9. Multiple Handicaps					
a. Special education services outside the regular school	0	0	1	1.0	.78
b. Special class for most or all of the school day	5	14.3	10	10.1	
c. Part-time special education class	6	17.1	16	16.2	
d. Regular classroom instruction and resource room	7	20.0	24	24.2	
e. Regular classroom instruction for most of the day	7	20.0	17	17.2	
f. Full-time regular education with support	9	25.7	27	27.3	
	(n=34)		(n=99)		
10. Autism/Pervasive Development Disorder					
a. Special education services outside the regular school	0	0	0	0	.72
b. Special class for most or all of the school day	2	5.7	6	6.1	
c. Part-time special education class	7	20.0	11	11.1	
d. Regular classroom instruction and resource room	10	28.6	35	35.4	
e. Regular classroom instruction for most of the day	8	22.9	20	20.2	
f. Full-time regular education with support	7	20.0	23	23.2	
	(n=34)		(n=95)		
11. Neurological Impairment					
a. Special education services outside the regular school	1	2.9	2	2.0	.51
b. Special class for most or all of the school day	3	8.6	10	10.1	
c. Part-time special education class	10	28.6	19	19.2	
d. Regular classroom instruction and resource room	6	17.1	32	32.3	
e. Regular classroom instruction for most of the day	5	14.3	16	16.1	
f. Full-time regular education with support	8	22.9	15	15.2	
	(n=33)		(n=94)		

*p value ≤ .05 is significant

4.3   RESEARCH QUESTION #2

The second research question addressed in this study asked, ***"Is there a relationship between principals' self-reported attitudes toward inclusion and their self-reported attitudes and behaviors regarding the implementation of co-teaching and differentiated instruction?"***
As previously discussed, attitudes and beliefs about inclusion and most appropriate placements for students with disabilities were generally favorable as reported by respondents in both Group A and Group B. In addition, both groups generally reported highly favorable attitudes, beliefs, and practices in support of co-teaching and differentiated instruction. Responses of both Group A and Group B were similar for most items in Sections IV – "Co-teaching," and Section V – "Differentiated Instruction." The following discussion and tables provide more detailed analysis for each respective section.

4.3.1   Co-teaching

In Section IV – "Co-teaching," principals were asked to respond to 8 items. Six items asked principals to respond to a statement about the beliefs or practices regarding co-teaching. Using a 5 point Likert scale, possible responses for each item were: a) strongly agree; b) agree; c) uncertain; d) disagree; and e) strongly disagree. Four of these items addressed ways that principals supported co-teaching, like provide common planning time for teachers. Two other items asked principals to approximate the percentage of classes in their buildings currently implementing co-teaching and to select the model of co-teaching most frequently employed. According to findings of Section IV, both groups responded favorably regarding their reported support of co-teaching. Possible scores ranged from 7-40. Overall, the combined mean score for

Section IV was 33.1 with a standard deviation of 5.1, a median score of 36 and modal score of 34. Group A's median score for Section IV was 32.5 with a standard deviation of 5.5, a median score of 33 and a modal score of 33. Group B's median score for the same section on co-teaching was 33.3 with a standard deviation of 5.0, a median score of 33.3 and a modal score of 34, p = .40, indicating non-significant differences.

Comparison of responses to the individual items within Section IV – "Co-teaching" indicates that there are 3 items in which group responses appear to differ significantly. Item # 3, "Approximate percentage of classes that are co-taught in my school…." yielded different responses. The overall combined mean score for this item was 3.0 with a standard deviation of 1.6. The mean score for Group A was 2.5 with a standard deviation of 1.5. The mean score for Group B was 3.2 with a standard deviation of 1.6. The difference between the groups on this item was 0.05; therefore it was significantly different.

Group A's responses were: 37.1% reported that 21-50% of the classes in their schools were co-taught; 17.1% each split between 5-10% and 2-5% of the classes in their schools were co-taught; 11.4% reported that 0-1% of the classes in their schools were co-taught; and 2.9% (1 respondent) reported that "more than 50%" of the classes in their schools were co-taught.

By contrast, Group B's responses were: 22.2% reported that 21-50% of the classes in their schools were co-taught; 21.2% reported that 0-1% of the classes in their schools were co-taught; 19.2% reported 5-10% of classes were co-taught; 16.2% reported that 2-5% of their classed were co-taught; 14.1% reported that 11-20% of their classes were co-taught; and 6.1% reported that "more than 50%" of their classes were co-taught.

Another item yielded different responses between the two groups. Item # 4 – "I provide collaborative planning time for teachers who co-teach in my building," yielded an overall mean

score of 3.7 (5= Strongly Agree, 4= Agree, 3=Uncertain, 2 Disagree, 1= Strongly Disagree) with a standard deviation of 1.0 at a 95% confidence level. Group A had a mean score of 4.3 with a standard deviation of 0.5, and Group B had a mean score of 3.9 with a standard deviation of 1.0. The p value was 0.01 which is < 0.05 and, therefore statistically significant. Again, the small sample size calls into question the reliability of this finding. Both groups, however, reported positive attitudes, beliefs, and practice regarding the implementation of co-teaching.

One more item in Section IV – "Co-teaching" that indicated a difference in responses between the two groups was Item #6, "I believe that co-teaching is most effective when both teachers share equally the responsibilities for planning and instruction." The overall combined mean score was 4.6 with a standard deviation of 0.6 at a 95% confidence level. The mean score for Group A was 4.3 with a standard deviation of 0.9, and the mean score for Group B was 4.7 with a standard deviation of 0.5. Using the t-test, the p value = 0.003. Because this is < 0.05, it is statistically significant, although the small sample size must be considered.

Although it did not yield a statistically significant difference, another item is notable. Item #8 on Section IV, "The model of co-teaching most frequently practiced in my building is…" indicated a fairly wide range of responses for both groups. Any response other than a) NA – no co-teaching occurs in my building" would yield the same score (5 points). For Group A, only 8.6% of respondents reported that no co-teaching occurred in their buildings. For Group B, only 8.1% of respondents reported that no co-teaching occurred in their buildings. The most prevalent model reported to be used by both groups is "Interactive Team Teaching." Group A reported 31.4% of their teachers who co-teach use this model, while Group B reported that 37.4% of their teachers who co-teach use the same model. Responses for the other choices were fairly

scattered. See Table 7 for a more complete report of responses to specific items in the section on co-teaching.

According to the findings of this study, respondents in both groups believe they support co-teaching and see it as beneficial to students with and without disabilities. They also report that co-teaching is implemented more widely than previous research suggests. The most frequently practiced model according to the respondents is interactive team teaching, while prior research suggests that the one-teach, one-assist model is the configuration of co-teaching most widely practiced. Further research could explore exactly how and why this model is implemented and why it appears to have increased in frequency.

Table 9. Comparison of Group A and Group B - Responses to Individual Items on Co-Teaching

Section IV – Co-Teaching		*(f = frequency; % = percentage)*				
Question	Ranges	*A - f*	*A - %*	*B – f*	*B - %*	*p value*
1. I promote the practice of co-teaching in my building.	Agree	30	85.7	90	90.9	.88
	Uncertain	2	5.7	6	6.1	
	Disagree	1	2.9	1	1.0	
		(n=33)		(n=97)		
2. I have provided professional development on co-teaching for my teachers.	Agree	26	74.3	70	70.7	.68
	Uncertain	3	8.6	6	6.1	
	Disagree	5	14.3	22	22.2	
		(n=34)		(n=98)		
3. Approximate percentage of classes that are co-taught in my school.	a. ≤ 1%	4	11.4	21	21.2	.52
	b. 2-5%	6	17.1	16	16.2	
	c. 5-10%	6	17.1	19	19.2	
	d. 11-20%	4	11.4	14	14.1	
	e. 21-50%	13	37.1	22	22.2	
	f. ≥ 51%	1	2.9	6	6.1	
		(n=34)		(n=98)		
4. I provide collaborative planning time for teachers who co-teach in my building.	Agree	32	91.4	70	70.7	.04*
	Uncertain	1	2.9	15	15.2	
	Disagree	0	0	13	13.1	
		(n=35)		(n=98)		
5. I believe the practice of co-teaching is an effective means to increase the number of students with disabilities who are included in the general education classes.	Agree	31	88.6	93	93.9	.65
	Uncertain	3	8.6	4	4.0	
	Disagree	1	0	1	1.0	
		(n=35)		(n=98)		

Question	Ranges	A - f	A - %	B – f	B - %	p value
6. I believe co-teaching is most effective when both teachers share equally the responsibilities for planning and instruction.	Agree Uncertain Disagree	29 3 2 (n=34)	82.9 8.6 5.7	96 2 0 (n=98)	97.0 2.0 0	.02*
7. I believe students with disabilities benefit academically from the effective implementation of co-teaching.	Agree Uncertain Disagree	30 4 0 (n=34)	85.7 11.4 0	94 3 1 (n=97)	95.0 3.0 1.0	.25
8. The model of co-teaching most frequently practiced in my building is: a. NA – no co-teaching occurs in my building b. one teach – one assist c. station teaching d. parallel teaching e. alternate teaching f. interactive team teaching g. other		 3 5 6 5 4 11 0 (n=34)	 8.6 14.3 17.1 14.3 11.4 31.4 0	 8 22 10 13 4 37 4 (n=98)	 8.1 22.2 10.1 13.1 4.0 37.4 4.0	.45

p value ≤ .05 is significant

Overall, both groups reported positive attitudes and beliefs regarding co-teaching. Group B scored slightly higher on almost every item, although the differences did not generally constitute a statistically significant difference. Both groups indicated they provide professional development and collaborative planning time for teachers who co-teach. The model of co-teaching reported to be used most frequently by both groups is interactive team teaching. This contradicts earlier studies that indicate the model mostly used is one-teach, one-assist. This finding suggests that more information is needed about how respondents define this model. Moreover, it appears more co-teaching is occurring than expected, according to previous research.

Another instructional practice that purports to support inclusion is Differentiated Instruction (DI). Section V – "Differentiated Instruction" addressed the attitudes, beliefs and

practices regarding this instructional delivery model as reported by principals who responded to the survey.

4.3.2   Differentiated Instruction

In Section V – "Differentiated Instruction, principals were asked to respond to 7 items regarding their attitudes, beliefs and practices regarding differentiated instruction.   Six items asked principals to respond to a statement about the beliefs or practices regarding differentiated instruction.   Using a 5 point Likert scale, possible responses for each item were: a) strongly agree; b) agree; c) uncertain; d) disagree; and e) strongly disagree.   These items focused on ways the principal does or does not support the implementation of DI such as providing professional development.   Some also were designed to ascertain the principals' beliefs about the potential effects of DI on students with and without disabilities.   Item 3 asked principals to approximate the percentage of teachers who regularly implement DI in their classrooms.

Possible scores ranged from a low of 11 – 35.   The overall combined mean score for this section was 32.8 with a standard deviation of 4.1 at 95% confidence level.   The median score was 36, and the modal score was 34.   Group A's mean score was 32.8 with a standard deviation of 3.6, a median score of 36, and a modal score of 33.   This is compared to Group B's mean score of 32.9 with a standard deviation of 4.3, a median score of 36, and a modal score of 34.   An independent t-test was calculated with p value = 1.0.   Because this is > 0.05, the difference was not statistically significant.

Table 10 below illustrates the comparison of each item in Section V – "DI" for A versus B.

Table 10. Comparison of Group A and Group B - Responses to Individual Items on DI

Section V – Differentiated Instruction		*(f = frequency; % = percentage)*				
Question	Ranges	A - f	A - %	B – f	B - %	p value
1. I promote the practice of differentiated instruction in my building.	Agree	34	97.2	97	98.0	.80
	Uncertain	0	0	0	0	
	Disagree	0	0	0	0	
		(n=34)		(n=97)		
2. I have provided professional development on DI for my teachers.	Agree	32	91.4	93	93.9	.06
	Uncertain	2	5.7	0	0	
	Disagree	0	0	3	4.0	
		(n=34)		(n=96)		
3. Approximate percentage of classes that implement DI in my school.	a. 0-5%	0	0	1	1.0	.79
	b. 6-10%	0	0	2	2.0	
	c. 11-15%	0	0	3	3.0	
	d. 16-20%	0	0	3	3.0	
	e. 21-50%	8	22.9	17	17.2	
	f. $\geq 51\%$	26	74.3	71	71.0	
		(n=34)		(n=97)		
4. I believe DI is an effective way to increase the number of students with with disabilities who are included in the regular classroom.	Agree	31	88.6	95	96.0	.22
	Uncertain	2	5.7	1	1.0	
	Disagree	1	2.9	1	1.0	
		(n=34)		(n=97)		
5. I believe DI is an effective way to facilitate the implementation of specially designed instruction (SDI) for students with IEPs.	Agree	31	94.3	93	94.0	.37
	Uncertain	0	0	3	3.0	
	Disagree	1	2.9	1	1.0	
		(n=32)		(n=85)		
6. I believe students with disabilities who are included in the general classroom benefit academically from DI.	Agree	32	91.4	96	97.0	.36
	Uncertain	0	0	0	0	
	Disagree	1	2.9	1	1.0	
		n=33)		(n=97)		
7. I believe all students, with or without disabilities benefit academically from DI.	Agree	32	94.3	97	98.0	.14
	Uncertain	0	0	0	0	
	Disagree	1	2.9	0	0	
		(n=33)		(n=97)		

*p value $\leq .05$ is significant

In summary, between 88-98% of both groups reported very positive attitudes and beliefs about differentiated instruction. Within Group A, 74.3% respondents report 51% or more of the classes in their buildings implement DI; In Group B, 71% of respondents report that 51% or

more of the classes in their buildings implement DI regularly. There was little difference between groups. In fact, the most striking finding in this section was how alike the responses were and the very supportive attitudes, beliefs, and behaviors both groups reported about differentiated instruction. There were no items in this section that indicated any significant differences between the two groups.

4.4   RESEARCH QUESTION #3

The third and last research question addressed by this study asks, *"Is there a relationship between principals' self-reported attitudes and behaviors regarding inclusion, co-teaching, and differentiated instruction and their schools' ranking of 'inclusivity' as measured by their Pennsylvania Least Restrictive Environment (LRE) index?"*
If there were a relationship between the principals' self-reported attitudes, beliefs and behaviors and their LRE ranking, we would expect to see significant differences between the responses of Group A (principals in high inclusion schools) versus Group B (comparatively low inclusion schools). Responses of both groups were disaggregated and analyzed to determine is such differences existed. With the possible exception of a few specific items previously described, the overall results of the survey did not show such differences.

The mean scores and standard deviations for Group A was compared to Group B to determine if there were any differences in the self-reported attitudes and behaviors of the two groups in any of the four subsections. In other words, did the principals of schools in Group A (the most inclusive schools according to Pennsylvania's LRE Index) score differently in their self-reported attitudes and behaviors regarding inclusion and inclusive instructional practices

than those of the principals in Group B (the least inclusive schools according to Pennsylvania's LRE index)?

Generally, there is no evidence to conclude that the self-reported attitudes and behaviors regarding inclusion and inclusive instructional practices are significantly different between the two groups. The overall combined mean total score for the survey was 135.5 with a standard deviation of 14.5. The mean total score for Group A was 133.9 with a standard deviation of 15.7, and the mean total score for Group B was 136.0 with a standard deviation of 0.4. The t-test was calculated, with a p value of 0.4 which is > 0.05; resulting in non-significant differences between Group A and Group B. As previously shown, scores for each subsection did not yield significantly different responses.

Table 11 illustrates the combined overall mean score and standard deviation, as well as the mean scores and standard deviations for each of the two groups by survey section. The last column provides the total combined mean score for the survey as well as that of each group respectively. Results indicate that both Group A and Group B scored very favorably in support of inclusion and the inclusive instructional practices on the survey.

Table 11. T-test of Mean: Scores by Section

Section	Mean Score Group A	Group B	Standard Deviation A	B	p-value	Sample Size A	B
II Attitude	28.2	29.9	6.2	5.2	0.09	35	99
III Inclusivity	40.5	40.0	8.0	8.3	0.8	35	99
IV Co-teaching	32.5	33.3	5.5	5.0	0.4	35	99
V DI	32.8	32.9	3.6	4.3	0.10	35	99

T-test indicates there are no p values < 0.5; therefore, there is no statistically significant difference between the two groups' mean scores for each section of the survey,

5.0 CONCLUSIONS AND IMPLICATIONS

5.1 OVERALL CONCLUSIONS

The major finding of this research project is that there were little to no differences in self-reported attitudes, beliefs, and behaviors of elementary principals (respondents) regarding inclusion of students with disabilities in the regular education classroom, most appropriate placement of students with disabilities, co-teaching, and differentiated instruction based on the Pennsylvania Least Restrictive Environment Index. In other words, there were very few discernible differences between the responses of the principals from the school districts identified as belonging in the top 20% of the state's ranking for most inclusive practices versus those in the bottom 20% of the state's ranking for least inclusive practices. (Specific item exceptions regarding mental retardation, serious emotional disturbance, and multiple handicapped students have been discussed in chapter 4. Even those that appear to indicate some difference statistically are questionable due to the small sample size of the study.)

Findings of this study concur with the earlier work of Martin (2004) in that there were few significant differences in the attitude and beliefs of principals regarding inclusion and inclusive practices based on their placement in higher or lower inclusive schools. Interestingly, Martin (2004) also found that there was limited use of co-teaching even in highly inclusive schools. By contrast, one of the promising findings of this study is that co-teaching is reportedly

occurring with some prevalence in schools of varying degree of inclusivity. Thirty-seven percent of Group A (representing highly inclusive schools) reported that at least 50 percent of their classes are co-taught. Even in Group B (lower inclusive schools), over 22 percent reported that at least 50% of their classes are co-taught. This is a fairly dramatic increase. Martin (2004) also found that highly inclusive schools had principals that provided time and resources to support co-teaching. In this study, principals from both groups reported that they provide resources and time to support co-teaching in their schools. Most principals in both groups report they provide resources, collaborative planning time, and ongoing professional development for teachers to support co-teaching and DI. Both groups report co-teaching and DI support inclusion. Both groups reported inclusion benefits all students (with and without disabilities). Both groups reported financial resources should be dedicated to supporting inclusion.

It appears, based on the responses of both groups, that there is more co-teaching and differentiated instruction occurring in elementary schools in Pennsylvania previously documented in research (Praisner, 2003). Co-teaching and DI were generally viewed favorably by both groups. The majority of principals in both groups report co-teaching and DI are effective ways to implement SDIs for student with IEPs. Both groups report a fairly high percentage (almost 50%) of teachers and classrooms that implement differentiated instruction.

In general, findings of this study indicate similarly favorable attitudes about inclusion of students with disabilities like LD, speech and language impairment, and other health impaired as in earlier research (Praisner, 2003). Compared to Praisner's findings (2003), results reflect a more favorable attitude about students with severe and profound disabilities when respondents of Groups A (97%) and B (89%) reported they believe a "good regular educator can do a lot to help

a student with a severe/profound disability." This conclusion must also be tempered by the fact that Praisner's sample size (403) was considerably larger than that of this study (134).

In addition, over half of both groups disagreed that "in general, students with severe/profound disabilities should be placed in special classes/schools specifically designed for them." This also means that a little less than half are uncertain or agree that students with severe/profound disabilities should be placed in special classes or schools specifically designed for them. This finding could suggest that there is still work to be done regarding principal training on how to successfully include students with the most severe disabilities into the regular classroom. It may also simply mean that many principals see the value in having a range of placement options that include specialized settings for the most severely disabled students.

Given few discernible differences in the attitudes, beliefs, and behaviors of the principals from higher or lower inclusivity rankings, what other factors might significantly foster or hinder the successful implementation of inclusion and inclusive instructional practices? Since both groups' answers were so similar, what are the implications about the principals' ability to affect change for inclusion? If lower inclusive schools did not have principals like these respondents who purport to be so supportive of inclusion and inclusive practices, would their schools be practicing even less inclusion?

Perhaps, the findings of this survey are slightly skewed in favor of inclusion because of respondent bias. It may be that principals who are strongly supportive of inclusion and inclusive practices were more inclined to participate in the study than those who are not so supportive of inclusion or inclusive instructional practices. Principals may have preferred not to respond to the survey because some responses may indicate attitudes that are in opposition to the law. Given the low response rate of 29%, broad generalizations about the prevalence of inclusive practices

occurring in the state are not possible. On the other hand, if the respondents to this study are fairly representative of their colleagues across the state, the level of supportive attitudes and behaviors regarding inclusion and inclusive practices reported by these principals provides an optimistic outlook for the future of inclusion. This again points to the need for a larger sample population. It may be that another mode for data collection than an anonymous online survey would yield a higher response rate. The ability to at least conduct personal follow-up contacts may have provided helpful insight regarding the response rate.

For schools to successfully implement inclusion, the school culture must be based on core beliefs that recognize the intrinsic value of including **all** students, with or without disabilities into the general education classroom and the life of the school. All stakeholders must be represented in decision making regarding the development and implementation of curriculum, programs and activities that consider the needs of all from a systems approach. Inclusion is not meant to be only shared space but shared experiences as well. For this to happen, students, parents, and staff have to understand and embrace the inherent benefits of making every person feel equally valued as a contributing member of the school community, regardless of disability or difference.

School leaders must demonstrate a commitment of resources and time to educate all stakeholders on the benefits of inclusion. Many researchers and inclusion advocates have described various beliefs and environmental conditions needed in a school community that hopes to successfully implement inclusion. The National Down Syndrome Society (2005) succinctly captures the essence of these conditions in the following list (Figure 1) that provides the supporting framework for the survey questions related to leadership and inclusion.

Conditions Necessary for Successful Implementation of Inclusion:
1. *Visionary leadership at all levels*
2. *Educational collaboration*
3. *Refocused use of assessment*
4. *Support for students and staff*
5. *Effective parental involvement*
6. *Collaborative teaching models (i.e., co-teaching, consultation, teaming, and dually licensed teachers)*
7. *General education "best practices"*
8. *Funding*

Figure 1. National Down Syndrome Society (2005) Eight Factors Necessary for Inclusion (pp.1-3).

Clearly, development of the environmental conditions for inclusion must be articulated, embraced, and supported by school leaders for them to take hold. Various effective leadership beliefs, attitudes, and behaviors were described during the review of literature on leadership for organizational change and, specifically, Marzano's (2003) work on educational leadership. Many of the questions on leadership behaviors and attitudes necessary to promote inclusion in schools were based on the work of Falvey and Givner (2005) who identified core beliefs needed by schools and their leaders (i.e., principals) intending to restructure themselves to meet the needs of all students in an inclusive setting (Figure 2). These core beliefs form the motivating foundation that school leaders must understand, accept and promote to be a positive force for inclusion in their school communities. Questions on the survey relative to specific leadership beliefs and attitudes about inclusion were also derived from these researchers and their work summarized in the following figure.

Core Beliefs Needed by Schools to Promote Inclusion
1. *Each student can and will learn and succeed.*
2. *Diversity enriches us all, and students at risk can overcome the risk for failure through involvement in a thoughtful and caring community of learners.*
3. *Each student has unique contributions to offer to other learners.*
4. *Each student has strengths and needs.*
5. *Services and supports should not be relegated to one setting (e.g., special classes or schools).*
6. *Effective learning results from the collaborative efforts of everyone working to ensure each student's success*

Figure 2. Core beliefs needed by schools to promote inclusion by Falvey & Givner (2005, p.5.)

As previously stated in the review of literature, school principals are compelled to provide support for instructional practices that meet the diverse needs of all learners in the general education setting to the greatest extent possible. As a result, there is growing interest in co-teaching as a model that incorporates the general education teacher's content expertise with the special education teacher's instructional adaptation expertise. In addition, the overall philosophy and practice of differentiated instruction inherently addresses multiple needs, interests, learning styles, and readiness levels of all students within the same classroom. For these reasons, it is incumbent upon educators to seek validation that these practices are beneficial to students, and to learn how to implement them successfully.

The critical role of the principal as instructional leader has been well documented (Marzano, 2003; Marzano, Waters & McNulty, 2003; Fullan, 2001; Reeves 2006). In addition, the literature on organizational change clearly depicts the need for effective leadership to

implement and sustain any successful reform strategy. Examining the perceptions of sampled elementary principals across Pennsylvania provided a description of their attitudes about inclusion, co-teaching, and differentiated instruction. Moreover, analysis of any possible relationship between their attitudes on inclusion and two inclusive practices compared to an objective measure of their school district's level of inclusivity may be enlightening. It was hoped that findings of this study would help to inform future school districts regarding the selection of principal candidates who need to be prepared to support and facilitate inclusion. In addition, analysis of the findings may provide some insight for principals charged with implementing inclusive practices.

5.2 SUGGESTIONS FOR FUTURE RESEARCH

The findings of this study suggest numerous opportunities for additional research to replicate, clarify, or extend findings. Several areas for further exploration include the following:

- Replicate this study using a much larger sample size to investigate perceived differences in groups.

- School size should be investigated as possible factor in how principals perceive their attitudes, beliefs, and practices regarding inclusion and inclusive instructional practices.

- Other demographic factors such as socio-economic measures should be investigated regarding their relationship to the implementation of inclusion and inclusive instructional practices.

- A study similar to this one should focus on the possible relationship between the principal's attitudes, beliefs, and practices regarding each separate disability category.

- Further research is needed regarding co-teaching, specifically the various models being implemented. Has co-teaching significantly changed the experience of students with disabilities? If so, how?

- What specific effective professional development practices are there to support inclusive instructional practices such as co-teaching and differentiated instruction?

- Has co-teaching actually increased the number of students with disabilities who are included into the regular education classroom?

- What is impact of co-teaching on culture of school regarding inclusion? Financially? Logistically (i.e., scheduling, staffing)

- How is differentiated instruction currently being defined, implemented, monitored, supported, and assessed for efficacy? Is it tied to teacher evaluation, and if so, to what end?

- Has DI changed the experience of students with disabilities? Has it increased the number of students with disabilities included into the regular education classroom? How do we know it is effective?

- Compare the LRE index percentages for the past several years to observe trends in inclusion.

- Investigate whether the LRE index a valid, fair, accurate, and reliable measure of how effectively a school district is implementing inclusion and/or inclusive instructional practices? Is there a better "objective" measure of a school's level of inclusivity that can be used to identify schools that implement inclusion successfully?

- Investigate the value of the PA LRE index in light of its inception as a result of the Gaskins Settlement. Has it served the purpose for which it was intended?

APPENDIX A

PRAISNER'S PRINCIPALS AND INCLUSION SURVEY

The purpose of this survey is to determine the opinions of elementary principals toward the inclusion movement and to gather information about the types of training and experience that principals have. There are no right or wrong answers so please address the questions to the best of your knowledge and provide us with what **you believe**.

****

SECTION I- Demographic Information

The following information will be only be used to describe the population being studied.

1. Approximate number of all students in your building:
　　☐ 0-250　　　☐ 251-500　　　☐ 501-750　　　☐ 751-1000　　　☐ 1000 or more

2. Average class size for all students:
　　☐ 0-9　　　☐ 10-19　　　☐ 20-29　　　☐ 30-39　　　☐ 40 or more

3. Approximate percentage of students with IEPs in your building: (*Do not include gifted*)
　　☐ 0-5%　　　☐ 6-10%　　　☐ 11-15%　　　☐ 16-20%　　　☐ 21% or more

4. Approximate number of students with IEPs in your building that are included in regular education classrooms for at least 75% of their school day: (*Do not include gifted*)
　　☐ 0-20%　　　☐ 21-40%　　　☐ 41-60%　　　☐ 61-80%　　　☐ 81-100%

SECTION II- Training and Experience

1. Your age:
　　☐ 20-30　　　☐ 31-40　　　☐ 41-50　　　☐ 51-60　　　☐ 61 or more

2. Gender:
　　☐ Male　　　☐ Female

3. Years of full-time regular education teaching experience:

□ 0   □ 1-6   □ 7-12   □ 13-18   □ 19 or more

4. Years of full-time special education teaching experience:
□ 0   □ 1-6   □ 7-12   □ 13-18   □ 19 or more

5. Years as an elementary school principal:
□ 0-5   □ 6-10   □ 11-15   □ 16-20   □ 21 or more

6. Approximate number of special education **credits** in your formal training:
□ 0   □ 1-9   □ 10-15   □ 16-21   □ 22 or more

7. Approximate number of inservice training **hours** in inclusive practices:
□ 0   □ 1-8   □ 9-16   □ 17-24   □ 25 or more

8. Mark the areas below that were included in your formal training such as courses,
workshops, and/or significant portions of courses (**10% of content or more**).
□ Characteristics of students with disabilities
□ Behavior management class for working with students with disabilities
□ Academic programming for students with disabilities
□ Special education law
□ Crisis intervention
□ Life skills training for students with disabilities
□ Teambuilding
□ Interagency cooperation
□ Family intervention training
□ Supporting and training teachers to handle inclusion
□ Change process
□ Eliciting parent and community support for inclusion
□ Fostering teacher collaboration
□ Field based experiences with actual inclusion activities

9. Are you certified in special education?
□ No   □ Yes

10. Does your school have a specific plan to deal with crisis involving students with special needs?
□ No   □ Yes

11. Do you have personal experience with (an) individual(s) with a disability outside the school setting, i.e. family
member, friend, etc.?
□ No   □ Yes

If yes, please indicate relationship to you.
□ Self   □ Immediate family member   □ Extended family member   □ Friend
□ Neighbor   □ Other: _____

12. Does your school district's mission statement include a **vision** for the inclusion of students with disabilities?
□ No   □ Yes

13. In general, what has your experience been with the following types of students in the school setting. Mark one
level of experience for each disability category.

Disability Type	Negative Experience	Somewhat Negative Experience	No Experience	Somewhat Positive Experience	Positive Experience

Specific learning disability	☐	☐	☐	☐	☐
Mental retardation	☐	☐	☐	☐	☐
Serious emotional disturbance	☐	☐	☐	☐	☐
Blindness/visual impairment	☐	☐	☐	☐	☐
Deafness/hearing impairment	☐	☐	☐	☐	☐
Speech and language impairment	☐	☐	☐	☐	☐
Other health impairment	☐	☐	☐	☐	☐
Physical disability	☐	☐	☐	☐	☐
Multihandicap	☐	☐	☐	☐	☐
Autism/pervasive developmental disorder	☐	☐	☐	☐	☐
Neurological impairment	☐	☐	☐	☐	☐

SECTION III- Attitudes Toward Inclusion of Students with Special Needs

Please mark your response to each item using the following scale:

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1. Only teachers with extensive special education experience can be expected to deal with students with severe/profound disabilities in a school setting.	☐	☐	☐	☐	☐
2. Schools with both students with severe and profound disabilities and students without disabilities enhance the learning experiences of students with severe/profound disabilities.	☐	☐	☐	☐	☐
3. Students with severe/profound disabilities are too impaired to benefit from the activities of a regular school.	☐	☐	☐	☐	☐
4. A good regular educator can do a lot to help a student with a severe/profound disability.	☐	☐	☐	☐	☐
5. In general, students with severe/profound disabilities should be placed in special classes/schools specifically designed for them.	☐	☐	☐	☐	☐
6. Students without disabilities can profit from contact with students with severe/profound disabilities.	☐	☐	☐	☐	☐
7. Regular education should be modified to meet the needs of all students including students with severe/profound disabilities.	☐	☐	☐	☐	☐
8. It is unfair to ask/expect regular teachers to accept students with severe/profound disabilities.	☐	☐	☐	☐	☐
9. No discretionary financial resources should be allocated for the integration of students with severe/profound disabilities.	☐	☐	☐	☐	☐
10. It should be policy and/or law that students with severe/profound disabilities are integrated into regular educational programs and activities.	☐	☐	☐	☐	☐

SECTION IV- Most Appropriate Placements for Students with Disabilities

Although individual characteristics would need to be considered, please mark the placement that, in general, **you believe** is most appropriate for students with the following disabilities:

Specific Learning Disability
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Mental Retardation
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Serious Emotional Disturbance
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Blindness/visual impairment
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Deafness/hearing impairment
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Speech and language impairment
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Other health impairment
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Physical Disability
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Multihandicap
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Autism/pervasive developmental disorder
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Neurological impairment
- ☐ Special education services outside regular school
- ☐ Special class for most or all of the school day
- ☐ Part-time special education class
- ☐ Regular classroom instruction and resource room
- ☐ Regular classroom instruction for most of day
- ☐ Full-time regular education with support

Thank you for taking the time to answer all of the questions on this survey. We appreciate your assistance with this study!

APPENDIX B

SURVEY MODIFICATIONS

The survey used is based on the questionnaire, Principals and Inclusion Survey (PIS) developed by Praisner (2000). This researcher obtained permission from Praisner to modify this instrument. All questions in Sections I, II, and III are taken directly from Praisner's instrument. Sections IV and V have been added to examine principals' attitudes and behaviors regarding co-teaching and differentiated instruction, respectively. Below is a chart indicating the questions added along with a rationale and research reference for each.

Table 12. PIS Modifications

Question Added	Rationale	Research
IV. 1. I promote the practice of co-teaching in my building. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	Administrative support is necessary for the implementation of inclusive instructional practices, specifically co-teaching.	Kloos and Zigmond (2008); Fullan (2001); Marzano (2003); Marzano, Waters and McNulty (2003); Salisbury & McGregor (2005); Reeves (2006)
IV. 2. I have provided professional development on co-teaching for my teachers. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	Ongoing professional development is necessary for the successful implementation of co-teaching.	Kloos and Zigmond (2008); Villa and Thousand (2000)
IV.3. Approximate percentage of classes that are	Research does not	Kloos and Zigmond (2008);

co-taught in my school: a)0-1% b) 2-5% c) 5-10% d) 11-20% e) 21-50% f) more than 50%	indicate that co-teaching is widely implemented; however, it is touted as an effective inclusive strategy.	Villa and Thousand (2000)
IV.4. I provide collaborative planning time for teachers who co-teach in my building. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	Collaborative planning time is essential for successful implementation of co-teaching.	Dukes & Lamar-Dukes (2009); Fattig and Taylor (2008); Kloos and Zigmond (2008); Kugelmass (2001)
IV. 5. I believe the practice of co-teaching is an effective means to increase the number of students with disabilities who are included in the general education classes. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	Co-teaching is an effective strategy to meet the needs of students with disabilities in the general education classroom.	Fattig and Taylor (2008); Kloos and Zigmond (2008) National Down Syndrome Society (1995); Thousand and Villa (1989); Volonino and Zigmond (2007)
IV.6. I believe co-teaching is most effective when both teachers share equally the responsibilities for planning and instruction. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	For co-teaching to achieve maximum effectiveness, paired teachers should share responsibility for all aspects of planning and instruction.	Kloos and Zigmond (2008); Villa and Thousand (1995); Volonino and Zigmond (2007)
IV.7. I believe students with disabilities benefit academically from the effective implementation of co-teaching. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	Some research suggests students with disabilities have shown academic benefits from inclusion in co-taught classes.	Hehir (2007); Kloos and Zigmond (2008); National Down Syndrome Society (1995); Villa and Thousand (1995); Volonino and Zigmond (2007)

IV.8. The model of co-teaching most frequently practiced in my building is:
   a.   NA – no co-teaching occurs in my building
   b.   one teach – one assist
   c.   station teaching
   d.   parallel teaching
   e.   alternate teaching
   f.   interactive team teaching
   g.   other
	The model of co-teaching most often implemented is one teach –one assist, even though this is not the most effective way to implement co-teaching.	Cook and Friend (1995); Scruggs, Mastropieri & McDuffie (2007); Zigmond and Magiera,(2001); Zigmond and Matta (2005); Zigmond (2007)

V. 1. I actively promote differentiated instruction	Administrative support	Dukes & Lamar-Dukes (2009);

(DI) in my building. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	is essential for effective implementation of differentiated instruction. DI is an effective inclusive instructional practice.	Fullan (2001); Jolly, Logan, Martin,& McCowien, (2007); Kugelmass (2001); Marzano (2003); Marzano, Waters & McNulty (2003); Reeves (2006); Salisbury & McGregor (2005); Villa & Thousand (2000);
V.2. I have provided professional development on differentiated instruction for teachers in my building. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	Ongoing professional development is necessary for the effective implementation of differentiated instruction.	Dukes & Lamar-Dukes (2009); Fullan (2001); Jolly, Logan, Martin,& McCowien, (2007); Kugelmass (2001); Marzano (2003); Marzano, Waters & McNulty (2003); Reeves (2006); Salisbury & McGregor (2005); Villa & Thousand (2000)
V.3. Approximate percentage of teachers who regularly implement differentiated instruction (DI) in my building. a) 0 – 5% b) 6-10 % c) 11-15 % d) 16-20% e) 21-50% f) >50%	Despite much research touting the potential benefits of DI, there is not much data indicating that it is widely implemented.	Tomlinson, Brimijoin, & Narvaez (2008), Tomlinson (2001); Tomlinson (1999)
V.4. I believe differentiated instruction is an effective way to increase the number of students with disabilities who are included in the regular classroom. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	Differentiated Instruction is an effective strategy to meet the needs of students with disabilities included in the regular education classroom.	Tomlinson, Brimijoin, & Narvaez (2008); Tomlinson (2001); Tomlinson (1999)
V.5. I believe differentiated instruction is an effective way to facilitate the implementation of specially designed instruction (SDI) for students with IEPs. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	DI is an effective means to facilitate the implementation of specially designed instruction for students with IEPs because it is inherently individualized.	Tomlinson, Brimijoin, & Narvaez (2008); Tomlinson (2001); Tomlinson (1999)
V.6. I believe that students with disabilities who	Research suggests that	Tomlinson, Brimijoin,& Narvaez

are included in the general classroom benefit academically from differentiated instruction. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	students with disabilities included in the general education classroom can benefit academically from the implementation of DI.	(2008)
V.7. I believe all students, with or without disabilities, benefit academically from differentiated instruction. a)Strongly Agree b) Agree c) Uncertain d) Disagree e) Strongly Disagree	All students with or without disabilities can benefit academically from the implementation of DI.	Tomlinson, Brimijoin, & Narvaez (2008); Tomlinson (2001); Tomlinson (1999)

APPENDIX C

PRINCIPALS AND INCLUSION SURVEY- MODIFIED

The purpose of this survey is to determine the opinions of elementary principals toward inclusion, co-teaching and differentiated instruction. There are no right or wrong answers, so please address the questions to the best of your knowledge and provide us with what **you believe**.

****

SECTION I- Demographic Information

The following information will be only be used to describe the population being studied.

1. Approximate number of all students in your building:
   ☐ 0-250   ☐ 251-500   ☐ 501-750   ☐ 751-1000   ☐ 1000 or more

2. Average class size for all students:
   ☐ 0-9   ☐ 10-19   ☐ 20-29   ☐ 30-39   ☐ 40 or more

3. Approximate percentage of students with IEPs in your building: (*Do not include gifted*)
   ☐ 0-5%   ☐ 6-10%   ☐ 11-15%   ☐ 16-20%   ☐ 21% or more

4. Approximate number of students with IEPs in your building that are included in regular education classrooms for at least 75% of their school day: (*Do not include gifted*)
   ☐ 0-20%   ☐ 21-40%   ☐ 41-60%   ☐ 61-80%   ☐ 81-100%

SECTION II- Attitudes Toward Inclusion of Students with Special Needs

Please mark your response to each item using the following scale:

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
1. Only teachers with extensive special education experience can be expected to deal with students with severe/profound disabilities	☐	☐	☐	☐	☐

129

in a school setting.

2. Schools with both students with severe and profound disabilities and students without disabilities enhance the learning experiences of students with severe/profound disabilities.	☐	☐	☐	☐	☐
3. Students with severe/profound disabilities are too impaired to benefit from the activities of a regular school.	☐	☐	☐	☐	☐
4. A good regular educator can do a lot to help a student with a severe/profound disability.	☐	☐	☐	☐	☐
5. In general, students with severe/profound disabilities should be placed in special classes/schools specifically designed for them.	☐	☐	☐	☐	☐
6. Students without disabilities can profit from contact with students with severe/profound disabilities.	☐	☐	☐	☐	☐
7. Regular education should be modified to meet the needs of all students including students with severe/profound disabilities.	☐	☐	☐	☐	☐
8. It is unfair to ask/expect regular teachers to accept students with severe/profound disabilities.	☐	☐	☐	☐	☐
9. No discretionary financial resources should be allocated for the integration of students with severe/profound disabilities.	☐	☐	☐	☐	☐
10. It should be policy and/or law that students with severe/profound disabilities are integrated into regular educational programs and activities.	☐	☐	☐	☐	☐

SECTION III- Most Appropriate Placements for Students with Disabilities

Although individual characteristics would need to be considered, please mark the placement that, in general, you believe is most appropriate for students with the following disabilities:

Specific Learning Disability
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Mental Retardation
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Serious Emotional Disturbance
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room

Other Health Impairment
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Physical Disability
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Multiple Handicaps
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room

☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Blindness/visual impairment
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Deafness/hearing impairment
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Speech and language impairment
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Autism/Pervasive Developmental Disorder
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

Neurological impairment
☐ Special education services outside regular school
☐ Special class for most or all of the school day
☐ Part-time special education class
☐ Regular classroom instruction and resource room
☐ Regular classroom instruction for most of day
☐ Full-time regular education with support

SECTION IV- Co-Teaching – (Definition: The pairing of two teachers, typically one special education teacher with a regular education teacher, that teach a class together. The goal is to capitalize on the regular teacher's content expertise as well as the special education teacher's expertise in adapting instruction, materials, and assessments to meet the individual needs of the students.)

Please check the response that best represents your position on this statement.

1) I promote the practice of co-teaching in my building.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

2) I have provided professional development on co-teaching for my teachers.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

3) Approximate percentage of classes that are co-taught in my school:
   a) 0-1%   b) 2-5%   c) 5-10%   d) 11-20%   e) 21-50%
   f) more than 50%

4) I provide collaborative planning time for teachers who co-teach in my building.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

5) I believe the practice of co-teaching is an effective means to increase the number of students with disabilities who are included in the general education classes.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

6) I believe co-teaching is most effective when both teachers share equally the responsibilities for planning and instruction,
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

7) I believe students with disabilities benefit academically from the effective implementation of co-teaching.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

8) The model of co-teaching most frequently practiced in my building is:
   a. NA – no co-teaching occurs in my building
   b. one teach – one assist
   c. station teaching
   d. parallel teaching
   e. alternate teaching
   f. interactive team teaching
   g. other

SECTION V – Differentiated Instruction – (Definition: by C. Tomlinson (1999) Instruction that is individualized by content, product, or process according to the student's learning style, interests, and readiness.)

1) I actively promote differentiated instruction (DI) in my building.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

2) I have provided professional development on differentiated instruction for teachers in my building.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

3) Approximate percentage of teachers who regularly implement differentiated instruction (DI) in my building.
   a) 0 – 5%   b) 6-10 %   c) 11-15 %   d) 16-20%   e) 21-50%   f) >50%

4) I believe differentiated instruction is an effective way to increase the number of students with disabilities who are included in the regular classroom.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

5) I believe differentiated instruction is an effective way to facilitate the implementation of specially designed instruction (SDI) for students with IEPs.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

6) I believe that students with disabilities who are included in the general classroom
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

7) I believe all students, with or without disabilities, benefit academically from differentiated instruction.
   a) Strongly Agree   b) Agree   c) Uncertain   d) Disagree   e) Strongly Disagree

APPENDIX D

Table 13. Cross reference of study questions to survey responses

Research Study Questions	Inclusive	Attitude LRE	Co-teach	DI	Other Data
1) What are the self-reported attitudes and behaviors of elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?	I.4 II.1 II.2 II.3 II.4 II.5 II.6 II.7 II.8 II.9 II.10	III.1 III.2 III.3 III.4 III.5 III.6 III.7 III.8 III.9 III.10 III.11	IV.1 IV.2 IV.3 IV.4 IV.5 IV.6 IV.7 IV.8	V.1 V.2 V.3 V.4 V.5 V.6 V.7	**Compare demographic data of Groups A and B with each of the four subsection mean scores to identify any relationship. Summarize frequency and distribution of data for Sections II and III. Compare mean scores of Groups A and B by section and item.**
2) Is there a relationship between principals' self-reported attitudes toward inclusion and their self-reported attitudes and behaviors regarding the implementation of co-teaching and differentiated instruction?	I.4 II.1 II.2 II.3 II.4 II.5 II.6 II.7 II.8 II.9 II.10	III.1 III.2 III.3 III.4 III.5 III.6 III.7 III.8 III.9 III.10 III.11	IV.1 IV.2 IV.3 IV.4 IV.5 IV.6 IV.7 IV.8	V.1 V.2 V.3 V.4 V.5 V.6 V.7	**Compare co-teaching and DI mean scores for each group to identify any relationships. Compare prevalence of co-teaching and DI between Group A and B (i.e., mean scores by section and item).**
3) Is there a relationship between principals' self-reported attitudes and behaviors regarding inclusion, co-teaching and differentiated instruction and their school's ranking of "inclusivity" as measured by their Pennsylvania Least Restrictive Environment (LRE) index?	I.4 II.1 II.2 II.3 II.4 II.5 II.6 II.7 II.8 II.9	III.1 III.2 III.3 III.4 III.5 III.6 III.7 III.8 III.9 III.10	IV.1 IV.2 IV.3 IV.4 IV.5 IV.6 IV.7 IV.8	V.1 V.2 V.3 V.4 V.5 V.6 V.7	**Compare the mean scores and standard deviation in each of 4 categories between Group A and Group B (high and low inclusion).**

APPENDIX E

Table 14. Summary Chart of Findings

Research Question	1) *What are the self-reported attitudes and behaviors of elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?*
Demographics	I.1; I.2; I.3; I.4
Attitude	II.4; II.1; II.2; II.3; II.4; II.5; II.6; II.7; II.8; II.9; II.10
Inclusivity	III.1; III.2; III.3; III.4; III.5; III.6; III.7; III.8; III.9; III.10; III.11
Co-Teaching	IV.1; IV.2; IV.3; IV.4; IV.5; IV.6; IV.7; IV.8
Differentiated Instruction	V.1; V.2; V.3; V.4; V.5; V.6; V.7
Data Analysis	• Compare demographic data of Groups A and B with each of the four subsection mean scores to identify any relationship. • Summarize frequency and distribution of data for Sections II and III. Compare mean scores of Groups A and B by section and item.
Findings	• In general, both groups responded favorably in their attitudes about the inclusion of students with special needs into the general education classroom. Responses from Group A were strikingly similar to those of Group B. Findings must be examined with reserve due to the small sample size. One might intuitively expect Group A (representing higher inclusive schools) to respond more positively than Group B. • For Section II – Attitudes about including students with disabilities in the general education classroom - Little difference in responses of both groups. Group A responses yielded a mean score of 40.5 with a standard deviation of 8.0, a median score of and a modal score of 42. This is compared to Group B responses yielded a mean score of 40.0% with a standard deviation of 8.3, a median score of 42 and a modal score of 41.

	• Responses that tended to show more variability by both groups were regarding severe/profound disabilities, and serious emotional disturbance. There was a 40-50% split between positive and negative responses for both groups. The most differing beliefs about the most appropriate placements for students with these two particular disabilities compared to others. • This may suggest that more professional development opportunities are warranted for principals to help them understand students with serious emotional disturbance as well as multiple handicaps, or it may be that principals feel more training and resources are needed for staff to support students with these disabilities in an inclusive environment • Both groups were generally favorable for placements in the least restrictive environment with the exception of Section III, Item #2, "Mental retardation." The Overall mean for this item was 2.7 with a standard deviation of 1.0 at the 95% confidence level. The mean score for Group A was 3.0 with a standard deviation of 1.1, compared to a mean score for Group B of 2.6 with a standard deviation of 1.0. The value of the difference between the responses of A and Group B was 0.05%, indicating a statistically significant difference. The small sample size requires caution in examining the findings.
Research Question	2) ***Is there a relationship between principals' self-reported attitudes toward inclusion and their self-reported attitudes and behaviors regarding the implementation of co-teaching and differentiated instruction?***
Data Analysis	• Compare co-teaching and DI mean scores for each group to identify any relationships. Compare prevalence of co-teaching and DI between Group A and B (i.e., mean scores by section and item).
Findings	• Both groups generally reported highly favorable attitudes, beliefs and practices in support of co-teaching and differentiated instruction. Responses of both Group A and Group B were strikingly similar for most items in Sections IV – "Co-teaching," and Section V – "Differentiated Instruction." Both groups responded favorably regarding their reported support of co-teaching. Possible scores ranged from 7-40. Overall, the combined mean score for Section IV was 33.1 with a standard deviation of 5.1, at the 95% confidence level; Group A's median score for Section IV was 32.5 with a standard deviation of 5.5, at the 95% confidence level, Group B's median score for the same section on co-teaching was 33.3 with a standard deviation of 5.0, - they are not significantly different. • Respondents in both groups believe they support co-teaching and see it as beneficial to students with and without disabilities. • Overall, both groups reported positive attitudes and beliefs regarding co-teaching. Group B scored slightly higher on almost every item, although the differences did not generally constitute a statistically significant difference.

- Both groups indicated they provide some degree of professional development and collaborative planning time for teachers who co-teach.

- The model of co-teaching reported to be used most frequently by both groups is interactive team teaching. This contradicts earlier studies that indicate the model mostly used is one-teach, one-assist. This finding suggests that more information is needed about how respondents define this model, and under what conditions it implemented. Group A reported 31.4% of their teachers who co-teach use the interactive team teaching model, while Group B reported that 37.4% of their teachers who co-teach use the same model.

- Moreover, it appears more co-teaching is occurring than expected, according to previous research.

- Group A's responses were: 37.1% reported that 21-50% of the classes in their schools were co-taught; By contrast, Group B's responses were: 22.2% reported that 21-50% of the classes in their schools were co-taught

- Another item yielded different responses between the two groups. Item # 4 – "I provide collaborative planning time for teachers who co-teach in my building," yielded an overall mean score of 3.7 (5= Strongly Agree, 4= Agree, 3=Uncertain, 2 Disagree, 1= Strongly Disagree) with a standard deviation of 1.0 at a 95% confidence level. Group A had a mean score of 4.3 with a standard deviation of 0.5, and Group B had a mean score of 3.9 with a standard deviation of 1.0. The variance between the two group responses was 0.01 which is < 0.05 and, therefore statistically significant. Again, the small sample size calls into question the reliability of this finding.

- Both groups, however, reported positive attitudes, beliefs, and practice regarding the implementation of co-teaching and its purported benefits for students with and without disabilities.

- One more item in Section IV – "Co-teaching" that indicated a difference in responses between the two groups was Item #6, "I believe that co-teaching is most effective when both teachers share equally the responsibilities for planning and instruction." The overall combined mean score was 4.6 with a standard deviation of 0.6 at a 95% confidence level. The mean score for Group A was 4.3 with a standard deviation of 0.9, and the mean score for Group B was 4.7 with a standard deviation of 0.5. Using the t-test, the variance between these responses was 0.003. Because this is < 0.05, it is statistically significant, although the small sample size must be considered.

- Both groups generally reported highly favorable attitudes, beliefs and practices in support of differentiated instruction. Responses of both Group A and Group B were strikingly similar are most items in Section V – "Differentiated Instruction." Between 88-98% of both groups reported very positive attitudes and beliefs about differentiated instruction.

- Within Group A, 74.3% respondents report 51% or more of the classes in their buildings implement DI. In Group B, 71% of respondents report that 51% or more of the classes in their buildings implement DI regularly. The most striking finding in this section was how alike the responses were and the very supportive attitudes, beliefs and behaviors both groups reported about differentiated instruction. There were no items in this section that indicated any significant differences between the two groups.

Research Question				
	3) *Is there a relationship between principals' self-reported attitudes and behaviors regarding inclusion, co-teaching and differentiated instruction and their school's ranking of "inclusivity" as measured by their Pennsylvania Least Restrictive Environment (LRE) index*			

Data Analysis	
	• Compare the combined total mean scores and standard deviation for all 4 categories between Group A and Group B (high and low inclusion).

Findings				
	• Percentage of students with IEPs included in regular classrooms at least 75% of school day	**Group A (n=35)**		**Group B (n=99)**
		2	5.7	13	13.1
		2	5.7	6	6.1
		3	8.6	15	15.2
		1	2.9	19	1.0
		27	77.1	46	46.5

• Generally, there is no evidence to conclude that the self-reported attitudes and behaviors regarding inclusion and inclusive instructional practices are significantly different between the two groups. The overall combined mean total score for the survey was 135.5 with a standard deviation of 14.5 at the 95% confidence level. The mean total score for Group A was 133.9 with a standard deviation of 15.7, and the mean total score for Group B was 136.0 with a standard deviation of 0.4 at the 95% confidence level. The T-test variance for the two groups was 0.4 which is > 0.05; therefore, there was no statistically significant difference. As previously shown, scores for each subsection did not yield significantly different responses.

APPENDIX F

INTRODUCTORY EMAIL TO RECRUIT PARTICIPANTS IN STUDY

Dear Colleague:

The purpose of my email is to invite you to participate in a research study on inclusion in the elementary schools. My name is Michelle Murray, and I am a doctoral candidate at the University of Pittsburgh in the School of Education's Administration and Policy Studies Program. I am interested in instructional practices that are intended to support inclusion. I intend to survey a sample of K-6 elementary principals across the state of Pennsylvania. As a result of my study, I hope to learn:

1) **What are the self-reported attitudes and behaviors of elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?**
2) **Is there a relationship between principals' self-reported attitudes toward inclusion and their self-reported attitudes and behaviors regarding the implementation of co-teaching and differentiated instruction?**
3) **Is there a relationship between principals' self-reported attitudes and behaviors regarding inclusion, co-teaching and differentiated instruction and their school's ranking of "inclusivity" as measured by their Pennsylvania Least Restrictive Environment (LRE) index?**

My study will be conducted through an online survey of 40 structured questions that should take approximately 20-25 minutes to complete. There is minimal risk to the individuals who participate in this research as responses will be recorded anonymously. Participants will be assigned random ID numbers in the link to the survey to protect the confidentiality of their responses. It will not be possible to track the identity of participants to responses to the survey. All data will be analyzed and reported anonymously.

I hope you will be willing to participate in this study on inclusion. Recognizing the many demands faced by principals, I am offering an added incentive. Principals who complete the online survey will be directed to a link to be entered into a random drawing for one of two $100 Visa gift cards. The link to the drawing will not be separate from the survey link so as not to compromise the anonymity of participants. The gift cards will be mailed to winners within two weeks of the survey deadline, June 30, 2012.

Please complete the survey by clinking on the link below. Thank you in advance for your participation.

Sincerely,

Michelle Murray

APPENDIX G

FOLLOW UP EMAIL TO RECRUIT PARTICIPANTS IN STUDY

Dear Colleague:

You may recall that I sent you an email a few weeks ago asking for your help in a research study I am conducting as part of my doctoral studies. If you have already completed the survey, please accept my sincere thanks, and disregard this email.

If not, please reconsider. The online survey will only take approximately 20-25 minutes of your time. I am interested in inclusion and instructional practices that are intended to support inclusion. I intend to survey a sample of K-6 elementary principals across the state of Pennsylvania. As a result of my study, I hope to learn:

1) **What are the self-reported attitudes and behaviors of elementary principals in Pennsylvania toward the inclusion of students with disabilities in the general education classroom?**
2) **Is there a relationship between principals' self-reported attitudes toward inclusion and their self-reported attitudes and behaviors regarding the implementation of co-teaching and differentiated instruction?**
3) **Is there a relationship between principals' self-reported attitudes and behaviors regarding inclusion, co-teaching and differentiated instruction and their school's ranking of "inclusivity" as measured by their Pennsylvania Least Restrictive Environment (LRE) index?**

You can be assured there is minimal risk to participants, as all responses will be kept anonymous. You may opt out of the survey at any time. Results of the study will be available to you should you request them. Your participation may help to inform other administrators charged with meeting the diverse needs of all learners in the general education setting to the greatest extent possible. As an added token of my appreciation for your help, participants will be entered into a random drawing for one of two $100 Visa gift cards. Upon completion of the survey, you will be directed to an independent URL address where you are invited to submit your contact information for entry into the random drawing. Visa cards will be mailed to winners within one month of completing the survey.

If you are willing to participate, please complete the online survey (see link below). Your prompt response will be greatly appreciated. All surveys must be completed by July 22, 2012.

I would sincerely appreciate your thoughts, experience, and insights about inclusion.

Sincerely,

Michelle Murray

LRE INDEX SCORES AND IDENTIFICATION OF SCHOOL DISTRICTS FOR

LRE MONITORING

PDE analyzes and reports the data collected on LRE categories in the following placement categories:

1) Students with IEPs who receive special education *inside the regular education classroom 80% or more of the day;* (higher numbers of students are desirable)

2) Students with IEPs who receive special education *inside the regular education less than 40% of the day; and* (lower numbers of students are desirable)

3) Students with IEPs served in settings outside regular schools (lower numbers of students are desirable).

A separate LRE index score is assigned for each of these three data categories based upon each district's relative percentage of students receiving special education services as compared to other districts. A high LRE index indicates a higher potential need for systemic LRE-related improvement within a particular category. Conversely, a low LRE index score indicates a lower potential need for systemic LRE-related improvement within a particular category. The three LRE index scores are used to identify half of the districts for LRE monitoring, as follows:

Tier I – On-Site Monitoring
The twenty districts where LRE data indicate the highest potential need to systemic LRE-related improvement are identified as Tier I districts and receive on-site LRE Monitoring. Districts are identified within the three categories as follows:

o The 5 districts with the highest score in the first data category (lowest percentage of students receiving special education services *inside the regular education classroom 80% or more of the day).*

o The 10 districts with the highest score in the second data category (highest percentage of students receiving special education services *inside the regular education*

- o The 5 districts with the highest score in the third category (highest percentage of students receiving special education services outside regular schools).

Tier 2 – Warning
The thirty districts where LRE data indicate that the districts are close to the point of being Subject to Tier 1 on-site monitoring receive a letter of warning. The letter identifies the data indicate a need for LRE improvement and the steps to be taken by the district. Districts are identified within the three data categories as follows:

- o The 7 districts with the highest score in the first data category (highest percentage of students receiving special education services *inside the regular education classroom 80% or more of the day).*
- o The 16 districts with the highest score in the second data category (highest percentage of students receiving special education services *inside the regular classroom less than 40% of the day).*
- o The 7 districts with the highest score in the third data category (highest percentage of students receiving special education services outside the regular schools).

Tier 3 – Alert
The districts remaining within the bottom half of the data receive a letter of alert. The letter identifies the data that indicate a need for LRE improvement and describes resources available to the district to assist in improvement.

1. The following placement data is excluded:
- • Data for students who are placed without an IEP team decision (students receiving services in a hospital setting, correctional facility, or out of state facility).
- • Data for students whose LEA does not control the placement (wards of the state), and
- • Data for one LEA where students all receive their education in another district (Bryn Athyn School District).

2. Districts that are in the process of implementing a Tier 1 LRE corrective action and improvement plan are excluded from Tier identification.

3. Districts that are identified for Tier 1 LRE monitoring or are in the process of implementing a LRE corrective action plan are excluded from Tier 2 identification.

[Penn Data lists the bottom 20% of the school districts in Pennsylvania according to the formula described above. As there are no discernible differences beyond the ranking statistics listed for districts in Tier III, all 100 school districts within the bottom 20% will be compared as a group to those in the top 20% as relative equals. All elementary schools included within each of the 100 school districts in each group were identified and invited to participate in the survey.]
Chart retrieved from http://pennedata.hbg.psu.edu/#
Least Restrictive Environment Tier – 2010-2011 LRE Tier Identification

GROUP A - RESPONSES TO INDIVIDUAL ITEMS OF ATTITUDE SCALE

Section II – Attitudes Toward Inclusion of Students with Special Needs

Question	Ranges	*Frequency*	*%*
1. Only teachers with extensive special education experience can be expected to deal with students with severe/profound disabilities in a school setting. (n=35)	Strongly Agree	3	8.6
	Agree	5	14.3
	Uncertain	0	0
	Disagree	17	48.6
	Strongly Disagree	10	28.6
2. Schools with both students with severe and profound disabilities and students without disabilities enhance the learning experiences of students with severe/profound disabilities. (n=35)	Strongly Agree	9	25.7
	Agree	19	54.3
	Uncertain	4	11.4
	Disagree	1	2.9
	Strongly Disagree	2	5.7
3. Students with severe/profound disabilities are too impaired to benefit from the activities of a regular school. (n=35)	Strongly Agree	0	0
	Agree	2	5.7
	Uncertain	3	8.6
	Disagree	19	54.3
	Strongly Disagree	11	31.4
4. A good regular educator can do a lot to help a student with a sever/profound disability. (n=35)	Strongly Agree	13	37.1
	Agree	21	60.0
	Uncertain	0	0
	Disagree	1	2.9
	Strongly Disagree	0	0
5. In general, students with severe/profound disabilities should be placed in special classes/schools specifically designed for them. (n=35)	Strongly Agree	1	2.9
	Agree	9	25.7
	Uncertain	7	20.0
	Disagree	12	34.3
	Strongly Disagree	6	17.1

Question	Ranges	Frequency	%
6. Students without disabilities can profit from contact with students with severe/ profound disabilities. (n=35)	Strongly Agree	10	28.6
	Agree	23	65.7
	Uncertain	1	2.9
	Disagree	0	0
	Strongly Disagree	1	2.9
7. Regular education should be modified to meet the needs of all students with severe/profound disabilities. (n=35)	Strongly Agree	5	14.3
	Agree	14	40.0
	Uncertain	8	22.9
	Disagree	6	17.1
	Strongly Disagree	2	5.7
8. It is unfair to ask/expect regular teachers to accept students with severe/profound disabilities. (n=35)	Strongly Agree	0	0
	Agree	4	11.4
	Uncertain	3	8.6
	Disagree	18	51.4
	Strongly Disagree	10	28.6
9. No discretionary financial resources should be allocated for the integration of students with severe/profound disabilities. (n=34)	Strongly Agree	0	0
	Agree	2	5.7
	Uncertain	3	8.6
	Disagree	17	48.6
	Strongly Disagree	12	34.3
10. It should be policy and/or law that students with severe/profound disabilities are integrated into regular educational programs and activities. (n=35)	Strongly Agree	5	14.3
	Agree	11	31.4
	Uncertain	5	14.3
	Disagree	11	31.4
	Strongly Disagree	3	8.6

GROUP B - RESPONSES TO INDIVIDUAL ITEMS OF ATTITUDE SCALE

Section II – Attitudes Toward Inclusion of Students with Special Needs
*(Most frequent responses in **bold face type**.)*

Question	Ranges	*Frequency*	*%*
1. Only teachers with extensive special education experience can be expected to deal with students with severe/profound disabilities in a school setting. (n=99)	Strongly Agree	5	5.1
	Agree	10	10.1
	Uncertain	4	4.0
	Disagree	35	35.4
	Strongly Disagree	45	45
2.Schools with both students with severe and profound disabilities and students without disabilities enhance the learning experiences of students with severe/profound disabilities. (n=98)	Strongly Agree	40	40.1
	Agree	51	51.5
	Uncertain	3	3.0
	Disagree	3	3.0
	Strongly Disagree	1	1.0
3. Students with severe/profound disabilities are too impaired to benefit from the activities of a regular school. (n=99)	Strongly Agree	0	0
	Agree	3	3.0
	Uncertain	3	3.0
	Disagree	49	49.5
	Strongly Disagree	44	44.4
4.A good regular educator can do a lot to help a student with a sever/profound disability. (n=99)	Strongly Agree	41	41.4
	Agree	48	48.5
	Uncertain	8	8.1
	Disagree	1	1.0
	Strongly Disagree	1	1.0
5. In general, students with severe/profound disabilities should be placed in special classes/schools specifically designed for them. (n=98)	Strongly Agree	0	0
	Agree	18	18.2
	Uncertain	19	19.2
	Disagree	48	48.5
	Strongly Disagree	13	13.1

Question	Ranges	Frequency	%
6.Students without disabilities can profit from contact with students with severe/ profound disabilities. (n=98)	Strongly Agree	52	52.5
	Agree	42	42.4
	Uncertain	2	2.0
	Disagree	1	1.0
	Strongly Disagree	1	1.0
7.Regular education should be modified to meet the needs of all students with severe/profound disabilities. (n=85)	Strongly Agree	9	9.1
	Agree	55	55.6
	Uncertain	17	17.1
	Disagree	14	14.1
	Strongly Disagree	3	3.0
8. It is unfair to ask/expect regular teachers to accept students with severe/profound disabilities. (n=98)	Strongly Agree	2	2.0
	Agree	4	4.0
	Uncertain	11	11.1
	Disagree	51	51.5
	Strongly Disagree	30	30.3
9. No discretionary financial resources should be allocated for the integration of students with severe/profound disabilities. (n=99)	Strongly Agree	2	2.1
	Agree	2	2.1
	Uncertain	7	7.1
	Disagree	36	36.4
	Strongly Disagree	52	52.5
10. It should be policy and/or law that students with severe/profound disabilities are integrated into regular educational programs and activities. (n=98)	Strongly Agree	9	9.1
	Agree	31	31.3
	Uncertain	28	28.3
	Disagree	22	22.2
	Strongly Disagree	8	8.1

APPENDIX K

PRAISNER PERMISSION FOR SURVEY ADAPTATION LETTER

February 8, 2012

I, Cindy Praisner, grant permission for Michelle L. Murray to use the survey I adapted, "Principals and Inclusion Survey", for my doctoral dissertation "Attitudes of Elementary School Principals Toward the Inclusion of Students with Disabilities in General Education Classes" (2000). She may use this survey in her own doctoral dissertation at the University of Pittsburgh entitled, "Leadership to Promote Inclusion." Murray will cite my work as part of the foundation and rationale for her study. If I have any questions concerning her study, I may contact her at any time using the contact information provided at the bottom of this document. I may also obtain a copy of the final document simply by request.

Sincerely,

Cindy Praisner

Cindy Praisner   2/10/12

Signature   Date

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FAX 412-344-2236

Advisor: Dr. Cynthia Tananis
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Readers

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