IMPLEMENTATION OF TOTAL SCHOOL CLUSTER GROUPING: A CASE STUDY

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This dissertation was designed and conducted to examine perception of classroom grouping practices in elementary schools. It includes a comprehensive review of literature related to grade-level and within-class grouping practices over the past thirty years in American schools. A focus was gleaned from the literature that led to the design of a study measuring staff perception of implementation of the Total School Cluster Grouping model in three schools within the same urban school district. Teachers were surveyed and offered an opportunity to further inform the study by participating in follow-up interviews. Administrators were interviewed and also asked to provide professional development agendas, minutes, and examples of best practices related to implementation and maintenance of the model for analysis within this study.

The Total School Cluster Grouping model entails a specific method of grouping children into classrooms based on a combination of achievement and ability levels. It involves detailed analysis of all available student data in order to place students into classroom groups that can be leveraged to best meet all student needs. It was originally designed as a way to better serve the needs of gifted and talented learners, but has subsequently been found to have positive effects on students of all abilities.

Results from this study show that the staff solicited to participate believe that overall, the model has helped them to better serve the needs of their students. They utilize flexible grouping within their classrooms more and feel more confident analyzing data to

place students into their classrooms. The schools that have focused on building parental understanding of the model have been able to maintain parental support and are confident that support will continue over time.

Overall, teachers feel better able to meet student needs and are identifying more students for placement into high achievement groups since inception of the model, though there was considerable variation across sites. Most respondents expressed an opinion that more professional development, specifically related to differentiated instruction and curriculum compacting, would ensure continued success over time.

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PREFACE

I am truly humbled and honored to finally be at the end of this incredible journey. It has been an experience that forever changes my outlook and understanding of the possibilities that exist when we stretch our mind, focus our energy, and persevere through the seemingly insurmountable objects that sometimes stand in the way of our dreams. First and foremost, I want to highlight that this accomplishment would not have been even remotely feasible without the love and support of my best friend and wife, Melinda. I cannot describe the countless ways in which your support has allowed this dream to become a reality. In no particular order, you have motivated me to believe, prodded me to continue, understood when I was unavailable to help, attended events without me, encouraged me when I was feeling sorry for myself, and endured endless conversation about a topic you didn't really know or care much about. It is not possible for me to be more grateful or proud to have you as the major support system in my life.

My children, Alexander, Savannah, Sydnee, and Cole have been a source of motivation and inspiration for the persistence necessary to complete this work. My journey is living proof that hard-work, focused commitment, and attention to detail can lead you to reap the rewards that you seek. If you remember the power of these characteristics as you follow your dreams, the odds will be ever in your favor.

My parents, Arthur and Jane Necciai, always encouraged me to understand that our limitations only come from within; and only if we allow them to surface. Thank you, mom and dad, for making me believe that I am capable of accomplishing whatever I work hard enough to accomplish. I am so happy that my mother will be able to share in this achievement with me. I wish my father was here to celebrate with us, but I am comforted in the belief that he is smiling down on me and extremely proud.

My siblings, Terry, Kevin, and Barb have always provided a different level of support than is easily explained. Although we are all very different, we share a love of learning that will always be a common thread that binds us. Thank you to each of you for all that you have done for me.

My in-laws, Ottie and Marie Caruso, were more instrumental than they could ever know. Not only did they allow me to take over their living room for days at a time while my wife and I transitioned between houses, their love and support was always a prominent fixture as I trudged along through the process. Thank you, Ottie and Marie. You are very much appreciated.

I would like to thank the teachers, principals, and central office personnel who took time out of their busy schedules to participate in this project. Your honest perspective was the backbone of the work that allowed this study to be seen through to completion. I would also like to thank Ms. Teresa Abney, for editing my work and helping with formatting issues as I prepared to defend this study.

I am eternally grateful to Dr. Barbara Rudiak, not only for serving on my committee but for acting as colleague, mentor, boss, and friend over the past 12 years. Your guidance has fostered a great deal of my professional growth during that time and prepared me to be able to

take on this work. You have taught me to be more of a systems thinker and detail-oriented practitioner. I can't possibly thank you enough for all that you have done for me.

Lastly, I would like to extend my sincere appreciation to the remainder of my committee, Dr. Mary Margaret Kerr, Dr. Cynthia Tananis, and my advisor, Dr. William Bickel. Thank you all for not giving up on me, even when I gave you every reason to walk away. Thank you for your humor, your encouragement, and your blunt assessment of my work; and for knowing when and how to incorporate these traits into our interaction. Also, thank you for understanding my quirkiness and helping me to identify and address my shortfalls within this process. All of you have had a profound impact on my growth as a student and as an educator. I am very appreciative of all your support.

1.0 INTRODUCTION

"Can you imagine what school would look like if we stopped teaching kids what they already know?"—Dr. Marcia Gentry

That statement from Dr. Marcia Gentry, which I heard during an impromptu lecture at a school where I was working in January of 2010, magnified my thirst for knowledge about how to best meet student needs. I wanted to learn how to leverage the student grouping processes in schools to best position students in a way that would lead to their needs being more appropriately served. It started me on a journey that pushed my thinking and sparked a renewed interest in the completion of the dissertation process. As a practitioner in the field, I have always looked for ways in which to implement ideas that could benefit students. As a scholar and doctoral student at the University of Pittsburgh, I had come to a crossroads. Could I find a topic to study that not only captured my interest but could also be beneficial to the field of education? Or, would I never be able to locate a suitable topic and, hence, never realize this academic milestone?

1.1 RATIONALE

Over the course of the history of education in our country, schools and school personnel have utilized many different models of grouping students. These models are conceptualized and instituted as a means toward purposeful placement of students into classrooms that lead to higher achievement and self-efficacy of all students. The effect that these placement processes have on the educational experiences of students is a debate that has been found in practice and in the literature for many years. Ability grouping is one of the oldest and most controversial issues in education. Hundreds of studies have examined the effects of various forms of between-class ability grouping and within-class ability grouping (Slavin, 1987, p. 293). This study will closely examine the implementation process of one method of between-class student grouping that is currently used in many schools.

1.2 COMPONENTS OF THE STUDY

A detailed examination of literature was completed which led to a comprehensive review of the grouping processes that have, over time, been germane to schools in our country. In Chapter 2 of this study, the literature review explores the history of grouping practices related to grade level and classroom grouping. Following a brief introduction to key terms related to the study, it traces evidence of these practices back to the 19th century. However, this review of literature focuses primarily on the grouping practices that schools have employed over the past 30 years. It

outlines the similarities and differences that have been evident as schools have utilized grade level, cross-grade level, and within-class grouping of students.

The next section of the literature review chronicles the history of the differentiated instruction movement. This provides the backdrop for the research, and the discussion that this paper will present regarding organizational models that play out at school and classroom levels. It outlines the need for effective differentiation of instruction to include allowances for content, process and product, as well as considerations for student interests, readiness, and ability levels. It makes connections to federal legislation (No Child Left Behind) that has made high-stakes testing, and the pressures that accompany it, the norm in our country. This section also makes important connections for the need to use best practices related to differentiated instruction to effectively meet the needs of gifted and talented students, and those with disabilities. The inclusion movement of the past twenty years has pressed the need for all teachers to be prepared to serve all students. A clear understanding of what differentiation of instruction means, and the best practices that accompany this process, are integral to their efforts. It has become imperative that reform efforts be seen, and interpreted as calling for differentiated instructional opportunities to be provided to diverse groups of students including slower learners, learning disabled, emotionally disturbed, and gifted. (Feldhusen & Hoover, 1984).

Lastly, the final section of the review speaks to the models for grouping students that are suggested more currently. In addition to the practices already examined, this section reviews other reform efforts that can be found in today's schools; practices such as detracking, inclusion, and looping. It outlines the Response to Intervention (RtI) process that schools employ in an attempt to ensure that struggling students are identified, and afforded systematic, focused intervention opportunities that are specific to their needs.

Chapter 3 fully introduces the research questions, and outlines how they relate to the study being conducted. This chapter also presents the research methodology and rationale for how it is used to conduct this study. A mixed-method design was chosen. Specifically, the chosen method is an embedded, single case study using survey and interview tools, and document analysis. This method fits the study because it allows the district to be identified as the case to be studied, and three schools from which data will be collected to serve as the embedded units of analysis within the case. The work outlined in this chapter also delineates the problem to be studied, and shares more detailed information regarding the subjects to be surveyed and interviewed.

Chapter 4 explores the results of the survey, with a detailed analysis of the data as it relates to the on-going maintenance of the model in the schools being studied. It provides findings from the interviews conducted throughout the data gathering phase, and a report of the completed document analysis. This chapter makes connections to the research questions that remain important to the process of setting up the study to be replicated, if the opportunity presents itself.

Chapter 5 offers further analysis and discussion regarding the findings, as well as implications for further study of this phenomenon. It reports information from the study that could be integral to the district, should it be decided that further implementation of this particular reform effort is appropriate.

1.3 PURPOSE OF THE STUDY

Ultimately, the review of literature led to the Total School Cluster Grouping model, which is precisely what Dr. Gentry was speaking to in that lecture I experienced a few years ago. The statement that still resonates with me today – "Can you imagine what school would be like if we stopped teaching kids what they already know?" – speaks directly to the ubiquitous problem we face in school every day. How can we best meet the needs of **all** students, and challenge them with work that is respectful of their ability level?

As an administrator in an urban school district for the past 14 years, I have seen more than my share of reform efforts. Many times, I have witnessed the implementation of programming that had all the hallmarks of success, only to fall flat due to lack of proper attention to the implementation process and/or follow-through. Total School Cluster Grouping is a model of grouping students that has been instituted in several schools in our district, including one in which I served as principal for the past two years. I am no longer the principal at that school, having moved on to a different Principal position in a brand-new school that does not employ the Total School Cluster Grouping model at this time. However, I am interested in studying the implementation of the model, in juxtaposition to the reality of competing initiatives one can find in our district. I am intrigued by the thought of closely examining the implementation process and on-going support at schools that have used this model. I identified three research questions that drove this work: 1) What are educator perceptions of implementation of the Total School Cluster Grouping model, and how it has supported teaching and learning? 2) What are educator perceptions of the professional development provided with the model? 3) How did the model impact educator's pedagogical decision-making in the classroom? This study further explores

these questions and the implications they evoke in Chapter 3, as methodology is discussed in detail.

When I contemplated the best way to frame this study, I decided not to examine the school where I worked within the model. It was not one of the pilot schools that received district level training and on-going support. The district had instituted the model as a pilot program in five schools, beginning in the 2009-2010 school year. The institution of the model at the school where I worked was done solely at the school level. As I narrowed my focus, three of the schools that were part of that original pilot were chosen for this study (two of the original schools have closed due to district down-sizing). I decided to survey core subject teachers (reading, mathematics, science) at those schools, and gather data that would allow me a window into the implementation process from their perspective. I chose to focus on teachers who teach core subjects because the grouping model would most naturally affect decisions made within their classrooms.

1.4 SUMMARY OF CHAPTER 1

The background information provided in this chapter can help readers begin to understand the importance of student grouping procedures. It lays the groundwork for discussion regarding the reason that schools are using this type of reform effort to provide a framework through which all students can be challenged. This chapter outlines the research questions that are designed to explore educator perceptions of the challenges that were encountered, and the degree to which they were addressed during implementation of one such model: Total School Cluster Grouping.

The results of this study can be used to further inform the work of the school district in which it was conducted. Whether schools are perceived to be operating within the framework of the model, differences in perceptions of the quality of professional development among schools, and variability of the effect on pedagogical decision-making are variables that may have potentially lead to uneven results. In the coming chapters, this study will explore these variables through survey, interview, and document analyses designed to examine teacher, principal, and central office perceptions related to the implementation of the model in the case chosen to be studied.

2.0 LITERATURE REVIEW

This chapter will explore literature relevant to the guiding questions identified for this study. It will begin with some core definitions, followed by an examination of the history of grouping trends, beginning with the late 19th century and the earliest schools in our country. More specifically, however, both grade-level and within-class grouping trends of the past 30 years will be examined in detail. Evidence of effectiveness will be compared and analyzed. The section will then identify the history of the differentiated instruction movement, and settle on an explicit definition of where this practice fits into today's classrooms. Lastly, grouping trends identified by the literature as prevalent in today's classrooms will be explored. Evidence of the role of these pedagogical practices in moving achievement in today's climate will be analyzed and discussed.

2.1 IMPORTANT DEFINITIONS

Table 1. Important Definitions

Ability Grouping	Is built on the assumption that students learn best when the curriculum is well matched to students' learning abilities. The belief is that when students understand what they are being taught, they are more likely to be actively involved in the learning process and less likely

	to disengage from classroom instruction and activities (Hallinan, 2003, p. 95). Ability groups can be formed within-class or across grade levels.
Content	Information the teacher wants students to learn and the materials or mechanisms through which the intended learning is to be accomplished (Tomlinson, 1999, p. 11).
Cooperative Learning	Refers to classroom techniques in which students work on learning activities in small groups and receive rewards or recognition based on their group's performance (Slavin, 1980, p. 315).
Curriculum Compacting	The process of eliminating already mastered materials and providing more challenging learning experiences for students who have exhibited an ability to respond to accelerated learning opportunities.
Differentiated Instruction	In differentiated instruction, classroom teachers make vigorous attempts to meet students where they are in the learning process and move them along as quickly and as far as possible in the context of a mixed-ability classroom. It promotes high-level and powerful curriculum for all students, but varies the level of teacher support, task complexity, pacing, and avenues to learning based on student readiness, interest, and learning profile (Tomlinson, 2000, p. 25).
Flexible Grouping	Short-term grouping of students for various purposes, such as skill development. Teachers may group students by ability, interest, topic, or random assignment (Ravitch, 2007, p. 75). Typically takes place within the regular classroom and is fluid, with children changing groups as needs change.
Gifted and Talented Program	Exemplar programming would refer to a comprehensive set of responsive services spanning grade levels and subject areas, providing a variety of well-conceived opportunities to different students who have potential talent in many different domains (Gentry, 2009, p. 262).
Grade-Level Grouping	Refers to strategic regrouping of students across a given grade level for specific subjects at specific times.
Heterogeneous Grouping	Grouping students of mixed abilities/educational needs.
Homogeneous Grouping	Grouping students with like abilities/educational needs.
Inclusion	Inclusion is a term which expresses commitment to educate each child, to the maximum extent appropriate, in the school and classroom he or she would otherwise attend. It involves bringing the support services to the child (rather than moving the child to the services) and

	requires only that the child will benefit from being in the class—rather than having to keep up with the other students (Brisendine, et al., 2008, p. 72).
Interest	Refers to a child's affinity, curiosity, or passion for a particular topic or skill (Tomlinson, 1999, p. 11).
Joplin Plan	This grouping plan assigns students to heterogeneous classes for most of the day but regroups them across grade levels for reading instruction. For example, a reading class at the fifth grade, first semester level might include high achieving fourth graders, average achieving fifth graders, and low achieving sixth graders (Slavin, 1987, p. 295).
Process	Describes activities designed to ensure that students use key skills to make sense out of essential ideas and information (Tomlinson, 1999, p. 11).
Product	Vehicles through which students demonstrate and extend what they have learned (Tomlinson, 1999, p. 11).
Readiness Levels	A student's entry point relative to a particular understanding or skill (Tomlinson, 1999, p. 11).
Response to Intervention (RTI)	A process in which students are provided quality instruction tiered to their specific needs. Their progress is monitored and instruction is continued or modified based on the monitoring. For those who do not respond to the support over time, special education services might be considered. (Fuchs, Mock, Morgan, & Young, 2003).
Tracking	Tracking involves sorting students according to a general measure of ability or achievement, such as IQ, achievement test, or GPA, into groups or "tracks" in school, ranging from the highest to lowest. Students remain in these homogeneous tracks for all of their instruction, without consideration for how much they vary in their performance from subject area to subject area (Anonymous, 2002, p. 101).
Whole-Class Instruction	Means that students are taught as a single, large group. In whole class instruction, there is an emphasis on the uniformity of instruction rather than the diversity of instruction (Lou et al., 1996, p. 424)

2.2 STUDENT GROUPING TRENDS OVER THE PAST THIRTY YEARS

This section will explore typical student grouping practices over the course of time. After a short extended history, it will focus specifically on the trends of the past thirty years. The difference between grade level and within-class grouping will be delineated, along with discussion of the merits of different methods typically associated with each approach.

Over the past three decades, there have been many shifts in the pedagogical approaches taken by teachers at all levels. One such shift is the change from teaching an entire classroom of students together to organizing instruction into smaller groups. The former is called whole group instruction, while the latter is called within-class grouping, and includes dividing classrooms into smaller groups based on student ability. Grade level grouping is yet another dimension of managing instruction. Grade level grouping refers to the manner in which classroom rosters are built. It also refers to the re-grouping of students for instruction across classrooms of the same grade. To illustrate these types of grouping, consider Figure 1.

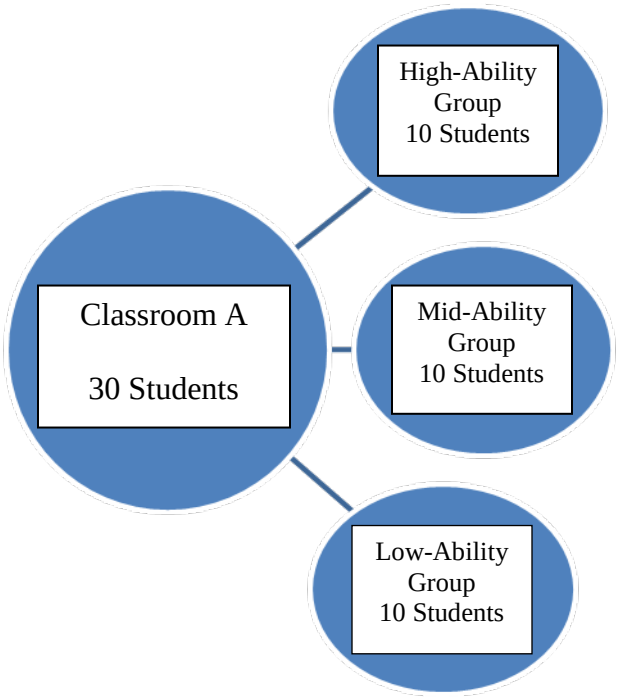

Figure 1. Within-Class Ability Grouping

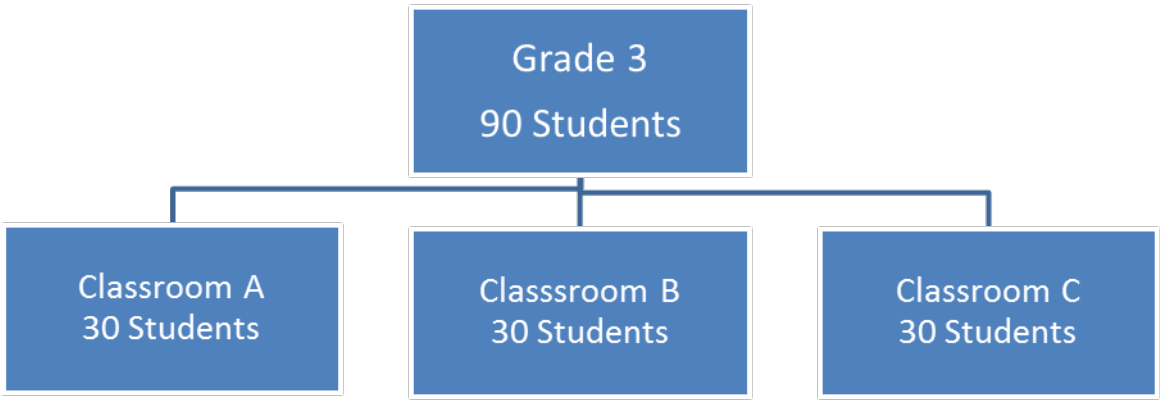

Figure 2. Basic Student Grouping

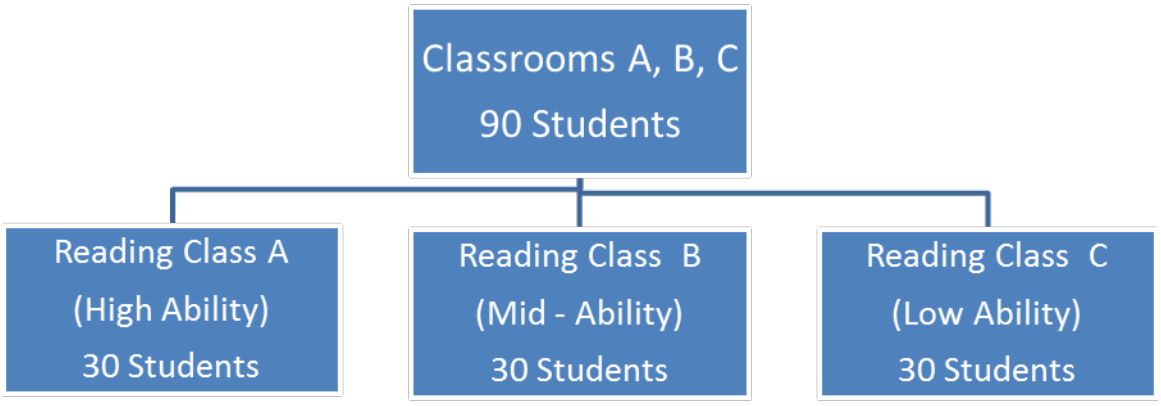

Figure 3. Grade Level Ability Re-Grouping

2.2.1 Within-class ability grouping: A brief history

During the course of the history of education in the United States, educators have perpetually searched for the best ways to meet student needs. Grouping students by ability level within their classroom has been viewed as a good way to promote higher achievement. In one form or another, ability grouping has been in use in American schools since the late 1800's (Salmans, 1988). In the early 1920's, there is evidence that methods of grouping within the classroom were employed as best practices. In 1921, Burgess wrote about educational testing as a method for providing information about student reading levels. She wrote about treatment designed to address deficiencies that included small, focused group work. She clearly outlined a method of grouping in which teachers must not regard assignment to a drill group as a permanent matter. They should change children from group to group with the utmost freedom. In addition… they

will do well to conduct frequent informal class tests of a similar nature in order to note cases where children need to change from one drill group to another (Burgess, 1921, p. 276).

Over time, pedagogical best practices have shifted, and the grouping of students has surfaced in many forms. In 1941, Walter Cook inquired as to whether it was possible to reduce the variability of instructional groups by grouping students according to their ability. He felt that the answer to his question depended upon the extent to which the various achievement ages of the average student clustered around the measure of their general ability (Cook, 1941, p. 30). Many educators employed the practice of examining student abilities, needs and interests in an effort to address student needs and increase achievement. If all the children in our classes are to experience success, we must suit the learning activities to the capabilities and needs of the individual. Occasionally, this can be done while working with a large class group, but much more often it is necessary to reduce the range of individual differences by grouping the children. (Whipple, 1951, p. 3).

Although classroom management and other factors have always been considered in the grouping process; promoting student achievement was at the core of these efforts. The reason for grouping students has always been about finding ways to increase student performance. In brief, carefully considered grouping, plus appropriate methods for each group, is far more likely to produce increased achievement than grouping designed simply for increased manageability or comfort (Thelen, 1959).

The re-grouping of students is predicated upon the belief that students learn and achieve at higher levels if learning opportunities are delivered in small homogeneous groups of students. Teachers assign students within their classroom to one of a small number of groups based on ability level. These groups work on different materials at rates unique to their needs and abilities (Slavin,

1987). Using within-class grouping means that teachers may have greater flexibility in adjusting the learning objectives, and the pace of instruction to meet individual learning needs. Using homogeneous ability groups means that the teacher can increase the pace and level of instruction for high achievers, and provide more individual attention, repetition, and review for low achievers (Lou et al., 1996, p. 425).

It is important to note that the grouping process itself is but one step in the complicated process of meeting student needs. We cannot trust that the homogeneous grouping of students itself will meet children's needs. We must ensure that the rigor of the content and process of the instruction they receive in the groups meets them at their ability level. Grouping merely makes it easier for us to think of the child as an individual. After groups are formed, we must see to it that we adapt instruction to the group, and to each individual (Whipple, 1951, p. 3). Therefore, opportunities created by homogeneous grouping are lost if teachers are not purposeful in their planning for instruction. They need to leverage the opportunity that grouping provides and plan accordingly. Effective planning will ensure that they are addressing the needs of all students. The research contends that practice grouping has not been accompanied by the changes in methodology and curriculum organization upon which the theory behind ability and homogeneous grouping is predicated (Lefkowitz, 1972, p. 294).

TRACKING

Although classroom grouping of students has occurred in many different ways over time, prior to the 1980's, a common thread was for students to be placed into groups that were static in nature. Student placement was dependent upon achievement, but also the teacher's interpretation of intellectual abilities. Also, placement was often based on reading abilities but held true across other content. Once they were placed in their groups, students commonly remained there

indefinitely for all subjects. In 1978, Wilson and Schmits contended that while there may be little new about ability grouping, a considerable challenge remains for practitioners and researchers: to communicate and to work together in identifying an appropriate justification for this century old practice that directly affects millions of children in our schools (Wilson & Schmits, 1978. p. 536).

Determining grouping placement was usually based on a combination of the analyses of student performance and teacher opinion. Typical results included high, middle, and low ability groups (See Figure 2). Those who performed well and showed promise remained in the high ability group. Those who did not perform as well were placed into the middle or low ability group. The static nature of the groups meant that the instruction the children were exposed to was directly related to their tested and/or perceived ability level, and little else. Students in the middle or low group were rarely afforded opportunities to succeed to a point where they might progress beyond their assigned level. This method of grouping became controversial because students in the low or middle group were rarely considered for movement to a higher group, and rarely challenged beyond their determined level. According to Unsworth (1984), the studies that existed at that time proved that homogeneous grouping was not a practice that effectively raised reading achievement levels. The practice held back readers placed in lower groups. Below level students who completed a year's worth of reading lessons were once again below level readers the following year.

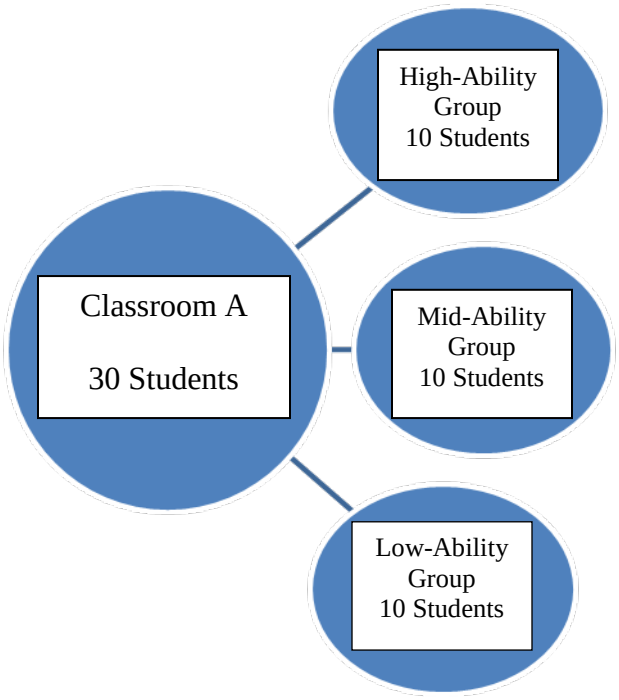

Figure 4. Within-Class Ability Grouping (Homogeneous)

The instruction in many grouping practices over time has limited student opportunities based on their assigned group. Simply put, those assigned to high groups were provided access to more challenging content, and expected to move along at a faster rate than those assigned to middle or low groups. In fact, activities and expectations for each group were much different. Because of these factors, one of the main arguments against many forms of ability grouping is that they can create groups that make it difficult or impossible to achieve at rates that allow those groups to change. When this happens it is known as "tracking." Homogeneous tracks, or tracking, are a stricter form of ability grouping that involves little to no opportunity for differentiation of content beyond group assignments. In tracking, the make-up of the group does not account for the variances in ability that might be associated with different subject areas. While tracking enthusiasts emphasize its efficiency and ability to enhance the self-development of students, opponents underscore its ability to create inequalities in the distribution of learning

opportunities (Ansalone, 1989, p. 5). Once a student is placed into their group, or track, they remain with that group for all instruction. No special consideration is made for children who struggle in reading but excel in mathematics. These children would be placed in the low group based on their reading achievement, and receive instruction with the low group for mathematics as well, regardless of whatever affinity for understanding mathematics they might display (See Figure 3). The use of such groups tends to eliminate the heterogeneity, racial and other, that is one of the presumed virtues of public schools. For another, most researchers say, there is little or no educational benefit from the more rigid forms of tracking, notably between-class grouping (Salmans, 1988).

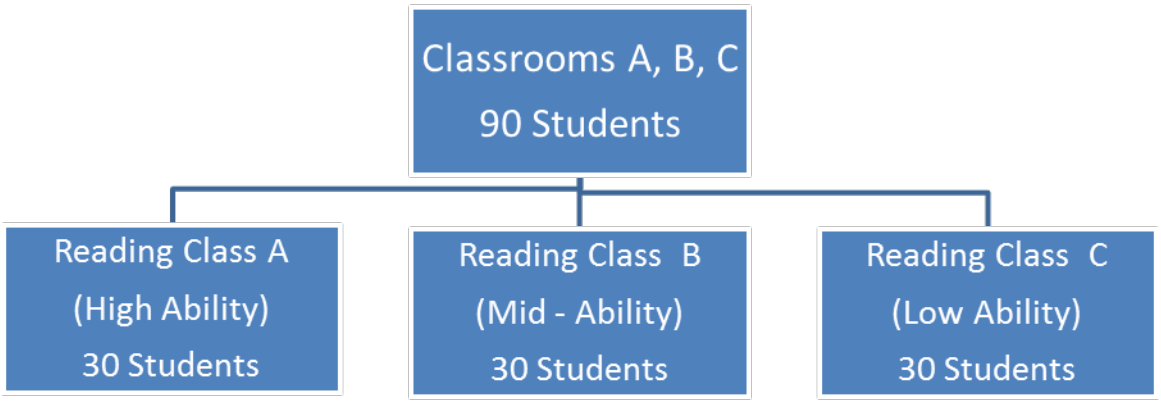

Figure 5. Grade Level Ability Re-Grouping

Many critics believe that tracking reinforces a social stratification that benefits students in the high groups, and damages students in the middle and low groups. This sentiment has maintained that tracking affects students' sense of self-worth, thereby making it extremely difficult to keep them from living out a self-fulfilling prophecy of mediocrity or low achievement. It becomes especially problematic because they are not provided equal exposure to

learning opportunities and, thus, have unequal prospects for growth. According to this perspective, then, the technical conditions of instruction in each group determine how much students learn. If instruction varies by group, learning will vary accordingly (Gamoran, 1986, p. 186). Those in the high group will learn more advanced material, and those in the low group will be mired in a perpetual cycle of lower level skill-building. This occurs as much because of the self-efficacy that results from the placement into groups based on real or perceived ability as it does the materials/activities to which students are exposed. The experience of lower achievers is devoid of the stimulation that can be provided by working alongside higher achievers. They begin to believe that they cannot do the work necessary to achieve at higher levels because they are not capable. Students who may have limited academic ability have been conditioned to believe that they are inferior. Poor attitudes develop relative to self-concept. Conversely, students of higher academic achievement may develop the "snob effect" or "halo effect" within the school community (Lefkowitz, 1972, p. 294). From very early in their scholastic careers, students of all ability levels are deeply affected by their placement into this academic caste system. Thus, it is with their first introduction to school that most children come to develop a sense of academic competency, which in turn is likely to have important implications for their overall self-esteem (Eder, 1983, p. 418).

FLEXIBLE GROUPING

In today's classrooms, teachers are still generating ability level groups within their classrooms. The difference today is that the trend is to practice "flexible grouping" as opposed to tracking. Flexible grouping help teachers frame their instructional practices around homogenous student groups without the stigma of tracking, because it includes fluid re-grouping as specific

achievement levels change. Elementary school teachers often organize students into small groups of similar "ability" for instruction within their classrooms (Lleras & Rangel, 2009). Flexible grouping takes place within the classroom and across different subjects. The mantra today is to organize students into groups, typically in reading and math, based on real time data and re-group as often as necessary. In some cases, students are re-grouped every day. The major advantage of flexible grouping is the temporary nature of the groups. Students are assessed frequently for growth, and then reassigned to different groups based on that assessment (Slavin, 1987, p. 304). Grouping and re-grouping students with their peers gives the teachers the ability to streamline their work, and focus lesson planning to better address student needs. It also builds confidence in children by allowing them to work with those who have similar needs. Subsequently, they never feel intimidated by those who are achieving at a more advanced rate. We will take a much closer look at flexible grouping in section 2.3 of this Literature Review.

COOPERATIVE LEARNING

Cooperative Learning is another type of grouping which became popular in the 1980's and 1990's. Cooperative learning is an instructional method in which teachers organize students into small groups in which they are expected to help one another learn (Levine, 2010). The hallmark of cooperative learning is that students are required to work together to accomplish shared learning goals based on tasks that are assigned by the teacher. In this model, classrooms are randomly split into groups of mixed-ability (heterogeneous) students. As teachers create their groups, they do not purposefully place students of specific ability levels to work homogeneously. Rather, they purposefully create heterogeneous groups, and encourage students to work together on common tasks designed to promote the learning of the entire group. The expectation is that

through a cooperative effort, students will enjoy a shared sense of ownership to the learning and push one another to absorb the assigned concept. Cooperative learning… is primarily a change in the interpersonal reward structure of the classroom, from a competitive reward structure to a cooperative one (Slavin, 1980, p. 316).

2.2.2 Grade-level ability grouping

The actual placement of elementary school students into classrooms from year to year can occur in multiple ways. In some cases, students are grouped randomly. Other times, students are placed into their classroom groups based on ability in one or more subjects, behavior, race or gender. Figure 4 illustrates the typical placement of students into classrooms.

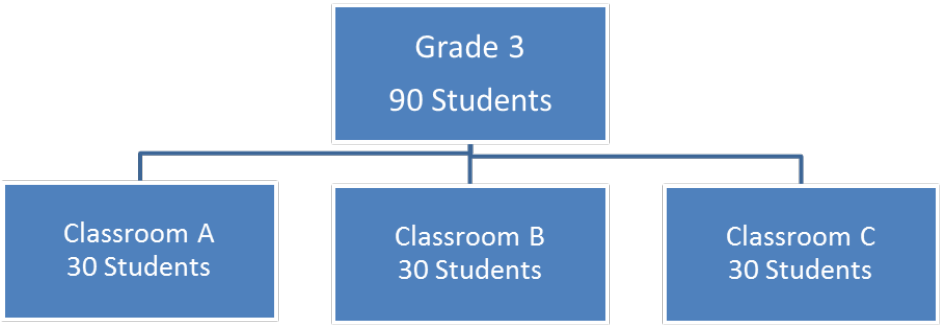

Figure 6. Grade Level Grouping of Classrooms

RANDOM GROUPING

Typically, academic achievement levels do not affect the placement of students into their classrooms. Most often, classrooms are grouped randomly with some consideration for behavioral issues, student-to-student relationships, race, gender, special education status, and

language barriers, just to name a few. In some cases, schools have practiced placing students into classrooms based on their academic abilities in one or more subjects. This is called ability-grouped class assignment. In this plan, students are assigned on the basis of ability or achievement to one self-contained class (Slavin, 1987, p. 304).

THE JOPLIN PLAN

The Joplin Plan is a method of inter-class re-grouping of students for reading class that gained national attention after a 1957 article in *The Saturday Evening Post*. The plan, practiced in Joplin, Mississippi, re-grouped students in grades 4-6 for reading instruction. The students were placed in groups across grade levels, based on a combination of test scores and teacher judgment. The placing of students into reading groups where the reading range and variance have been greatly reduced meant that individual students could safely and securely face up to reading problems without losing face. Such grouping also allowed the teacher to develop better techniques to handle the restricted reading range, and thereby maximize opportunities to offer verbal and emotional rewards (Morgan & Stucker, 1960, p. 72). Ultimately, this plan proved to be difficult to plan for, and some felt that it did not yield gains that justified its continuance, so it faded away. The Joplin plan of organization for reading instruction produced no significant differences in reading achievement, when reading achievement under that plan was compared with reading achievement in a comparable self-contained classroom situation (Powell, 1964, p. 390). However, others felt that although scheduling was a significant issue, most studies found positive effects of Joplin or Joplin-like non-graded plans on elementary reading achievement (Slavin, 1988).

TOTAL SCHOOL CLUSTER GROUPING

Another plan that involves placing students into their classrooms based on achievement and ability is called Total School Cluster Grouping. This model is a method of ability grouping that was developed to focus on the needs of gifted learners by grouping classrooms in a manner that clusters gifted students together. In the model, educators analyze all available student data by grade level, and assign each student to one of five levels: 1) High Achieving, 2) Above Average, 3) Average, 4) Low Average, and 5) Low (Gentry & Mann, 2009). Classrooms are then created across the grade level by staggering three of the five ability groups into each class. For instance, in a school with two rounds, one class would contain a high achieving group, a portion of the average group, and the low-average group. The other class would contain the above average group, the remaining portion of the average group, and the low group. Effectively, the model narrows the range of the ability levels in each classroom and enables the teacher to more effectively meet the needs of the students. This model is designed in a manner that can address the needs of learners at all levels. In these times of accountability for all students, school-wide cluster grouping models provide one method for positively influencing achievement for all groups of students (Brulles, D., Peters, S. J. & Saunders, R., 2012, p. 213). More discussion of school cluster grouping models will be examined in detail in section 2.4 of this Literature Review.

2.3 DIFFERENTIATED INSTRUCTION OVER THE PAST THIRTY YEARS

This section will outline the history of a pedagogical approach known as differentiated instruction. It will cover the evolution of the term over the past thirty years, and provide a comprehensive definition of what differentiation of instruction entails in today's classrooms.

Differentiated instruction grows out of values that are important in the way we treat our students, design our curricula, establish rules, and talk about learning (Benjamin, 2006, p. 57). Differentiation involves more than just achievement levels and grouping of students. Effective differentiated instruction permeates instructional planning, teaching and learning.

Differentiation values relationships and weaves teacher knowledge of student backgrounds, interests, and readiness levels into curricula and classroom activities. According to Hall, to differentiate instruction is to recognize students' varying background knowledge, readiness, language, preferences in learning and interests; and to react responsively... The intent of differentiating instruction is to maximize each student's growth and individual success by meeting each student where he or she is, and assisting in the learning process (Hall, 2003, p. 3). Teachers who operate effectively differentiated classrooms are deftly able to determine student ability levels, and tailor learning opportunities to meet each student's individual needs.

Differentiated instruction is not a new concept. For many years, educators and researchers have grappled over the relationship between instruction, student achievement, and the individual differences of students. In 1970, Evan and Stern eluded to differentiation of instruction when they concluded that mental maturity should decide what types of differential instruction teachers should employ as they teach certain skills (Keisler, E. R. & Stern, C., 1970). Over the past 30 years, however, we have experienced a progressively more concentrated

movement toward grouping processes that include many other factors, and take a flexible approach to meeting student needs.

In the 1980's, conversations in educational circles began to include the term "differentiated instruction" more and more. It was often associated with efforts to meet the needs of gifted and talented children. In response to the landmark 1983 report published by the U.S. Department of Education's National Committee on Excellence in Education called "A Nation at Risk," Feldhusen and Hoover concluded that we needed a new approach in American education that recognizes the characteristics of all youth, and provides optimal learning conditions to meet their needs. They articulated the opinion that schools can achieve excellence in the education of the gifted and talented if they can implement this new approach in the education of all students (Feldhusen & Hoover, 1984).

The document "A Nation at Risk" reported that U.S. schools were failing. It indicated that they were rapidly falling behind schools in other countries. According to the report, U. S. students' SAT scores were declining rapidly, and student achievement had hit rock bottom. Feldhusen and Hoover's response to this report encouraged a differentiated approach to addressing the needs of *all* students, thereby ensuring that the needs of the gifted and talented would be addressed. They found it to be crucial that the reforms called for differentiated instructional opportunities for different groups of youth; slow learners, learning disabled, emotionally disturbed, and gifted (Feldhusen & Hoover, 1984, p. 10).

Booth and Brown opined that needs assessments to determine instructional priorities should be analyzed and divided into component parts. Each component should then be with the type(s) of differentiated instructional program necessary to meet the educational needs of identified children (Booth & Brown, 1985). They contended that differentiation of instruction

was not just a teaching strategy, but an integral technique for teachers to employ, and administrators to monitor.

In 1990, Durkin wrote about teachers having difficulty differentiating instruction in elementary reading classes because of spending more attention to "covering material" than to selecting both important and suitable instructional objectives. She felt that, as a result, teachers were more concerned about what they will have students *do* than about what they hope they will *learn* (Durkin, 1990. P. 23). It was this thought process that preempted what educators now consider hallmarks of effective differentiation: content, process, and product. By recognizing that effectively differentiating entailed more than simply the content, the strategy has evolved and become much more all-inclusive.

CHANGES IN SPECIAL EDUCATION LAWS

Changes in federal law regarding least restrictive environment in the 1990's affected the delivery of differentiated instruction by bringing about a push to include special education students in regular classrooms. Efforts to expose special education students to learning opportunities with their grade level peers had been practiced for many years in related arts classes such as art, music, and physical education. Although not mentioned in the law, this method, or mainstreaming, has been a preferred practice for many years. In some cases, mainstreaming was also practiced in regular education classrooms when students were able to respond to instruction without additional supports in place. The onset of a more inclusive approach brought these students into the classroom for more exposure to various core curricula, with the benefits of strategic supports included. An inclusive approach to special education does not separate students with disabilities who are unable to keep up. This makes differentiated instructional

strategies important, especially with the on-going push for all students to achieve at high levels (Lawrence-Brown, 2004).

INCLUSION

Inclusion differs from mainstreaming because mainstreaming includes students with disabilities into regular school programming through related arts programs such as physical education, music or art. Student grades and progress monitoring are still the responsibility of their special education teacher. In an inclusion model, students with disabilities are "pushed-in" to regular classrooms, and become the responsibility of the regular teachers, with support from special education teachers (Lewis, A., 1994). Although these are not legal terms, mainstreaming and inclusion are practiced in many schools in the spirit of the free and appropriate public education (FAPE) that is required under the Individuals with Disabilities Act (IDEA). IDEA was originally enacted as the Education for All Handicapped Children Act (EAHCA) in 1975, but has been amended and reauthorized multiple times since. Practices such as mainstreaming and inclusion help to ensure that students with disabilities are provided a FAPE that is designed specifically for each individual child within the Least Restrictive Environment (LRE) in which they can succeed, which is also required by the law. Simply being included in the regular education classroom isn't enough, however. There must be systemic changes in practice that arm teachers with the tools necessary to maintain high expectations, and develop rigorous learning experiences for students at all levels so that their success can be realistically expected.

INDIVIDUALS WITH DISABILITIES ACT

The 1997 reauthorization of the Individuals with Disabilities Education Act (IDEA) guaranteed

more than access to education for students with disabilities; it ensured that students had the right to access a quality education, and to experience quality outcomes (Torreno, 2012). With inclusion in the forefront, efforts to produce higher achievement results for all students became more important than ever. Ability levels within the regular classroom now included another layer because of inclusion, and educators would have to dig deeper to meet student needs. Differentiated instructional practices were now in the forefront and as they became more refined, conversations about how to differentiate instruction were naturally more ingrained in educational discourse.

Consequently, an increased focus on addressing student needs individually, and increasing test scores, prompted a deeper dive into the inner workings of an effective differentiated instructional approach. According to Tomlinson, differentiation seems a common-sense approach to addressing the needs of a wide variety of learners, promoting equity and excellence, and focusing on best-practice instruction in mixed ability classrooms. This makes more sense than the timeworn method of aiming for students in the middle, and hoping for the best for those on the upper and lower extremes (Tomlinson, 2000, p. 25). In 2000, the National Association for the Education of Young Children reminded us that it is the responsibility of schools to adjust to the developmental needs and levels of the children they serve, and schools should not expect children to adapt to a system that does not address their individual needs (La Paro & Pianta, 2000).

NO CHILD LEFT BEHIND

In the wake of much of the discussion generated by the No Child Left Behind Act of 2001 (NCLB), schools have searched for innovative ways to best prepare students to take on the high

stakes assessments which are now interwoven into the culture of our public school system. In response to the requirements of NCLB, many schools have dramatically altered their approach to teaching and learning. Schools are facing the need to strike a balance between standards and accountability, and the necessity of addressing the wide range of strengths and needs of students. The urgency for establishing this balance emerges from a variety of troubling trends extending, in part, from school districts' and educators' responses to the No Child Left Behind (NCLB, 2002) legislation (McTighe & Brown, 2005, p. 235). There has been no piece of education legislation in the past decade that has stirred so much comment and controversy as the No Child Left Behind Act (Gallagher, 2004, p. 121). The designated minimum proficiency benchmarks of NCLB have left schools scrambling to find ways to increase scores, meet escalating benchmarks, and achieve Adequate Yearly Progress (AYP). The risk of sanctions and the possibility of being taken over by the state have loomed large along the landscape of public education. Efforts to increase test scores and meet these benchmark standards have been dominated by measures such as creative scheduling, more focused remediation and enrichment programs, longer extended school day programs, Saturday programs, and summer school programs. Raising student achievement for all children has been an on-going topic of discussion throughout staff meetings, professional development opportunities, and parent meetings on the school, district, state, and national levels. The idea of grouping students for success through differentiation of instruction has been a hot topic during this time. Over the past several decades, researchers interested in the stratification of learning opportunities have largely concentrated on the role of academic or ability grouping in schools (Lleras & Rangel, 2009, p. 281). Schools are working to differentiate instruction in ways that meet all learners at their ability levels, and allow for teachers to gauge student interest and readiness levels.

DIFFERENTIATION

Student ability levels, interests, and readiness levels have always varied widely. We know that based on summative, formative, and anecdotal evaluation, schools have traditionally organized students into ability level groups. Differentiation of instruction has been in the forefront of discussions regarding how to leverage these groupings to meet the needs of diverse student populations, and improve student achievement in order to best meet federally imposed assessment benchmarks. Many different models and variations of differentiated instruction have been employed by educators across our country. More and more non-traditional students are being funneled into schools' most rigorous classes. Teachers are now dealing with a level of academic diversity in their classrooms which was unheard of just a decade ago (VanSciver, 2005, p. 38).

The crux of the differentiated instruction movement is rooted in a desire to best address the needs of students who are more diverse than ever in a perpetually changing world. Today's students are harder to reach without a keen eye toward finding ways to excite them about learning, include them in the learning process, and taking ownership of their learning by monitoring their own progress. The days of lecture-dominated whole group instruction are long gone; as are the days of static grouping processes. One of the most vexing issues facing contemporary educators involves the seemingly competing imperatives of meeting high-stakes accountability standards while addressing the individual needs and strengths of diverse learners (McTighe & Brown, 2005, p. 234). Teachers must make concerted efforts to weave a differentiated approach to student learning throughout their school day. Effective classrooms are learning centers that are interactive, dynamic, and communicative (Benjamin, 2006, p. 59).

According to McTighe and Brown, the pathway each student takes toward achieving understanding and related standards mastery must involve a differentiated approach to content, process, and product based on assessment and analysis of every student's readiness levels, learning profiles, and interests (McTighe & Brown, 2005, p. 241).

ON-GOING FORMATIVE ASSESSMENT

Although it is clear that differentiation must be heavily influenced by teacher knowledge of student readiness levels, it must be built upon the teacher's ability to effectively match content, process and product with student abilities and interests. Teachers must constantly utilize a variety of formative assessment tools to gain real-time snapshots of each student's achievement levels at any given moment. This on-going, or formative, assessment is imperative to the process of scaffolding the content to posture children to succeed. Formative assessment can come from small-group discussion between teachers and students, whole class discussion, journal entries, portfolio entries, exit cards, skill inventories, pre-tests, homework assignments, student opinion or interest surveys (Tomlinson, 1999). The skilled teacher utilizes this information to shape lesson expectations on a daily basis and to adapt within lessons as needs arise. Effective differentiation of instruction includes the process of thoughtfully adapting during the midst of instruction, which requires teachers to use ongoing informal assessments to make informed instructional decisions (Parsons, Dodman, & Burrowbridge, 2013, p. 41). This attention to the details of the information provided by formative assessment ensures that the students are met at their ability level with content that challenges them individually, and appropriately.

CONTENT

Differentiation of content is a systematic process that enables teachers to ensure that students are met at their ability level with activities that challenge them appropriately. The process works hand-in-hand with effective on-going formative assessment in a fluid, ever-changing manner. Specifically, content refers to the materials students are expected to learn and the activities the teacher designs to facilitate the intended learning. Effective differentiation includes content that is differentiated to allow for individual achievement, student interests, and readiness levels. Closely examining these factors ensures that students are challenged in a fashion that matches their needs. The teacher in a differentiated classroom understands that she does not show respect for students by ignoring their learning differences. She continually tries to comprehend what individual students need to learn most effectively, and she attempts to find learning options that are a good fit for each learner whenever she can (Tomlinson, p. 12).

PROCESS

Another important component in a truly differentiated classroom is the process by which students enter the learning experience, and how it is matched to their interest and readiness levels. A multi-sensory approach to learning allows students to explore the content in ways that make sense, and are of interest to them. Teachers who incorporate appropriate differentiation of instruction are aware of, and pay attention to various learning styles. They make certain that they start at the same point that each of their students actually is beginning from, as opposed to simply starting at the front of the particular curriculum guide designating what all of the students must learn (VanSciver, 2005, p. 535). Key concepts and essential ideas that are germane to the topic are not compromised, but the activities and manner in which access to the learning is offered can

be modified from student to student. Differentiated instruction should be implemented in a way that does not change what is taught, but rather how it is taught. The strengths of each individual student should be used to develop instruction, along with considerations for each child's unique cultural, familial, and personal characteristics (Aldridge, 2010, p. 193).

PRODUCT

The product refers to the manner in which students can exhibit their grasp of the intended learning of the lesson. Differentiating the product might be the most difficult to find in practice, as many teachers cling to traditional ideas of letter grades and how they should be earned. Giving students options for how they can exhibit their learning can be a scary proposal. To a teacher, checking for understanding in non-traditional ways might seem unfair, unnecessary, or just too much work. However, in addition to the on-going formative assessment process that is paramount to a successful differentiated instructional approach, it is still necessary for a product that is a more summative measure of student learning. In the differentiated instruction model, assessment is on-going to accommodate flexibility in guiding instruction. However, a product or outcome is necessary as evidence of understanding, and it also serves the student as a tangible representation of his or her learning achievement (Bush, 2006, p. 44).

STUDENT INTEREST LEVELS

When student interest levels are considered in the grouping process, students are more prone to take an active role in their learning, and the culture of the school is positively affected. Students discover that other students throughout the school have similar interests as they do. Consequently, they develop a stronger sense of camaraderie with other students (Reed &

Westberg, 2003, p. 28). Gauging student interest levels is imperative to the teacher's ability to engage children deeply within the content. The goal of interest differentiation is to help students connect with new information, understanding, and skills by exposing connections with things that they find appealing, intriguing, relevant, and worthwhile (Tomlinson & Eidson, 2003). Clearly, today's classrooms are flooded with a bevy of practices related to effective differentiation of instruction. These practices have evolved over time, increasing with intensity as the landscape of our educational system has evolved. Effective differentiation is viewed as an imperative component in the effort to improve achievement for all students, and meet the necessary benchmarks to make Adequate Yearly Progress. This is not easy work. It is time-consuming, resource-intensive, and complex. Nevertheless, differentiated instruction is (or should be) as American as motherhood, apple pie, and baseball (VanSciver, 2005, p. 535).

2.4 CURRENT MODELS OF GROUPING STUDENTS IN SCHOOLS

This section outlines current models of grouping in today's classrooms that are used, in addition to the classroom and grade level grouping already outlined in sections 2.2 and 2.3. It will discuss the implications of these practices in relation to the pressures of the high stakes testing that is ever-present in the landscape of today's schools.

Today's schools continue to employ the practice of ability grouping both within class and across grade levels. However, with the increased pressure of AYP benchmarks that escalate each year, there is more pressure than ever to improve their effectiveness. The high stakes climate in

schools today prompts educators to intensify their efforts at grouping students for success. Research shows that in addition to some of the traditional grouping methods already outlined in this review of literature, there are several methods that are used in schools today.

DETRACKING

In recent years, there has been a concerted effort to employ detracking methods of grouping students into their classrooms. Tracking is full-time placement of students into ability groups where there is little opportunity for movement between the various tracks (Gentry & Mann, 2008). Detracking is a systematic process of eliminating ability groups and creating heterogeneous classrooms, or classrooms that contain students of all ability levels. This reform movement is spurred by a belief that when students are grouped by ability level, it is harmful to those who inevitably land in the lower achievement groups. Those students are believed to remain lower achievers because they are never exposed to higher level materials or higher expectations. Welner and Burris believe that these students are given lesser opportunities to learn, which translates into lower test scores, and lesser likelihood that the school and district will meet the adequate yearly progress targets (Welner & Burris, 2006). Detracking is mostly aimed at reforming high school systems that place students into predetermined life paths, but is practiced at the elementary level as well.

Those who oppose detracking do so because they are clinging to the notion that this type of reform lowers the bar for higher achieving students. Their fear is that without ability grouping, higher achievers will not have the opportunities to be exposed to higher expectations and more challenging learning opportunities because teachers will be concentrating their efforts toward "teaching to the middle." It is the parents of children who previously had been placed in the

higher tracks who are most vocal, because they fear that efforts to promote detracking will result in lowered academic standards for their children (Ruben & Noguera, 2010).

INCLUSION

Another reform effort that has affected schools in recent years relates to the inclusion movement of the 1990's. Inclusion is the process of including special education students into regular education core curricula classrooms. It exposes these students to the same curricula, at the same time as their grade level peers, regardless of achievement levels, but with appropriate supports. In effect, it brings the special education supports to the child, rather than taking the child out of the classroom to receive support elsewhere, as has traditionally been the case. Since the No Child Left Behind Act of 2001, inclusion movements have picked up steam as schools seek to find every method possible of meeting proficiency requirements. The focus on including special education children in regular education classes centered on the idea that exposing students to regular curricula, at their grade level, will better prepare them for success on the high stakes exams that drive the process of achieving Adequate Yearly Progress. In essence, the special education supports that have for so many years been found in pull-out models are now pushed into the regular classroom. That means that the ensuing co-teaching opportunities allow for more purposeful within-class grouping and two highly qualified teachers to lead the instructional opportunities. Many co-teaching models leverage this luxury, and allow for both teachers to deliver instruction to both groups (regular education and special education children).

RESPONSE TO INTERVENTION

Similarly, the 2004 re-authorization of the Individuals with Disabilities Education Act (IDEA) brought a process called Response to Intervention (RTI) to the forefront. RTI is a method by which schools provide purposeful intervention to struggling students. It is focused on providing needy students with scientific, research-based teaching strategies and interventions. It entails identifying struggling learners and exposing them to a systematic intervention process that acts as a precursor to special education testing. The process must include curriculum-based interventions and monitoring of progress. Students who reach proficiency levels based on universal screening tools will validate that RTI has led to student progress (Elliott, 2008). Students who do not show progress would then be referred for special education testing to examine their difficulties more closely, and make a determination if more intense services are required. RTI is a process in which students who do not respond to quality instruction are systematically provided additional instruction. As that additional instruction is implemented, student progress is monitored to determine effectiveness so that those who continue to not respond appropriately can be considered for special education services (Fuchs, Mock, Morgan, & Young, 2003).

Students in the RTI process are typically grouped into three categories: Tier 1, Tier 2, and Tier 3. Students in Tier 1 are those who are showing favorable progress within the regular curriculum. They move along at an acceptable pace, and achieve proficiency as measured by multiple outcomes within the supports that exist in the regular classroom. School districts need to examine their core curricula to ensure that the needs of the majority of students are being met, thus indicating that a vast majority of students fall into Tier 1. Students in Tier 2 are those who do not make acceptable progress, and need interventions that extend beyond that which is found

in the core curricula. It typically involves pulling small groups of students for extra time devoted to reading or mathematics instruction. It is focused and specific, with bi-monthly progress monitoring over a nine-to-twelve week period. Students placed in Tier 3 interventions are those most in need of high-intensity, targeted assessments. They include weekly progress monitoring throughout nine-to-twelve week durations. Refer to Figure 5 below for more information regarding typical Tier 1, Tier 2, and Tier 3 interventions.

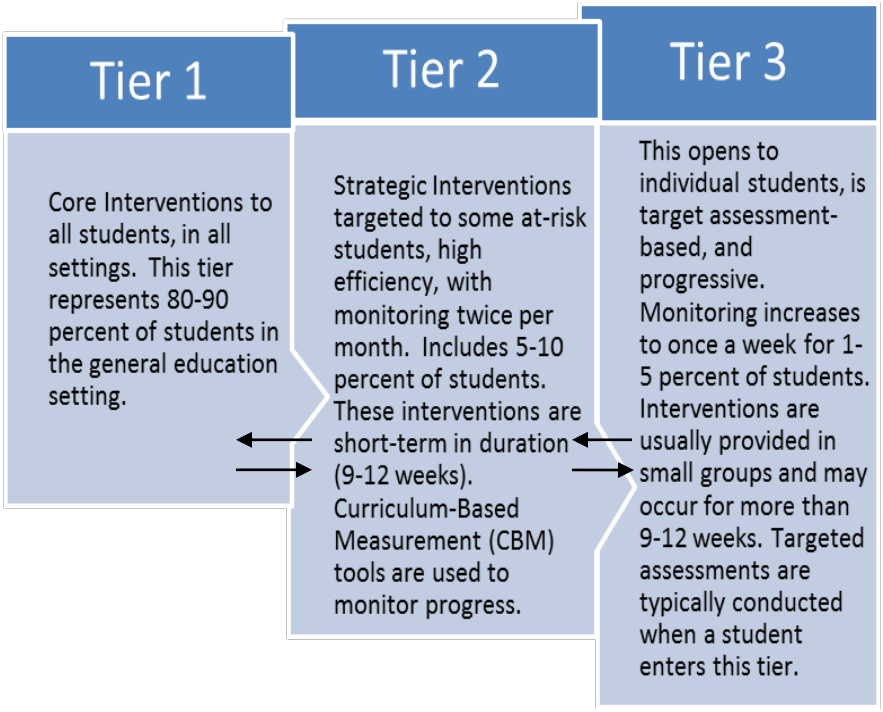

Figure 7. Response to Intervention Tiers

(**Note:** Students are placed into the appropriate Tier and assigned to specific, research-based interventions according to an analysis of their data. On-going formative assessment can dictate a change of placement, with students moving up or down to the appropriate Tier after each benchmark assessment.)

An integral component to successful RTI implementation is the organization of effective school-based teams that meet on a frequent basis to discuss school-wide, grade, class, and individual student data. Typical members of the RTI team would include teachers, administrators, specialists, school psychologists, social workers, and parents (Lembke, Garman,

Deno, & Stecker, 2010). These teams meet regularly to set goals, examine student progress, analyze data, and make appropriate adjustments and recommendations. These meetings are crucial to the success of the interventions.

Predictably, some of the major roadblocks to the implementation of RTI are the lack of time, resources, and training that position schools to provide successful intervention. Outlining student needs within these interventions is much more manageable than the actual implementation of the work itself. Administrators have found it difficult to build the time into master schedules to provide children with highly qualified teachers that can administer the necessary interventions and monitor their progress. They have seen the challenges that accompany their endeavor to adequately prepare professionals to implement research-based core curricula and interventions with fidelity. Also, pulling children out of other classes is detrimental to their progress in those classes; thus, creating a paradox in which they perpetually miss instruction in one class to receive intervention in another. It is an unattractive scheduling issue that is very difficult to navigate.

LOOPING

Another grouping method is called “looping,” or multi-year grouping. It is a method of classroom grouping that has been found in many schools over the past twenty years. It remains a practice that is used today in many schools across the country. “Looping” entails creating classroom groups of students that remain together for two or three consecutive grade levels. Because a teacher spends consecutive years with his or her students in this model, they have a unique opportunity to better learn about the children’s strengths, weaknesses, interests, learning styles, culture, etc… They have more time to build rapport with their students and, thus, can get

to know what motivates them on a deeper level over a longer period of time. Students, in turn, build a deeper sense of trust with the teacher who stays with them for multiple years. In many cases, children see the school as the safest place they know. Looping models ensure that once a child feels safe within their classroom, access to that consistent safe haven remains intact over multiple years. Additionally, teachers who believe in this method will work harder to make it work, proving that a genuine sense of ownership in the program being used is an important indicator of success.

Some of the drawbacks of looping are a direct result of the fact that teachers in this model must move to a different curriculum every other year. They move through one grade level in year one, then need to master a whole new set of materials in year two, as the children move on to the next grade. For instance, in a kindergarten/grade one loop the teacher implements the kindergarten curriculum in year one. In year two, the same teacher will now need to be ready to implement the grade one curriculum to the same group of children. Teachers who are invested in this method are more likely to embrace the concept of learning both curricula at a high level. Students who move through a two year loop with a highly skilled teacher will benefit from having that teacher for multiple years, whereas children who move through the same two year loop with a marginal teacher might lose ground because of the teacher's lack of skill. Another potential setback to this model is that because students are together for two or more years, those who find difficulty working together with specific other students have limited options. They may find the ability to work through such problems, or the problems may hinder their ability to move forward and bloom academically.

GIFTED CLUSTER MODEL

Another grouping method that is common in today's schools is the gifted cluster model. Gifted clusters are built to focus on the needs of the gifted and talented learners that are found in every school. This population has sometimes been overlooked, as the needs of struggling learners have been thrust into the forefront. However, there have been considerable movements to address the challenge of meeting high achieving, gifted learners as well. Cluster grouping represents an inclusion model that ensures that gifted students are exposed to enrichment services on a daily basis. In a gifted cluster model, all identified gifted students receive extended learning experiences. Gifted students in each grade level are placed into classes in ways that balance achievement and ability levels across the classrooms. The range of abilities in each classroom is narrow because no classroom contains students at both ends of the spectrum (gifted learners AND students with low achievement/low ability). The practice allows for a team approach and encourages flexible grouping to provide more effective opportunities for students. Differentiated instruction is imperative to the success of this model, as it is still imperative to work toward meeting the needs of all students, and examine/analyze achievement results to ensure effectiveness (Brulles, Saunders, & Cohn, 2010).

TOTAL SCHOOL CLUSTER GROUPING

A different approach to addressing the needs of gifted learners is the Total School Cluster Grouping Model. Total School Cluster Grouping is different from the gifted cluster model in that its approach is to purposefully identify and address the needs of all students, not only gifted learners. Although student grouping is central to the model, it is also much different than the tracking models that have garnered so much negative attention for grouping by achievement with

little room for movement. Because tracking does not make allowances for student movement when achievement levels change, the popular opinion is that it is harmful to students; leading to lower levels of self-efficacy and lower achievement. The Total School Cluster Grouping model is flexible in its approach to student grouping. It provides an organizational framework that places all students into classrooms on the basis of achievement, flexibly groups, and regroups students as needed for instruction (based on interests and needs), and provides appropriately challenging learning experiences for all children (Gentry & Mann, 2008a, p. 17). The model is unique in that it calls for a smaller range of students to be placed in classrooms so that each teacher would be responsible for a narrower range of student ability levels and, thus, be able to work more deeply with each of the students they serve. It was designed as a way to allow teachers an opportunity to more adequately challenge gifted children. Many gifted children have been underserved due to a plethora of remediation opportunities offered to students who are struggling. In this model, because of this focus on gifted children, teachers become more adept at implementing strategies for addressing the needs of gifted children. Conversely, these strategies have become more readily available and accessible so that ALL children benefit from this focus.

In theory, by narrowing the range from five ability/achievement groups to three, teachers have the ability to more effectively pinpoint student needs and address them accordingly. Teachers analyze several data points in a very methodical manner to place the students into their given groups from year-to-year. Student placement is into one of five groups: High Achieving, Above Average, Average, Low Average, and Low (See Figures 6 and 7 for more information about grouping in this model). Classroom rosters are then constructed so that one classroom in a given grade level will include High Achieving children grouped with Average and Low Average children. Another classroom at the same grade level will then include Above Average children

placed with Average and Low children. If there are more than two classes at a grade level, the extra class groups are decided accordingly. These groupings are flexible; students are re-grouped from year-to-year, and sometimes during the year when appropriate. The process ensures that there is a mix of ability/achievement ranges in each class that is balanced by race, gender, and student behavioral difficulties. This is significant because without flexibility and balance, we may inadvertently be “tracking” students, and limiting their possibilities for advancement.

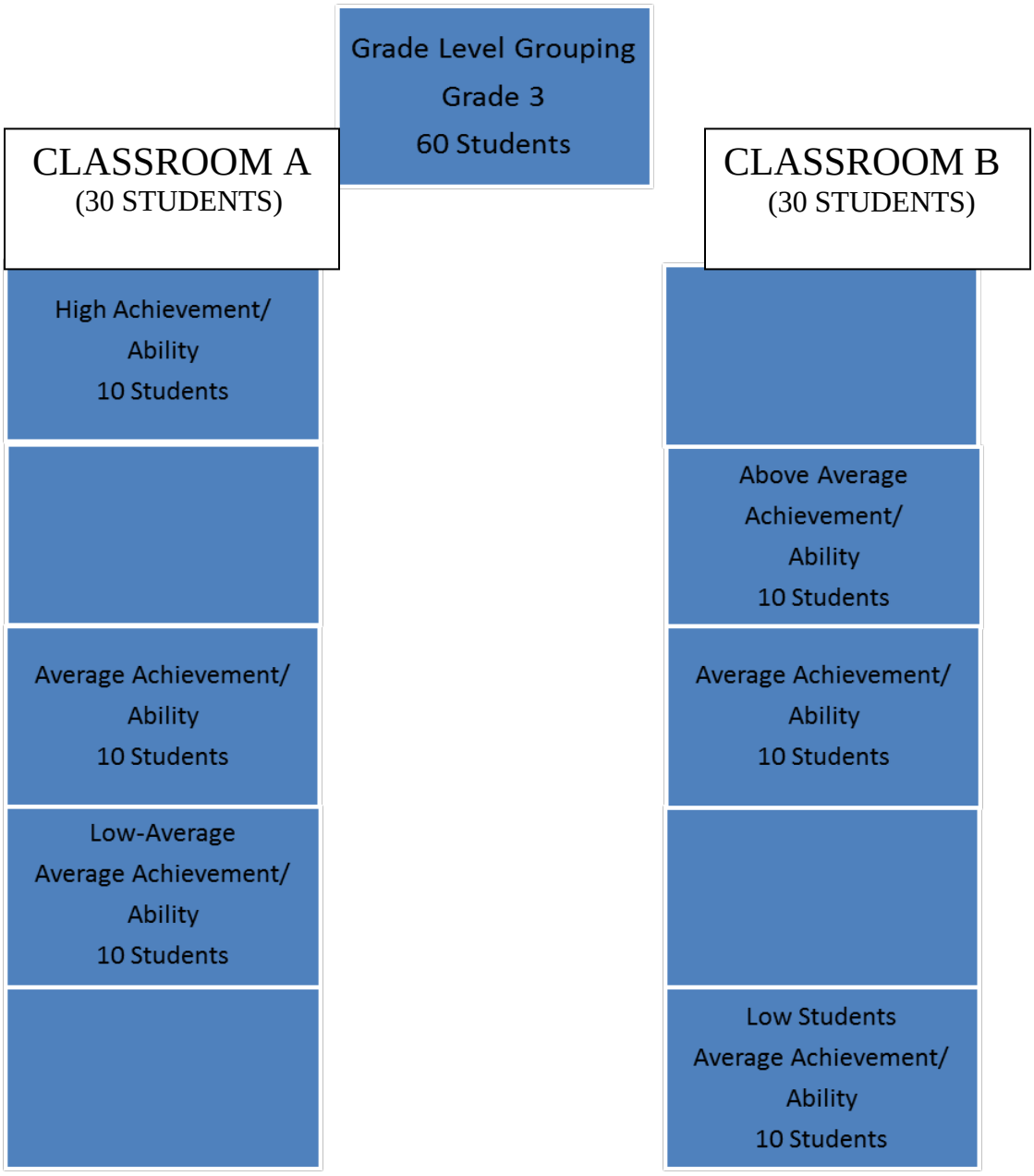

Figure 8. Grade Level Grouping Example – Two Rounds

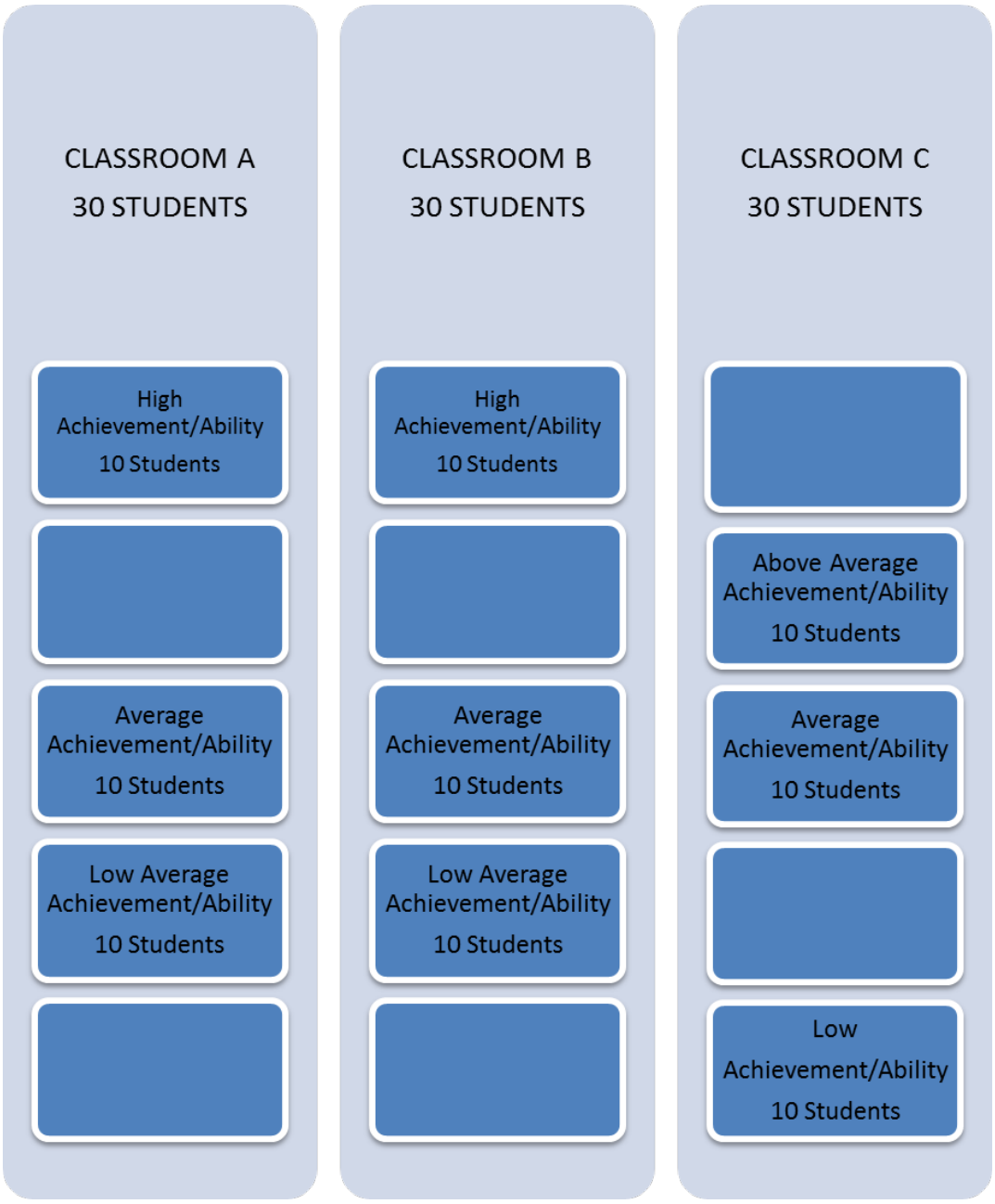

Figure 9. Grade Level Grouping Example – Three Rounds

Because the Total School Cluster Grouping model is based on a desire to serve the needs of all children, the grouping process itself is tantamount to successful implementation of this model. Teachers and administrators pore over all data points that are available to them, and

place students into one of the five categories of achievement/ability. The grouping process is revisited each year, and students are moved to different categories based on an on-going evaluation of their achievement and ability level.

A unique feature of the Total School Cluster Grouping Model is that teachers are assigned classrooms based on their own interests. The model calls for the teachers themselves to lead the process of creating classroom teacher assignments, with a focus on identifying those who accept the challenge of working with gifted and talented children. Those who accept this role are expected to embrace the professional development necessary to allow them to best compact curriculum and create differentiated, rigorous learning experiences for gifted children within the regular school day.

2.5 SUMMARY OF LITERATURE REVIEW

In general, this review outlines the history of student grouping in schools over the past thirty years. It examines grouping of students both within-class and across grade-level. The research proves that many forms of student grouping have been practiced in our schools. It also shows that although these approaches come and go, none is viewed as being a more effective catalyst for increased student achievement than the others in all cases. Some methods of grouping students are no longer ingrained in the cultural norm, such as tracking, the Joplin Plan, and cooperative learning. Others, like grade-level grouping models, continue to be utilized in many forms across our schools. Similarly, it is still common to find many forms of homogeneous and

heterogeneous within-class grouping in classrooms today. See Appendix A for a comparison of these methods and their characteristics.

An example of within-class grouping that is found in the method known as differentiated instruction is a pedagogical approach that includes flexible grouping as a major component of its program. Flexible grouping is a contemporary version of homogeneous grouping that is more widely accepted because the groups are fluid and flexible, ensuring that no students are "stuck" in any particular track. The flexibility of these groups is the key to their success, and the support that this approach garners. The approach also calls for groups to sometimes be heterogeneous as well, adding to the flexibility of the process. Differentiated instruction is prevalent in classrooms today, as educators look for ways to meet the increasingly stringent benchmarks outlined by the No Child Left Behind Act of 2001. The escalating benchmarks prompt teachers and principals to perpetually look for ways to formatively assess student progress, and individualize instruction that is tailored to each student's needs and readiness levels.

Furthermore, the research shows that other new models have surfaced such as Response to Intervention, inclusion, and gifted clustering. One such model is called Total School Cluster Grouping. The research shows that this model of identifying and grouping students is primarily developed to address the needs of gifted and talented learners. However, the model includes the identification of achievement and ability levels of students at all levels. Subsequently, students at all levels are grouped for placement into classrooms based on an analysis of their achievement and ability levels. Each classroom includes staggered groups representing multiple levels, which allows for heterogeneous or homogeneous flexible grouping within the room. In essence, this model incorporates grade-level and within-class grouping, as well as a differentiated instructional approach to serve the needs of all students. Does this approach truly ensure that the

needs of all students can be identified and met? Does the data generated from schools that have implemented the model prove the merits of the model? Are teachers adequately trained to identify and place students into the assigned groups? Do teachers receive the professional development necessary to ensure fidelity to the Total School Cluster Grouping Model? These are questions that I propose to further research, and analyze as I move forward in the process of completing this study.

3.0 METHODOLOGY

3.1 STATEMENT OF THE PROBLEM

Research shows that over the course of time many different approaches to grouping students have been practiced in our country. Grouping children into classrooms and grouping children within their assigned classrooms have both experienced a myriad of techniques designed to maximize student achievement. One approach to grouping students into classrooms is called the Total School Cluster Grouping Model. This approach was originally designed to address the needs of gifted and talented students. As the model was designed and implemented, however, positive effects on non-gifted and talented students also became evident. For example, according to Gentry and Owens (1999), the results of a four-year study in a small, rural school district in the Midwest yielded evidence that because of cluster grouping more students were identified as high achieving each successive year, while fewer students were identified as low achieving. The teachers in this study attributed this trend as directly related to the use of cluster grouping. They expressed an opinion that the grouping process kept the higher achieving students from dominating the conversation in the classrooms from which they were eliminated. This ensured opportunities for other students to be more confident and to excel. They also felt that the model better positioned teachers to increase efforts to reach all children. These efforts included maintaining high expectations, creating a positive learning environment, and using a variety of

strategies to challenge individual students (p. 230). Also reported in this study was an increase in overall achievement within the treatment school, which outperformed the comparison school in reading and mathematics, even though it reported lower reading scores at the outset. Seventy-nine percent of the teachers in the study reported that cluster grouping made it more manageable for them to meet the needs of their students and fifty-seven percent indicated a belief that the model increased their effectiveness at meeting the needs of their lower achieving students. The results of this study are but one example of the effectiveness of this model, and not enough to constitute an accurate gauge of its success. That said, since the model is being implemented in a number of situations, it is an appropriate time to examine the perspectives of educators about its strengths and challenges.

The grouping of students within the Total School Cluster Grouping model provides a structure that allowed for a more narrow range of ability levels within each classroom. This more narrow range affects instructional decision-making and, in turn, the classroom experience of all students. Therefore, cluster grouping should not only be viewed as a program for gifted students, but also as a total school program. Through staff development, flexible placement, and grouping integrated with the regular school structure, cluster grouping potentially offers a means for improving curriculum, instruction, and student achievement throughout the school (Gentry & Mann, 2008, p. 2). When implementation is done well, schools and school communities that incorporate the model exhibit specific characteristics as outlined in Table 2 below. These key components and critical attributes were used as a framework against which implementation was measured. In this study, the framework was utilized to compare the components identified as integral to success against the perception of teachers, principals, and central office personnel. Each component was individually analyzed using perceptions provided through surveys,

interviews, and available documentation. Teacher, principal and central office perception was matched against each individual component to determine the perceived level of successful implementation. Ultimately, perception was measured by examining all reported survey, interview, and documentation data related to the characteristics of each given component and then determining the level of implementation accordingly. Components that were reported to have experienced higher levels of implementation success were rated higher. Components that were reported to have experienced lower levels of implementation success were rated lower. All ratings were reported by overall (district), and site (individual schools). There were no numerical thresholds used to delineate between classifications. In lieu of numerical cut scores, classification was determined through a comprehensive process that considered all data relevant to each component. This process began in the initial phase of data gathering through the survey tool that informed this study. Teacher responses that were secured in this phase provided the first look at perception of implementation, and the initial coding, or measurement against the individual components of the framework, began. Answers from each question on the twenty-nine question survey were reviewed, categorized by site, and ranked by most popular to least popular using raw scores and percentage calculations. Then, the questions were aligned to the components within the framework in which they best fit. This alignment allowed a direct comparison between quality implementation as reflected in the framework, and the perception of those most closely involved at each school site. The emergence of overall and site by site themes began at this time. Next, the interview portion of the study revealed another layer of important data. Interview answers from the twelve question interviews were processed and matched against corresponding components of the framework. They were organized, ranked by most popular to least popular using raw scores and percentages. At this juncture, interview response data either

supported or refuted the main ideas of the initial themes identified from the survey data or revealed the emergence of new themes. Lastly, the documents that were provided by principals and central office personnel were reviewed and matched against the components of the framework with which they were most closely related. These documents were also utilized to support or refute the themes that emerged in the survey and interview layers of the process. Utilizing the composite result of these analyses, a range of success was then identified within which the district and each school could be associated. For each entity (district overall, individual school sites) assignment into a given classification was determined by the average across all characteristics of each component. For instance, to be considered "High," the entity would need to average high levels of implementation across the relevant characteristics of the component, as measured by related data. The result of this process was the designation of the district and each school as having experienced implementation within a range labeled as a "High," "Medium," or "Low" level of implementation. For example, the component of the framework entitled "Introduction of the Model to Staff" is characterized by discussions to develop staff buy-in, research provided to staff, professional development to ensure a clear, working knowledge of the model, and sharing of best practices across schools. As all data related to each of these characteristics was analyzed through the survey, interview, and document analysis layers of the process, an overall perception of this component across the district emerged within the "Medium" range. The overall entity rating (the district) was calculated by averaging the calculations from the individual schools. A "Medium" designation for this component means that across the individual sites, there was an average in the "Medium" range. At individual sites, implementation at School A for the same component was perceived to be in the "Medium" range, School B in the "High" range, and School C in the "Low" range. These

designations were based on a qualitative average of perception as reported in available data then incorporated into the process of creating the narrative that outlines the final report of the results of this study. The same process took place for each of the components of the framework. More information related to this important measurement is outlined in Chapter 4 of this study.

Table 2. Framework for Successful Implementation of Total School Cluster Grouping

Key Components		Critical Attributes
Introduction of the Model to Staff		Initial discussions to develop staff buy-in; research is provided to staff, including the Total School Cluster grouping book; professional development and workshops are provided to ensure that staff has a clear, working knowledge of the model; observation of best practices at other schools can occur; data from other schools can be shared, when available
Matching Teachers to Clusters		Teachers work together to decide who has what cluster, with administrators making the final call; teachers in all classes must have a strong desire to differentiate instruction; HA teachers accept the added responsibility of compacting curriculum and differentiating instruction for gifted and talented learners; all teachers work closely with special education teachers to provide support and inclusion opportunities for special needs students; three year commitment
Administration		Strong administrative support in the form of commitment to facilitate time for teachers to engage in the process; commitment to on-going professional development and on-going data analysis; support in trying new strategies commitment to serving all students through usage of the model
Introduction of the Model to Parents		Parents part of the planning committee in order to help communicate the importance of the work and an understanding of the model
Categories of Achievement		High Achieving (HA), Above Average Achieving (AA), Average Achieving (A), Low Average Achieving (LA), Low Achieving (L); each class contains three groups (HA-A-LA/AA-A-L)
Grouping of Students		Identifies and places ALL students, not just gifted; yearly on the basis of achievement and ability. The class that includes HA does not include AA; special needs included in AA group with supports from teachers, but not always assigned to the Low group; categories are based on relative performance within each school; classrooms should be balanced by race, gender, and student behavioral difficulties; trading of like-leveled students to ensure balance; flexible from year to year based on continuum of student needs; placement after the school year begins is based on quick reading and math assessment and confirmed or adjusted as records

		arrive; flexibility of the process ensures that traditionally underrepresented populations are better served
On-going Professional Development		ALL teachers receive professional development related to gifted education strategies through workshops, conferences, and/or coursework
Differentiated Instruction		The use of gifted education strategies can help to address the needs of ALL students; narrowing the range of ability levels provides teachers with better opportunity to engage students more deeply; differentiation of content, process, product, audience, based on the constructs of appeal, challenge, choice, meaningfulness, and self-efficacy
Flexible Grouping		Grouping of students both between class and within class; must be flexible; re-grouping according to subject (math or reading); use of both homogeneous and heterogeneous grouping;
Curriculum Compacting		Use of pre-testing and knowledge of student readiness to compact curriculum and eliminate the repetition of mastered skills and content; small group compacting, individual compacting, tiered activities; anchor activities
Data Collection and Evaluation		Schools and district must have plan to gather and analyze data to determine effectiveness of the model; analysis of student achievement, gifted and talented placements; data disaggregated by cluster and demographics
Role of the Teacher		1)Foster and maintain a positive classroom environment; 2) Maintain high, yet realistic expectations; 3) Implement strategies to challenge ALL students; 4) Participate in on-going professional development

(Based on Gentry & Mann, 2008a)

In practice, this method of grouping students may affect achievement possibilities of all students who encounter school within the Total School Cluster Grouping framework. This could take on positive or negative connotations, depending on one's perspective and experience. An important factor in evaluating the success of the implementation of such a model goes far beyond analysis of achievement data. A qualitative approach to the perception of implementation and the variables that affect its application, measured against the framework of what the model looks like when done well, can be valuably informative to the entity in which the case exists. Qualitative research shares with other forms of research the search for meaning and understanding, the

researcher as the primary instrument of data collection and analysis, an inductive investigative strategy, and the end product being richly descriptive (Merriam, 2009, p. 39). Within this descriptive process, the researcher takes great pains to include information from all factors that reflect upon the case; with equal attention to supporting and questioning data that becomes evident. In the climate that exists in many of today's schools, one can find a plethora of competing initiatives that create variability by diluting the application of one another. Implementation that does not work within the framework of any model makes it extremely challenging to allow for a fair attribution of its success or failure. A qualitative case study can generate results that describe the complexities of the case in detail; providing the reader with a narrative that includes practical examples of pros and cons related to best practices regarding implementation of this particular model of grouping students. Understanding the perception of the implementation process can be helpful in identifying the best practices that are imperative to the success of broader implementation.

3.2 RESEARCH QUESTIONS

This study examined the implementation of the Total School Cluster Grouping model in three schools located in a large, urban school district. The purpose of the study was to describe implementation processes related to this model, as experienced by teachers and administrators. The study explored three research questions: Research Question #1—**What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning?** To determine the effectiveness of the implementation of

such a model it is necessary to examine the process of implementation itself. This study measured perception of implementation against the framework provided by the Total School Cluster Grouping model. It compared and contrasted the implementation process as a district and among the three schools in the study, examining evidence of teacher, administrator, and central office perceptions of the process.

Research Question #2—**What are educator perceptions of the professional development provided with the model?** The implementation process begins by grouping children into specific classroom groups. It is then imperative that teachers receive on-going professional development which enhances their ability to differentiate instruction, and meet students at all ability levels with meaningful learning opportunities. Examining teacher's perception of the quality of professional development helped to provide an overall picture of the effectiveness of implementation. It was also helpful to examine the perceptions of the administrators and central office personnel responsible for driving the professional development agendas and opportunities.

Research Question #3—**How did the model impact educator's pedagogical decision making in the classroom?** It was important to measure the perception of the level of effectiveness the model has had on pedagogical decision-making within its framework. The study examined this effect by studying teachers and administrators' perception of its success, and looking closely at its impact on instructional decision-making.

The analysis of educator perceptions about the implementation processes contributes to the literature about this model by providing empirical evidence of best practices. These practices are reported through the eyes of practitioners who have operated within the model, and provide a unique perspective. This perspective validates the level of attention necessary to enhance

professional development, and pedagogical decision-making related to successfully integrating this model into a school culture.

3.3 POPULATION AND DATA COLLECTION

In this study, the school district (a large, urban school district) serves as the single case to be studied, and the three schools chosen to be studied (School A, School B, and School C) serve as the embedded units of analysis (See Figure 8). This particular urban district was chosen because the researcher has a unique perspective as an employee of the district, and because it has recently implemented the Total School Cluster Grouping model in some of its schools. The school district is located in a Mid-Atlantic city with a population of over three-hundred thousand people. Over the past fifteen years, the population of students attending school in the district has decreased from more than fifty-thousand to the twenty-six thousand it currently serves. Due to the decline in enrollment, the district has closed over 30 schools within the past ten years in an effort to streamline operations and stabilize budgetary concerns. Modifications have also been made to all departments, including central office personnel, the number of curricular support staff, and the instructional delivery model utilized to ensure schools are staffed in a manner that is appropriate for all students. District-wide, over 72% of students in grades K-8 take part in the free/reduced lunch program. The 2011-2012 state assessment results show overall reading proficiency rates of 58.3% in grade 3, 55.6% in grade 4, and 51.9% in grade 5. Results in mathematics in 2011-2012 were 66.1% in grade 3, 67.8% in grade 4, and 61.0% in grade 5. Also per the 2011-2012 state

assessment results, achievement disparity between African-American and White students in grades 3-5 was 28.2 percentage points in reading, and 28.3 percentage points in mathematics.

Over the years, the district has attempted to address student needs and improve test scores using various reform efforts. One such effort is the Total School Cluster Grouping model of grouping students. The usage of this model was intended to address two specific needs at the district level; 1) an alternative approach that could effectively meet the needs of gifted and talented learners *without* pulling them from the regular setting to attend gifted classes in another school within the district, 2) address an under-representation of African-American students within the gifted and talented population. In the 2009-2010 school year, this model was implemented in five elementary schools. Three of those schools remain open, and continue to utilize the model at this time. These schools have survived the recent school closings associated with district efforts to down-size. All three schools continue to utilize the model through the 2012-2013 school year, giving this researcher four years of data from which to measure perceptions of the implementation and its on-going effects. The schools employ different configurations and serve populations that are not directly related. Aside from association to the same school district, the tie that binds these schools as similar is the fact that each of them has utilized the Total School Cluster Grouping model for the past four years. Also, they each participated in introductory professional development which was provided to them by district level personnel.

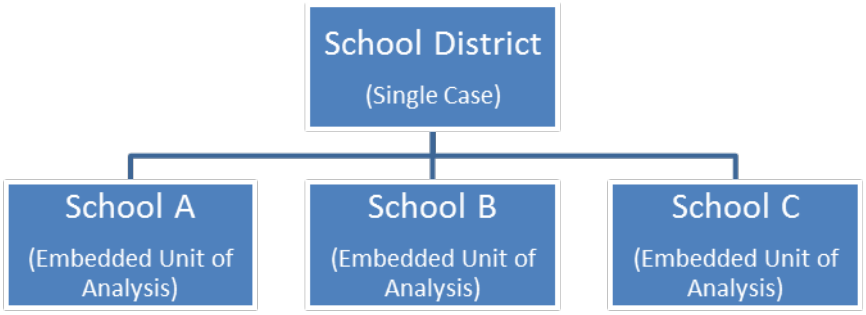

Figure 10. Embedded, Single Case Design

These schools are not fictional schools and provide real, ground-level data that informed this study. In order to ensure their anonymity, much of the demographical information that describes their unique characteristics is left out of this final report of the study. Overall, the school population sizes range from around 300 to over 700 total students. They include neighborhood and magnet students, employ special programming such as foreign languages and arts foci, and serve very diverse populations. Achievement in the three schools includes a wide range of success as measured by the state system of evaluation in reading and mathematics.

The study was able to gather perceptions of actual implementation within the district, and individually in all three schools against the framework laid out by the Total School Cluster Grouping model. It allowed the framework of the model to serve as the intellectual undergirding that informed the data collection procedures. The study utilized survey and interview protocol in concert with detailed document analysis. It relates the perception of implementation, professional development opportunities, and effect on instructional decision-making among schools that used the model to the framework laid out in Table 2. It helped to create profiles of the implementation process based on information gleaned from this intellectual framework as illustrated in Table 3 below. These profiles were utilized to assist in the process of determining

what was ultimately reported and why it was reported as the analysis of the data collected is completed.

Table 3. Implementation Frame

	School District	School A	School B	School C
Professional development prior to implementation				
Grouping of students into clusters				
On-going professional development				
Effect of the model on instructional decision-making				
Data collection and evaluation				

3.4 METHODOLOGICAL APPROACH

In order to determine the method of inquiry appropriate to gain an understanding of how to measure the identified research questions, it was first necessary to decide between quantitative and qualitative approach. While a quantitative inquiry could represent the happenings with scales and measurement, a qualitative approach would produce key findings through interpretation and stories, or narratives. As previously noted, for the purpose of this study, it was decided that a qualitative method would be utilized to gather and report information, and give the reader an experiential understanding of the case (Stake, 1995). This study was constructed to measure the implementation process through the eyes of those who were most intimately involved. Its outcomes cannot be measured in scales and measurement. It was necessary to conduct the type of

qualitative study that would allow the researcher to examine how people: (1) interpret their experiences, (2) how they construct their worlds, and (3) what meaning they attribute to their experiences (Merriam, 2009, p. 23).

To examine perceptions of implementation processes related to the Total School Cluster Grouping Model, this study employed a case study approach. According to Yin (2009), there are five characteristics that should be evident within a quality case study. The study should: be ***significant***, be ***complete***, consider ***alternate perspectives***, display ***sufficient evidence***, and be composed in an ***engaging*** manner. Although access to a limited number of cases may cause the degree of *significance* to be beyond the control of the investigator, there are key characteristics that exemplary case studies share. These are evident when the individual case is unusual and of interest to the general public, and/or when underlining issues are deemed to be of national importance. *Completeness* of case studies can be measured 3 ways: 1) explicit attention to boundaries, 2) exhaustive collection of evidence, and 3) absence of artificial conditions.

Exemplary case studies inclusively consider *alternate* perspectives, and carefully examine obvious other ways in which to view the phenomenon being studied. This approach provides the reader with data embodying multiple vantage points from which to formulate their understanding of what the study ultimately represents. *Sufficient evidence* can be displayed by presenting relevant research that both supports and challenges the data reported. It is also paramount that the researcher present the evidence in a fashion that highlights his/her own credibility through careful inquiry that inspires the reader to believe that the study was not biased, or shoddy in its development. Lastly, Yin refers to exemplary studies as being composed in an *engaging* manner. It should employ a clear writing style that engages readers, keeping them interested, and yearning to continue reading the study and its findings.

Further research of case study methodology reveals that according to Merriam (2009), six types of qualitative research exist: 1) basic case study, 2) phenomenology, 3) grounded theory, 4) ethnography, 5) narrative analysis, and 6) critical qualitative research. These share many common redeeming qualities, with subtle differences that distinguish them, and make it clear how and why to apply them. In comparison, Cresswell (2013) identifies qualitative research in five categories: 1) narrative, 2) phenomenological, 3) grounded theory study, 4) ethnographic, 5) case study. While they agree upon the basic tenets of basic case study, phenomenology, narrative analysis, grounded theory, and ethnography, Merriam adds the additional category of critical qualitative research. The matrix provided in Table 4 outlines key characteristics relative to each approach.

Table 4. Methods of Qualitative Study

METHOD	KEY CHARACTERISTICS
Basic Case Study	**Merriam (2009)** – In-depth analysis of a bounded system, interested in understanding the meaning a phenomenon has for those involved, common in applied fields of practice such as education, administration, health, social work, counseling, etc... **Cresswell (2013)** – Typically involve current, real-life cases, presents an in-depth understanding of the case, can be composed to illustrate a unique case that in and of itself needs to be described (intrinsic case) or can be intended to provide understanding of a specific issue, problem or concern (instrumental case)
Phenomenology	**Merriam (2009)** – Essence of an experience, interested in the underlying structure of the meaning of an experience, sets aside prejudice and assumptions so that consciousness itself can be examined (Epoche – Greek word meaning to refrain from judgment) **Cresswell (2013)** – Emphasis on a specific phenomenon to be explored within a group of individuals who have all experienced it, the researcher "brackets" himself out of the

	study by identifying personal experiences in order to set them aside and focus on the experiences of the participants in the study, best suited for when it is important to understand common or shared experiences in relation to a phenomenon
Grounded Theory	**Merriam (2009)** – End result is "grounded" in the data, rich description is important but not the primary focus; focus is on building substantive theory relevant to specific, everyday situations **Cresswell (2013)** – Moves beyond description to generate a theory or explanation of a process, action or interaction shaped by the views of a large number of participants,
Ethnography	**Merriam (2009)** - Examines the culture of a group, lengthy period of intimate study and residence resulting in cultural description, thick description intended to convey the meanings participants make of their lives **Cresswell (2013)** – Focus is on developing a complex, complete description of the culture of a group, identification of patterns, or rituals associated with group behavior as observed by the researcher, extensive field-work focused on a theory based on what the researcher hopes to find
Narrative Analysis	**Merriam (2009)** – Uses stories to make sense of experiences, emphasizes the inductive process, contextualized knowledge, and human intention, can use stories to uncover beliefs, values, and assumptions about work **Cresswell (2013)** – Begins with experiences as expressed in lived and told stories of individuals, spoken or written text giving an account of an event or series of events, chronologically connected, often occur within specific places or situations
Critical Qualitative Research	**Merriam (2009)** – Goal is to critique and challenge, to transform and empower, focus is more on context than on individuals, raises questions about the nature of truth and the construction of knowledge

Through the lens of these definitions, it was tempting to classify this study as a phenomenological approach because it examined the process of the implementation experience shared by the staff involved. Their viewpoint provided an understanding of the common or shared experience that has resulted from their interaction with the phenomenon of implementation. After further review, however, this approach is not appropriate because the study is not rooted in broad, philosophical assumptions. The intent was not to explore psychological experiences such as grief, being underweight, or becoming a parent; experiences often associated with this approach.

It was also tempting to think of this study as grounded theory because it focused on an implementation process and the outcome might assist in developing a framework for further research or practice. If a theory could be developed that outlines best practices related to the process, the study might be viewed as more useful to everyday practice. However, grounded theory is not the best fit because the type of data generated from this study is not intended to be used to build a substantive theory about a specific aspect of practice. That is, the study was designed to provide insight into the implementation of a specific reform model (Total School Cluster Grouping), but not to generate substantive theory related to specific aspects of the model.

A case study method was chosen for this study because it was intended to provide in-depth description and analysis of a bounded system (Merriam, 2009, p. 40). This method was deemed appropriate because one particular unit of analysis (the school district) was identified, and there were a finite number of teachers and administrators from which to gather data. The school district, then, was the intrinsically bounded system in which the case was situated. This

research was intended to examine the process to reach a full understanding of the phenomenon of implementation of the model in this case.

Ultimately, the specific mode of case study chosen for this study was based on Yin's (2009) description of an embedded, single case design. The rationale for choosing this particular method of case study was based on the notion that because the researcher had access to a unique set of data related to implementation of the model, it gave this work the potential to be a revelatory case. A revelatory case occurs when an investigator has an opportunity to observe, and analyze a phenomenon previously inaccessible to social science inquiry. Such conditions justify the use of a single-case study on the grounds of its revelatory nature (Yin, 2009, p. 49). The researcher had access to teachers, principals, and central office personnel who have implemented this model. The information gleaned through the survey, interview, and document analysis process provided otherwise unseen insight into the implementation. This approach was also deemed appropriate because reform efforts such as Total School Cluster Grouping present conditions that stretch traditional boundaries of evaluation designs, including the use of the case study method.

According to Yin and Davis (2007), comprehensive reform is appropriate for case study because it can confuse the distinction between phenomenon and context, which modifies the definition of the unit of intervention. Multiple interventions that are not all part of the same initiative, but are working concurrently may be relevant. At the same time, a strength of utilizing the case study method can lie in its ability to navigate through the blurring between the lines of phenomenon and context (Yin, 2003).

3.4.1 Teacher surveys

The survey tool, follow-up interviews, and document analysis were the methods of data gathering used in this work. The survey and interview questions were developed with the intention of gathering teacher perception data regarding the previously identified research questions:

1. What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning?
2. What are educator perceptions of the professional development provided with the model?
3. How did the model impact educator's pedagogical decision-making in the classroom?)

These questions and the manner through which they were used to accumulate data and information are at the core of what makes this study different. As Merriam notes, the uniqueness of a case study lies not so much in the methods employed (although they are important) as in the questions asked, and their relationship to the end product (Merriam, 2009).

The twenty-nine question survey was administered using a Survey Monkey link that was included in an introductory letter to teachers (see Appendix B). Participation in the survey was voluntary with completion of the survey acting as consent (See Appendix C). A total of fifty-seven teachers were invited to participate in this work (School A – 21 teachers, School B – 20 teachers, and School C – 16 teachers). Initial invitees were all teachers who currently work with students in grades one through five within the model. Those who chose to decline did so simply by not responding to the e-mail requesting their participation. Teachers were also clearly

informed that they could skip any question that made them feel uncomfortable, and that they could stop taking the survey at any time. Teachers who were solicited for participation were assured that they would remain anonymous, and that their responses cannot be traced to them individually. They were also assured that any data connected to the district and/or their specific school will be confidential, and accessible only to the researcher. All results were pledged to be reported anonymously. The school district is reported only as "a large, urban school district" and the schools as School A, School B, and School C.

Specific survey questions were developed to measure their relation to the research questions driving this study and are coded accordingly (see Table 3). The questions were designed to allow the researcher initial access to the implementation process through the eyes of the practitioners most accountable for its implementation. They are closely related to the research questions this study was designed to examine, which were created based on the literature related to student grouping processes specific to implementation of the Total School Cluster Grouping model. In order for this model to be well-implemented, it requires knowledge of the students for whom the model is provided, a willingness to collaborate, and continuous professional development. In addition, the implemented model should reflect the community and cultures of the school in which it is developed (Gentry & Mann, 2008, p. 31). You may refer to Appendix D for a complete copy of the survey tool.

A pilot of the survey was instituted to provide feedback on the functionality of the survey itself. In order to elicit this feedback, six teachers who have spent multiple years working within the framework of the Total School Cluster Grouping model were asked to take the survey, and offer insight into the tool (see Appendix J). The six teachers in the pilot have not worked in any of the schools chosen for this study, but are very knowledgeable about the Total School Cluster

Grouping model because of their experience implementing it at their school. Based on feedback from the pilot, the wording of some of the questions was tweaked to make the intent more explicit. The sentiment was that because in some cases the questions contained only subtle differences, it became necessary to be as specific as possible so they would not appear to be repeating themselves. For instance, the original survey included language about the amount of professional development received each year that was awkward and hard to understand. After feedback from the pilot, it was decided to list each year separately, and ask the responder to answer accordingly. Also, there were some changes proposed to the introductory letter. Suggestions from those in the pilot helped to simplify the message, taking into consideration the workload staff are already asked to negotiate on a daily basis. Because of pilot feedback, the letter was modified so that the message was more concise and less cumbersome to read. A more streamlined introductory message, it was hoped, would result in a higher rate of staff participation in the survey and follow-up interviews.

Table 5. Alignment of Research and Survey Questions

Research Question #1 What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning?	**Research Question #2** What are educator perceptions of the professional development provided with the model?	**Research Question #3** How did the model impact educator's pedagogical decision-making in the classroom?
Corresponding Survey Questions 4, 5, 11, 16, 21, OE1	**Corresponding Survey Questions** 2, 6, 12, 13, 14, 15, 19, OE2, OE3	**Corresponding Survey Questions** 7, 8, 9, 10, 17, 18, 20, 22, OE4

3.4.2 Teacher interviews

The information analyzed in this case study also included data from follow-up interviews with teachers who have worked within the framework of the model for all four years of its existence in the district. Those teachers were identified by their school principal, and contacted via e-mail by the researcher to request a follow-up interview (Appendix E). Teachers were clearly informed that participation in the interview was voluntary, and that they could choose not to participate simply by not responding to the e-mail invitation (Appendix F).

Follow-up interviews of teachers took place at multiple sites, including local restaurants, neutral school settings, and via telephone. These arrangements were made on an individual basis. All notes and data produced during the course of these follow-up interviews will remain confidential, with only the researcher having access. Participants were clearly informed of confidentiality within the e-mail to solicit their participation, and at the outset of the interview.

Follow-up interview questions were constructed specifically to further unpack survey questions, and provide deeper insight into the perception of the implementation of the model through the eyes of the participant (Appendix G). They are questions that were designed to prompt participants to further explicate their perception about the implementation process at their schools. They were intended to assist the researcher in a deeper dive that examines actual practices in their natural setting. According to Merriam (2009), qualitative investigations are more open-ended and less-structured. Therefore, a *semi-structured* interview format was chosen for this study. In this type of interview, either all the questions are more flexibly worded, or the interview is a mix of more and less structured questions... the largest part of the interview is guided by a list of questions or issues to be explored, and neither the exact wording nor the order

of the questions is determined ahead of time (Merriam, 2009, p. 90). The guiding questions were based on research of the framework of the Total School Cluster Grouping model provided by Gentry & Mann (2008) that clearly defines how effective implementation and professional development can affect the classroom decisions that teachers make on a daily basis. Interview questions were coded according to the research questions they are aligned to and intended to measure (See Table 6).

Table 6. Alignment of Research and Interview Questions

Research Question #1 What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning?	**Research Question #2** What are educator perceptions of the professional development provided with the model?	**Research Question #3** How did the model impact educator's pedagogical decision making in the classroom?
Corresponding Interview Questions 4, 6, 7, 11, 12	**Corresponding Interview Questions** 1, 2, 3, 5, 8	**Corresponding Interview Questions** 9, 10

3.4.3 Principal and central office interviews and document analysis

Principals of the schools were interviewed utilizing the same questions outlined in the follow-up teacher interviews (Appendix G). Principals were also asked to provide agendas/minutes from professional development and other documents related to the implementation of the Total School Cluster Grouping model at each school. They were contacted via e-mail and first asked to support the study by encouraging teachers to participate in the survey. They were also asked to participate in face-to-face or telephone interviews as part of the initial phone contact and again via e-mail (Appendix H). Interviews took no longer than one-half hour in duration and were held

at the schools in which the principals work, outside of the regular work day. In School A, there was one principal change over the course of the past four years, after year two of implementation of the Total School Cluster Grouping model. However, the former principal is accessible to the researcher and was interviewed as well. In Schools B and C, there has been no principal turnover since the inception of the model into the schools in the 2009-2010 school year.

At the district level, there were personnel from central office that were integral to the implementation process. They assisted in coordinating the initial training for all the schools that began using the model in the 2009-2010 school year. One central office administrator was contacted via telephone and e-mail, and asked to participate in the interview portion of this study (Appendix H). This administrator's insight into the coordination of this effort across the pilot schools added another unique dimension to this case study. This administrator was also able to provide a multitude of data related to the document analysis phase of the case study; providing agendas, minutes, and other documentation from the professional development provided by the district.

3.5 DATA ANALYSIS PROCEDURES

Data analysis within this study took place through each step of the process. You may refer to Table 7 for an at-a-glance view of the steps involved, and an outline of how they played out. First, the survey was administered. Survey results were collected and analyzed by frequency of distribution of the multiple choice questions. Open-ended questions were then analyzed according to the pre-configured coding process that maps them back to the research questions.

Charting the responses by each question served to lay the groundwork for building on the pre-configured coding outlined in the alignment of survey questions to the research questions of the study. The survey results will began to dictate the identification of a broader set of codes, or categories, into which all data collected was organized. These code segments were used to describe information and develop themes. It represented information the researcher expected to find, surprising information that arose, and information that is conceptually interesting or unusual (Creswell, 2013). These codes align to the research questions that drove this study as sub-categories that informed conclusions about each question. They began to paint the picture of teachers and administrators' perception of the implementation process. Educator answers from surveys informed the process of presenting a comprehensive picture of the perceptions of implementation among the educators involved.

Next, the teacher interviews took place and responses were analyzed accordingly. Copious notes were taken. None of the interview sessions were recorded. Notes were organized and related to the research questions that drove the study. The coding process also took place through analysis of interview notes. The analysis of these notes served as the next step in the coding process, and further informed the research regarding the perceptions that were ultimately measured. All notes were considered, and have been placed into the categories in which they best fit/identify.

Then, the principal and central office interviews were conducted. None of the interview sessions were recorded. Notes from these interviews also served to inform the process of identifying codes, or categories that helped to group the data in a way from which conclusions were drawn and reported. They also informed the identification of themes that surfaced, and were identified as integral to the perception of implementation of this model.

The process of interviewing principals and central office personnel involved the collection of documents related to the professional development and best practices regarding the Total School Cluster Grouping Model. It was expected that the research would include agendas, minutes, data analysis tools, handouts, curriculum compacting information, grouping process guides, and other documents that represent best practices from professional development that has been incorporated both at the district and school levels. These documents were expected to begin to present the story of the opportunities that staff had available to them in order to further their knowledge about the model. More importantly, it was hoped that they would speak to some of the efforts taken to ensure that teachers were able to best leverage this grouping process to inform instruction. Each provided document was examined, and the information within it was coded into sub-categories that relates to one or more of the research questions of the study. As the documents were analyzed and help to round out the coding categories, they were measured against teachers and administrators' perceptions to provide an understanding of the effectiveness of professional development. This type of analysis was examined at the district level, and also within each school individually.

After completing the coding process that included all data represented from the survey, interviews, and documents collected, the broader set of codes that remained was further analyzed, reduced and combined into thirteen emerging themes. These themes, or broad units of information, are discussed in detail and used to write the final narrative that presents the results of the study in Chapter 4.

Table 7. Methodology Process Map

The "Methodology Process Map" found below can be used to trace the steps of this study as a means of checking and balancing the process of completion. Following procedural steps as gleaned from this matrix was used to ensure the comprehensive intent of the study was not compromised as data was collected, perceptions were analyzed and coded, and results were reported through graphs and narratives. Following the outline provided, the researcher utilized the following list of procedural steps to serve as a map:

- **Evidence Provided** – perceptions of teachers, principals, and central office personnel
- **Data Provided** – survey responses, interview responses, and collection of relevant documents
- **Data Collection** – pre-configured coding to specific survey and interview questions
- **Data Analysis** – coding survey responses, interview responses, and documents provided, development of smaller set of themes that emerge through the process
- **Reporting Results –** frequency of distribution charts, graphs, tables, narrative

	Evidence	Data	How data will be collected	How data will be analyzed	How results will be reported
Research Question #1 What are educator perceptions of implementation of the Total School Cluster Grouping model?	-Teacher Perception -Principal Perception -Central Office Perception	-Survey responses -Interview responses	-Survey Questions (4, 5, 11, 16, 21, OE1) -Follow-up Teacher Interviews (4, 6, 7, 11, 12) -Principal/Central Office Interview Questions (4, 6, 7, 11, 12)	-Frequency of Distribution -Coding/ Categories -Theme Identification	- Matrix of Frequency Distribution Results -Narrative -Tables/Figures
Research Question #2 What are the perceptions of the professional development provided with the model and how did it support teaching and learning?	-Teacher Perception -Principal Perception -Central Office Perception -Professional Development Documentation	-Survey responses -Interview responses -Documentation Review	-Survey Questions (2, 6, 12, 13, 14, 15, 19, OE2, OE3) -Follow-up Teacher Interviews (1, 2, 3, 5, 8) -Principal/Central Office Interview Questions (1, 2, 3, 5, 8) -Documents provided by district/schools	-Frequency of Distribution - Coding/ Categories -Theme Identification	- Matrix of Frequency Distribution Results -Narrative -Tables/Figures
Research Question #3 How did the model work and how did it impact pedagogical decision-making in the classroom?	-Teacher Perception -Principal Perception -Central Office Perception -Professional Development Documentation	-Survey responses -Interview responses -Documentation Review	-Survey Questions (7, 8, 9, 10, 17, 18, 20, 22, OE4) -Follow-up Teacher Interviews (9, 10) -Principal/Central Office Interview Questions (9, 10) -Documents provided by district/schools	-Frequency of Distribution - Coding/ Categories -Theme Identification	-Matrix of Frequency Distribution Results -Narrative -Tables/Figures

Using this information as the backdrop, it can be outlined that the steps of this study occurred in the following sequence:

1. Teachers were sent an e-mail to invite them to participate via Survey Monkey link (June, 2013) – Appendix B
2. Data from survey was collected; analysis began (June/July, 2013) – Appendix D
3. Principals of the three schools in the study were contacted and asked to help identify teachers who worked within the model all four years (June, 2013)
4. Teachers identified by principals were contacted via e-mail and invited to participate in 30 minute interviews (June/July, 2013) – Appendix E
5. Principals and Central Office personnel were contacted via email and asked to participate in 30 minute interviews, and to provide professional development documentation (July, 2013) – Appendix H
6. Data from interviews and documents was collected; analysis began (June/July, 2013)
7. All data was coded, analyzed, and organized into thirteen emerging themes (July/August/September, 2013)
8. Themes were organized into narrative outlining the results of the study (September/October, 2013)
9. Results were reported using charts, graphs, and narrative (November, 2013)

4.0 RESULTS

The primary goal of this qualitative case study was to measure perceptions related to the implementation of the Total School Cluster Grouping model. To recall, Total School Cluster Grouping is a method by which students are placed into classroom groups based on a combination of their achievement and ability. It narrows the range of ability/achievement levels in classrooms. Its design is intended to allow teachers to leverage the more narrow range of groups to better meet the needs of their students with work that meets them and their ability level and challenges them more deeply. This study was designed to gather information tailored to three specific research questions related to the implementation of the model: 1) What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning? 2) What are educator perceptions of the professional development provided with the model? 3) How did the model impact educator's pedagogical decision-making in the classroom? Survey, interview, and document analysis were conducted to provide an understanding of the perceptions of the teachers and administrators responsible for the implementation of this program.

Throughout the remainder of this chapter, the results of the data collected will be reported. First, the demographics of the survey and interview data are presented to provide a basic understanding of the staff from which data has been gathered. Results of data collected

from surveys, interviews, and analysis of the documentation provided are then be presented. These results are organized by research question and summarized accordingly, first by question and then overall. From these summarizations, conclusions can have been drawn. Conclusions are presented in Chapter 5 of this study.

4.1 SURVEY AND INTERVIEW DATA ANALYSIS

The process of beginning to analyze the various data accumulated for this study began with the interpretation of the survey, interviews, and documents retrieved using inductive reasoning. The purpose of this inductive analysis was to begin to develop patterns, themes, and categories from the data. Qualitative analysis is typically inductive in the early stages, especially when developing a codebook for content analysis, or figuring out possible categories, patterns, and themes (Patton, 2002, p. 453). The researcher began the coding process by outlining the survey answers related to each of the three research questions. The answers to the survey questions were disaggregated by district and school, and juxtaposed to the corresponding research questions, which served as pre-configured coding.

4.1.1 Demographics of the survey population

To gather survey data, teachers in schools A, B, and C were invited via e-mail to participate in a twenty-nine question survey. Overall, of the 57 teachers invited to participate, 42 responded to all or part of the survey (72.6%). See Table 7 for an outline of survey responses disaggregated

by school and question. The majority of the respondents answered every question (n=34), with four respondents choosing not to answer one or two questions, and four choosing not to answer 3 or more questions. Analysis of the questions not answered revealed no pattern from which conclusions could be drawn regarding reasons they were not answered. Overall, 80.9% (n=34) of teachers responding indicated they had been teaching within the model for four years. Teachers from School A (88.8%, n=16) and School B (90.0%, n=9) showed the highest rates of four-year teachers. Teachers in School C included 69.9% (n=9) who have taught within the model for four years.

Table 8. Response Rates by District, by Individual Schools

		OVERALL	SCHOOL A	SCHOOL B	SCHOOL C	ANONYMOUS
Survey Participation		Actual Respondents/Eligible Respondents Overall	Actual Respondents by School/ Total Respondents Overall	Actual Respondents by School/ Total Respondents Overall	Actual Respondents by School/ Total Respondents Overall	Anonymous Respondent/ Total Respondents Overall
Overall		**42/57 (73.68%)**	**18/42 (42.85%)**	**10/42 (23.80%)**	**13/42 (30.95%)**	**1/42 (2.38%)**
			Actual Responses to Question/Total Eligible by School	Actual Responses to Question/Total Eligible by School	Actual Responses to Question/Total Eligible by School	
Within Each School			**18/21 (85.71%)**	**10/20 (50.0%)**	**13/16 (81.25%)**	
		OVERALL	**SCHOOL A**	**SCHOOL B**	**SCHOOL C**	**ANONYMOUS**
Response Rate by Question		**Out of 42**	**Out of 18**	**Out of 10**	**Out of 13**	**Out of 1**
#1		41	18	10	13	1
#2		42	18	10	13	1
#3		40	17	10	12	1
#4		42	18	10	13	1
#5		42	18	10	13	1
#6		42	18	10	13	1
#7		41	17	10	13	1
#8		42	18	10	13	1
#9		42	18	10	13	1
#10		42	18	10	13	1
#11		42	18	10	13	1
#12		41	18	10	12	1
#13		40	18	10	11	1
#14		40	18	10	11	1
#15		41	18	10	12	1
#16		40	18	10	11	1
#17		41	18	10	12	1
#18		39	17	10	11	1
#19		38	17	10	10	1
#20		39	17	10	11	1
#21		39	17	10	11	1
#22		38	16	10	11	1
#23		36	15	10	10	1
#24		38	16	10	11	1
#25		37	16	10	10	1
Open Ended #1		39	17	10	11	1
Open Ended #2		39	17	10	11	1
Open Ended #3		39	17	10	11	1
Open Ended #4		39	17	10	11	1

4.1.2 Demographics of the interview population

In order to complete the interview process, the researcher was able to conduct face-to-face or phone interviews with thirteen individuals. This includes eight teachers, four principals, and one central office supervisor. Of those offered the opportunity, three teachers from School A agreed to participate, along with two teachers from School B, and three from School C. School A changed principals during year two of implementation of the model, and both of those individuals were interviewed for this study. Principals in School B and School C remained with their schools throughout all four years. Both were interviewed. Of the teachers who participated, five were interviewed in person, four were interviewed by phone. All four principals were interviewed in person, as was the central office supervisor. Face-to-face interviews were conducted at local restaurants (three teachers, one principal), the participant's school (one principal), a neutral school site (one teacher), and the researcher's school (one teacher, two principals). All interviews utilized the identical twelve question script (see Table 6), supplemented by follow-up questions as appropriate to the conversation. A compilation of interview answers and their implications can be found in the following pages of this report.

Answers to interview questions were also analyzed beginning with the pre-configured coding that was outlined to correlate each question with the corresponding research questions. Interview answers allowed those who elected to participate in this portion of the study to further the work by providing information that expanded upon the themes that the survey data began to reveal.

4.2 RESULTS BY RESEARCH QUESTION

Findings from this study are drawn from survey, interview, and document analysis data. The researcher began to analyze the data provided from the twenty-five multiple choice/four open-ended item survey by disaggregating the answers by district and school, aligned to the corresponding research question. Also analyzed and matched to corresponding research questions were the responses to the twelve-question interviews. Lastly, all documents provided were analyzed to complete the process, and provide answers to the driving research questions. The remaining segments of this chapter will outline the findings.

4.2.1 Findings from research question #1

What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning?

The purpose of this research question and the subsequent exploration of survey, interview and documentation materials were to examine teachers and administrators' perception regarding the implementation process itself. Questions were designed to measure their feelings and comfort levels about items such as the student grouping processes, the manner in which shared input into professional development was considered, and layers of the implementation process that were perceived to provide anxiety as it was carried out.

The first step in analyzing data related to this research question was to examine survey responses, and determine the most common answers as a method of gleaning the types of themes that emerge from the data collected. Please refer to Table 8 for a report on survey responses to

questions pre-coded to Research Question #1, disaggregated by survey question, and most prominent answers from those who responded.

Table 9. Survey Response by District, by School (most common answers)

Research Question #1

Research Question #1 What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning?		**District**	**School A**	**School B**	**School C**
		n=42	**n=18**	**n=10**	**n=13**
Survey Question #4 Do you feel comfortable with your capacity to make grouping decisions related to the placement of children at your school?		**n=42** Often 47.6% (n=20) Always 26.1% (n=11)	**n=18** Often 38.8% (n=7) Sometimes 33.3% (n=6)	**n=10** Often 70.0% (n=7)	**n=13** Often 38.4% (n=5) Always 38.4% (n=5)
Survey Question #5 Which of these are sources of anxiety regarding the grouping process at your school (check all that apply)?		**n=42** Student Behavioral Concerns 73.8% (n=31) Parental Pressure 52.3% (n=22)	**n=18** Student Behavioral Concerns 72.2% (n=13) Parental Pressure 83.3% (n=15) Student Perceptions 61.1% (n=11)	**n=10** Student Behavioral Concerns 70.0% (n=7) Parental Pressure 60.0% (n=6)	**n=13** Student Behavioral Concerns 69.2% (n=9)
Survey Question #11 What was the ***most prominent challenge to implementation*** of the Total School Cluster Grouping Model at your school?		**n=42** Student Behavior 23.8% (n=10) Competing District Initiatives 19.0% (n=8) No Prominent Challenge 19.0% (n=8)	**n=18** Student Behavior 23.8% (n=4) Other 33.3% (n=6)	**n=10** No Prominent Challenge 50.0% (n=5) Competing District Initiatives 30.0% (n=3)	**n=13** Student Behavior 54.5% (n=6)
Survey Question #16 Has your input been considered in the planning and implementation of professional development at your school related to Total School Cluster Grouping?		**n=40** Sometimes 27.5% (n=11) Often	**n=18** Sometimes 38.8% (n=7) Often	**n=10** Often 40.0% (n=4) Always	**n=11** Never 54.5% (n=6)

		22.5% (n=9) Never 22.5% (n=9) Always 15% (n=6)	27.7% (n=5)	40.0% (n=4)	
Survey Question #21 How often have you or other teachers in your school been afforded opportunities to share instructional best practices related to Total School Cluster Grouping ***outside of your school***?		**n=39** Seldom 33.3% (n=13) Never 28.2% (n=11) Sometimes 25.6% (n=10)	**n=17** Never 41.1% (n=7) Seldom 35.2% (n=6)	**n=10** Sometimes 50.0% (n=5) Often 30.0% (n=3)	**n=11** Seldom 45.4% (n=5) Never 36.3% (n=4)

Examination of the responses supplied by the survey reveal a clear sense that the perception from teachers overall is that they feel comfortable making grouping decisions (Table 9, SQ#4). Collectively, 73.7% (n=31) of teachers felt that they either often or always felt comfortable analyzing achievement and ability levels to place students into their classrooms. Teachers from each school individually included at least 61% (School A) and at most 76.8% (School C) who responded that they were often or always comfortable creating their groups. This is significant because the premise for success within this model hinges on appropriate student placement. The differentiated instruction this model is designed to support is most effective when student grouping is done well. For example, grouping students appropriately for reading instruction is a key component of the learning environment...furthermore; working with students in small groups is often aligned with differentiated content or products of instruction (Wattes-Taffe, et al., 2012).

Answers to an open-ended question (Survey Question #26) regarding best practices that are imperative to implementation included several which identified effective differentiation of instruction/student grouping as imperative. Of the thirty-nine responses to this item, 38.4%

(n=15) were directly related to these grouping processes. As one teacher from School B wrote, “planning the instruction for small groups is the key. Having time to assess and compact the curriculum.” Another teacher (from School C) stated, “when students are grouped correctly then you don't have so many levels of students in your room. Student’s needs are easier to meet.” This supports the notion that effective grouping of students is perceived by the teachers to be paramount to their ability to effectively differentiate within their classrooms. It also supports the idea of effective differentiation as a theme emerging from the data produced by this study.

However, when asked about sources of anxiety related to the grouping process (Table 9, SQ#5), "student behavioral concerns" was the overall most popular survey answer. Over 73 percent of teachers (73.8%, n=31) identified that they considered student behavioral concerns as an area of great concern when conducting the placement process. This perception held consistent across all three schools, as outlined in Table 10 below:

Table 10. Percentage of Teachers who Identified Student Behavioral Concerns as Sources of Anxiety in the Grouping Process

School A	72.2%	n=13
School B	70.0%	n=7
School C	69.2%	n=9

Overall, 52.3% (n=22) of teachers perceived that parental pressures also provided a source of anxiety within the grouping process. Schools A (83.3%, n=15) and B (60.0%, n=6) showed the highest percentage of teachers who perceived parental pressures as a factor. However, only one respondent from School C (7.6%) identified parental pressure as relevant.

Student behavior concerns also were the most popular answer to the question regarding the most prominent *challenges* to implementation of the model (Table 9, SQ#11), with 23.8% (n=10) of teachers choosing this answer. The notion that competing initiatives within the district made implementation more challenging was chosen as the response for 19.0% (n=8) of survey participants. The perception of teachers in School A (23.8%, n=4) and School C (54.5%, n=6) concurred that student behavior concerns are a large concern to the implementation process. Results from School B did not include any respondents that chose student behavior concerns when answering this question. Also, 50.0% of teachers in School B (n=5) felt that there were no prominent challenges during implementation of the model, while 30% (n=3) identified competing district initiatives as problematic.

Interview responses were mixed in their reaction to identification of implementation challenges. Of the eight teacher responses, four (one from School A, one from School B, and two from School C) identified the student grouping process as the biggest challenge. Two teachers from School A felt that parental pressure was intrusive to the process. As one of them noted, "in my school, there were too many stay-at-home mommies who did not trust the teachers to do what they needed to do... too many parents who felt the need to make sure that their kids made it into the high group." The remaining teacher answers included one related to competing district initiatives, and one regarding teacher placement.

Analysis of the documents provided by principals revealed little or no training, or time dedicated to on-going refinement of the grouping process, beyond the initial training provided by the district. There were almost no references to this process in the agendas and documents to which the researcher had access. There was, however, clear proof that student data cards used to organize data to assist the grouping process exist, and are utilized to assist the process of

appropriately placing students into clusters. At the district level, the documents received do reference the existence of agenda items that were related to training staff to understand the dynamics of the groups, and the grouping process in the trainings prior to implementation.

Another interview question asked participants if they felt that parents supported the continued usage of this model in their children's schools. All teacher responses from Schools A (n=3) and B (n=2) indicated that they had a high level of confidence that the parents from their schools supported this model. One teacher (from School B) responded "one-hundred percent I think the parents are in support. Actually, they demand it. Selling our parents on not going to the gifted center (pull-out gifted support) was an important selling point, but now the parents are in full support of this model of in-house gifted support." Conversely, all interviewed teachers from School C (n=3) responded that because of limited parent involvement at their school, the parents were not aware of what the model was, or even that it had been used.

The principals from Schools A and B all agreed that their parents were in support. The principal from School B shared the following:

> "Absolutely, the parents are now in support. This is the first year that I haven't had to worry about parent meetings. We used to have monthly meetings around the gifted and talented model, now they trust us... and it is a great feeling."

The interview response to this item from the principal of School C concurred with the viewpoint of the teachers from that school. That principal shared the viewpoint by saying that "most don't even know about it or even care either way." The central office supervisor's opinion corroborated that of the teachers and principals with the statement that "generally, there is parent support at School B. At School A, there is support, but most parents are more worried about where their children are grouped. At School C, the parents don't know anything about it."

Documents provided by the principals from School A (A.1, A.2) revealed some very specific efforts to inform parents of their child's work, expectations, and an overall picture of the structure of the model. The evidence provided multiple contact points in which teacher practices included sending letters to parents that outlined student placement in enrichment groups. They afforded parents an opportunity to participate in the process by choosing "pull-out" periods for their children. They were able to identify the classes from which their children would be pulled for enrichment, and which "special interest" courses their children would experience. In addition, at least one PowerPoint presentation (from year one, 2009-2010) was provided that outlined a basic understanding of the Total School Cluster Grouping model for parents. None of the documents provided from Schools B or C reflected items related to working with parents to learn more about the model. None of the items provided from central office included specific plans or information related to informing parents about the process, or working with schools to share best practices for building parental support for the model .

The responses from principals relating to the biggest challenge associated with implementation differ in viewpoint and in content. All four principals felt that the biggest challenge was related to identification or service of gifted and talented children in their school. Each principal had a slightly different take on how the service of gifted and talented children offered a challenge, dependent upon variables germane to their individual schools. As one principal stated (School B), "it was about getting teachers to buy-in and implement with fidelity... changing their beliefs about giftedness." Another felt that the challenge was more directly related to the services they could provide for the gifted students they serve. The principal (School A.2) felt that "it was more about balancing the classrooms because of the amount of gifted students we have...it made it difficult to provide enough push-in/pull-out support." A third

principal (School A.1) echoed that sentiment, commenting that in the very beginning of implementation "it was easy to garner parent support, because everyone wanted a more effective model to service gifted children, but it was very difficult to balance the groups without inadvertently segregating children." This particular principal was present during the first year of implementation, and then moved on to another position in the district. The central office supervisor saw it a bit differently, commenting that initially, there were "issues around parent buy-in... some schools had to get the parents to understand why not going to the gifted center (pull-out gifted support) would be better."

Professional development at the school level is a key component to the on-going maintenance of any initiative in which teachers are required to apply their craft. In the past two decades alone, advocates of continuing teacher education have promoted school-based learning opportunities, such as coaching and lesson study; new topics, in the form of increased focus on subject matter content and, more recently, the analysis of assessment and related data...(Hill, p. 470). In this study, overall respondent perception that teacher input was considered when professional development was planned and implemented at the school level was uneven (Table 9, SQ#16). Please refer to Table 11 for information that will begin to outline the responses to this question.

Table 11. Teacher Perception of Input for School Level Professional Development

	Always	Often	Sometimes	Seldom	Never
District	15.0% (n=6)	22.5% (n=9)	27.5% (n=11)	12.5% (n=5)	22.5% (n=9)
School A		27.7% (n=5)	38.8% (n=7)		
School B	40.0% (n=4)	40.0% (n=4)			
School C					54.5% (n=6)

A closer look at school level survey results reveals that 80% of teacher responses from School B (n=8) shared the perception that teachers either always, or often had input into the professional development activities conducted at their school. At School A, 66.6% (n=12) of teachers perceived that they either often or sometimes had input. At the other end of the spectrum, survey responses from School C included 54.5% (n=6) that felt that they never have input into professional development at the school level.

Over 65% of overall respondents (n=24) indicated that they seldom or never have opportunities to participate in professional development outside of their schools (Table 9, SQ#21). Teacher answers from School C show that 81.7% (n=9) feel that they seldom, or never have opportunities to participate in professional development outside of their school related to this model. The responses from School B indicate that 80.0% (n=8) feel that they sometimes, or often have these opportunities.

These survey questions measure staff buy-in to the implementation process in small pieces. They speak to specific components of practice in which teachers participate. Within the interview phase of this study, however, a broader question was posed to measure overall perception of staff ownership of this process. To paraphrase, interview participants were asked if they "feel as though the amount of support from staff indicates a sense of buy-in." In response, four teachers replied "yes" and four replied "no." Those who answered "yes" included one (out of three) from School A, two (out of two) from School B, and one (out of three) from School C. Those who answered "no" included two (out of three) from School A and two (out of three) from School C.

Of the teachers who felt that staff has bought-in to this model, one from School B offered "yes, the staff has really bought into it...feedback in staff meetings/data reviews shows the teachers are on board." Another from School B noted "yes, we have bought-in... we have seen more kids move from the above average group to the high achieving group, been more upwardly mobile. More kids have been tested for gifted as a result of this model."

Of teachers that did not feel staff buy-in is present, one (from School A) said that, "I believe that the staff truly doesn't buy in as much as the principal wants. Or, the parents want. A lot of staff want to get rid of it but don't have that choice." Another (School C) shared that, "it is pretty divided, with not everyone on board. It depends on what groups they are getting. Those with the Low Cluster (that includes Learning Support children) are not real sure."

The principal from School B feels that the teachers buy-in because "I consciously make an effort to make them see the value." Also, the principal from School A (A.2) commented that there is buy-in "because at the end of last year we brought it to a vote and it was overwhelmingly in favor [of continuing with the model]."

In response to an interview question in which participants were asked if they felt that, overall, the implementation of the model has been successful, all thirteen interview participants responded "yes." Most cited an increase in test scores, and an increase in the number of children being identified for the High Achieving cluster. The central office supervisor pointed out that, "the resources have had a big return on the investment, so to speak... mindsets in the communities have shifted between gifted and talented learners. They don't know the difference, and that is invaluable to school and school community culture. Because of this change in mindset, children will no longer have to be identified as gifted to gain access to the higher level classes in high school."

Almost all interview participants (92.3%, n=12) were in agreement that they would recommend this model to other schools or districts with similar demographics. Most of those in agreement spoke to an increased ability to effectively differentiate for students within the model as the most important reason for their endorsement. The dissenting sentiment was a teacher from School A who felt that the demographics in that school made it difficult. “I honestly think it is difficult in our school because of the demographics. One-third of our school is identified as gifted, which makes it difficult to place all students into appropriate clusters.”

4.2.2 Summary of findings from research question #1

The majority of staff is overall comfortable with the process of placing students into the appropriate cluster groups. There is evidence in the documentation that staff development was focused on grouping students appropriately early in the implementation of the model. Teachers also identified an increased level of effectiveness within their ability to differentiate instruction, and compact curricula were best practices that surfaced for them because of the model.

Perception of teacher input into professional development at the school level prior to implementation was unbalanced among the three schools. Those from School B had a very high rate of satisfaction with their ability to assist in driving the topics covered in school-based trainings, while those from school C had a very low perception of their input. In regard to professional development outside their schools, there are a large number of teachers who do not perceive that these opportunities are available to them. The largest rate of teachers who responded that training outside their school is seldom or never offered came from School C. Coincidentally, teachers interviewed from school B both felt as though there was a high rate of

teacher buy-in within their school, while teachers from Schools A and C were split in their opinion of staff buy-in at their schools.

There is also a clear sense that student behavioral concerns are the most pressing issue that teachers feel are problematic to implementation. Teachers in all three schools pointed to student behavior as the most prominent roadblock to success within the model. A high rate of teachers (over 73%) across all three schools pointed to student behavioral concerns as the biggest challenge. The principals asserted that the identification of gifted students, and meeting their needs as the largest hindrance to the process. There is clearly a disconnect in thinking between the focus of the teachers, and the focus of the principals related to identification of the challenges that this process presented.

Perception of staff buy-in to the usage of the model among teachers is split, while principals tend to feel as though the staff buy-in is at a higher level. Those teachers who felt that buy-in exists pointed to a sense of happiness about increased test scores, and higher levels of children being identified for movement into the higher achieving cluster. Those who did not feel there was buy-in cited unhappiness with the group that teachers were assigned to work with.

Almost all interview participants feel that implementation has, overall, been successful. Their responses to a direct interview question in which they were asked ‘if they feel as though implementation of this model in their schools has been successful,’ indicate a strong sense that staff has a positive feeling of success. Eleven of twelve teachers and principals asked responded that they do, indeed, feel that the model has been successful at their schools. Almost all interview participants also responded that they would recommend this model to other schools with similar demographics as their own, which include three very different demographical make-ups.

4.2.3 Findings from research question #2

What are educator perceptions of the professional development provided with the model?

This research question was designed to elicit a general understanding of teacher and administrator perceptions related to the amount and duration of staff training, both prior to, and during the four years spent operating within the framework of the model. Questions were meant to first measure the type of orientation that staff was exposed to prior to implementation, and then to examine the on-going effect that utilization of the model is perceived to have had on professional development.

In order to begin analysis of the data related to this research question, survey responses were first examined, and the most common answers were identified. This type of analysis was intended to provide a way to ascertain the themes that surface from the data collected. You may refer to Table 12 for a report on survey responses to questions pre-coded to Research Question #2, disaggregated by survey question and most prominent answers from those who responded.

Table 12. Survey Responses by District, by School (most common answers)

Research Question #2

Research Question #2 What are educator perceptions of the professional development provided with the model?		**District**	**School A**	**School B**	**School C**
		n=42	**n=18**	**n=10**	**n=13**
Survey Question #2 How many years have you been a teacher within the Total School Cluster Grouping Model?		**n=42** 4 Years 80.9% (n=43)	**n=18** 4 Years 88.8% (n=16)	**n=10** 4 Years 90.0% (n=9)	**n=13** 4 Years 69.2% (n=9)
Survey Question #6 In your school, how was it determined which teacher would work with the HA/A/LA groups and which teacher would work with the AA/A/L groups? (check		**n=42** By the Principal 78.5% (n=33) By the Teachers	**n=18** By the Principal 88.8% (n=16) By the Teachers	**n=10** By the Principal 80.0% (n=8) By the Teachers	**n=13** By the Principal 69.2% (n=9) By the Teachers

all that apply)		50.0% (n=21)	27.7% (n=5)	80.0% (n=8)	61.5% (n=8)
Survey Question #12 Prior to working within the Total School Cluster Grouping Model, did you participate in personal or work related research/ professional development about the model?		**n=41** School-Level PD 78.0% (n=32) Conversations with other teachers 75.6% (n=31) Data analysis of Students 73.1% (n=30) Conversations with Principal 65.8% (n=27) District-Level PD 48.7% (n=20)	**n=18** School-Level PD 77.7% (n=14) Conversations with other teachers 77.7% (n=14) Data analysis of Students 72.2% (n=13) Conversations with Principal 50.0% (n=9) District-Level PD 61.1% (n=11) Read an Article 55.5% (n=10)	**n=10** School-Level PD 100.0% (n=10) Conversations with Principal 90.0% (n=9) Conversations with other teachers 80.0% (n=8) Data analysis of Students 80.0% (n=8) Read an Article 70.0% (n=7) District-Level PD 40.0% (n=4)	**n=12** Data analysis of Students 66.6% (n=8) Conversations with Principal 66.6% (n=8) Conversations with other teachers 58.3% (n=7) District-Level PD 50.0% (n=6)
Survey Question #13 How often have you participated in professional development regarding the ***grouping*** process involved in Total School Cluster Grouping?		**n=40** **2009-2010** A few times per year 50.0% (n=20) **2010-2011** A few times per year 45.0% (n=18) **2011-2012** Once per year 30.0% (n=12) A few times per year 30.0% (n=12) **2012-2013** Almost never 45.0% (n=18) Once per year 30.0% (n=12)	**n=18** **2009-2010** A few times per year 50.0% (n=9) **2010-2011** A few times per year 50.0% (n=9) **2011-2012** Once per year 50.0% (n=9) A few times per year 33.3% (n=6) **2012-2013** Once per year 38.8% (n=7) Almost never 33.3% (n=6) A few times per year 27.7% (n=5)	**n=10** **2009-2010** A few times per year 40.0% (n=4) **2010-2011** A few times per year 50.0% (n=5) Monthly 30.0% (n=3) **2011-2012** A few times per year 50.0% (n=5) Once per year 30.0% (n=3) **2012-2013** A few times per year 40.0% (n=4) Almost never 30.0% (n=3)	**n=11** **2009-2010** A few times per year 54.5% (n=6) **2010-2011** Almost never 45.4% (n=5) A few times per year 27.2% (n=3) Once per year 27.2% (n=3) **2011-2012** Almost never 81.8% (n=9) **2012-2013** Almost never 81.8% (n=9)
Survey Question #14 How often have **on-going** professional development activities specific to Total School Cluster Grouping been conducted at your school?		**n=40** **2009-2010** A few times per year 47.5% (n=19) **2010-2011**	**n=18** **2009-2010** A few times per year 44.4% (n=8) **2010-2011**	**n=10** **2009-2010** A few times per year 40.0% (n=4) **2010-2011**	**n=11** **2009-2010** A few times per year 54.5% (n=6) Almost never

		A few times per year 40.0% (n=16) Almost never 30.0% (n=12) **2011-2012** Almost never 40.0% (n=16) A few times per year 35.0% (n=14) **2012-2013** Almost never 45.0% (n=18) A few times per year 30.0% (n=12)	A few times per year 50.0% (n=9) **2011-2012** Almost never 33.3% (n=6) A few times per year 27.7% (n=5) Once per year 27.7% (n=5) **2012-2013** Almost never 44.4% (n=8) A few times per year 27.7% (n=5)	A few times per year 70.0% (n=7) **2011-2012** A few times per year 90.0% (n=9) **2012-2013** A few times per year 70.0% (n=7)	36.3% (n=4) **2010-2011** A few times per year 63.6% (n=7) **2011-2012** Almost never 90.9% (n=10) **2012-2013** Almost never 90.9% (n=10)
Survey Question #19 Do you agree that the **quality of professional development related to the implementation** of Total School Cluster Grouping at your school has helped you to better serve the needs of the children that you teach?		**n=38** Strongly agree 13.1% (n=5) Agree 39.4% (n=15) Disagree 36.8% (n=14) Strongly disagree 10.5% (n=4)	**n=17** Agree 35.2% (n=6) Disagree 58.8% (n=10) Strongly disagree 5.8%)n=1)	**n=10** Agree 50.0% (n=5) Strongly agree 50.0% (n=5)	**n=10** Agree 30.0% (n=3) Disagree 40.0% (n=4) Strongly disagree 30.0% (n=3)

In response to inquiry about methods used to assign teachers to the group of students with whom they work (Table 12, SQ#6), there was clear evidence that both the teachers and principals had the most input and influence on teacher placement within the model. This survey item allowed for multiple answers, therefore interpretation of results should include an understanding that teacher perception can include the opinion that placement was decided upon by more than one individual. Overall, 78.5% of respondents (n=33) identified that the principal had been part of the process that placed teachers, while 50.0% (n=21) answered that teachers had input. Only two responses (4.7%) included a perception that parental input played a part, while seven respondents (16.6%) indicated “other” as their answer, and wrote more specific information.

Information in the “other” category included two teachers who responded that because their school was departmentalized, they worked within both clusters.

It is worthy to note that the model itself calls for teachers to collaborate and provide information about their preferred assignment as referenced in Table 2, found on page forty-eight of this study. The premise of the model is built around the identification of teachers who display an affinity and desire for working with gifted and talented students. Allowing teachers the opportunity to collaborate to determine the best course of action in their placement is meant to build ownership, and feed the best practice of appropriately assigning teachers to high achieving clusters. Gentry & Mann (2008a, p. 28) recommend that grade-level teachers sit together and discuss openly who is interested in teaching which classroom. Often, grade-level educators can work together to make the designation. Teacher buy-in to classroom assignments can alleviate any sense of preferential treatment, and increase the likelihood of success. The principal can then weigh-in to validate the agreement the teachers make, or to make decisions in situations where teachers cannot reach consensus.

The majority of teachers in School A responded that the principal was integral to the placement process (88.8%, n=16), with only 27.7% (n=5) responding that teachers had input. Schools B and C were much more balanced in their responses. School A included 80.0% (n=8) who felt the principal had input, and 80.0% (n=8) who perceived teachers were part of the process. School C included 69.2% (n=9) who felt that the principal was part of the placement process, and 61.5% (n=8) who thought placement included teacher input.

A different survey question was posed that gave respondents an opportunity to identify the types of training they received before embarking upon the implementation process (Table 12, SQ#12). Overall, answers illustrate that the majority of teachers saw that several factors

influenced the professional development they participated in to learn about the Total School Cluster Grouping Model. You may refer Table 13 below for a view of the most common answers to this survey item. You will note that this item allowed teachers to choose more than one answer. This helps to paint a clear picture that multiple perspectives were considered in the initial information that assisted teachers to familiarize themselves with the model.

Table 13. Teacher Perception of Types of Professional Development Provided Prior to Implementation (Most Common Responses)

RESPONSES - OVERALL

School-Level PD	Conversations with other Teachers	Data analysis of Students	Conversations with Principal
65.8% (n=27)	75.6% (n=31)	73.1% (n=30)	65.8% (n=27)

Clearly, there is a sense that teachers spent time talking about the implementation of this model with their colleagues (75.6%, n=31) and their principals (65.8%, n=27). It is also clear that analysis of student data (73.1%, n=30) and school-level professional development (65.8%, n=27) was integral to implementation. Further analysis of this survey question revealed that less than 50% of teachers overall (48.7%, n=20) recalled district-level professional development as instrumental to the process. Within the responses at each individual school, School B (40.0%, n=4) and School C (50.0%, n=6) indicated that district-level supports assisted the implementation process, while School A (61.1%, n=11) had a slightly higher perception of district professional development efforts.

The second open-ended question (survey question #27) asked respondents if they could identify areas of strength related to the professional development they received prior to

implementation of the model. Of the thirty-nine answers, fifteen (38.4%) replied that they could not identify an area of strength in the professional development provided at their schools prior to implementation. Other answers ranged from meeting the needs of gifted and talented learners (five), to differentiated instruction/grouping (four), to sharing of best practices (two).

Another open-ended question (survey question #28) explored teacher's perception about areas of growth regarding the professional development related to the implementation process. Thirty-nine teachers responded to this survey item. Of the responses, sixteen teachers (41.0%) responded that they could not identify an area for growth. Other responses included the grouping/managing of groups (six). One teacher (from School A) stated, "more professional development should be provided to teachers on how to develop, implement and manage student groups within a classroom." Another teacher (also from School A) felt that, "there needs to be more time devoted to PD (professional development) on the implementation process, and supports set up for the classroom teacher."

Document analysis from agendas, minutes, and presentation materials provided by schools and the district shows that there were specific leadership trainings that occurred to introduce the model, provide group identification planning, and talk about staff development needs in the first year of the model. There was also evidence of status updates at the district level through the first year of implementation, and multiple trainings geared toward working with the gifted resource teachers.

Interview responses to a question about the *most* beneficial aspects to the professional development received by staff prior to implementation of the model spoke to learning about the grouping process itself, and to learning about how to address the needs of gifted students. Five (of 8) teachers interviewed remembered the training received on how to group children within

the model as most beneficial, while the learning strategies to better serve the needs of gifted children resonated more with the remaining three. Six (of 8) teachers also cited the conference that they attended at an out-of-state university as professional development that they felt was integral to the process.

Responses from principals indicated a feeling that the most beneficial professional development came from staff opportunities to learn about grouping students, and also beginning to ingrain the model into the culture of their schools. As the current principal from School A (A.2) stated, "when I came to the school, it was clear that the teachers had internalized it because coming in year two the only ones to teach me about it were the teachers. They showed me how to group students and explained the model." The central office supervisor interviewed for this study also entered the picture late, coming into the position six months after the initial implementation. The same sentiment is shared, however. The work from the out-of-state conference, and the initial start-up phase was shared by those involved, and helped the supervisor to ramp-up to an understanding of the model very quickly, she felt.

Interview answers regarding the *least* beneficial aspects of the professional development provided staff prior to implementation included four teachers who couldn't remember anything that wasn't helpful. Three of the eight teachers interviewed did not feel the information received on how to compact curriculum to meet the needs of ALL children was helpful. They indicated a desire to receive more time to focus on compacting curriculum so that all needs are met, not just for the higher achieving students. As one teacher noted, "curriculum compacting never got grade level specific, we were never given clear guidelines on how to compact and best serve kids." Within the agendas and professional development documentation provided to the researcher for this study, there was evidence to show that time was dedicated to developing best practices for

the gifted resource teachers. However, time dedicated to developing capacity to better serve gifted and talented students for all teachers was fragmented.

Principal and central office responses regarding the least beneficial aspects to professional development also revolved around learning more about specifically how to meet the needs of all students. They shared frustrations with the initial grouping processes, and how they seemed biased toward ensuring gifted children were placed and served. As the principal from School B shared, "they tried to implement it in schools with no real chance of implementing it correctly at first. Early on, it was more of a gifted cluster model until we learned more about the grouping process, and how to serve all children through the model." The documents provided included evidence that attempts were made at the school level to develop staff ability to understand and meet the needs of all students. Schools A and B have clearly focused on building teacher capacity to identify gifted learners and meet their needs. The presence of gifted resource teachers in these schools has enhanced the experiences for high achieving students. However, teachers clearly articulated a desire to learn more about how to differentiate for all students, not only high achievers. Documents also show that at the district level there were concerted efforts to train the gifted resource teachers to support the learning needs of high achieving children.

Coincidentally, the survey included questions about the professional development teachers were provided relating to the process of grouping students (Table 12, SQ#13). Responses showed that in the 2009-2010 school year (the first year of implementation of the model in this district), most teachers recalled participating in professional development on the grouping process at least a few times per year (62.5%, n=25). This perception decreased in 2010-2011 (55.0%, n=22), and declined again in 2011-2012 (35.0%, n=14). By 2012-2013, the

number of teachers who perceived that professional development related to grouping students was occurring had fallen significantly. In this fourth year of implementation, 75.0% (n=30) of teachers answered that professional development related to the grouping process was only occurring once per year or almost never.

There were also questions posed to the teachers that were designed to further examine the duration and intensity of the on-going professional development related to the maintenance of the model as a whole (Table 12, SQ#14). A question regarding the number of times per year teachers participated in professional development of any kind specific to Total School Cluster Grouping revealed greater frequency and intensity earlier in the implementation process as well. In 2009-2010, the majority of teachers felt that professional development opportunities took place at least a few times per year (60%, n=24). By 2012-2013, however, 65.0% (n=26) indicated that these opportunities had diminished to once per year or almost never. In 2012-2013, teachers from School A (71.2%, n=13) indicated a majority of responses in the once per year or almost never categories, and 90% of teacher responses from School C (90.9%, n=10) chose to reply that these opportunities almost never occurred. However, 70% (n=7) of teachers in School B felt that they were still enjoying professional development activities designed to support the model at least a few times per year. As previously mentioned, overall, 80.9% (n=34) of teachers who responded have taught within the model for the past four years. By school, the number of teachers who have operated within the model for four years was as follows: School A—88.8%, (n=16), School B—90.0%, (n=9), and School C—69.9% (n=9). This is relevant because it illustrates that among respondents there was a low rate of teacher turnover in the schools studied over the course of the four-year time frame, especially in Schools A and B. It is

important to note this point as it relates to the validity of the perception regarding the professional development provided to teachers across the four years.

Teachers were almost evenly split in their perception of the quality of professional development related to the implementation of the Total School Cluster Grouping model (Table 12, SQ#19). A little over 50% (52.6%, n=20) of teachers surveyed answered that they agreed, or strongly agreed that the quality of professional development assisted them in better serving the students they teach. Conversely, 47.4% (n=18) either disagree or strongly disagree. A closer look shows that Schools A and C reported a perception that they disagree, or strongly disagree that the quality of professional development provided was useful to them in addressing student needs (School A–64.4%, n=11/School C–70.0%, n=7). One-hundred percent of teachers (n=10) in School B, however, reported that they either agreed, or strongly agreed that their professional development led to better service of their students.

When asked about items the district should have considered prior to implementation of the model, six of the eight teachers interviewed replied that more information about effective differentiation/curriculum compacting would have been helpful. One teacher from School B offered that what would have helped was "more about how to compact curriculum, including more best practices. We need activities and materials, not more advice on how to transition." Three of four principals, and the central office supervisor, agreed that more specific information on how to leverage the model to better compact curriculum and meet student needs would be appropriate, specifically for higher achievers. As articulated by the principal of School B, "the district needs to focus on enrichment and teach teachers how to deal with gifted children, how to screen for gifted and talented, etc... We need more instruction on how to push our higher achieving children."

Another interview question addressed staff perception related to the biggest challenges to successfully maintaining this model at their schools. Two teachers pointed to the identification of new students to their school as a problem. One teacher from School A said, “the transient population and placement of new kids.” Keeping classrooms balanced when new kids come.” Other teacher responses included teachers switching clusters, and a feeling that there was not enough staff to support the process. Principal responses included two that spoke to losing time with their gifted resource teacher due to budget cuts within the district. The central office supervisor concurred, saying that, “because we can no longer centrally fund the gifted resource teachers to be the on-site glue and keep the level of awareness at a heightened level, it is a resource issue.”

All teachers felt that the professional development necessary to maintaining this model over time would hinge on the ability to learn more about how to meet individual student needs. They talked about learning more about delivering higher quality differentiation of instruction, and more about effective curriculum compacting. There was also a call to find time to “communicate across all grade levels to see how it all connects, and how we can support one another’s work” (Teacher from School B). Principals and the central office supervisor agreed, calling for more time and effort to address teacher capacity to identify giftedness, and to share best practices on how to meet all students at their ability levels.

4.2.4 Summary of findings from research question #2

The majority of teachers perceived that professional development prior to implementation included a combination of conversations with teachers, data analysis, school level professional development, and conversations with principals. While some teachers identified district level professional development as instrumental, most did not feel that support existed.

There is a clear sense that teacher perception is that they are not completely comfortable with their understanding of how to manage groups once they are in place. Therefore, the professional development provided along with the model is not perceived as effective in this regard. They have indicated that they would feel more comfortable if extended time and training was devoted to refining the process of deciding exactly how to meet student needs at their ability levels.

There is also a running theme that has emerged regarding the professional development related to managing the process of curriculum compacting for high achieving students. As defined on page 8 of this study, curriculum compacting entails the process of eliminating already mastered materials, and providing more challenging learning experiences for students who have exhibited an ability to respond to accelerated learning opportunities. Many teachers have expressed a desire to learn more about the nuances of effective curriculum compacting, and the process of leveraging the model to better meet all student needs. This theme is supported through survey and interview data, although there was evidence in the documentation provided that some opportunities to learn more about these items were provided. Agendas from School A and School B, as well as district agendas, showed that there were multiple attempts to build staff abilities in

this area. Teacher and principal perception was clearly in favor of furthering a focus on this work to build teacher confidence, and capacity in meeting the needs of gifted students.

The biggest challenges to on-going maintenance of the model as perceived by staff are addressing the issue of placing new students as they transfer into schools, and dealing with budget cuts that pare down resources.

4.2.5 Findings from research question #3

How did the model impact educator's pedagogical decision-making in the classroom?

This research question was intended to measure the perception of how the model has affected the instructional decision-making of teachers and staff. It was posed to provide a starting point from which conclusions could be made regarding the effect of the model on the day-to-day decisions that must be made in order to appropriately serve student needs. It was also intended to examine perception of the type of on-going professional development needs that surface as a result of maintaining the model and how they are addressed. Ultimately, this research question was incorporated into this study to elicit responses about whether or not the educators involved feel a sense that the model has resulted in more effective classroom practices that better serve student needs.

To analyze the data related to this research question, survey responses were first examined, and the most common answers were identified. This analysis was designed as an avenue through which patterns could be mined from the data collected, as a way to further identify the themes that develop. You can find this information in Table 14 below. It is provided as a report of survey responses related to questions which are pre-coded to Research Question

#3, and disaggregated by survey question and most prominent answers from those who responded.

Table 14. Survey Responses by District, by School (most common answers)

Research Question #3

Research Question #3 How did the model impact educator's pedagogical decision-making in the classroom?		**District**	**School A**	**School B**	**School C**
		n=42	**n=18**	**n=10**	**n=13**
Survey Question #7 How often did you practice flexible grouping in your classroom prior to working within the Total School Cluster Grouping Model?		**n=41** 4X or more per week 34.1% (n=14) 3X per week 19.5% (n=8) 2X per week 29.2% (n=12) 0-1X per week 17.0% (n=7)	**n=17** 4X or more per week 44.4% (n=8) 3X per week 22.2% (n=4) 2X per week 11.7% (n=2) 0-1X per week 17.6% (n=3)	**n=10** 4X or more per week 20.0% (n=2) 3X per week 10.0% (n=1) 2X per week 50.0% (n=5) 0-1X per week 20.0% (n=2)	**n=13** 4X or more per week 30.7% (n=4) 3X per week 27.2% (n=3) 2X per week 30.7% (n=4) 0-1X per week 15.3% (n=2)
Survey Question #8 How often do you practice flexible grouping in your classroom within the Total School Cluster Grouping Model?		**n=42** 4X or more per week 52.38% (n=22) 3X per week 28.5% (n=12)	**n=18** 4X or more per week 55.5% (n=10) 3X per week 22.2% (n=4)	**n=10** 4X or more per week 70.0% (n=7)	**n=13** 4X or more per week 38.4% (n=5) 3X per week 46.1% (n=6)
Survey Question #9 ***Prior to*** the implementation of the Total School Cluster Grouping model, what model of Learning Support Service was practiced in your school?		**n=42** A combination of pull-out and inclusion 76.1% (n=32)	**n=18** A combination of pull-out and inclusion 77.7% (n=14)	**n=10** A combination of pull-out and inclusion 60.0% (n=6)	**n=13** A combination of pull-out and inclusion 92.3% (n=12)
Survey Question #10 ***Currently***, what model of Learning Support Service is practiced in your school?		**n=42** A combination of pull-out and inclusion	**n=18** A combination of pull-out and inclusion	**n=10** A combination of pull-out and inclusion	**n=13** A combination of pull-out and inclusion

		57.1% (n=24) Full inclusion 23.8% (n=10)	50.0% (n=9) Full inclusion 33.3% (n=6)	50.0% (n=5)	76.9% (n=10)
Survey Question #17 How many hours of professional development have you received related to meeting the needs of ***gifted and talented learners*** at your school since the implementation of the Total School Cluster Grouping Model?		**n=41** **2009-2010** 1-2 hours 36.5% (N=15) 3 or more hours 29.2% (n=12) None 21.9% (n=9) **2010-2011** 1-2 hours 39.0% (N=16) 3 or more hours 26.8% (n=11) None 24.3% (n=10) **2011-2012** 1-2 hours 39.0% (N=16) None 31.7% (n=13) **2012-2013** None 41.4% (n=17) 1-2 hours 29.2% (N=12)	**n=18** **2009-2010** 1-2 hours 44.4% (N=8) None 27.7% (n=5) **2010-2011** None 38.8% (n=7) 1-2 hours 27.7% (n=5) **2011-2012** None 44.4% (n=8) 1-2 hours 33.3% (N=6) **2012-2013** None 50.0% (n=9) 1-2 hours 27.7% (N=5)	**n=10** **2009-2010** 3 or more hours 60.0% (n=6) **2010-2011** 3 or more hours 60.0% (n=6) 1-2 hours 40.0% (n=4) **2011-2012** 1-2 hours 60.0% (n=6) 3 or more hours 40.0% (n=4) **2012-2013** 1-2 hours 50.0% (n=5) 3 or more hours 40.0% (n=4)	**n=12** **2009-2010** 1-2 hours 41.6% (N=5) **2010-2011** 1-2 hours 50.0% (n=6) **2011-2012** None 41.6% (n=5) N/A 33.3% (N=4) **2012-2013** None 58.3% (n=7) N/A 33.3% (N=4)
Survey Question #18 Has the professional development **at your school** assisted you to meet the needs of the students in the cluster that you teach?		**n=39** Sometimes 35.9% (n=14) Often 23.0% (n=9) Always 12.8% (n=5)	**n=17** Sometimes 44.4% (n=8)	**n=10** Often 50.0% (n=5) Always 40.0% (n=4)	**n=11** Sometimes 45.4% (n=5) Never 25.0% (n=3)
Survey Question #20 How often have you or other teachers in your school been afforded opportunities to share instructional best practices related to Total School Cluster Grouping within ***your school***?		**n=39** Always 12.8% (n=5) Often 25.6% (n=10)	**n=17** Sometimes 38.8% (n=7) Seldom 22.2% (n=4)	**n=10** Often 50.0% (n=5) Always 40.0% (n=4)	**n=11** Sometimes 36.3% (n=4) Seldom 36.3% (n=4)

		Sometimes 33.3% (n=13)	Never 22.2% (n=4)		
Survey Question #22 What is the **most prominent challenge to on-going *maintenance of*** the Total School Cluster Grouping Model?		**n=38** Student behaviors 36.8% (n=14) Competing district initiatives 21.05% (n=8)	**n=16** Student behaviors 38.8% (n=7) Competing district initiatives 16.6% (n=3)	**n=10** Competing district initiatives 40.0% (n=4) No prominent challenge 30.0% (n=3)	**n=11** Student behaviors 36.3% (n=4)

A series of survey questions were designed to elicit specific evidence that could speak to the impact of grouping children according to this model on instructional decision-making by teachers. Within teacher efforts to provide a differentiated classroom lie many different tools and methods that must be perpetually managed in order to address all student needs. Differentiated instruction is not a single strategy, but rather an approach to instruction that incorporates a variety of strategies. In other words, differentiation is responsive instruction designed to meet unique individual student needs (Watts-Taffe, et al., 2012, p. 304). One strategy that is a hallmark of a differentiated classroom is on-going flexible grouping. Prior to implementation of the model, 43.6% (n=22) of surveyed teachers overall responded that they practiced flexible grouping in their classrooms three or four times per week (Table 14, SQ#7). In the individual schools, there was a wide variety in teacher responses regarding the number of times per week in which they were practicing flexible grouping (School A – 66.8%, n=12/ School B – 30.0%, n=3/ School C – 57.9%, n=7). In the four years since the model was introduced and implemented (Table 14, SQ#8), the number of teachers who reported that they were flexible grouping students within their classes grew overall to 80.8% (n=34). This evidence of growth held true across each of the surveyed schools individually as well, as teachers from each school indicated an increase (School A - 77.7%, n=14/ School B - 90.0%, n=9/ School C - 84.6%, n=11). The largest growth

in number of teachers who reported that they now practice flexible grouping at least three or four times per week came from school B, which showed an increase of 60% over the past four years. We can conclude from this information alone that utilization of the model is perceived to have had a positive effect on classroom practices, at least in regard to the effort to better meet student needs through flexible grouping.

According to their perception (Table 14, SQ#9), prior to implementation of the model, 76.1% (n=32) of teachers overall practiced a combination of push-in and pull-out learning support services for students in need. (In this context, push-in services refer to the process of special education teachers providing support for students identified as in need of learning support services within the regular education classroom. Pull-out refers to special education teachers pulling their learning support students out of the regular education setting in an effort to meet their needs. Inclusion, as defined on page 8 of this study, refers to the process of bringing services to the child, in the regular education setting, and requires that the child will benefit from being in the class.) Only 4.7% (n=2) responded that full inclusion of learning support services was part of their practice before this model was put in place. After implementation, it remains evident that a combination of push-in and pull-out support is the most popular manner in which to provide services to learning support children (Table 14, SQ#10). However, an overall increase in the number of full-inclusion services did surface. Teacher responses revealed an increase of full inclusion experiences to 23.8% (n=10) overall. Teachers in School A showed the largest increase, with 33.3% (n=6) responding that full inclusion is more evident in practice since implementation of the model. Prior to implementation, 11.1% (n=2) of teachers in School A identified full inclusion as a preferred practice.

Meeting the needs of gifted and talented learners is an integral component to the Total School Cluster Grouping model. Teaching within the model can help to provide full-time services to high-achieving, high-ability elementary students, and weaves gifted education and talent development into the fabric of all educational practices (Gentry & Mann, 2008b). A question on this survey directly asked teachers how many hours of professional development they have received at their schools to improve their ability to meet the needs of these learners (Table 14, SQ#17). Overall, in 2009-2010, 29.2% (n=12) answered that they were exposed to three or more hours of professional development related to the needs of gifted and talented learners. Also, 36.5% (n=15) of teachers perceived that their school offered one or two hours of professional development during that year. Conversely, 21.9% (n=9) responded that they received no training on this topic. Of those who perceived no training was provided, five were teachers in School A, one was a teacher in School B, and three teach in School C.

Individually, School B teachers had the highest rate of teachers who did participate in gifted and talented training, with 90.0% (n=9) responding that they received three or more (six) or one to two (three) hours of professional development related to the needs of gifted and talented learners in 2009-2010. Coincidentally, teachers in School B continued to receive this training, as evidenced by the response rates of one to two or three or more hours of training on this subject in subsequent years (**2010-2011**/100.0%, **2011-2012**/100.0%, and **2012-2013**/90.0%). In contrast, Schools A and C perceived that they steadily received less and less of this type of staff development over the four years spent utilizing this grouping model. This decline culminated in 2012-2013 with 50.0% (n=9) of teachers in School A, and 91.6% (n=11) in School C choosing “none” or “n/a” as their response to the number of hours spent refining the ability to meet the needs of gifted and talented learners. Analysis of the agendas, minutes and

reports that were provided for this study show that trainings related to meeting the needs of gifted and talented for all teachers was dependent upon individual schools to implement. Evidence of training at the district level after initial implementation was geared toward the gifted resource teachers in sessions that did not include the regular classroom teachers.

A more specific question was presented within the survey that asked teachers if they felt that the professional development at their schools assisted them in meeting the needs of all students within the cluster that they teach (Table 14, SQ#18),. According to Gentry and Mann (2008a, p. 31), in order for this model to succeed, it requires knowledge of the students for whom the model is provided, a willingness to collaborate, and continuous professional development. Overall, only 35.9% (n=14) of teachers felt that they always or often received professional development that assisted them in best meeting their student needs. Also, 35.9% (n=14) chose sometimes as their answer to this question. In School B, 90.0% (n=9) of teachers felt confident (always or often) that school-based professional development was helpful to their quest to meet the needs of those in their cluster.

Interview participants were asked to identify the greatest sources of success, and the greatest roadblocks to pedagogical decision-making that they feel have resulted from their participation in this model. Almost all of those interviewed (8/9 teachers, 3/4 principals) identified that a better understanding and better use of data to drive instruction has surfaced as a result of the Total School Cluster Grouping model. "Data analysis has improved greatly. With cluster grouping you can really see where the weak spots are and pinpoint what you need to do," said one teacher from School C. Another teacher, from School B, stated the importance of using data to "compact curriculum and design instruction that truly meets the needs of the kids... and being able to go away from the curriculum, if necessary, to meet your kids' needs."

Roadblocks to pedagogical decision-making, as identified in four of the eight teacher interviews, included time to prepare/break down data, and time to plan activities for each of the groups with which they work. A sentiment that was expressed by three of the principals related to building capacity among staff to meet the needs of the clusters they teach. As the principal from School B opined, "the greatest challenge is building capacity for teachers of high achieving kids, and for all kids... time to make sure they are properly trained to differentiate instruction effectively."

A question was posed on the survey to measure the amount of time teachers were afforded to share best practices related to this model within their schools (Table 14, SQ#20). Overall, 28.4% (n=15) of teachers answered that they always or often were provided with these in-house opportunities to share their practice, and learn from one another. Of those from School B, 90.0% (n=9) answered always or often to this item. Many teachers in Schools A (42.4%, n=8) and C (54.4%, n=6) feel that they are seldom or never given these chances to share amongst themselves.

Student behaviors (36.8%, n=14) and competing district initiatives (21.0%, n=8) were the most identified challenge to implementation of this model overall. Very few teachers (5.2%, n=2) felt that lack of adequate professional development was a factor that made the process more challenging.

The last question of the survey was an open-ended item that prompted participants to identify the most important effects this model has had on pedagogical decision-making in their classrooms (Table 14, SQ#22).

Twenty-four teachers (61.5%) provided answers to this item related to differentiation and better meeting the individual needs of their students. As the teachers below articulate, the overall perception is that this type of grouping has positioned them to better serve student needs.

> "This model has made my decision process more concrete, based on data. I intentionally form learning groups based on the groups in my classroom." (Respondent from School A)
> "The most important effect has been empowering me to make instructional decisions that will impact my student's learning power." (Respondent from School B)

> "I have always looked at the individual student but cluster grouping has made me realize that as a math teacher, I need to look at the skills they already have and enrich them with deeper skills so as not to bore them. It has also made me look at the "average" student and push their thinking into becoming above average students. For my struggling students, it has made me make them more accountable for their learning in that they may not have to do all for example, 15 problems, but knowing that they can apply the concept and understand the math behind it is beneficial to their learning." (Respondent from School B)

In addition, one teacher from School C provided a slightly different perspective by writing the following:

> "This has been very helpful in helping me meet the needs of my students. I am able to more often enrich the high ability group and more often able to reteach / do differentiated instruction with the lower ability group. It has also helped in that the gifted students are all in the same class and are easily able to work with our gifted support teacher at the same time. Similarly, the students who are in the learning support program are also able to receive services at the same time from the learning support staff." (Respondent from School C)

The different perspective referenced above is in relation to the presence of an on-site gifted support teacher. It is important to note that on-site gifted support teachers are not always available in all three schools at this time. This support position was a full-time presence in each pilot school at the beginning of the implementation phase, but budgetary concerns at the district level have dictated that it is no longer a full-time position at each school. The amount of current assistance from a gifted support teacher is dependent on many variables, including school size,

identified gifted and talented population, and the constraints of the district instructional delivery model. The current levels of this type of support range from one day per week (School C), to four days per week (School B), to five days per week (School A). All schools have at least one learning support teacher to provide push-in/pull-out support to their students. As most gifted and talented students are placed into the High Achieving group, most learning support students are placed into the Low group. In both cases, the placement concentrates the identified students in a way that can make the supports more manageable, as is articulated in this response.

4.2.6 Summary of findings from research question #3

Teacher perception is that a large number of respondents feel that they utilize the strategy of flexible grouping more within their classes because of the Total School Cluster Grouping model. There was a significant increase in perception of the number of flexible grouping experiences per week, over the course of the four years within the model for all schools. Most teachers across all three schools reported that they have now increased the flexible grouping experiences in their classrooms to at least three times per week.

Professional development designed to enhance instructional practices related to gifted and talented students has waned, overall, since implementation four years ago. In Schools A and C, most teachers reported receiving little to no training in the past year. However, one-hundred percent of respondents from School B reported that they participated in at least three hours of professional development related to gifted and talented instruction last year. These trainings are all found at the school level. The only evidence of district level training on this topic was for the gifted resource teachers.

Servicing learning support students within this model has included the utilization of both push-in and pull-out support throughout all four years. However, teachers did report a higher level of inclusionary practices by year four. More teachers pointed to an increase in their ability to provide instruction through a fully inclusive model by 2012-2013.

Overall, a low number of teachers perceive that they have continued to receive training at the school level which assists them in meeting the needs of the cluster that they teach, regardless of which student achievement levels the cluster includes. However, at School B, 90% (n=9) responded that they often or always feel confident that they have these opportunities at their school.

Almost all teachers interviewed identified better understanding and use of data as the most beneficial effect the model has had on their instructional decision-making. Also, while teachers overall reported a yearning for more training on effective differentiation practices, they also feel that the model has increased their ability to differentiate. A large number of teachers in this study identified a better ability to differentiate as a beneficial effect on pedagogical decision-making resulting from participation in this pilot program.

The biggest roadblock to pedagogical decision-making identified by teachers was simply time; more specifically, time to complete data analysis, and plan activities necessary for success. Principals felt the biggest roadblock was building capacity among their staff to understand how to leverage the model of grouping students to lead to more successful teaching and learning.

Overall, teachers felt that they were, at least sometimes, afforded opportunities to share best practices within their schools, or with teachers from other schools. At School B, almost all teachers (90%, n=9) felt that they often or always had these opportunities.

4.3 FINDINGS RELATED TO IMPLEMENTATION FRAME MATRIX

Using the implementation frame matrix outlined in Chapter 3, the researcher furthered this inductive analysis by creating profiles of the district as a whole (the case), and each school (the embedded units of analysis), based on survey, interview, and document analysis results. You may refer to Table 15 below for the profiles created using the Implementation Frame. These profiles reflect the emergence of themes that occurred through the analyses process. Based on a comprehensive analysis of all data related to each emerging theme, a designation of "High," "Medium," or "Low," was assigned to the case and each embedded unit of analysis. These designations are represented as the district overall (the cases), and each school individually (the embedded units of analysis). Data used to create these profiles relate to teacher and administrator perception as provided through surveys, interviews, and document analysis.

Table 15. Implementation Frame of Perception

High = Perception Shows **High** Level of Teacher/Administrator Confidence in the Implementation Process

Medium = Perception Shows **Moderate** Level of Teacher/Administrator Confidence in the Implementation Process

Low = Perception Shows **Low** Level of Teacher/Administrator Confidence in the Implementation Process

Emerging Themes	School District	School A	School B	School C
Professional Development Prior to Implementation	Medium	Medium	High	Low
Assignment of Teachers to Clusters	Medium	Low	High	Medium
Grouping of Students into Clusters	High	High	High	High
Orientation of Parents/ Parental Support	High	High	High	Low
On-Going Professional Development – Gifted and Talented – DISTRICT Level	Medium	Medium	Medium	Medium
On-Going Professional Development – Gifted and Talented – SCHOOL Level	Medium	Medium	High	Low
On-Going Professional Development – Ability to Differentiate for all Students – DISTRICT Level	Medium	Medium	Medium	Low
On-Going Professional Development – Ability to Differentiate for all Students – SCHOOL Level	Medium	Medium	Medium	Low
Sources of Anxiety/Most Prominent Challenge – Student Behavior	Medium	Medium	Low	High
Sources of Anxiety/Most Prominent Challenge – Parental Pressures	Medium	High	High	Low
Positive Effect of the Model on Instructional Decision-Making – Flexible Grouping Opportunities	High	High	High	High
Positive Effect of the Model on Instructional Decision-Making – Compacting Curriculum	Medium	Medium	High	Low
Positive Effect of the Model on Instructional Decision-Making – Inclusionary Practices	Medium	High	High	Low

4.4 RESULTS AS MEASURED AGAINST FRAMEWORK FOR SUCCESS

Another viewpoint that allows for measurement of the perceived success of this implementation effort can be seen through examining the framework of the model as intended against the actual perceived results the data shows. Chapter 3 of this study included a matrix (Table 2) which outlines a framework for success within the Total School Cluster Grouping Model. A modified version of the framework is provided again below (see Table 16), where it is matched against actual implementation to provide perspective related to possible reasons for the uneven perception of successes and failures across schools. Again, the perception of teachers and staff were utilized in an effort to assign a designation of "High," "Medium," or "Low" to the case (the district), and each embedded unit of analysis (each school). These designations were assigned based on a comprehensive synthesis of all data collected in this study.

Table 16. Framework for Implementation versus Perception of Study Participants

Introduction of the Model to Staff Initial discussions to develop staff buy-in; research is provided to staff, including the Total School Cluster grouping book; professional development and workshops are provided to ensure that staff has a clear, working knowledge of the model; observation of best practices at other schools can occur; data from other schools can be shared, when available		**Overall –** Medium **School A –** Medium **School B –** High **School C -** Low
Matching Teachers to Clusters Teachers work together to decide who has what cluster, with administrator making the final call; teachers in all classes must have a strong desire to differentiate instruction; HA teachers accept the added responsibility of compacting curriculum and differentiating instruction for gifted and talented learners; all teachers work closely with special education teachers to provide support and inclusion opportunities for special needs students; three year commitment		**Overall –** High **School A –** Low **School B –** High **School C -** High
Administration Strong administrative support in the form of commitment to facilitate time for teachers to engage in the process; commitment to on-going professional development and on-going data analysis; support in trying new strategies commitment to serving all students through usage of the model		**Overall –** Medium **School A –** Medium **School B –** High **School C -** Low
Introduction of the Model to Parents		**Overall –** High

Parents are part of the planning committee in order to help communicate the importance of the work and an understanding of the model		**School A –** High **School B –** High **School C -** Low
Categories of Achievement High Achieving (HA), Above Average Achieving (AA), Average Achieving (A), Low Average Achieving (LA), Low Achieving (L); each class contains three groups (HA-A-LA/AA-A-L)		**Overall –** High **School A –** High **School B –** High **School C -** High
Grouping of Students Identifies and places ALL students, not just gifted; yearly on the basis of achievement and ability; The class that includes HA does not include AA; special needs included in AA group with supports from teachers, but not always assigned to the Low group; categories are based on relative performance within each school; classrooms should be balanced by race, gender, and student behavioral difficulties; trading of like-leveled students to ensure balance; flexible from year-to-year based on continuum of student needs; placement after the school year begins is based on quick reading and math assessment and confirmed or adjusted as records arrive; flexibility of the process ensures that traditionally underrepresented populations are better served		**Overall –** High **School A –** High **School B –** High **School C -** High
On-going Professional Development ALL teachers receive professional development related to gifted education strategies through workshops, conferences, and/or coursework		**Overall –** Medium **School A –** Low **School B –** High **School C -** Low
Differentiated Instruction The use of gifted education strategies can help to address the needs of ALL students; narrowing the range of ability levels provides teachers with better opportunity to engage students more deeply; differentiation of content, process, product, audience, based on the constructs of appeal, challenge, choice, meaningfulness, and self-efficacy		**Overall –** Medium **School A –** Medium **School B –** High **School C -** Low
Flexible Grouping Grouping of students both between class and within class; must be flexible; re-grouping according to subject (math or reading); use of both homogeneous and heterogeneous grouping		**Overall –** High **School A –** High **School B –** High **School C -** High
Curriculum Compacting Use of pre-testing and knowledge of student readiness to compact curriculum and eliminate the repetition of mastered skills and content; small group compacting, individual compacting, tiered activities; anchor activities		**Overall –** Medium **School A –** Medium **School B –** High **School C -** Low
Data Collection and Evaluation Schools and district must have plan to gather and analyze data to determine effectiveness of the model; analysis of student achievement, gifted and talented placements; data disaggregated by cluster and demographics		**Overall –** Medium **School A –** Medium **School B –** High **School C -** Medium
Role of the Teacher 1) Foster and maintain a positive classroom environment; 2) Maintain high, yet realistic expectations; 3) Implement strategies to challenge ALL students; 4) Participate in on-going professional development		**Overall –** Medium **School A –** Medium **School B –** Medium **School C -** Low

High = Perception Shows **High** Level of Teacher/Administrator Confidence in the Implementation Process

Medium = Perception Shows **Moderate** Level of Teacher/Administrator Confidence in the Implementation Process

Low = Perception Shows **Low** Level of Teacher/Administrator Confidence in the Implementation Process

The following sections will further unpack the results of matching the framework to actual implementation overall, and by individual school. These results will be synthesized by component to provide a summary of the perceived levels of success across each component. This perspective provides a key understanding of the perception of the implementation of each individual component of the model overall, and at each school.

Introduction of the Model to Staff

Overall, there was a moderate level of confidence in the professional development that constituted introduction to the model prior to implementation. Less than half of the respondents, overall, recalled district-level professional development as instrumental to the implementation process. All schools, however, included a high number of respondents who felt as though the data analysis they engaged in during implementation was integral to success. Those from School B had the most confidence in the process, with a high percentage of teachers who felt as though they had significant input into the planning and implementation of professional development related to operation within the model. One-hundred percent of respondents from School B (n=10) agree or strongly agree that the quality of professional development related to the implementation of Total School Cluster Grouping at their school has helped them to better serve the needs of the children that they teach. In addition, half of the respondents from School B also responded that there was no prominent challenge to implementation, indicating that they were comfortable with their understanding of the model from the very beginning. Those from School B cited a high level of confidence that there were school-level professional development conversations between teachers, and conversations between principals and teachers prior to

implementation. Those from School A responded with a moderate level of confidence in the process overall, with many feeling as though they did have input into the professional development process. Almost sixty-percent of respondents from School A do not feel that the quality of professional development related to the implementation of the model at their school has helped them to better serve their students. Over half of the respondents from School C indicated that they were never afforded opportunities to have input into school-level professional development prior to implementation, and seventy-percent (n=7) disagree or strongly disagree that professional development related to the model has helped them to better serve their students.

Matching Teachers to Clusters

Overall, there is a high level of confidence that the process of matching teachers to clusters involves a combination of principal and teacher input. In School A, however, there is a clear sense that the matching process is more one dimensional, with the principal playing the most important role in the process. Responses from Schools B and C show a perception of a balanced approach to making this crucial decision. As previously outlined, this decision is important because the model itself calls for teachers to participate in the process as a way to ensure commitment to the cluster with which they ultimately work.

Administration

Overall, there is a moderate level of confidence that administrative support results in a positive effect on the usage of this model within the schools in this study. At School B, there is a high level of perception that there is a running commitment to professional development, and utilization of new strategies to meet the needs of all students. Most teachers in School B remain

confident that, even in year four, there are still on-going opportunities to engage in meaningful staff development. Those from School A are divided in their perception of on-going commitment to staff training at their schools by year four of operation within this model. Over 44% (n=8) feel that these types of training no longer occur, while 27% (n=5) responded that they take place a few times per year. At School C, 90% (n=9) of those surveyed responded that they no longer participate in on-going professional development related to the model.

Introduction of the Model to Parents

There is a high level of confidence, overall, that parents have been oriented to the inner-workings of the model, and are supportive of its usage in their children's schools. Information gathered from Schools A and B show a clear perception that parents are acclimated and supportive at a high level. Those from School C, however, have a low level of confidence in parental support and understanding of the model itself.

Categories of Achievement

All schools reported a high level of comfort in managing their grouping processes within the model. They also reported a high level of comfort with the data analysis that is interwoven into the process.

Grouping of Students

Overall, there is a high level of confidence in staff ability to accurately identify, and analyze the

data necessary to place students into the appropriate clusters. Although all schools indicated that they rarely or never participate in staff development in the fourth year of the usage, there is a high level of confidence in staff capacity to complete this process. One area that was identified as problematic, however, was in accurately placing students who move into schools during the course of the school year.

On-going Professional Development

On-going professional development was perceived to have moderate impact at this time, overall. In Schools A and C, there exists a low perception of the on-going training opportunities provided to the staff. There is also a low level of confidence that the on-going professional development at these schools assists teachers in meeting the needs of the students they teach. Sharing of best practices related to the model within these schools is perceived as occurring only sometimes, or seldom by most respondents in Schools A and C. Those from School B, however, responded with a high level of confidence that the professional development they engage in at the school level is effective. They have a high level of confidence that these are on-going opportunities that are helpful to their ability to meet student needs. Almost all teachers from School B (90%, n=9) responded that they often or always were afforded opportunities to share best practices within their schools.

Differentiated Instruction

Overall, there is moderate confidence in the quality of differentiated instruction provided students through the Total School Cluster Grouping model. As previously stated, there is a low level of confidence that the on-going professional development at Schools A and C effectively

assists teachers in meeting the needs of the students they teach. This translates directly to a lack of confidence in the ability to effectively differentiate instruction. Responses from School B show a contrasting view. Those from School B have a high level of confidence that the school level training in which they participate is effective.

Flexible Grouping

Responses across the three schools were very consistent in their perception that, over the course of the four years that their schools utilized this model, the number of flexible grouping opportunities has increased dramatically. Overall, the number of survey responses indicating that flexible grouping was taking place three or four times per week in classrooms rose from 53.6% (n-22) to 82.9% (n=34) by year four.

Curriculum Compacting

Most, but not all, opportunities to compact curriculum are presented within the High Achieving or Above Average clusters, and related to gifted and talented students. Although most teachers across all schools recalled at least one or two hours of training related to serving gifted and talented students in year one, most perceive that by year four they are receiving no training of this kind. In School A, only 27.7% (n=5) recall one or two hours of such training in year four. In School C, over 80% (n=11) responded that these opportunities no longer take place. In contrast, responses from School B show 40% (n=4) who recalled one or two hours last year, while 50% (n=5) recalled over three hours of professional development designed to enhance programming for gifted and talented students. Also, survey and interview data showed that teachers have an interest in learning more about effective curriculum compacting, and the process of using this

strategy to better meet their student's needs. The perception at all schools points to a clear desire to find ways to better learn, and share best practices related to compacting of curriculum as a method of better serving the needs of all students.

Data Collection and Evaluation

Although data collection and analysis of results does exist at the district level, these types of quantitative results were not germane to this case study. However, an open-ended survey question was presented to respondents in an effort to gauge if they felt the model was successful and why. Multiple responses from Schools A and B included the perception that more children were being identified into the High Achieving cluster, and for gifted and talented evaluation due to the incorporation of this model of grouping students. None of the responses from School C included this perception.

Role of the Teacher

Teachers across all three schools identified student behavioral concerns as important sources of anxiety regarding the grouping process, which may speak to their level of comfort in fostering and maintaining a positive classroom environment. Teachers and principals from all schools expressed a desire to continue to provide and participate in on-going staff development that could build staff capacity to better serve the needs of all students. Those from School B, however, did identify a perception that there were on-going professional development opportunities designed to further their knowledge of identifying and serving gifted students, but also expressed a desire to learn more. As with much of the results from this study, most teachers indicated a desire to learn more about how to meet all student needs. The teachers from School

B, however, have provided insight into a culture of high expectations and learning within their school. Their responses have made it clear that they feel that they are being provided opportunities which seem to be borne out of an on-going commitment by teachers and administration to resist complacency and dig deeper to learn more.

4.4.1 Summary of results as measured against framework for success

In summary, the evidence gathered and analyzed shows that measuring the perception of teachers and administrators overall against this framework (Table 16) indicates a moderate level of success. The greatest sources of success overall are found within the growing number of flexible grouping opportunities, matching teachers to clusters, introducing the model to parents, and grouping of students into their appropriate clusters. The biggest challenges are found within the professional development activities that are conducted by the district and, more importantly, in individual schools. Matching these professional development activities to teacher abilities, and utilizing them to ensure teacher capacity to meet the needs of all students, was identified across all schools as integral to continued success. Also, there is a clear perception of uneven levels of comfort regarding the process of compacting curriculum, and a desire to continue learning more about how to best use this method to differentiate instruction to meet the needs of higher achieving children.

Synthesis of this measurement shows that the information it most prominently reveals lies in the perception of the on-going professional development necessary to sustain success over time. The perception of the training provided prior to implementation indicates success in the introduction of staff to the model, orientation of parents, and teaching staff how to properly

group students. Areas of growth are also related to professional development. Respondents indicated a yearning to have training tailored to meet their needs, to learn more about how to effectively compact curriculum for high achievers, and to learn and share best practices that build capacity for better meeting the needs of all students.

4.5 CHAPTER SUMMARY

Chapter 4 presents the results of this study of teacher and administrator perception related to the implementation of the Total School Cluster Grouping model in their schools. Overall, the data collected illustrates that teachers have a high level of confidence in their ability to appropriately place students within the model. Over 73% of teachers overall felt that they were often or always comfortable in making these important decisions. There is also a moderate level of confidence in their ability to have influence in their placement, and a moderate level of confidence in effectively meeting student needs within the cluster that they teach. Survey data shows that, overall, 50% of teachers surveyed have the perception that they had input into their own placement within the model. However, the perception in Schools B and C is much higher than School A in this regard (School B – 80%, School C – 61.5%, School A – 27.7%). In addition, there is a high level of confidence in two out of three schools that parental understanding and support of the model exists. Schools A and B indicated the perception of parental support in their schools through interview responses that showed a clear level of understanding and support from their parents.

Perception of the professional development provided from the district prior to the implementation process showed a moderate level of confidence in its effectiveness. Perception of the professional development that has taken place over the past four years of operation within the model also was reported to have a moderate level of confidence amongst teachers. All facets of professional development measured in this study overall were reported to be perceived as moderately effective. The extremes that were reported came from School B, from which teachers responded with high levels of confidence in school-based professional development, and School C, from which teachers responded with low levels of confidence in school-based professional development. Teachers from School B reported that they felt satisfied with their opportunities to provide input into planning for implementation (80% often or always), continued training specific to the model (70% in year four), and engaging in quality training related to the model (100% agree or strongly agree). Responses from School C included staff who reported that they did not feel satisfied with their opportunities to provide input into planning for implementation (54.5% never), were not provided continued training specific to the model (90.9% responded almost never in year four), and engaging in quality training related to the model (70% disagree or strongly disagree).

Parental pressures were reported overall to be moderate sources of anxiety (52.3%). Closer examination shows that Schools A and B have high levels of anxiety related to parental pressure (80.3% and 60%, respectively), while School C has very little parental involvement (only one of thirteen responses, or 7%, indicated parental pressure as relevant). Student behaviors were reported by many as the most prominent challenges to implementation at School C (54.5%), but School B had many (50%) who reported no prominent challenges to implementation existed. School C also reported student behavior as a moderate source of

anxiety. However, there is a clear perception across all three schools studied that student behavioral concerns were seen as problematic to the placement process.

Overall, there is a moderate level of confidence that operating within the model has led to positive effects on pedagogical decision-making. Specifically, the perception shows a high level of confidence that the model has led to more flexible grouping opportunities in classrooms. Responses from all three schools show a perception that participation in this model has led to more flexible grouping opportunities within classrooms (80.8% overall using this strategy three or four times per week by year four). Staff from School B also reported a high level of confidence that pedagogical decision-making related to curriculum compacting and inclusionary practices for special needs students has been positively affected.

There is also a moderate level of confidence, overall, in on-going professional development designed to enhance teacher capacity to identify and service gifted and talented students. Staff from School B had a high level of confidence, while perception from School A was moderate, and School C was low.

Measurement of the implementation process through the Implementation Frame of Perception (Table 15) and the Framework for Success (Table 16) included in this study provided a clear picture of the perception teachers and administrators had of this process in their schools. These matrices provided the framework through which a designation of “High,” “Medium,” or “Low” levels of implementation could be articulated for the district and each of the schools studied. These designations were gleaned from a close examination of all data provided through the survey, interview, and document analysis process. The designations found within these matrices were then used to complete the process of reporting the results of this study and are reflected in the narrative as reported in this chapter.

5.0 CONCLUSIONS AND IMPLICATIONS FOR FUTURE STUDY

5.1 INTRODUCTION

The purpose of this qualitative study was to examine and analyze teacher perception of the implementation of the Total School Cluster Grouping model in their schools over the past four years. As detailed throughout this study, Total School Cluster grouping refers to a model of grouping students into classrooms based on achievement and ability levels. The model narrows the range of ability levels within each classroom in an effort to make the process of meeting student needs more manageable and effective. Ultimately, the model is intended to help ensure that learning experiences are designed to meet students at their given ability level, with work that is respectful to their needs, regardless of where their needs are situated within the continuum of overall achievement.

Using an embedded, single case design, this researcher was able to incorporate survey, interview, and document analysis into the basis for the study. Teacher and administrator perceptions were interwoven through the data collection and analysis. This chapter will further unpack the results of the study, identify key themes and lessons learned, discuss possibilities for furthering this work within the school district, examine possibilities for future research, and outline limitations of the study; all from the perspective of a practitioner who not only works

within the same district, but has been principal of a school that utilized this model within the district.

5.2 RECOMMENDATIONS FOR FURTHER USE OF THE MODEL WITHIN THE DISTRICT

This revelatory work provides a unique perspective that informs the district about perceived best practices, and provides information that can assist efforts to expand the model to other district schools. It is informed by teachers and administrators from within the district; those from the ground level, most closely ingrained at the core of the work necessary to succeed within the model. As a principal of a school within the district that utilized this model, I have had the luxury of completing this study with a unique knowledge of its inner workings in this setting. That knowledge has enhanced the validity of this study by its very nature.

In Chapter 4 of this study, it was identified that most open-ended responses indicated that teachers and principals perceived the model to be successful at their schools. Most also felt that they were comfortable recommending the model to other schools with similar demographical make-ups and achievement data. Closer examination reveals that perception is mixed regarding the types and level of professional development provided by the district prior to implementation. One recommendation to the district is to streamline, and monitor the manner in which the model is introduced to staff. This would ensure a common view of the benefits, and challenges of operating within this framework. It could also push differentiation at individual schools by providing a baseline understanding of the framework for success. Schools and individuals could

measure themselves against the framework, and use the measurement to make crucial decisions about next steps in staff development. This type of consistency can be accomplished by creating an implementation manual, based on the basic premise of the model (as outlined in Table 16). The manual, or framework, would be available as a guide to ensure a more systematic approach to orienting all relevant stakeholders. It would include an opportunity for all new staff to be exposed to opportunities to learn and share with principals, and just as importantly teachers, who have experienced proven success within the model. It would also include goal-setting and progress monitoring over the course of the implementation process.

Another key next step would be for the district to provide an on-going commitment to support the effort of school principals to carve out time to further professional development regarding leveraging of the model to meet all student needs. Once the children are grouped, data analysis which drives instruction to meet student needs that are appropriate to their ability levels is paramount to ultimate success. Results reported in Chapter 4 showed that teachers in all three schools studied are always or often comfortable grouping their students (73.7%, n=31), and are flexible grouping more within their classrooms as a result of this classroom grouping model (82.9% of teachers at least three times per week in year four). However, perceptions show that reservations remain about their ability to meet the needs of all students, and to compact curriculum effectively for high-achieving students. Documentation provided from central office shows that there have been on-going opportunities for gifted resource teachers to learn more about effective differentiation and curriculum compacting within the model. However, the study clearly finds that when these opportunities exist at the school level they are driven from within. Support is needed from central administration in the form of time dedicated to provide training, and more time to share best practices related to the model both within the school, and across

schools that are participating in its usage. It is also imperative that schools that opt into and make a commitment to utilizing this model have the latitude to opt out of other training in order to ensure that the implementation of Total School Cluster Grouping can be given the time and attention it needs.

Lastly, the district could provide a template for parental orientation to this model of grouping students. In Schools A and B, parents are in favor of their children being grouped into classrooms using the Total School Cluster Grouping model. They have an advanced understanding of the data utilized to group their children, and the manner in which it allows gifted services to be infused throughout the day without pulling children out to a different setting. Those from School C reported little to no attempts to orient parents and, in turn, the opinion that parents have almost no knowledge of how it works. Coincidentally, those from Schools A and B reported moderate to high levels of perception regarding on-going commitment to staff development about how to best leverage the use of the model, while School C reported a low perception of these efforts. Creating a central, common approach to parent orientation could assist school communities new to using the model with building an understanding of its benefits, and thereby increasing the stakes for continued development. In order to effectively orient parents, there needs to be a concerted approach to leveraging the successes of the schools that have done well within the model. Systematically pooling resources, highlighting best practices, and most importantly, sharing real-life anecdotal information from practitioners and parents in successful schools, will be invaluable to garnering parental support. Parents and stakeholders who are unsure will be better informed, and more apt to support the process of delving into a new model in their children's schools if they have the opportunity to interact with a variety of those who have already experienced the process with positive results.

Overall, I feel as though the district is positioned well to move forward with wider implementation. However, there are a few important items that, in my opinion, should be considered if the decision is to move forward and implement this model in additional schools. A more systematic, streamlined approach to teacher training prior to implementation and a focus on ensuring time for professional development and sharing of best practices would be helpful for schools new to the process. Also, more attention to and consistency of parental orientation would be extremely valuable to successful future expansion of this model in the district.

5.3 FUTURE RESEARCH

While this study has provided some interesting insight into the perception of staff most closely associated with the implementation of a specific method of grouping students, it does not attempt to examine these perceptions in relation to student achievement. In this era of heightened accountability for student learning, it would make sense to align future research to student achievement results. Studies that further delve into staff perception regarding the usage of the Total School Cluster Grouping model could build on the findings of this study to examine how perceived success and failures align to student growth as measured by standardized assessments.

Other possibilities for future research could include expansion of the sample size. This study measured the perception of a relatively small number of teachers and principals, across three schools from one school district. The model has been implemented in several schools across many areas that include demographics similar and different from those in this study.

Expanding the sample size, and examining multiple demographical perspectives, could also provide research relevant for the type of study that could meaningfully build on this work.

Lastly, as discussed in Chapter 3, detailed analysis of documentation related to the process of implementation can be integral to determining the success of such an endeavor. Documented evidence such as agendas, minutes, and other examples of best practices can prove to be invaluable to the process of reconstructing a picture of why an initiative is, or is not, successful. Future study of this model could include a more concerted focus on analysis of any and all documentation that provides authentic evidence of the types of professional development each school values.

5.4 LIMITATIONS OF THE STUDY

This study was designed and conducted to measure the perception of the implementation of the Total Cluster Grouping model within three schools, and its support at the district level. Generalizations cannot be made to other settings using the results of this study. The results are germane to the settings in which participants encounter the model, and make pedagogical decisions that can determine its effectiveness. One cannot examine these results and make broad generalizations about the state of education, or effective utilization of specific strategies discussed throughout the data collection and analysis process. Yet, they do raise some interesting issues regarding the professional development necessary to ensure success over time, the long-term effects of grouping students in this manner, and the effect on achievement as it is impacted by pedagogical decision-making within the framework of Total School Cluster Grouping.

In this case, even though a multitude of documentation was provided at the district level, documentation provided at the school level was minimal, at best. This could be attributed to lack of clarity related to the request for this information, lack of organization regarding the archiving process of such documents, or lack of focus within the professional development in the schools.

Although the unique access provided this researcher assisted the process of data collection, and constituted the identification of this study as a revelatory case, its results remain relative to the district in which the study occurred.

5.5 CONCLUDING THOUGHTS

In conclusion, as a practicing principal who has operated within the framework of the Total School Cluster Grouping Model, there are several results from this study that fascinate me. First, it is interesting to note the uneven levels of parental involvement and understanding of what it means for their children to experience school within the model. In Schools A and B, there were high levels of parental involvement, and coincidentally, higher confidence in the implementation of the model. In School C, staff indicated a lack of parental understanding and, in turn, there was a lack of perceived effectiveness related to the on-going maintenance of the model. If we refer to the original intention of the district as outlined in Chapter 3, the usage of this model was initiated to serve as an alternative approach to effectively meeting the needs of gifted and talented learners and addressing an under-representation of African-American students within the gifted and talented population. It is interesting to note a connection between schools that infused a conscious effort to orient parental understanding of the model and the perception of successful

implementation. The school in which I experienced the model took a systematic approach to sharing information about Total School Cluster Grouping prior to implementation. An entire semester was taken to present information to parents, study the literature, and discuss ramifications within our school. Although parental support was not unanimous or immediate, it became overwhelmingly in favor as an understanding of the inner-workings of the model was fleshed out over time. That experience, in relation to the results of this study, provides me with key evidence that maintaining the support and positive energy of parents is imperative to fostering sustainable success.

It is also very interesting to consider that many teachers indicated that they are flexible grouping more as a result of participation in this model. As illustrated in Chapter 2, today's pedagogy includes many practices that are ever mindful of the high stakes testing that monitors our progress. The quest to improve test scores within the current educational climate dictates that at least a basic knowledge of effective flexible grouping is necessary for all teachers. It is also worthy to note that changes in special education laws, the emergence of the Response to Intervention (RTI) movement, and other local variables may have an effect on the increase in flexible grouping practices as well. However, the fact that over 80% of teachers in this study identified that they are flexible grouping more as a direct result of Total School Cluster Grouping is a powerful statement of its effect on pedagogical decision-making.

It intrigues me that most teachers indicated that they are comfortable with their capacity to group their students but still have reservations about how student behaviors affect the process. Over 73% indicated that they are often or always comfortable making grouping decisions. However, in spite of their comfort level with grouping, a similar percentage of the teachers (over 70%, overall) indicated student behavioral concerns as their biggest source of anxiety within the

grouping process. What intrigues me about this is that the process of grouping hinges on accurately identifying student ability and achievement levels, not student behavior. Student behavior concerns are to be considered, but only as a method of balancing these concerns across classrooms within the final phase of the process. Does the fact that student behavior concerns were so prominently identified mean that teachers are missing the point of the grouping process? If so, how does this affect instructional decision-making in their classrooms? Moreover, how is the professional development necessary to build capacity over time affected by such a fundamental misconception?

According to Youngs and King (2002, p. 646), a strong school-wide professional community is characterized by (a) shared goals for student learning; (b) meaningful collaboration among faculty members; (c) in-depth inquiry into assumptions, evidence, and alternative solutions to problems; and (d) opportunities for teachers to exert influence over their work. The overarching professional development that accompanies models such as Total School Cluster Grouping needs to be characterized by these types of efforts over time. Effectively placing students into groups is only one step in a process that is followed by what actually happens during instructional planning and classroom experiences. In spite of this fact, after four years within this model, teachers responded clearly that they are thirsty for more professional development related to differentiation of instruction and compacting of curriculum, two hallmarks of Total School Cluster Grouping that are paramount to success. These are two instructional methods that can position teachers to meet student needs, and yet most teachers in this study are still looking for a better understanding of how to incorporate and share best practices related to them. By year four within the model, nearly half of teachers overall responded that they almost never receive professional development specific to Total School

Cluster Grouping at their school. In School C, 90% of respondents indicated that they almost never receive such training. In School A almost half answered the same. Also, those from School A included almost 50% who disagree or strongly disagree that professional development at their school helps them better serve their students, while School C included 70% who disagree or strongly disagree.

Closer examination, however, shows that School B included 70% of teachers who responded that they *are* still receiving these opportunities at least a few times per year. Also, 100% of teachers in School B agree or strongly agree that the professional development they received related to implementation at their school helped them to better serve the needs of their students. This is a clear statement to the importance of focused, on-going professional development, from the perspective of teachers. It shows that when provided with staff development that is timely and responsive to their needs, teachers feel as though they can make better instructional decisions and provide experiences that lead to better student outcomes.

What today's literature tells us related to quality program implementation and professional development is that it must be on-going, focused, and project a clear and shared sense of purpose. There must be a well-defined understanding of what practices are valued and how they are integrated within staff development activities to ensure consistency at the school level. According to McLeskey & Waldron (2002. p. 70), professional development should be school-based; should use coaching and other follow-up procedures; should be collaborative; should be embedded in the daily lives of teachers, providing for continuous growth; and should focus on student learning and be evaluated at least in part on that basis.

Examination of the perceptions included in this study reveal that the highest perception of success of the professional development at the school level was found in School B, which also

clearly held the highest perception of implementation overall. This raises a variety of issues related to the importance of a well thought out, focused plan of action. A differentiated plan that leads to on-going, quality professional development, as perceived by those from School B, can push teacher practice and support the basic tenets of Total School Cluster Grouping. This type of professional development plan will ensure a productive local adaptation of the model. In contrast, as illustrated by much of the perception from School C of this study, lack of attention to effective planning and quality on-going professional development can lead to a fatal adaptation of the same model within similar local context. This would remain true for individual components as well as the model as a whole.

In my experience with Total School Cluster Grouping I found that the basic premise above holds true. In instances where we were able to remain focused and carve out the time necessary to learn and understand, we encountered shared success over time. Within specific components of the model, such as grouping students effectively and refining flexible grouping processes, we were able to experience the type of successful implementation of best practices that could sustain themselves and become ingrained in our culture. These best practices became valued "non-negotiables" that we worked hard to ensure were given the attention they needed to remain successful. However, there were components that did not receive the same attention and, in turn, did not enjoy the same levels of success. For instance, the issue of learning, implementing, and sharing best practices related to curriculum compacting never did garner the time or attention necessary to affect outcomes for our higher achieving learners as we had hoped. Efforts were made and pockets of success surfaced. However, curriculum compacting never gained the type of systemic momentum necessary to become enmeshed in our professional development in a manner that produced the same types of success.

This study and my experience as a practitioner share a very similar overriding sentiment; quality, focused, professional development at the school level must accompany the implementation and on-going processes of educational programming to ensure successful adaptation. It must be differentiated and tailored to the needs of the school, with support from district administration. It must include considerations for parental involvement and teacher perception. Most importantly, it must remain singularly focused and never waver from its fundamental purpose; positioning teachers to best meet students at their ability levels and challenge them with work that is respectful to their needs.

APPENDIX A

TYPICAL GROUPING PRACTICES

Approach	Key Characteristics	Evidence of Effectiveness	Current Usage	Demands on Teachers and Administrators
Grade Level Grouping				
■ Tracking	Placing students into classroom groups based on ability and achievement; typically based on reading scores; students remain in same groups across all content; little to no opportunity for movement among groups	According to Slavin, there is good reason to avoid ability-grouped class assignments, which seems to have the greatest potential for negative social effects in that it entirely separates students into different streams (Slavin, 1988)	Not a common practice in today's schools	Teacher—must possess the expertise to work with specific groups, professional development Administrator—demands related to the classroom grouping process; providing quality professional development for staff
■ Random Grouping	Randomly placing students into classrooms balanced by demographics; little to no consideration of ability or achievement	Many feel that achievement improves when students identify primarily with heterogeneous classes and are regrouped by ability only when reducing heterogeneity is important for learning, such as math or reading instruction (Hollifield, 1987)	Many of today's schools employ some version of this method of grouping students	Teacher – demands include finding ways to meet student needs Administrator—maintaining equity through the grouping process
■ Joplin Plan	Re-grouping across grade levels for reading only, based on achievement and teacher judgment	Most studies found positive effects of Joplin or Joplin-like non-graded plans on elementary reading achievement (Slavin, 1988); difficult to plan for, however, making it less desirable to utilize	Not a popular method in today's schools	Teacher – demands related to areas of expertise, management of students Administrators—scheduling, professional development
■ Looping	Multi-year grouping, students remain in groups for two or	Results are mixed, mostly due to the difficulties associated	Practiced in some schools today, mostly in primary	Teacher—Learning multiple curricula year-to-year, building

	three years	with the on-going professional development and commitment necessary for teacher to build classroom communities over the typically two or three year looping period	classrooms	relationships with students and families Administrator—demands related to the classroom grouping process
■ Detracking	Systematic process of eliminating ability groups; mostly related to reform that eliminates predetermination in high schools	When done successfully, detracking can have powerful results, especially in terms of helping students to redefine their sense of what they can do academically and in terms of the opportunities that are available to them in school and beyond (Rubin & Noguera, 2004, p. 96).	Practiced in many schools today, mostly high school related practice	Teacher – demands related to responsibility to meet the needs of all students Administrators – demands related to scheduling, professional development
■ Mainstreaming	Method of including special education students in regular education classrooms; typically related arts classrooms (Physical education, art, music, etc...); support not provided in classroom from special education teacher	This model of including special education students with regular education students is successful when there is a high level of commitment from the regular education teachers to modify teaching and learning to meet student needs	Continues to be practiced in many schools	Teachers – commitment required from related arts teachers to work with special education children along with regular education children Administrator – scheduling, professional development for staff
■ Gifted Cluster Grouping	Grouping gifted and talented students in the same classroom for all subjects	Brulles, et al. (2010) contend that results from their findings show substantial pre- and post-test increases for every grade level. These consistent comparisons indicate that regardless of cluster placement, non-gifted students still made progress in math	Found in many of today's schools as a method of addressing the needs of gifted and talented children	Teachers – demands for those working with the gifted cluster related to ability to provide quality enrichment experiences Administrator - demands related to the grouping process

■ Total School Cluster Grouping	Grouping of students into classrooms based on student data and perceived ability levels; staggered levels create narrower ranges in each classroom	The quantitative findings combined with the qualitative findings indicate that when combined with high teacher expectations, the use of strategies to challenge and meet individual needs, and positive classroom environments, this model may have a positive impact on all students (Gentry & Owen, 1999)	Found in a growing number of today's schools as a means to narrow the range of ability levels in classrooms and meet the needs of all students	Teachers – narrowed range of ability levels requires deepening the work, gifted cluster teachers need to be committed to on-going professional development Administrator —demands related to the grouping process, providing quality, on-going professional development
Within-Class Grouping				
■ Differentiated Instruction	Matching content, process, and product involved in instruction to student needs and interests/readiness levels, data based decision-making	Widely recognized as highly effective when implemented with genuine intention to meet all student needs. Educators are widely advocating that teachers should be trained to modify instruction to challenge students at all levels of academic readiness and ability in the heterogeneous classroom (Callahan, 2001, p. 150).	Popular pedagogical method of attempting to meet the needs of all students; variations found in some form in virtually all of today's schools	Teachers –on-going formative assessment, re-grouping often Administrator—scheduling, professional development for staff
■ Flexible Grouping	Re-grouping for specific content; based on data analysis/formative assessment	Regarded as highly effective when utilized in conjunction with on-going formative assessment, detailed data analysis, and research-based best practices	Popular method of re-grouping students, found in virtually all schools as component of differentiated instruction	Teachers –classroom management, data analysis, professional development Principals –timely and relevant professional development for staff, supportive scheduling
■ Cooperative Learning	Mixed-ability classrooms that include students organized into small groups and expected to help one another learn, shared	Positive results documented for academically handicapped and non-academically handicapped children,	Not found in practice in many of today's schools	Teachers –classroom management, professional development

	learning goals, shared sense of ownership	especially when combined with means of accommodating student differences (Slavin, Stevens, & Madden, 1988)		Administrators –scheduling, providing quality professional development to staff
■ Response to Intervention	Method of providing structured intervention for struggling students; tiered system of identification, systematic, research-based instruction, primarily related to reading	While most agree that scientifically-based practices should be used in our schools, proponents of RTI must still prove that their problem-solving approach or their standard-protocol model are worthy of the descriptor "scientifically based" (Fuchs, Mock, Morgan, & Young, 2003)	Required component, some version of which is found in most of today's schools	Teachers – data analysis, professional development, level of expertise Administrators – creativity in realigning of resources, professional development
■ Inclusion	"Pushing" students with Individualized Education Plans into regular education classrooms for instruction; support provided by special education teacher (typically learning support teacher); co-teaching means regular education and special education teachers are both responsible for all student's learning	The time and commitment necessary to ensure the success of this model is imperative to leveraging its premise and meeting the needs of all students within the model. Highly effective when these parameters are met.	Growing number of today's schools committing to employ this practice to serve special education students and regular education students in the same setting	Teachers – time, professional development, working with groups of children not traditionally associated with Administrators – providing quality professional development, creative scheduling

APPENDIX B

INVITATION TO PARTICIPATE IN SURVEY

May 15, 2013

Dear Teacher,

My name is Rodney Necciai and I am currently the Principal at Pittsburgh Langley K-8. I am also a doctoral candidate at the University of Pittsburgh. I am completing my research with a qualitative examination of staff perception of the implementation of Total School Cluster Grouping at some of our schools. My study is entitled "Implementation of the Total School Cluster Grouping Model: A Case Study." My intention is to focus on fidelity of implementation, professional development related to the model, and variability of its effect on pedagogical decision-making.

This email is a request to participate in this study by completing a brief survey.
Participation in the survey is ***voluntary*** and completely ***anonymous***. You may skip any question that makes you feel uncomfortable, and you may stop taking the survey at any time. This survey should be completed outside of instructional time. All data will remain be reported anonomously, with no connection to you, the school in which you work, or the district.

Voluntary interviews for those of you who have worked within the model for four (4) years and wish to further inform this work will be greatly appreciated. During the week of May 27, 2013 via e-mail I will be contacting those of you who qualify for interviews. Please respond at that time if you would like to participate.

Participation in this study will require the completion of an online survey that will take less than 20 minutes of your time. Completing the survey will confirm your intent to participate. Both the University of Pittsburgh and the Pittsburgh Public School District Institutional Review Boards have reviewed and approved this study. Please see the attached consent letter for more information.

If you would like to participate in this research, please complete the online survey by clicking on the following link _____@_____ .

The window for the survey will be open from **May 15, 2013 until May 31, 2013**. Thank you in advance for your time and consideration!

Sincerely,

Rodney Necciai

APPENDIX C

CONSENT FORM FOR SURVEY – TEACHERS

Title: Implementation of the Total School Cluster Grouping Model: A Case Study

Principal Investigator: Rodney Necciai
Doctoral Candidate
605 Baltimore Street
Belle Vernon, PA 15012
Email: rnecciai1@pghboe.net

Why is this research being done?

You are being asked to participate in a research study to examine teacher and principal perception of the implementation of the Total School Cluster Grouping model in the Pittsburgh Public School District.

Who is being asked to take part in this research study?

Teachers and principals in three schools that have been utilizing Total School Cluster Grouping from 2009-2010 to 2012-2013

What procedures will be performed for research purposes?

Participants will be asked to voluntarily complete a brief on-line survey. This survey should be completed outside of instuctional time.

What are possible risks and benefits from taking part in this study?

There is minimal perceived risk associated with participation in this research related to the confidentiality of the data collected. The risk will be alleviated by the fact that all survey data is anonymous. Respondents will not be asked to identify their name, only the school in which they work. All results will be reported anonymously with the district only identified as a large urban school district and schools identified as School A, School B, and School C. There are no benefits to participation but the data collected can serve to inform the Pittsburgh Public School District about important best practices related to the implementation of the Total School Cluster Grouping model. No payment will be provided.

Who will know about my participation in this research study?

The survey data collected for this study will only be accessible to the researcher. Survey data will be anonymous, identifiable only as a member of School A, School B, or School C.

No data will be reported that can be identified with the district or any teacher, principal, or school.

All data collected related to your involvement in this research study will be stored in a password protected file, accessible to the researcher only.

Is my participation in this research study voluntary?

Your participation is completely voluntary. You can decline to participate simply by not responding to the e-mail. You may may skip any question that makes you feel uncomfortable and you may stop taking the survey at any time.

Voluntary consent—By completing the survey, you are consenting to participate in this research study.

Please save a copy of this consent form for your records.

APPENDIX D

SURVEY

1) Your current teaching assignment includes working with students in grades 1-5 at:		Pittsburgh Colfax___ Pittsburgh Dilworth___ Pittsburgh Grandview___
		The following questions are related to practices regarding *implementation practices* **at your school.**
2) How many years have you been a teacher within the Total School Cluster Grouping Model?		One (1) or less ___ Two (2)___ Three (3)___ Four (4)___
3) What cluster have you worked with since the implementation of the Total School Cluster Grouping Model at your school?		**High Achieving/Average/Low Average** (HA/A/LA) 0-1 Years___ 1-2 Years____ 2-3 years___ 3-4 Years___ **Above Average/Average/Low** (AA/A/L)

		0-1 Years___ 1-2 Years____ 2-3 years___ 3-4 Years___ **Other** (please explain)_____
4) Do you feel comfortable with your capacity to make grouping decisions related to the placement of children at your school?		Always___ Often___ Sometimes___ Seldom ____ Never___
5) Which of these are sources of anxiety regarding the grouping process at your school (check all that apply)?		Parental Pressure___ Student Perceptions___ Administrative Concerns___ Lack of Professional Development for Teachers___ Pressure from other teachers____ Student Behavioral Concerns___ Other (please specify)_____
6) In your school, how was it determined which teacher would work with the HA/A/LA groups and which teacher would work with the AA/A/L groups (check all that apply)?		By the principal___ By the teachers___ By the parents___ Other (please specify) _____
7) How often did you practice flexible grouping in your classroom prior to working within the Total School Cluster Grouping Model?		0-1X per week___ 2X per week___ 3X per week___ 4X **or more** per week___
8) How often do you practice flexible grouping in your classroom within		

the Total School Cluster Grouping Model?		0-1X per week___ 2X per week___ 3X per week___ 4X **or more** per week___
9) ***Prior to*** the implementation of the Total School Cluster Grouping model, what model of Learning Support Service was practiced in your school?		Resource Room Pull-out___ Full Inclusion___ Consultant Model ____ A Combination of Pull-out and Inclusion___ Not Sure___
10) ***Currently***, what model of Learning Support Service is practiced in your school?		Resource Room Pull-out___ Full Inclusion___ Consultant Model ____ A Combination of Pull-out and Inclusion___ Not Sure___
11) What was the ***most prominent challenge to implementation*** of the Total School Cluster Grouping Model at your school?		Time___ Competing District Initiatives___ Lack of Administrative Support___ Lack of Adequate Professional Development___ Student Behaviors___ Other (please specify)_____ There was no prominent challenge___
		The following questions are related to the professional development associated with *implementation and maintenance* **of the Total School Cluster Grouping model at your school.**
12) Prior to working within the Total School Cluster Grouping Model, did you participate in personal or work-related research/professional development about the model?		Yes___ No___ If yes, please check all that apply: Read the "Total School Cluster" grouping book___ Read research article(s)___ District Level Professional Development ____ School Level Professional Development ____

		Conversation with other teachers___ Conversation with principal ___ Internet (or other) Research on your own___ Data Analysis of your students___ Other (please specify) _____
13) How often have you participated in professional development regarding the ***grouping*** process involved in Total School Cluster Grouping?		**2009-2010** - Weekly___ Monthly___ A few times per year___ Once per year ___ Almost never___ **2010-2011** - Weekly___ Monthly___ A few times per year___ Once per year ___ Almost never___ **2011-2012** - Weekly___ Monthly___ A few times per year___ Once per year ___ Almost never___ **2012-2013** - Weekly___ Monthly___ A few times per year___ Once per year ___ Almost never___
14) How often have **on-going** professional development activities specific to Total School Cluster Grouping been conducted at your school?		**2009-2010** - Weekly___ Monthly___ A few times per year___ Once per year ___ Almost never___ **2010-2011** - Weekly___ Monthly___ A few times per year___ Once per year ___ Almost never___ **2011-2012** - Weekly___ Monthly___ A few times per year___ Once per year ___ Almost never___ **2012-2013** - Weekly___ Monthly___ A few times per year___

		Once per year ___ Almost never___
15) How many hours of professional development have you received related to ***inclusionary*** practices for Learning Support students since the implementation of Total School Cluster Grouping at your school?		**2009-2010** None___ 1-2 Hours___ 3 or More Hours___ N/A___ **2010-2011** None___ 1-2 Hours___ 3 or More Hours___ N/A___ **2011-2012** None___ 1-2 Hours___ 3 or More Hours___ N/A___ **2012-2013** None___ 1-2 Hours___ 3 or More Hours___ N/A___
16) Has your input been considered in the planning and implementation of professional development at your school related to Total School Cluster Grouping?		Always___ Often___ Sometimes___ Seldom ____ Never___
17) How many hours of professional development have you received related to meeting the needs of ***gifted and talented learners*** at your school since the implementation of the Total School Cluster Grouping Model?		**2009-2010** None___ 1-2 Hours___ 3 or More Hours___ N/A___ **2010-2011** None___ 1-2 Hours___ 3 or More Hours___ N/A___ **2011-2012** None___ 1-2 Hours___ 3 or More Hours___ N/A___ **2012-2013** None___ 1-2 Hours___ 3 or More Hours___ N/A___
18) Has the professional development **at your school** has assisted you to meet the needs of the students in the cluster that you teach?		Always___ Often___ Sometimes___ Seldom ____ Never___

19) Do you agree that the **quality of professional development related to the implementation** of Total School Cluster Grouping at your school has helped you to better serve the needs of the children that you teach?		Strongly Agree___ Agree___ Disagree___ Strongly Disagree___
		The following questions are related to *on-going practices* **in your school that are affected by the Total School Cluster Grouping model.**
20) How often have you or other teachers in your school been afforded opportunities to share instructional best practices related to Total School Cluster Grouping ***within your school***?		Always___ Often___ Sometimes___ Seldom ____ Never___
21) How often have you or other teachers in your school been afforded opportunities to share instructional best practices related to Total School Cluster Grouping ***outside of your school***?		Always___ Often___ Sometimes___ Seldom ____ Never___
22) What is the **most prominent challenge to on-going *maintenance of*** the Total School Cluster Grouping Model?		Time___ Competing District Initiatives___ Lack of Administrative Support___ Lack of Adequate Professional Development___ Student Behaviors___ Other (please specify)_____

		There was no prominent challenge___
23) Do you agree that this model helps your ability to better serve the needs of gifted and talented learners at your school?		Strongly Agree___ Agree___ Disagree___ Strongly Disagree___
24) Do you agree that, overall, the **implementation** of the Total School Cluster Grouping Model at your school has helped you to better serve the needs of the children that you teach?		Strongly Agree___ Agree___ Disagree___ Strongly Disagree___
25) Do you agree that, overall, the **implementation** of the Total School Cluster Grouping Model has resulted in more students being identified as High-Achieving?		Strongly Agree___ Agree___ Disagree___ Strongly Disagree___
		Open-Ended Response – Please respond to the following questions.
26) What best practices do you feel are imperative to implementing the Total School Cluster Grouping model?		
27) Are there areas of **strength** regarding the professional development you have received related to the ***implementation process***?		

28) Are there areas of **growth** regarding the professional development you have received related to the ***implementation process***?		
29) What are the most important effects this model has had on ***pedagogical decision-making*** in your classroom?		

APPENDIX E

INVITATION TO PARTICIPATE IN INTERVIEW- TEACHERS

June 3, 2013

Dear Teacher,

Recently, I contacted you and requested your participation in an anonymous, on-line survey. As a follow-up to the survey, I am attempting to collect more data regarding teacher perceptions of the implementation of Total School Cluster Grouping by conducting brief interviews. I am contacting you at this time because your principal has identified you as someone who has worked within the framework of the model for the past ***four years***, giving you unique insight into the process. My intention is to remain focused on fidelity of implementation, professional development related to the model, and variability of its effect on pedagogical decision-making.

This email is a request for you to further inform in this study by completing a brief interview with me. Participation in the interview is ***voluntary*** and your help is completely ***anonymous***. You may skip any question that makes you feel uncomfortable, and you may stop the interview at any time. This interview will be completed outside of instructional time. All data will be reported anonomously, with no connection to you, the school in which you work, or the district.

Participation in this portion of the research will require the completion of a face to face or phone interview that will take less than 30 minutes of your time. Responding to this e-mail will confirm your intent to participate. Both the University of Pittsburgh and the Pittsburgh Public School District Institutional Review Boards have reviewed and approved this study. Please see the attached consent letter for more information.

If you would like to participate in this portion of the research, please respond to this e-mail and I will contact you to set-up an interview time in a private room at your school. Please know that if you would prefer, an alternate site or phone interview can be arranged at your convenience.

Interviews will be scheduled between **June 3, 2013** and **June 14, 2013**.

Thank you in advance for your time and consideration!

Sincerely,

Rodney Necciai

APPENDIX F

Consent Form for Interviews – Teachers

Title: Implementation of the Total School Cluster Grouping Model: A Case Study

Principal Investigator: Rodney Necciai
Doctoral Candidate
605 Baltimore Street
Belle Vernon, PA 15012
Email: rnecciai1@pghboe.net

Why is this research being done?

You are being asked to participate in the INTERVIEW PORTION of a research study to examine teacher and principal perception of the implementation of the Total School Cluster Grouping model in the Pittsburgh Public School District.

Who is being asked to take part in these interviews?

Teachers and principals who have worked within the framework of the Total School Cluster Grouping from 2009-2010 to 2012-2013 are being asked to participate.

What procedures will be performed for research purposes?

Participants will be asked to voluntarily participate in a brief interview, lasting no longer than one-half hour. This interview will be completed outside of instructional time.

What are possible risks and benefits from taking part in this study?

There is minimal perceived risk associated with participation in this research related to the confidentiality of the data collected. The risk will be alleviated by the fact that all interviews will be conducted privately. All interview data and notes will be anonymous and only accessible to the researcher. All results will be reported anonymously with the district only identified as a large urban school district and schools identified as School A, School B, and School C. There are no benefits to participation but the data collected can serve to inform the Pittsburgh Public School District about important best practices related to the implementation of the Total School Cluster Grouping model. No payment will be provided.

Who will know about my participation in this research study?

Interview data and notes will remain anonymous and accessible to the researcher only.

No data will be reported that can be identified with the district or any teacher, principal, or school.

All data collected related to your involvement in this research study will be stored in a password protected file, accessible to the researcher only.

Is my participation in this research study voluntary?

Your participation is completely voluntary. You can decline to participate simply by not responding to the e-mail. You may skip any question that makes you feel uncomfortable and you may end participation in the interview at any time.

Voluntary consent

By responding to this e-mail to indicate your desire to participate in an interview and schedule a time to meet, you are consenting to participation in this research study.

Please save a copy of this consent form for your records.

APPENDIX G

INTERVIEW QUESTIONS

(Teachers, Principals, Central Office Personnel)

1. What was the *most* beneficial aspect of the professional development **provided you by the district** prior to implementation of the model?

2. What was the *least* beneficial aspect of the professional development **provided you by the district** prior to implementation of the model?

3. In hindsight, were there items or information that you feel the **district should have considered** in the initial training that you were provided?

4. What were the biggest challenges to the **implementation** of the Total School Cluster Grouping model at your school?

5. What are the biggest challenges to **successfully maintaining** the Total School Cluster Grouping model at your school?

6. Do you feel as though the amount of **support from staff** for the Total School Cluster Grouping model at your school indicates a sense of buy-in? Why or why not?

7. Do your feel as though the **parents** from your school support maintaining this model of grouping children for the students at your school? Why or why not?

8. What professional development do you feel is **most important to successfully sustaining** this model at your school over the next 5 years?

9. What are the **most important benefits** to pedagogical decision-making that have occurred at your school related to this model?

10. What are the **greatest challenges** to pedagogical decision-making at your school related to this model?

11. Do you feel that implementation of this model at your school has been **successful**? How do you know?

12. Would you **recommend** this model to other schools with similar demographics and achievement levels to your school? Why or why not?

APPENDIX H

Invitation to Participate in Interview – Principal/Central Office Staff

June 10, 2013

Dear (Principal/Director Name),

In an attempt to follow-up the survey that I recently sent out to teachers regarding the implementation of the Total School Cluster Grouping model, I am conducting interviews with some teachers, principals, and central office staff. I would like to collect more data regarding perceptions of the implementation of the model by conducting brief interviews and gathering documentation from professional development. I am contacting you at this time to ask you to participate in this portion of the study and I would like to schedule time to talk with you in the next two weeks. My intention is to remain focused on fidelity of implementation, professional development related to the model, and variability of its effect on pedagogical decision-making.

This email is a formal request for you to further inform this research by completing a brief interview and providing me with copies of documents from professional development that you have designed and implemented (agendas, minutes, etc...). Participation in the interview is ***voluntary*** and completely ***anonymous***. You may skip any question that makes you feel uncomfortable, and you may stop the interview at any time. This interview will be completed outside of instructional time. All data will be reported anonomously, with no connection to you, the school in which you work, or the district.

Participation in this portion of the research will require the completion of a face to face or phone interview that will take less than 30 minutes of your time. Responding to this e-mail will confirm your intent to participate. Both the University of Pittsburgh and the Pittsburgh Public School District Institutional Review Boards have reviewed and approved this study. Please see the attached consent letter for more information.

If you would like to participate in this portion of the research, please respond to this e-mail and I will contact you to set-up an interview at your school. Please know that if you would prefer, an alternate site or a phone interview can be arranged at your convenience. Interviews will be scheduled between **June 12, 2013** and **June 28, 2013**.

Thank you in advance for your time and consideration!

Sincerely,

Rodney Necciai

APPENDIX I

Consent Form for Interviews – Principal/Central Office Personnel

Title: Implementation of the Total School Cluster Grouping Model: A Case Study

Principal Investigator: Rodney Necciai
Doctoral Candidate
605 Baltimore Street
Belle Vernon, PA 15012
Email: rnecciai1@pghboe.net

Why is this research being done?

You are being asked to participate in the INTERVIEW PORTION of a research study to examine teacher and principal perception of the implementation of the Total School Cluster Grouping model in the Pittsburgh Public School District.

Who is being asked to take part in these interviews?

Teachers, principals, and central office personnel who have worked within the framework of the Total School Cluster Grouping from 2009-2010 to 2012-2013 are being asked to participate.

What procedures will be performed for research purposes?

Participants will be asked to voluntarily participate in a brief interview, lasting no longer than one-half hour. This interview will be completed outside of instructional time. You are also asked to provide documentation of professional development that you have been involved in regarding the Total School Cluster Grouping model. Copies of agendas, meeting minutes, and other supporting documents related to the implementation of the model at your school will be greatly appreciated.

What are possible risks and benefits from taking part in this study?

There is minimal perceived risk associated with participation in this study related to the confidentiality of the data collected. The risk will be alleviated by the fact that all interviews will be conducted privately. All interview data, notes, and documentation provided will remain anonymous and only accessible to the researcher. All results will be reported anonymously with the district only identified as a large urban school district and schools identified as School A, School B, and School C. There are no benefits to participation but the data collected can serve to inform the Pittsburgh Public School District about important best practices related to the implementation of the Total School Cluster Grouping model. No payment will be provided.

Who will know about my participation in this research study?

Interview data and notes will remain anonymous and accessible to the researcher only.

No data will be reported that can be identified with the district or any teacher, principal, or school.

All data collected related to your involvement in this research study will be stored in a password protected file, accessible to the researcher only.

Is my participation in this research study voluntary?

Your participation is completely voluntary. You can decline to participate simply by not responding to the e-mail. You may skip any question that makes you feel uncomfortable and you may end participation in the interview at any time.

Voluntary consent

By responding to this e-mail to indicate your desire to participate in an interview and schedule a time to meet, you are consenting to participation in this research study.

Please save a copy of this consent form for your records.

APPENDIX J

INVITATION TO PARTICIPATE IN PILOT

April 10. 2013

Dear Teacher,

As you may or may not know, I am a doctoral candidate at the University of Pittsburgh. I have been working diligently and I am hoping to finish the entire process in the next few months. My study is a qualitative examination of staff perception related to the implementation of Total School Cluster Grouping at some of our schools. My intention is to focus on fidelity to the model, professional development related to implementation, and variability of its effect on pedagogical decision-making.

My research questions are:

Research Question #1	**Research Question #2**	**Research Question #3**
What are educator perceptions of implementation of the Total School Cluster Grouping model and how it supported teaching and learning?	What are educator perceptions of the professional development provided with the model?	How did the model impact educator's pedagogical decision making in the classroom?

In order to complete my study, I will utilize a survey tool, interviews, and a detailed document analysis. The survey will be administered via a yet to be developed Survey Monkey link.

Would you be willing to help me by participating in a pilot of the survey tool that I plan to use? I am looking for feedback on the questions, the tool itself, and any other suggestions that you feel would be helpful. I have attached a copy of the survey if you are interested in helping to further this work by providing feedback. Please know that neither you nor your school will be identified. All feedback provided will remain confidential and only accessible to me.

Please don't feel any pressure to complete this request, but if you have time your input will be highly valued. If possible, I would like to be able to examine your feedback by **Monday, April 15, 2013.**

Thank you for your time and consideration!

Rodney Necciai

BIBLIOGRAPHY

Aldridge, J. (2010). Differentiated Instruction. *Childhood Education,* 86(3), 193.

Anonymous (2002). Ability grouping. *Roeper Review,* 24(3), 101.

Ansalone, G. (1989). Tracking: Educational differentiation or defective strategy? *Educational Research Quarterly,* 34(2), 3-17.

Benjamin, A. (2006). Valuing differentiated instruction. *Education Digest*: *Essential Readings Condensed for Quick Review*, 72(1)57-59.

Booth, J., Brown, K. E. (1985). The administrator's role in the education of gifted and talented children. *ERIC: Clearinghouse on Handicapped and Gifted Children*, 1-3. Retrieved from http://www.eric.ed.gov/PDFS/ED262516.pdf

Brisendine, M., Lentjes, D., Morgan, C., Purdy, M., Wagnon, W., Woods, C., Beard, L., & Notar, C. (2008). Is full inclusion desirable? *Asian Social Science*, 4(1), 72-75. Retrieved from www.ccsenet.org/journal.html

Burgess, M. A. (1921). Classroom grouping for silent-reading drill. *The Elementary School Journal*, 22 (4), 269-278. Retrieved from http://www.jstor.org/stable/993688

Bush, G. (2006). Differentiated instruction. *School Library Monthly*, 23(3), 43-45.

Brulles, D., Saunders, S. J., & Cohn, S. (2010). Improving performance for gifted students in a cluster grouping model. *Journal for the Education of the Gifted*, 34(2), 327-350. Retrieved from http://go.galegroup.com.pitt.idm.oclc.org/ps/i.do?id=GALE%7CA245301599&v=2.1&u=upitt_main&it=r&p=AONE&sw=w

Brulles, D., Peters, S. J., & Saunders, R. (2012). School-wide mathematics achievement within the gifted cluster grouping model. *Journal of Advanced Academics*, 23(3), 200-216. Retrieved from http://joaa.sagepub.com

Callahan, C. M. (2001). Fourth down and inches. *Journal of Advanced Academics,*12, 148-155. DOI: 10.4219/jsge-2001-659

Cook, W. (1941). *Grouping and promotion in the elementary school*. Minneapolis: University of Minnesota Press.

Cresswell, J. (2013). Qualitative inquiry and research design. Thousand Oaks, CA: Sage Publications, Inc.

Durkin, D. (1990). Matching classroom instruction with reading abilities: An unmet need. *Remedial and Special Education*, *11*(3), 23–28. doi:10.1177/074193259001100307

Eder, D. (1983). Ability grouping and students' academic self-concepts: A case study. *The Elementary School Journal*, 84(2), 149-161. Retrieved from http://www.jstor.org/stable/1001307

Eder, D. (2012). Ability Grouping and Students' Academic Self-Concepts: A case study, *84*(2), 149–161.

Elliott, K. (2008). Response to intervention. *The Exceptional Parent,* 38(2), 72-73.

Feldhusen, J., & Hoover, S. M. (1984). The gifted at risk in a place called school. *Gifted Child Quarterly*, *28*(1), 9–11. doi:10.1177/001698628402800103

Fuchs, F., Mock, D., Morgan, P., & Young, C. (2003). Responsiveness-to-intervention: Definitions, evidence, and implications for the learning disabilities construct. *Learning Disabilities Research & Practice*, 18(3), 157–171.

Gallagher, J. J. (2004). No Child Left Behind and Gifted Education. *Roeper Review*, 26(3), 121. Retrieved from http://search.proquest.com.pitt.idm.oclc.org/docview/206706334?accountid=14709

Gamoran, A. (1986). Instructional and institutional effects of ability grouping. *Sociology of Education*, 59(4), 185-198. Retrieved from http://www.jstor.org/stable/2112346

Gentry, M. (2009). Myth 11: A comprehensive continuum of gifted education and talent development services: Discovering, developing, and enhancing young people's gifts and talents. *The Gifted Child Quarterly,* 53(4), 262-265.

Gentry, M. & Mann, R. (2008a). *Total school cluster grouping*. Mansfield Center, CT: Creative Learning Press.

Gentry, M. & Mann, R., (2008b). *Total school cluster grouping and differentiation: A comprehensive, research-based plan for raising student achievement and improving teacher practice*. Mansfield Center, CT: Creative Learning Press.

Gentry, M. & Owen, S. (1999). An investigation into the effects of total school flexible cluster grouping on identification, achievement, and classroom practices. *Gifted Child Quarterly,* 43(4), 224- 242 DOI: 10.1177/001698629904300402

Hall, T., Strangman, N., & Meyer, A. (2003). Differentiated instruction and implications for universal design for learning implementation. *National Center on Accessing the General Curriculum: Effective Classroom Practices Report*, 2-24. Retrieved from http://www.cast.org/system/galleries/download/ncac/DI_UDLNov2.pdf

Hallinan, M. T. (2003). Ability grouping and student learning. *Brookings Papers on Education Policy, 2003*(1), 95–124. doi:10.1353/pep.2003.0005

Hill, H. (2009). Fixing teacher professional development. *The Phi Delta Kappan,* 90(7), 470-476. Stable URL: http://www.jstor.org/stable/20446155

Hollifield, J. (1987). Ability grouping in elementary schools. *Eric Digest*. 1-4. ED290542

Keisler, E. R. & Stern, C. (1970). Differentiated instruction in problem solving for children of different mental ability levels. *Journal of Educational Psychology*, 61(6), 445-450.

Kulik, J. & Kulik, C. (1992). Meta-analytic findings on grouping programs. *Gifted Child Quarterly*, 36, 73-76. DOI: 10.1177/001698629203600204

La Paro, K. & Pianta, R. (2000). Predicting children's competence in the early school years: A meta-analytic review. *Review of Educational Research*, 70(4), 443-484.

Lawrence-Brown, D. (2004). Differentiated instruction: Inclusive strategies for standards-based learning that benefit the whole class. *American Secondary Education*, 32(3), 34-62.

Lefkowitz, L. (1972). Ability grouping: De facto segregation in the classroom. *The Clearing House*, 46(5), 293-297. Retrieved from http://www.jstor.org/stable/30188055

Lambkin, E., Garman, C., Deon, S. L., and Sticker, P. M. (2010). One elementary school's implementation of response to intervention (RTI). *Reading & Writing Quarterly: Overcoming Learning Difficulties*, 26(4), 361-373. Retrieved from http://www.tandfonline.com.pitt.idm.oclc.org/doi/abs/10.1080/10573569.2010.500266

Levine, T. H. (2010). Tools for the study and design of collaborative teacher learning: The affordances of different conceptions of teacher community and activity theory. *Teacher Education Quarterly*, 37(1), 109.

Lewis, A. (1994). Inclusion. *Education Digest*, 60(1).

Lleras, Christy & Rangel, Claudia. (2009). Ability grouping practices in elementary school and African-American/Hispanic achievement. *American Journal of Education, 115*, 279-

304.

Lou, Y., Abrami, P., Spence, J., Poulsen, C., Chambers, B., & d'Apollonia, S. (1996). Within-class grouping: A meta-analysis. *Review of Educational Research*, 66(4) 423-458. Retrieved from http://www.jstor.org/stable/1170650

McLeskey, J., & Waldron J., (2002). School change and inclusive schools: lessons learned from practice. *Phi Delta Kappan.*(84)1, 65-72. http://www.jstor.org/stable/20440276

McTighe, J. and Brown, J. (2005). Differentiated instruction and educational standards: Is détente possible? *Theory Into Practice*, 44, (3), 234-244. Retrieved from http://www.jstor.org/stable/3497003

Merriam, S. (2009). *Qualitative Research: A guide to design and implementation.* San Francisco. CA: Jossey-Bass

Morgan, E. F., & Stucker, G. R. (1960). The Joplin Plan of reading vs. a traditional method. *Journal of Educational Psychology*, 51(2), 69-73.

Parsons, S., Dodman, S., & Burrowbridge, S. (2013). Broadening the view of differentiated instruction. Phi Delta Kappan, 95(1), 38-42.

Patton, M. Q. (2002). *Qualitative research and evaluations methods*. Thousand Oaks, CA: Sage Publications, Inc.

Powell, W. R. (1964). The Joplin Plan: An evaluation. *The Elementary School Journal*, 64(7), 387-392. Retrieved from http://www.jstor.org/stable/1000128

Ravitch, D. (2007). *Flexible grouping*. In EdSpeak: A Glossary of Educational Terms, Phrases, Buzzwords, and Jargon. Retrieved from http://site.ebrary.com.pitt.idm.oclc.org/lib/pitt/docDetail.action?docID=10191383&lpg=96

Reed, S. E., & Westburg, K. L. (2003). Implementing enrichment clusters in a multi-age school: Perspectives from a principal and a consultant. *Gifted Child Today*, 26(4), 26-29.

Rubin, B., & Noguera, P. (2004). Tracking detracking: Sorting through the dilemmas and possibilities of detracking in practice. *Equity & Excellence in Education*, 37(1), 92-101.

Salmans, Sandra (1988, April 10). The Tracking Controversy. *The New York Times*. Retrieved From http://search.proquest.com.pitt.idm.oclc.org/docview/426806845?accountid=14709

Slavin, R. E. (1980). Cooperative learning. *Review of Educational Research*, 50(2), 315–342. doi:10.3102/00346543050002315

Slavin, R. E. (1987). Ability grouping and student achievement in elementary schools: A best-evidence synthesis. *Review of Educational Research*, 57, 293–336. doi:10.3102/00346543057003293

Slavin, R. E., Stevens, R. J., & Madden, N. A. (1988). Accommodating student diversity in reading and writing: A cooperative approach. *Remedial and Special Education*, 9(1), 60-66. DOI: 10.1177/074193258800900111

Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications, Inc.

Thelen, H. (1959). Classroom grouping of students. *The School Review*, 67, (1), 60-78. Retrieved from http://www.jstor.org/stable/1083684

Tomlinson, C. A. (1999). Mapping a route toward a differentiated instruction. *Educational Leadership*, 57(1), 12.

Tomlinson, C. A. (2000). Differentiated instruction: Can it work? *Education Digest*, 65(5), 25.

Tomlinson, C. A., & Eidson, C. C. (2003). *Differentiation in practice: A resource guide for differentiating curriculum*. Alexandria, VA: Association for Supervision and Curriculum Development.

Torreno, S. (2012). *The history of inclusion: Educating students with disabilities*. Retrieved http://www.brighthubeducation.com/special-ed-inclusion-strategies/66803-brief-legal-history-of-inclusion-in-special-education/

Unsworth, L. (1984). Meeting individual needs through flexible within-class grouping of pupils. *The Reading Teacher*, 38(3), 298-304. Retrieved from http://www.jstor.org/stable/20198763

VanSciver, J. H. (2005). NCLB fitfully fits differentiated instruction. *Education Digest: Essential Readings Condensed for Quick Review*, 70(9), 37-39.

VanSciver, J. H. (2005). Motherhood, apple pie, and differentiated instruction. *The Phi Delta Kappan*, 86(7), 534-535.

Wattes-Taffe, S., Laster, B. P., Broach, L., Marinak, B., Conner, C., & Walker-Dalhouse, D. (2012). Differentiated Instruction: Making informed teacher decisions. *The Reading Teacher*, 66(4), 303-314.

Welner, K. & Burris, C. C. (2006). Alternative approaches to the politics of detracking. *Theory Into Practice*, 45(1), 90-99. doi:10.1207/s15430421tip4501_12

Whipple, G. (1951). How can we use grouping effectively within a classroom? *I.C.I.R.I. Bulletin*, 4(2), 3-4. Retrieved from http://www.jstor.org/stable/20189500

Wilson, B., & Schmits, D. W. (1978). What's new in ability grouping? *The Phi Delta Kappan*, 59(8), 535-536. Retrieved from http://www.jstor.org/stable/20299073

Yin, R. (2009). *Case study research: Design and methods*. Thousand Oaks, CA: Sage Publications, Inc.

Yin, R. & Davis, D. (2007). Adding new dimensions to case study evaluation: The case of evaluating comprehensive reforms. New York: *Wiley Periodicals, Inc.*, 113, 75-93. DOI: 10.1002/ev.216

Youngs, P., & King, M. (2002). Principal leadership for professional development to build school capacity. *Educational Administration Quarterly*, (38)5, 643-670. doi: 10.1177/0013161X02239642