

Spring 2018

Deciding on Classroom Composition: Factors Related to Principals' Grouping Practices

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DECIDING ON CLASSROOM COMPOSITION: FACTORS RELATED TO PRINCIPALS'

GROUPING PRACTICES

by

BRIGID NESMITH

(Under the direction of Teri Denlea Melton)

ABSTRACT

The purpose of this research study was to examine the factors that may influence elementary and middle school principals' choice of heterogeneous, homogeneous, or within-class ability grouping in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. This study employed a quantitative, methodological research design along with descriptive analyses of four research questions using a convenience sample. Data from 64 elementary and middle school principals were analyzed to determine the factors that influence their grouping practices.

This study focused on one overarching research question: What factors may be related to principals' grouping practices in utilizing heterogeneous, homogeneous, or within-class ability grouping in schools in Southeast Georgia to include the Regional Educational Service Agency (RESA) areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area? Similarly, the following sub-questions supported the overarching research question: (1) Is there a relationship between organizational factors and the principals' grouping practices? (2) Is there a relationship between external factors and the principals' grouping practices? (3) Is there a relationship between personal factors and the principals' grouping practices? (4) Is there a relationship between demographic factors and the principals' grouping practices?

Data collected and analyzed in this research study represent a contribution to the limited research that exists about principals' grouping practices and the factors that are associated with the choice of grouping. Information gathered clarified an understanding of factors that have the greatest influence on principals' grouping practices. These factors were categorized into the following groups: organizational, external, personal, and demographic. The research uncovered that there was no association between organizational and demographic factors and a principals' grouping practice. Likewise, only two external factors showed an association. Principals in the research expressed that parent and teacher preferences are associated with their grouping practice. On the other hand, all personal factors had an association with the principals' grouping practice. It was apparent that the principals' belief and personal experience are associated with their choice of grouping.

INDEX WORDS: Ability grouping, Education, Elementary school, Heterogeneous grouping, Homogeneous grouping, Middle school, Within-class ability grouping

DECIDING ON CLASSROOM COMPOSITION: FACTORS RELATED TO PRINCIPALS'

GROUPING PRACTICES

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DOCTOR OF EDUCATION

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May 2018

DEDICATION

This dissertation is dedicated to my husband, Travis Nesmith who was a constant source of encouragement and support during the past 5 years. He spent countless weekends as a single parent while April and I went to classes, worked on papers, completed research, and finished our dissertations. He perfected his cooking and cleaning while he watched me struggle through the process only to be there to tell me to keep my chin up. To my parents, Joe and Monica Bahm, who always told me to work hard for those things I desire to achieve. They were always there to chauffeur the kids, watch their games, take them to 5Ks, and make meals while I pursued my dream. Their undying support means the most to me, and I can only hope to encourage my children as much as they have encouraged me during my life. To my sister who I have admired since I can remember, nothing means more to me than you being proud of my achievements. Finally, to my children, Kiera and Coleman. They are the reason I went back to school to push myself to the limit. I know that they are always watching, and I wanted nothing more than to be a great example for them to follow. I apologize for the missed games, races, laughs and smiles that I missed on this journey. This dissertation is dedicated to you and your future as lifelong learners.

ACKNOWLEDGMENTS

On this journey, there have been many people who have walked alongside me on the adventure. They have supported my efforts, pushed me to continue, and guided me in the most positive of directions with the end result of graduating. Without their efforts, this journey would have been lonely and seemed impossible. For my chair, Dr. Melton, who was with me, not only for my Doctoral journey, but my Ed. S. journey, as well. She encouraged me to continue growing and learning and never gave up on me, even when I felt like giving up on myself. She lighted my path and at times cleared the way so I could see the destination in order to keep motivated. To Dr. Griffin who also saw me through my Ed. S. and Doctoral Research classes, you held my map and gave me directions when I needed them. I'd like to thank Dr. McBrayer for her collegiality and mentorship guiding me through the process. I'd be amiss to not thank those whose feet trudged the path with me through our cohort for two years. I am blessed to remain friends with the group. Thank you to my staff at South Effingham Middle School and my assistant principals who always had cheers for me along the way! I need to acknowledge the 23 counties who allowed the participation of their principals in the study, and also the 65 participants, who without their responses I would not have had data for analysis. Finally, to my dear companion on this journey, April Hodges. She is one of the most supportive women I know, and she spent the past 5 years building me up, pushing me on. We spent hours together at work only to spend the weekends together going to doctoral classes, working on our dissertation, or sometimes allowing ourselves time to have fun! I could have never done this experience without her love, kindness, aid, and mentorship!

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CHAPTER 1

INTRODUCTION

The desire to narrow the achievement gap, help those children who need more attention, and still meet the demands of the federal mandates creates a quandary for school leaders. The United States (US) still lags behind other countries in academic achievement and in preparing youth for future endeavors (Daggett, Gendron, & Heller, 2010). Initiatives such as the Every Student Succeeds Act (Civic Impulse, 2018) have pushed the educational community to increase accountability and create plans to provide a quality education for all students. “An increase in the school’s responsibility for achieving educational outcomes quite naturally raises the question of the status of the principal as a representative of the state in the school” (Kasprzhak, Filinov, Bayburin, Isaeva, & Bysik, 2015, p. 956). With students’ instructional needs and abilities rapidly diversifying, principals are called to ensure that all their students are college- and career-ready. Tomlinson (2015) concluded that “the nature of life in the 21st century suggests that schools must prepare students to be thinkers, problem solvers, collaborators, wise consumers of information, and confident producers of knowledge” (p. 203). Tomlinson (2015) expressed that society will fail students if it utilizes homogeneous classrooms, and that these students will fail as contemporary learners in a diverse society. To meet this myriad of demands, principals must locate the best practices that positively impact student achievement. “An increase in the school’s responsibility for achieving educational outcomes quite naturally raises the question of the status of the principal as a representative of the state in the school” (Kasprzhak et al., 2015, p. 956). The rapid spread of the Common Core curriculum and the pervasive desire to narrow the achievement gap have left schools struggling to find and apply effective organizational structures in classrooms. Therefore, principals are once again pivotal in analyzing the possibilities of utilizing ability-grouped classrooms including the possibilities of heterogeneous, homogeneous, and within class ability grouping when forming classes in school. By choosing heterogeneous grouping, the students are placed with students of varying abilities and academic achievement in the same class (Association of Supervision and Curriculum Development, 2014). Forming classes in the school with homogeneous grouping is grouping students with similar abilities and academic

achievement in the same class together (ASCD, 2014). On the other hand, within-class ability grouping groups students by ability and other factors into groups within a classroom (Matthews et al., 2013).

Principals desire to identify the appropriate classroom composition to meet the needs of all levels of students so that they are prepared for the next level (Willhoft, 2012). This emphasis on classroom composition emerged from the need to compete globally. Not surprisingly, the rise in ability grouping is in relation to the use of data in a time of accountability (Park & Datnow, 2017). Decisions about ability grouping, as explained by Park and Datnow (2017), “involve a complex dynamic of school culture, structures, and the actions of individuals” (p. 285). Ability grouping is defined as grouping of students of the same ability together in the same class, based upon concepts such as IQ, grades, or academic achievement (Missett, Bruner, Callahan, Moon, & Price Azano, 2014; Schofield, 2010). The terms *ability grouping* and *tracking* can be used interchangeably. However, ability grouping occurs primarily in elementary school as a means of separating students in a single class, while tracking is aligned primarily to the middle and high school’s concept of placing students with differing abilities into classes with aligned difficulty (Loveless, 2013; Sparks, 2013). For the purpose of this study, ability grouping is the homogeneous grouping of students in elementary, middle, and high schools.

Loveless (2013) investigated the resurgence of ability grouping as part of the National Assessment of Educational Progress (NAEP). The findings showed that in the content area of Reading in 1998, only 28% of 4th graders were grouped by ability and by 2009, teachers reported that 71% of 4th graders were grouped by ability. On the other hand, in math classrooms, 48% of students in 1992, 54% in 2009, and 61% in 2011 were grouped by ability. Loveless (2013) agreed that the desire to close the achievement gap is likely the cause of the resurgence of ability grouping. In the attempt to close the achievement gap, schools follow the assumption, as explained by Belfi, Goos, De Fraine, and Van Damme (2012), that ability grouping allows teachers to meet the needs of like-ability students more easily. However, this assumption raises questions with respect to equity and educational efficacy (Preckel & Brull, 2010). Along the same lines, if the ultimate desire is to close the achievement gap, the achievement outcomes for homogeneous ability grouping must be considered.

Statement of the Problem

The literature has been divided during the past 80 years over the effectiveness of ability grouping. However, minimal research has been conducted that explicitly addresses the factors that contribute to principals' decisions to use heterogeneous, homogeneous, or within-class ability grouping when forming classes in schools. Thus, the most effective classroom arrangement is still in question, and principals, as instructional leaders, need to know the best class arrangement to increase student achievement for the general population of students. Ultimately, the principal is the determining factor as to the type of classroom composition that happens within a school.

With increased national and global pressure on school leaders to improve the achievement of all students, school leaders must utilize effective decision-making to change the fate of their schools. It is, therefore, essential to investigate principals as stakeholders because they are increasingly being pressured to make their students college- and career-ready. As the instructional leaders of their school, principals also have an increasing demand placed upon them to determine the appropriate means by which students should be grouped for instruction. School leaders are the driving force behind future changes in schools and largely define each school's fate (Kasprzhak et al., 2015). Yet, there is a lack of research regarding the factors that may influence a principal's decision-making in ability grouping in schools. Unfortunately, there does not appear to be much recent literature for principals to reference as they make critical decisions regarding grouping practices in their schools that would affect student achievement. Though there is significant research on the pros and cons of each type of ability grouping (Ansalone, 2010; Collins & Gan, 2013; Mickelson, Bottia, & Lambert, 2013; Park & Datnow, 2017), there is a gap in the knowledge as to why one form is chosen by a school leader over another. This study determined which factors may influence the type of classroom composition that the participating principals choose for their schools based upon organizational, external, personal, and demographic factors. This study was designed to identify the factors that may influence the leadership decision-making processes. This study was important because decision making among educational leaders in regard to ability grouping is of vital importance to the educational success of all students.

Research Questions

The overarching research question that guided this study was: What factors may be related to principals' grouping practices in utilizing heterogeneous, homogeneous, or within-class ability grouping in schools in Southeast Georgia to include the Regional Educational Service Agency (RESA) areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area? The following sub-questions supported the overarching research question:

1. Is there a relationship between organizational factors and the principals' grouping practices?
2. Is there a relationship between external factors and the principals' grouping practices?
3. Is there a relationship between personal factors and the principals' grouping practices?
4. Is there a relationship between demographic factors and the principals' grouping practices?

Significance of the Study

Principals are called upon to create college- and career-ready students with a population of students with diverse abilities, behavior concerns, overcrowded classrooms, and smaller budgets. To date, no research has been conducted on factors related to principals' decisions in the selection of ability grouping in Southeast Georgia. A study of specific factors that may be related to principals' utilization of heterogeneous, homogeneous, or within-class ability grouping in forming classes is important, because ability grouping remains a means by which classrooms can be organized to achieve academic success. These data may provide a unique representation of the factors that may be related to the decisions made by principals in terms of classroom composition in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. No other study has been conducted to examine decision-making processes of principals in regard in other regions or districts. The study examined the extent to which the demographics of school principals and their schools, along with other relevant factors, have a relationship with the principals' decisions to create heterogeneous, homogeneous, or within-class ability grouped classrooms at their schools.

This study adds to the limited literature on factors related to principals' selection of heterogeneous, homogeneous, or within-class ability grouped classrooms, focusing on Southeast

Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. Ability grouping is a viable option for principals and schools. If teachers and principals are being held accountable for students' academic achievement, principals are called to find the best practices to improve student achievement to assure that students are college- and career-ready. The research also explored the perceptions of principals in elementary and middle schools and the differences that may exist in perceptions by level. Equally significant, the research also shed light on the relationship of certain demographic information upon the choice of ability grouping, particularly in terms of a principal's race, age, degree held, and years of experience. By examining the factors that may be related to the selection of ability grouping, this study enhances the understanding of the decision-making process, thereby enriching current research on ability grouping and why it is still prevalent in the United States.

Procedures

The use of a quantitative study allows for the data to be compared to find an association between the independent variables and the dependent variable (Castellan, 2010). Data were collected to examine beliefs regarding ability grouping among elementary and middle school principals through the utilization of a researcher designed questionnaire based on the current literature on the topic to answer the research questions. An email was sent to the superintendents of each of the 47 counties in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area to explain the study and request permission to survey all of the elementary and middle school principals (Appendix B). Upon receiving permission from the superintendents, 197 elementary and middle school principals received the instrument through email with a *Qualtrics*® link. After two weeks, a reminder email was sent to the principals encouraging them to complete the instrument. Once data were received, the researcher imported the data into SPSS for analysis of the responses. The analysis focused on what relationships exist between the choice of ability grouping and the four factors that may influence that decision: organizational, eternal, personal, and demographic. Therefore, to predict the relationship between the dependent variable of choice of ability grouping and the independent variables of the four factors, a chi-square was run. After accounting for the familywise error by using the Benjamini-Hochberg

procedure, the data were presented in p value and contingency chart tables and followed by descriptive analyses.

Definition of Key Terms

For the purpose of this study, the following terms have specific meanings:

Ability grouping: Slavin (1990) has defined ability grouping as “any school or classroom organization plan which is intended to reduce the heterogeneity of instructional groups” (p. 471). Basically, ability grouping is the assignment of students with like abilities or perceived like abilities to a specific classroom. Ability grouping groups students with the same academic ability levels, and is also known as *tracking* and *homogeneous* grouping.

Elementary School: While school levels have a variety of grade arrangements, elementary schools are schools that contain students in grades Kindergarten through fifth grade.

Heterogeneous grouping: Heterogeneous grouping is the placement of students with varying abilities and academic achievement in the same class. Heterogeneous grouping is also called mixed ability grouping (Association of Supervision and Curriculum Development, 2014).

Homogeneous grouping: Homogeneous grouping of students is grouping students with similar abilities and academic achievement in the same class together (ASCD, 2014).

Middle School: Middle schools are schools that contain students in sixth grade through eighth grade.

Mixed-Ability grouping: Mixed ability grouping is grouping students with mixed academic ability levels or perceived academic ability levels into the same classroom (Slavin, 1987).

Tracking: Tracking is grouping students by prior achievement or intelligence and keeping them in this ability level group for all content areas (Oakes, 1992). The term is often used interchangeably with ability grouping.

Within-class ability grouping: Matthews et al. (2013) defined within-class ability grouping as the grouping of students by ability and other factors into groups within a classroom.

Chapter Summary

This study took a quantitative approach to evaluate the factors that contribute to principals' decisions regarding the grouping of students in school. Data were collected from surveys of both elementary and middle school principals within Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. Results of the instrument determined principals' implementation of heterogeneous, homogeneous, or within-class mixed ability grouping. The instrument focused on four factors that affect the principal's decision on classroom ability grouping: organizational factors, external factors, personal factors, and demographic factors. Since ability grouping remains a means by which classrooms can be organized to achieve academic success, this research study was intended to provide a unique representation of the factors that may be related to the decisions made.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

Educational leaders play an important role in influencing the pedagogy, student learning, and overall effectiveness of a school that can result in positive outcomes. The added pressure to improve student achievement is a component of reform and compels a principal to create effective classroom composition for all students (Willhoft, 2012). A review of the literature suggested homogeneous, heterogeneous, or within-class grouping of students are each viable classroom models that can affect achievement, peers, classroom instruction, and student behaviors. Similarly, existing research suggested that the perceptions of ability grouping by stakeholders such as teachers, parents, and principals are an important factor. Ultimately, however, the choice of grouping depends upon the decision of and implementation by the principal. There are numerous factors that may influence the decision-making practices of principals and, therefore, such factors may be truly influential agents when it comes to choosing ability grouping.

In this literature review, information related to the meaning of ability grouping and decision making factors are explored. The literature review involved a methodical search of literature through the Georgia Southern University Zach S. Henderson online library. The utilized databases included EBSCOhost, ProQuest, Education Resources Information Center (ERIC), and Google Scholar. The researcher focused on ability grouping and decision-making while reviewing scholarly or peer-reviewed articles. The literature search included the use of search terms and key words, such as decision-making factors, principals' decision-making, heterogeneous grouping, homogeneous grouping, within-class ability grouping, effects of ability grouping, and pressures on leadership. The researcher altered key words, narrowed, or expanded the search depending on the list of results on the various databases.

Ability Grouping

At the onset of the 1900s, the utilization of tracking and ability grouping emerged out of a desire to develop students who were prepared to take their places in the workforce by utilizing college

preparation, general, or vocational tracks (Burriss, 2014). By the 1950s, Americans concerned with the Cold War feared that American students were not able to compete academically in a global world. The ability to compete globally is a continuous concern and parallels the modern need to produce college- and career-ready students. During the 1980s, tracking was sharply criticized because society viewed it as a means to categorize students by race and socioeconomic status, and to place certain racial groups and those in lower socioeconomic status groups in lower-ability classes (Oakes, 1986; Slavin, 1990).

Although there was a call to detrack students in the 1990s, ability grouping continues to be a common practice that establishes groups of students based upon criteria such as academic achievement (Ansalone, 2010). Hallam, Davies, and Ireson (2013) asserted that schools changed grouping practices in order to raise standards. Likewise, Coleman (2016) believed that the call to detrack students was based on equality, and the new desire of school reform is pushed by the desire to succeed. “The establishment of high-level curriculum standards for students with an expectation that all students will take algebra and be college or career ready and the push to define a ‘high-quality-teacher’ are examples of this movement toward excellence” (Coleman, 2016, p. 118). According to NAEP data on tracking, in 2011 76% of students were tracked for eighth-grade math. English Language Arts (ELA) tracking declined sharply after 1990, but has made a comeback since 2003 (Loveless, 2013). Loveless (2009) found that ability grouping is continuing to occur in schools with students of higher socioeconomic backgrounds, while schools serving poor populations seem to be moving away from grouping their students by ability.

Ability grouping is still a prevalent means to organize students and classrooms, but research supports the idea that “old images of effective [ability-grouped] classrooms are anachronistic in terms of today’s students and their needs” (Tomlinson & Imbeau, 2010, p. 3). According to Loveless (2013), 61% of elementary math classes were grouped by ability and 75% of middle school students were enrolled in ability grouped math classes. Tomlinson and Imbeau (2010) recognized the diversity of today’s students and argued that schools need to accommodate a variety of differences among students in a classroom. Principals comprehend that the issue before them is how to attend to this multitude of differences without marginalizing certain groups within the school population.

Assets of Ability Grouping

Insomuch as a multitude of literature calls for the abandonment of grouping students by ability, some proponents argue that ability grouping improves achievement for all students of all abilities (Ansalone, 2010; Hornby and Witte, 2014; Kulik, 1992; Park and Datnow, 2017). As discovered by one of the foundational researchers on ability grouping, Loveless (1999), there is broad support for tracking among the stakeholders: teachers, parents, and students. In his seminal work, Kulik (1992) defended the use of ability grouping to support teachers so that they will not have to contend with a wide range of abilities in the classroom.

Teachers believe that the practice of ability grouping is indispensable and allows them to manage the variances of ability and achievement in their classrooms (Ansalone, 2010). Ansalone (2010) asserted that teachers support ability grouping because it provides the chance to enrich or remediate the curriculum based on the ability of the group. Park and Datnow (2017) found in their study of 27 teachers, principals, and other key personnel that teachers find it to be more effective because it minimizes the diverse range of abilities within a classroom. The researchers interviewed participants twice during the school year and also collected 127 hours of observational data. Once completed, Park and Datnow (2017) developed case reports and conducted cross-site analysis to uncover patterns. They found that “teachers’ decisions to group by ability and to differentiate were co-constructed with decisions made at the district, school, and teacher team levels” (p. 290). Park and Datnow (2017) noted that decisions from higher level officials and specific mandates determined the actions of the teachers. Essentially, the district and school policies influenced the teacher’s decisions.

Kulik (1992) completed a meta-analysis of five kinds of ability grouping programs based upon the previous research findings of two major sets of meta-analyses. He found that both high- and low-ability students would suffer academically if they were detracked. Kulic (1992) asserted that “the damage would be truly profound if, in the name of de-tracking, schools eliminated enriched and accelerated classes for their brightest learners” (p. 44). In his reanalysis of the two meta-analyses, Kulik (1992) “confirmed that higher aptitude students usually benefit from ability grouping” (p. 8).

Similarly, Hornby and Witte (2014) surveyed 15 high schools in New Zealand in regard to the schools' policies and practices of ability grouping. Their study is significant because New Zealand's students rank in the top ten for overall achievement. Hornby and Witte (2014) found the benefits reported in the interviews of heterogeneous ability grouping were specifically for teachers and schools. Those benefits included more targeted teaching opportunities, allowance of challenging work for high ability students, and targeted use of school resources.

A study by Duflo et al. (2011) looked at 121 schools in Kenya with 10,000 students in first grade. Sixty of the schools' first grade classes were heterogeneously grouped. In the other 61 schools, the students were homogeneously grouped according to scores. After 18 months in the program, the academic achievement of 5,796 students was measured by a math and language test. Duflo et al. (2011) found that students enrolled in homogeneous classes had a significant increase in testing scores for both the high-scoring and low-scoring students. The researchers also analyzed changes in peer achievement and found that in homogeneous groupings, the students who scored just below the median, but were placed with the lower group "did not suffer from being assigned to the bottom track" (Duflo et al., 2011, p. 69). On the other hand, when they analyzed the results from the heterogeneously grouped students, "students learn less if their peers are lower performing" (Duflo et al., 2011, p. 68). It is interesting to note that Duflo et al. (2011) found that creating homogeneous classes allows "the teacher to deliver instruction at a level that reaches all students, thus offsetting the effect of having lower-performing peers" (p.68). Duflo et al. (2011) also sought to analyze whether the effects of the program continued; therefore, the students were tested again one year after the end of the program. In these findings, the researchers learned that the benefits of homogeneous grouping continued even a year after the program ended and they returned to regular classes. As explained by Loveless (1999), parents of various races and academic abilities favor homogeneous grouping for their children.

Studies also document the improvement of academic achievement when students are grouped by ability. Adodo and Agbayewa (2011) studied with the random sampling of 60 students from two schools the effect of homogeneous versus heterogeneous teaching on student achievement with pre-test and post-

test data. Adodo and Agbayewa (2011) found that homogenous ability grouping is superior for promoting student achievement at all levels of ability. The researchers also stated the following:

From this study, the average- and low ability students benefit academically from homogeneous grouping science class settings than the heterogeneous group. Within-class homogeneous ability, grouping helps students to develop positive attitude to science subjects, the school and themselves. The students' interest to learning is also boosted and sustained in the homogenous ability level grouping class. (p. 53)

Similarly, Matthews et al. (2013) completed an ex-post-facto study of 360 Kindergarten-6th grade students in a charter school to evaluate the effects of ability grouping on both gifted and non-gifted students by using achievement scores for three years in reading, language, and mathematics. The results indicated that for both gifted and typical learners, ability grouping is beneficial in mathematics and not in the area of reading. This study supported Kulik and Kulik's (1982) finding that the performance of students in ability groups was higher than the performance of those in non-ability-grouped classes.

Similarly, in a study by Collins and Gan (2013), they found that high- and low-achieving students do better academically when homogeneously grouped versus when heterogeneously grouped. Collins and Gan (2013) utilized a dataset that included two years of state scores on a math and reading test of 9,325 third grade students in 135 different schools in the Dallas Independent School District. They also included demographic information about the students. Collins and Gan (2013) found "strong evidence that sorting students into more homogeneous groups is beneficial, particularly for sorting by previous test scores" (p. 19). Collins and Gan (2013) added that they found positive and significant results for high- and low-scoring students. They found a positive relationship between the homogeneous classroom and student math scores. On the other hand, Collins and Gan (2013) identified gifted students in their research and did not find statistically significant positive gains for this group when they were grouped homogeneously. Collins and Gan (2013) found that scholars agreed that grouping by achievement, and adjusting instruction accordingly, benefits all learners.

Confines of Ability Grouping

The literature pertaining to ability grouping includes many critics who believe that sorting students by ability leads to a decrease in student achievement and a resurgence of segregation (Kalogrides and Loeb, 2013; Mickelson, Bottia, & Lambert, 2013; Rubin, 2006). Researchers contend that the purpose of ability grouping is to sort students by race and class (Rubin, 2006). A criticism of ability grouping is that it is a poor solution to meeting the needs of all students, because when students are grouped based solely upon ability they are segregated by race and economics (Mickelson, Bottia, & Lambert, 2013). Kalogrides and Loeb (2013) completed a study using seven to nine years of reading and math scores from three large urban school districts and 487,000 students from over 900 schools. The researchers found that the majority of racial and economic segregation comes from the grouping of students by achievement. Kalogrides and Loeb (2013) also uncovered that this grouping could impact students' achievement depending upon peer influences and the differentiation in instruction by the teacher. Although the research by Hornby and Witte (2014) uncovered positive perceptions of ability grouping, the interviews they conducted also noted perceived disadvantages such as the stigmatization for the lower ability groups, parental anxiety over grouping, student behavior, and lowered teacher expectations for all, but the high groups. Oakes (1986) expressed another disadvantage of ability grouping: the sole purpose of ability grouping is to support the distribution of power and privilege in a society. Inevitably, the practice divides students according to traits aligned with achievement, such as race and class (Loveless, 2013; Oakes, 1986).

Ability grouping is also perceived as causing unequal learning opportunities. There is a disparity in the instructional quality between the low ability and high ability groups (Matthews et al., 2013). Students recognize that having ability grouping causes more ability gaps among low, mid-level, and high group learners, rather than promoting a positive learning environment for students at all levels (Kim, 2012). Regardless of the criteria, the grouping of students by ability will separate students by other characteristics, such as race, ethnicity, and class (Loveless, 2013). Students who are grouped based solely upon ability are segregated by race and economics (Mickelson, Bottia, & Lambert, 2013). Loveless

(2013) stated that the practice of ability grouping divides students according to traits aligned with achievement, such as race and class. Tomlinson (2015) argued that homogenous classrooms will fail preparing students of the 21st century to function in a diverse population. Tomlinson (2015) suggested,

Heterogeneous classrooms with focused attention to students' varying needs, and in the context of high quality curriculum and instruction, can benefit a very broad spectrum of learners in areas such as achievement, attendance, discipline, satisfaction with school, and college application and attendance rates. (p. 204)

Ability grouping has been blamed for “unfairly categorizing students, stigmatizing struggling learners, and consigning them to a fate over which neither they nor their parents had control” (Loveless, 1999, p. 14). Park and Datnow (2017) discussed that the decision of ability grouping favors the advantaged students and that the teacher's perceptions of a child's ability play a significant role in the success of students.

Interestingly, ability is not located only within a student but also constructed by students and the opportunities afforded to them (Collins, 2013). The utilization of ability grouping often displays a fixed belief in the stability of a student's ability with a snapshot of data (Park & Datnow, 2017). One perspective on ability grouping praises its efficiency of organizing students, thus easing the academic diversity in the classroom and empowering teachers. This perspective comes from the belief that students' capacities to be successful and to master content are so dissimilar that students need differing educational experiences (Oakes, 1986). In his landmark study, Slavin (1987) explained that a teacher's desire for ability grouping grows from the goal of increasing student achievement by reducing the heterogeneity of a classroom, therefore allowing the teacher to meet the instructional needs of all of the students. However, some literature supports the idea that teaching in ability-grouped classes offers an inferior education and creates segregation among races (Ansalone, 2010; Loveless, 2013).

Worthy's (2009) research addressed how prominent the issue of ability grouping is in teachers' descriptions of students and instruction in regular and honors Language Arts classes. The study included interviews with and observations of 25 sixth grade teachers who taught regular and honors classes in eight

middle schools in a large urban district in Texas. The researcher found that four of the 25 teachers believed that “homogeneous grouping does not have to mean deficient instruction for students in lower level classes” (Worthy, 2009, p. 279). The researchers also found that teachers spoke about the differences in work habits, behavior, and ability between their classes, but did not talk about individual students. The teachers, according to the findings, “described students as having certain characteristics based upon their class placement” (Worthy, 2009, p. 279). The study echoed previous research in the 1970s and 1980s on the educational plan of tracking students. Regardless of what terms educators or districts use to define a group of students, teachers will have expectations and differing standards. The implication is that regardless of whether the process is called *tracking* or *ability grouping*, teachers have negative expectations of the low-ability-grouped classes.

Similarly, whether they are called low or average groups, teachers assert their beliefs about a group’s make-up in how they teach and interact with the students, at a cost to the education of students in those classes (Ansalone, 2010). Ability grouping supports the maximization of individualized instruction while reducing academic diversity (Ansalone, 2010). However, Ansalone (2010) also observed the inequality that ability grouping causes in education. One negative characteristic of ability grouping is that it is simply used as a management tool, based upon general assumptions about how students learn best (Ansalone, 2010). Essentially, the perception of a student in reference to the differential treatment of the high- and low-achieving students was an indicator of the classroom’s climate of equity (McKown & Weinstein, 2008).

Within-Class Ability Grouping

Within-class ability grouping occurs in a heterogeneous classroom and requires a teacher to use predetermined data to organize students into groups based upon similarities. Steenbergen-Hu, Makel, and Olszewski-Kubilius (2016) defined within-class ability grouping as “teachers assigning students within a class to several small homogeneous groups for instruction based on students’ prior achievement or learning capacities” (p. 851). Essentially, teachers divide students into smaller instructional groups within the large heterogeneous classroom (Nomi, 2010). Matthews et al. (2013) explained that heterogeneously

grouped classrooms can be effective when the teacher uses within-class ability grouping, thus reducing the variation in the learning ability of the groups, just as occurs in a homogeneous classroom. Matthews et al. (2013) found significant academic growth for high ability students with the use of within-class ability grouping.

Steenbergen-Hu et al. (2016) explained that within-class ability grouping is widely used in elementary schools and is beneficial for students. In their two second-order meta-analysis of approximately 100 years of research using within-class ability grouping, Steenbergen-Hu et al. (2016) found the effects on student achievement were positive and significant, regardless of students' original ability level. Park and Datnow (2017) explained that within-class ability grouping can be effective "if instruction is carefully tailored to the students' needs, if students remain in a heterogeneous setting for most of the day, and if the groupings are flexible" (p. 286). Nomi (2010) explained that within-class ability grouping happens most often in elementary schools for reading instruction. However, Park and Datnow (2017) found that the need for differentiation is causing within-class grouping to be used more frequently in higher grade levels. Tomlinson (2015) concluded that students benefit from differentiation to meet their varying needs by creating flexible grouping within the classroom. Tomlinson (2014) also believed that teachers can better meet the needs of their students by using within-class grouping.

Ability Grouping Effects

With the pressure to create college- and career-ready students, principals must focus their attention on student achievement and the best organization for their schools' classrooms. Principals must consider the impact of ability grouping on the fundamental concerns of academic achievement, effects on peers, class instruction, and student behaviors. These four areas all may impact students and must be considered when choosing between ability grouped and mixed ability grouped classrooms.

Ability Grouping Effects on Academic Achievement

Differences in achievement by ability-grouped students are a focus in schools to improve student achievement, especially with the increase in accountability and the desire to close the achievement gap. Opposing viewpoints on how student success relates to heterogeneously or homogeneously grouped

classrooms; for example, Bosworth (2014) found that class size and class composition affect student achievement. Dieterle, Guarino, Reckase and Wooldridge (2015) found that many schools group students based on prior academic performance. In support of homogeneous grouping, Kulik and Kulik (1982) found in their foundational research that in 36 of 51 achievement studies the performance of students in ability groups was better than the ungrouped students. Kulik and Kulik (1982) found that in a typical class the performance of an ability-grouped student increased by one-tenth of a standard deviation unit. Thus, 54% of students in the ability-grouped class performed better than the average student in a non-ability-grouped or heterogeneous class. Along the same lines, Adodo and Agbayewa (2011) found that homogenous ability grouping is superior for promoting student achievement at all levels of ability. Hattie (2009) explained that tracking has nominal effects upon achievement. On the other hand, Webb (2011) and Hattie (2009) found that heterogeneous ability grouping produces identical collective results as the homogeneous group when examining all ability levels.

Loveless (2009) explained that there is minimal evidence of the effect of ability grouping on average student achievement. Similarly, Ansalone (2010) found that ability grouping has a relatively small impact on academic achievement with a slight benefit to high-ability at the expense of average and slow groups. Differences in achievement occurred even between subjects. There was no difference in the English Language Arts (ELA) scores between tracked and detracked schools; however, tracked schools had higher math scores than detracked schools (Loveless, 2009). Ability grouping has been determined to support inequality, boosting the achievement of the high-ability group while hurting those in the lower ability group (Loveless, 2009). Loveless (2009) found that students placed in lower ability groups scored lower than other students who were grouped heterogeneously.

Brulles, Peters, and Saunders (2012) believed that ability grouping for advanced students will be necessary due to higher standards and the opportunity for accelerated learning. Schofield (2010) reported that one difficulty with reporting achievement relates to the differing curricula offered to the ability groups. Schofield (2010) asserted that only by using standardized test scores can the learning gains be measured for all students. Although many research studies found little to no effect of achievement, Duflo

et al. (2011) used research in Kenya to display that all students benefited from tracking in the study, whether in the low, middle, or high level tracks. Duflo et al. (2011) went on to explain that if tracking is beneficial for all students, then it should be less of a concern.

Ability Grouping Effects on Peers

Schofield (2010) asserted that students learn best in classrooms with peers of similar achievement levels. Van Ewijk and Slegers (2010) found in their meta-analysis that one factor that impacts the academic success of students is the socioeconomic status of the student's peers in the classroom. Essentially, organizing students by ability levels reflects their socioeconomic backgrounds (Oakes, 1986). Van Ewijk and Slegers (2010) asserted that the socioeconomic status of classroom peers was more impactful on achievement of students than the school's overall socioeconomic status.

The grouping of students would impact the lower groups the most. Orfield (2009) believed that socioeconomic segregation is closely correlated with racial segregation. Brown versus the Board of Education (1954) forced the desegregation of schools by deeming it unconstitutional to segregate students; Oakes (1986) in her seminal work argued that ability grouping negates the positive movement from that landmark case. According to some, ability grouping, in many cases, may be just another form of racial segregation. Ability grouping was seen to re-segregate students, with racial minorities and low-income students being overrepresented in the low-ability groups (Rubin, 2006). "Ethnic disparities in academic achievement are critical both because they reflect ongoing social inequity and because they have social and health consequences" (McKown & Weinstein, 2008, p. 236). There exists an unfair distribution for White and wealthy students being placed in high-tracks, while low-income students of other ethnicities are denied the same opportunities (Hattie, 2009). Schools simply attribute this subdivision to the students' prior achievement (Hattie, 2009).

It has also been found that economically disadvantaged students are more often placed in the lower track (Ansalone, 2010). Mickelson et al. (2013) showed that Whites and Asians outperform Black students in all grades. Similarly, those with higher socioeconomic status outperformed those with lower socioeconomic status scores. Inevitably, Mickelson et al. (2013) found that race had a positive

relationship with math achievement scores and that the gap was compounded as the students aged.

Hanushek and Wößmann (2006) explained the feelings of the proponents of heterogeneous classrooms:

Proponents of ungrouped classrooms often suggest that heterogeneous classrooms might give rise to efficiency gains through nonlinear peer effects: the higher ability students lose nothing, but the lower ability students gain through the interaction from motivation, better classroom discussion, and the like. (p. C64)

Similarly, Dunne et al. (2011) discussed the importance of both teacher-student relationships and peer relationships among the students. Catsambis, Mulkey, Buttaro, Steelman, and Koch (2012) added to the existing research on the gender differences in ability group placement with a study of 5,178 kindergarteners across the country who were grouped by ability. The researchers found only 31% of boys were in the high reading groups, compared to 39.4% of girls. There was an 8% gender gap and a statistically significant variation in male placement into both the low and high reading groups and, therefore, the researchers argued that boys are at a disadvantage in reading groups (Catsambis et al., 2012). Catsambis et al. (2012) also pointed out that the boys who were placed in a low reading group showed less positive learning behaviors, as rated by their teachers. Catsambis et al. (2012) also found “clear demographic differences of students placed in low, average, and high reading groups” (p.14). Students who were White and had higher socioeconomic status were in the higher reading group; meanwhile, there were greater representations of low socioeconomic status, African American, and Hispanic students in the lower reading group.

Ability Grouping Effects on Classroom Instruction

The ability grouping debate includes a critical focus on instruction in the low-ability classroom. If students are to be college- and career-ready, instruction should be at the helm of the principal’s concern. Tomlinson (2015) explained that in order for students to be academically successful, schools must provide equal access to rigorous instruction. At all educational levels, diversity in classrooms is a challenge for educators. Teachers support the notion that instruction can be targeted more efficiently when students are grouped homogeneously (Loveless, 2009). Although it does not remove the need for

differentiation, grouping by ability can reduce the range of need (Hallam, Davies, & Ireson, 2013).

However, Tomlinson (2015) also expressed the struggle of teachers to meet the diversity of student needs in their classrooms, and explained that there exists a need for heterogeneous classrooms with embedded differentiation for academic success.

As for within-class ability grouping, teachers can meet individualized needs of students through flexible, differentiated grouping in a heterogeneously grouped classroom (Park & Datnow, 2017). Hong, Corter, Hong, and Pelletier (2012) examined the gap between the instructions of low- and high-ability groups. They found lowered expectations for the low-ability students and a less rigorous curriculum than that of the high-ability groups. Worthy (2009) also found in a study that only 16% of teachers believed that ability grouping does not have to mean a less rigorous instruction for the low-ability groups. The teachers also acknowledged lower expectations for the low-ability group (Worthy, 2009).

In order for students to meet the educational expectations of the nation, effective instruction is a necessity and needs to be the principal's focus. "Student success and/or failures are in large part determined by how well teachers provide effective instruction to their students" (Hong et al., 2012, p. 241), and effective instruction is embedded in a solid instructional program regardless of the ability of the students (Martella & Marchand-Martella, 2015).

Ability Grouping and Student Behaviors

Similar to academic achievement and class instruction, there exists a correlation between behavior problems and low academic achievement (Hong et al., 2012). Worthy (2009) found low academic achievement equaled more behavior problems and that high academic achievement equaled fewer behavior problems in the classrooms. Student behavior is a consideration in regard to ability grouping when creating an educationally supportive environment. Worthy (2009) believed that low-ability grouping problems are compounded by behavioral issues and low academic achievement. Hong et al. (2012) found that more time was devoted to behavior management in low-ability groups than to the curriculum and instruction. Catsambis et al. (2012) found that teacher perceptions of student behavior impacted the student's placement into the low-ability group. Catsambis et al. (2012) went on to explain

that perceived academic effort and misbehaviors caused a student to be placed into the low-ability group. Thus, the low-ability groups contained students with more perceived behavioral issues than the high-ability groups.

Hornby and Witte (2014) found that teachers believe that low-ability students have more behavior difficulties and are academically weak. Teachers rated students in low-ability groups as “less focused and exhibit[ing] more behavior problems” (Hornby & Witte, 2014, p. 93). These behavior problems affect not only the misbehaving student’s ability to learn, but they also impede upon the learning of others (Hornby & Witte, 2014). Behavior problems create a negative learning environment in which teachers cannot adequately complete instruction. In classrooms where instruction is impeded by behavior problems, students receive an inadequate level of teaching (Hattie & Anderman, 2013). Worthy (2009) found that teachers focused more on behavioral goals for students than on learning goals for lower ability-grouped students. Tomlinson (2015) expressed support for heterogeneous classrooms to diminish discipline problems. Ultimately, principals must consider ability grouping and its effects upon behavior in relation to classroom instruction and student achievement.

Perceptions of Ability Grouping

Teachers, parents, and principals all hold high expectations for student achievement. Together their opinions and perceptions impact the utilization of the ability grouping within schools. Principals must consider the input and concerns of parents and teachers when choosing the most appropriate organization for their schools’ classrooms while focusing on student achievement. Along the same lines, principals must recognize the impact that ability grouping can have not only on students and achievement, but likewise parent and teacher support. Principals must also be reflective on their perceptions of the effectiveness and impact of heterogeneous, homogeneous, and within-class ability grouping.

Teacher Perceptions

While a teacher’s mission is to have all students become college- and career-ready, debate surrounds the teacher’s role as a detrimental aspect of ability grouping (Conley, 2010). Teachers are charged with ensuring the success of all students in their classes. The concept behind separating students

by ability allows teachers to provide students with the kind of instruction that is appropriate for their ability level (Kim, 2012). Supporters of ability grouping believe that teachers prefer ability grouping in order to minimize the academic diversity in the classroom, thus making teaching more efficient and more effective (Ansalone, 2010).

The top reason teachers expressed for the utilization of ability grouping was that it helps them meet all students' needs; however, they also expressed concern over the instruction for the low-ability students (McKown & Weinstein, 2008). Missett, Brunner, Callahan, Moon and Azano (2014) conducted 133 interviews and 150 observations of 55 teachers in an experimental group and 32 teachers in a control group in their study to understand teachers' beliefs and use of ability grouping. The second cohort, a year later, consisted of 61 teachers in the experimental group and 21 teachers in the control group with 45 interviews and 57 observations. The researchers found that for both experimental groups, the use of ability grouping was influenced by the teachers' beliefs of perceived readiness and expectations about student abilities.

While teachers acknowledged the benefits of ability grouping in theory, they also indicated that it is not always beneficial in practice (Kim, 2012). Kim (2012) completed a study of 55 English teachers and 754 students in 19 Korean middle schools from different regions of Korea. The teachers had various levels of education and 45 of the 55 were females. Kim (2012) utilized questionnaires for both students and teachers. The teachers' questionnaire asked about background, current teaching situation, assessment, and ability grouping, while the students' questionnaire focused on background, English study, and ability grouping. According to Kim (2012), students did not see the benefits of ability grouping and were concerned about inequality. Similarly, 75% of teachers "showed their concern regarding dealing with students' attitudes toward ability grouping" and struggled to prepare lessons for various levels of students (p. 300). Even when teachers acknowledged the negative effects of ability grouping, such as the lowered quality of instruction and lowered expectations, they saw the need for grouping by ability to deal with the academic disparity in the classroom, as it makes the educational planning more manageable (Ansalone, 2010). Biafora and Ansalone (2008) found in their study that many teachers utilized ability grouping in

their classrooms because they were overwhelmed with the educational diversity of large, mixed-ability groups.

Research centers not only on the effects of ability grouping on students, but also on the effect that it places on teachers. Teacher expectations are essential to student success, and are therefore at the center of the debate. Tomlinson and Imbeau (2010) argued that a teacher “who both accepts and enacts the principle of human dignity does not look at a class roster and simply see a list of names” (p. 28). Instead, ethical teachers will not hold differing expectations based upon the class level or perceived abilities of students. Romain (2010) maintained that a “teachers’ expectations are instrumental in molding a student’s self-expectations” (p. 317). Underestimation is the most impactful thing that can be imposed upon students in school (Olson, 2009). Teacher expectations for classes have a greater effect on students than the effect that teachers have on individual students, especially if teachers discriminate between high and low-ability students (Rubie-Davies, 2010). When a child’s true potential is encouraged, the child can achieve success (Olson, 2009).

Tomlinson and Imbeau (2010) believed that teachers establish a certain comfort level by separating students by ability and then teaching them with the level of education that “they can handle” (p. 76). According to MetLife Survey of the American Teacher (2013), a majority of teachers believed that they could enable all of their students to be successful, but a relatively low percentage of teachers strongly agreed that all of their students had the ability to succeed. Belfi et al. (2012) confirmed that grouping students by ability is motivated by the assumption that it is more efficient to teach a homogeneous ability group than to meet the needs of a heterogeneous group of students. The survey concluded that teachers believed that heterogeneous groups are difficult to teach (The Met Life Survey of the American Teacher, 2013). The MetLife Survey of the American Teacher (2008) utilized a national sample of 1,000 public school teachers from grades K through 12. The survey found that 43% of teachers strongly or somewhat agreed that heterogeneous classes are impossible to teach: “More teachers (43%) agree that their classes have become so mixed in terms of students’ learning abilities that they can’t teach them effectively, compared to 1988 (39%)” (p. 28). Interestingly, the MetLife Survey (2008) found that

more secondary teachers (49%) agreed with the inability to teach effectively because of the mixed ability than elementary teachers (40%).

Parent Perceptions

Teachers are not the only school community stakeholders who hold expectations for student achievement: parents have a major stake in the desire for their children to become successful. Parents are invested in their children, their children's future, and their children's school, and they desire to know whether tracking has consequences for the equity and efficiency of educational outcomes (Hanushek & Wößmann, 2006). Loveless (2009) asserted that “[p]arents are a special kind of political actor in school affairs” (p. 21). Hornby and Witte (2014) reported that in 4 of the 15 schools the interviewees shared that ability grouping occurred because parents desired it. Parents are influential in their child's view of education and can serve as an important factor in students' high or low achievement, and their “achievement-related beliefs and behaviors...can have a profound influence on how children come to perceive their intellectual abilities and the value of learning” (Bempechat & Shernoff, 2012, p. 316). In the middle of the twentieth century when ability grouping was prevalent, parents had little input into student placement (Loveless, 2009). Even though parents acknowledge the positive need for an organization based upon ability grouping, they express tensions when their own children were not placed in the high group (Hallam, Ireson, & Davies, 2002).

High-ability parents support the ongoing belief that grouping all students is best for the academic interest of all students. It is apparent that in schools with influential parents, the utilization of ability grouping is supported which might suggest that parents' outlooks on ability grouping are fashioned simply by the stream in which their child is placed (Loveless, 1999, 2009). Ability grouping has been blamed for assigning an academic achievement level to students that would control their placement for their educational career, and their parents would have no control over the assigned placement (Loveless, 1999). Remarkably, Hallam et al. (2002) concluded that “parents took their child's stream to be an indication of their future prospects” (p. 12). Highly-educated parents have been found more likely to push for high track placements than other parents. Those highly-educated parents and even wealthy parents

viewed tracking as a means to separate their children from other races, to have power, and to maintain social privilege (Loveless, 2013). Interestingly, African-American parents are also against heterogeneous grouping and in support of homogeneous groupings, just as strongly as White parents (Loveless, 1999). Support for heterogeneous grouping is generally weak regardless of race, wealth, or social privilege.

Based on their survey, Ansalone and Biafora (2010) found that only 37.8% of parents *agreed a lot* that they had a say in the classes in which their children were enrolled. Ansalone and Biafora (2010) explained that, typically, teachers and administrators with support of assessment scores decide on the group placement for the students. Although parents did not believe that they had a say about their child's placement, they supported the use of ability grouping regardless of the ability level of the student. Ansalone and Biafora (2010) found that 52% of special education parents, 72.7% of remedial parents, and 85% of gifted parents agree or strongly agree with the ability grouping of their respective children.

Loveless (2013) found that parents of high-achieving students particularly defend the need for tracking. Ansalone and Biafora's (2010) research found that parents believed their child will be challenged more in a homogeneous class as opposed to a heterogeneous classroom. These parents passionately defended honors classes that have been threatened by detracking or tracking reforms (Loveless, 2013). At the same time, Ansalone and Biafora (2010) also found that the parents of special education and remedial students fear that heterogeneous tracking would not afford their child the one-on-one interaction and support that they can receive in an ability-grouped classroom.

Principal Perceptions of Ability Grouping

Due to the high demands and expectations for all students to be college- and career-ready, principals are challenged to create environments in which all students can succeed. The decision of whether to implement homogeneous, heterogeneous, or within-class ability grouping is a complex issue that the principal must address. Stakeholders including students, parents, and teachers are affected by the implementation of ability grouping in schools; however, it is the principal as the instructional leader who will provide guidance and support for stakeholders as the decision is made or implemented. Principals are the instructional leaders and are ultimately responsible for making responsible decisions pertaining to

curriculum, scheduling, and instruction. Willhoft (2012) believed that “principals will play an important role in preparing their schools for the transition to next generation assessments” (p. 1). The use of good judgment in terms of making high-quality decisions, analyzing the available data, and working collaboratively on common goals are all integral parts of the principal’s job (Reed, 2013a).

According to Gewertz (2012), it is important for principals to understand all parts of school life as they lead their staff toward the improvement of student success. Similarly, as leaders they must work to narrow the focus on building teacher capacity in their schools (Achieve, NASSP, & NAESP, 2013). Principals are a critical part of the successful implementation of curriculum, instruction, and scheduling in their schools, and are in a very unique position to lead a successful revolution in their schools for the betterment of all students. Achieve, NASSP, and NAESP (2013) have asserted that “an effective principal accounts for 25 percent of a school’s impact on student gains, while teacher effectiveness accounts for 33 percent” (p. 8). Principals must emerge in this current transition as instructional leaders, which may be a role for which they were not prepared.

The Wallace Foundation (2012) noted five important principal practices associated with increasing student achievement: shaping a vision of success, creating a strong learning environment, cultivating leadership in others, allowing teachers to improve instruction, and managing people and data. These practices add to the already cumbersome challenges under which a principal is placed. Still, principals must be the focus of the process to improve student achievement because they influence the learning of students (Killion, 2012). As the key to any reform that focuses on curriculum and student success, principals must make critical educational decisions while including the affected stakeholders.

Biafora and Ansalone (2008) completed a research study to evaluate 816 principals’ knowledge of and beliefs about ability grouping. Their findings showed:

A large majority (86.6%) of the principals reported being ‘familiar with the scientific literature discussing the practice of tracking.’ Of these, only 6 principals (3%) stated that they believed the literature spoke favorably about the pedagogical value of tracking. Many more (43.3%) replied

that the literature spoke unfavorably or that the research findings uncovered mixed results (53.7%). (p. 596)

The principals' knowledge included the negative impact of ability grouping on student self-esteem and teacher expectancy with given ability groups. In the study conducted by Biafora and Ansalone (2008), 52.5 % of principals in the study responded that they had a lot of influence on the decision-making process; thus, the decision of whether to group by ability or not lies with them. Gallagher, Smith, and Merrotsy (2011) found that principals are apprehensive about ability grouping out of concern for their teachers. The principals believed that it is more fair to allow each teacher to have a balanced classroom of mixed abilities. Hallam et al. (2013) explained that student grouping and its effects on students and teachers will determine the school's climate. Therefore, as the school leader, the principal must lead the way in the most appropriate and impactful decision for the school.

Leadership Behavior and Practices

Leadership across the nation is continually searching for means to prepare students for high-stakes testing and looking to meet the ever-changing demands of legislation. The nation is pushing for a more collaborative ideology in schools and states to make students more academically successful (Carlin, 2010; Daggett, Gendron, & Heller, 2010; Reed, 2013a). However, if principals are left out of the equation when it comes to preparation and communication, the vision for the common goal will fall short. With every new policy, principals are expected to specialize in more areas and their responsibilities grow exponentially (Barth, 2013). Carlin (2010) found that all school leaders surveyed felt the stress of closing the achievement gap, responding to accountability measures, and ensuring that all students achieve well on standardized tests. Carlin (2010) found that 50% of principals in his study focused their school improvement on narrowing the achievement gap. Principals must therefore be the focus of the implementation process: they influence the learning of both teachers and students (Killion, 2012). According to Achieve, NASSP, and NAESP (2013) administrators, including the principal "set[s] a critical foundation for learning and success for all students" (p. 3). As the key to any reform that focuses on curriculum and student success, principals must look deeper into themselves. The capability of a

principal to manage a school with skills and understanding can engage the staff and students in exciting opportunities.

The first step in the improvement process will be the need for principals to recognize their own strengths and weaknesses in regards to the school's new vision and focus with a very purposeful and public effort (Reed, 2013b). Implementing change must focus on improvement of student performance and be promoted by collaborative leadership with the support of the principal (Reed, 2013a). The Wallace Foundation's (2012) research noted five important principal practices associated with increasing student achievement: shaping a vision of success, creating a strong learning environment, cultivating leadership in others, allowing teachers to improve instruction, and managing people and data. The practices necessary to raise student achievement add to the already cumbersome challenges a principal faces. Principals are again being asked to do more with less funds, staffing, and knowledge. Willhoft (2012) believed that "principals will play an important role in preparing their schools for the transition to next generation assessments" (p. 1). As part of the principal's new priority, the use of good judgment in term of making high-quality decisions will be an integral part of the principal's role (Reed, 2013a).

Realizing that principals are the accountable entities for student success, the Interstate School Leader Licensure Consortium Standards (ISLLCS, 2015) has clarified and emphasized the responsibility of the leader for a school's positive outcomes. The ISLLCS (2015) understands that leadership is embedded in organizational improvement with direct influence and was created to articulate the practices of leaders. Educational leaders are called to strengthen instructional organizations and support instruction to maximize student learning (ISLLCS, 2015). Hallam et al. (2013) explained that in making a systematic decision about grouping strategies, a school must consider the following items to optimize the educational outcome of choice: performance data, feasibility, reasons for improvement, impact of the strategy, drawbacks, and the system of monitoring. Then, they must implement the plan.

Decision Making Factors for Principals

"Decision making is one of the key processes of school principal's administrative behavior" (Olayiwola & Alabi, 2015, p. 175). Carter (2013) explained that a leader can influence gains in

performance by using his or her skills and experience to reach a desired direction. “Leadership is one of the most observed and least understood phenomena on earth” (Burns, 1987, p. 2). Due to the high demands and expectations placed upon schools, the challenges for current principals may seem insurmountable. The established tension experienced by school principals is due to their responsibility to improve achievement while leading students and teachers (Polka, Litchka, Mete, & Ayaga, 2016). Schools are evolving into complex organizations that demand effective leaders. Park and Datnow (2017) expressed the nuances of decision making with the assertion that district decisions set the stage for principal decisions which, in turn, sets the stage for teacher decisions about what occurs in the classroom.

According to Chitpin (2014), “a database of sound empirical studies, evidenced- based research and practical literature support a leader’s sound decision making process” (p.216). As school leaders examine the nuances of their complex organizations, they must utilize their leadership and management skills to drive others to the achievement of a unified goal and make decisions with the best educational impact. “To be an effective leader, one needs to respond with the action that is required of the situation” (Northouse, 2013, p. 296). Silva (2014) identified some aspects that are common features of successful leaders, including a passion for their job, perseverance, and great confidence. Shen, Ma, Cooley, and Burt (2016) questioned 691 teachers from 139 schools in Michigan with an instrument entitled “Data-informed Decision-making on High-impact Strategies” to analyze their perceptions of their principal’s decision making. The instrument looked at 11 factors that are aligned to Marzano’s high-impact strategies and the 3 higher-order factors of school-level, teacher-level, and student-level. The teachers rated their principal’s decision-making as a high priority for school-level factors. Shen et al. (2016) asserted,

Both principals and teachers are valid sources of information on the extent to which principals engage in using data to make decisions on high-impact strategies with the goal to improve student achievement. (p. 427)

Additionally, “leadership decision making are one of the most dynamic, challenging, and ongoing concept in every organization” (Ejimabo, 2015, p. 11). Every day, the principal must make impactful decisions. Due to the complexity of school organizations, principals must pull from their leadership

qualities, morals, values, and their environmental knowledge to contemplate the impact of their circumstances. Horng, Klasik, and Loeb (2010) asserted that “principals play critical roles in the development of high quality schools” (p. 491). However, Kasprzhak et al. (2015) found that the majority of leaders are unprepared to make independent decisions in times of uncertainty. Al-Omari (2013) considered decision-making to be dependent upon internal factors and the organization’s context. Numerous factors, such as past experiences, cognitive biases, age, individual differences, belief in personal relevance, and escalation of commitment, all influence the decision-making process (Dietrich, 2010; Ejimabo, 2015). Ejimabo (2015) conducted a qualitative study using both interviews and questionnaires of 400 organizational leaders in the United States to uncover the major factors that influence decision making in leaders. In the sample, there were 400 men and 100 women. Ejimabo (2015) found that “leaders make decisions based on data, experience and influence” (p. 11). Silva (2014) learned that the study of the experiences of leaders is essential to the understanding of their success. The Center for Public Education (2012) found that principals become more effective with experience and that a principal’s education is important for a school’s performance.

Organizational Factors

Al-Omari (2013) explained that an organization’s context affects the decision-making process of educational leaders. Polka et al. (2014) completed a study on insight into decision-making and problem-solving approaches, and found that the context of the school district had more influence than the school leader’s gender, background, or experience. Similarly, Shen et al. (2010) found that students’ background leads to principals making decisions with instructional implications. If principals want to make their students college- and career-ready, they must also take into consideration the behavior and achievement level of the students at their schools. McCray and Beachum (2014) explained that school leaders must create culturally diverse environments to allow all students to achieve success. Principals most frequently use achievement data when making decisions, especially in this time of accountability (Shen et al., 2010). On the other hand, Silva (2014) found that leaders were more successful because they did not adjust their

leadership style to the situation. Leaders may respond differently in a given situation, but ultimately the style of leadership is consistent (Carter, 2014; Silva, 2014).

External Factors

External factors also weigh heavily on the decisions that a principal makes for the organization. Polka et al. (2016) explained that external factors, such as accountability, school environment, and relationships influence a school leader's decisions. Larsen and Hunter (2014) noted that principals feel pressured to make decisions that are politically correct but that may conflict with their personal or professional values. According to Louis and Robinson (2012), administrators in schools supported district policies if they were aligned to the administrator's goals and agenda for student learning. School administrators must "comply with various regulations, including legislation relating to the school education system, as well as local regulations" (Meczynska, Kmiecniak, Michna, & Flajszok, 2014, p. 94).

Principals are aware that schools are "embedded in larger social structures" (Park & Datnow, 2017, p. 285). Although a written policy may not be in place, principals may feel pressured to utilize one form of classroom composition over another. Park and Datnow (2017) stated that people in authority "prioritize certain practices over others, creating both pressure and support" (p. 285). Therefore, those with authority because of their influence create policies and shared beliefs (Park, Daly, & Guerra, 2013). Olayiwola and Alabi (2015) reported that the decision-making process is politically dominated with the values and interests of not only principals but also other stakeholders. Administrators recognize the need to include all stakeholders in creating and sustaining a vision and plan.

Principals are aware that parents, as clients, bring demands and are a form of external accountability (Louis & Robinson, 2012). Ejimabo (2015) explained that leaders should consider the interest of all stakeholders they are serving in their decisions in order to be effective and improve the organization. The ISSLC (2015) standards one and six emphasize the need for educational leaders to include all stakeholders in the progress toward a vision and a goal and to seek input from them. Stakeholders such as parents and teachers should be a part of the decisions that impact improving academic approaches (Olayiwola & Alabi, 2015). According to Gonzalez and Firestone (2013), parents

and teachers as are a form of external accountability for principals. The principal needs the support of the teachers in the school when making a decision because it will have a direct effect on teacher satisfaction and commitment (Lezotte, 2011; Wijayati, Syamsudin, Retnowati, & Si, 2013). Teachers must support the goal of the school leaders in an effective school (Lezotte, 2011). Principals must manage effective teachers and create supportive conditions in order for teachers to be productive and improve students' learning (ISLLCS, 2015).

Personal Factors

Larsen and Hunter (2014) explained that more than half of the decisions that principals make are clarified through an examination of their values and beliefs. Gonzalez and Firestone (2013) found principals with internal accountability have high performing schools and that internal accountability comes first for these principals. Coleman (2016) explained that assigning students to classes is determined by the leader's beliefs and values. According to Coleman (2016), principals create heterogeneous classrooms due to a concern that poor and minority students in a homogeneous classroom would receive a lower quality of education.

According to Jonassen (2012), decisions are often made based upon personal experiences. Those experiences, according to Silva (2014), form great leaders. Principals expressed torment over putting aside their values because of mandates by district, state, or federal policies (Silva, 2014). As a leader, the principal must use respect to make judgments about what is best for the organization and to make an effective educational community (Strike, 2007). Larsen and Hunter (2014) stated,

Principals are attempting to maintain their sense of equilibrium: they want to balance their moral obligation as a public servant...with their obligation to provide moral leadership, guiding the organization using their core professional values and beliefs that are primarily aimed at keeping kids, relationships, flexibility, and variability as priorities. (p. 84)

A principal must weigh all options and the possible effects that could impact the school and all stakeholders (Ejimabo, 2015).

Demographic Factors

Principals' demographic factors influence their decision making processes (Dietrich, 2010). Polka et al. (2016) completed a quantitative study to explain the decision-making approaches utilized by Catholic school principals in managing their schools. There were 121 participants in the study: 77 females and 44 males. Of the participants, 62 were between 46-55 years old and nearly 30% had 11 to 15 years of experience. When the researchers completed an ANOVA with age and decision-making approaches, there was no significant difference by age. On the other hand, the ANOVA with the years of experience revealed some significance. Polka et al. (2016) concluded from their study that "there are no differences in the leadership approaches to solve contemporary problems in North American schools regardless of varied historical, cultural and economic contexts" (p. 220). Dietrich (2010), Lehnert, Park and Singh (2015), and Shapiro and Stefkovich (2016) found that gender, race and age are factors that influences decision-making skills. According to Ford and Richardson (2013), in regard to decision making, "sex is reported in more empirical studies than any other single variable" (p. 25). The Center for Public Education explained that a principal's education is important for a school's performance and that a principal becomes more effective with experience. Therefore, the education and experience of a principal are factors that impact the effectiveness of the school. Ford and Richardson (2013) found in their review of empirical research mixed results in personal attributes like gender, race, and age being related to decision making.

Chapter Summary

With the burden of the Common Core curriculum and the need to create college- and career-ready students, the call for rigor and equality in education is on the rise. The literature acknowledges both a beneficial and challenges to ability-grouping and tracking for students. Ability-grouping may be the means in which to organize a diverse group of students. It is the principal, as the instructional leader of the school, who makes the decision regarding the organizational structure of the classrooms. The responsibility for student achievement falls on the shoulders of the principal, so he or she must make sound decisions regarding student grouping. The factors that may impact a decision to utilize

heterogeneous, homogeneous, or within-class grouping in classrooms need to be investigated in order to promote students' academic success. To meet the demands of the current educational norms, it is essential to research the ability grouping choices of principals by better understanding the relationship between the choice and organizational, external, and personal and demographic factors.

CHAPTER 3

METHODS

Introduction

There is a need to explore the specific factors related to principals' utilization of heterogeneous, homogeneous, or within-class ability grouping in forming classes because ability grouping remains a means by which classrooms can be organized to achieve academic success. The data collected in this study may provide a representation of the factors that may be related to the decisions made by principals in terms of classroom composition in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area.

This chapter is focused on the methods of this quantitative study that evaluates if there is a relationship between the principal's choice of ability grouping and the following four factors that shape a principal's decision-making: organizational, external, personal, and demographic. The results were limited to elementary and middle schools in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. Because principals are viewed as the instructional decision maker, it is imperative to learn the factors that may influence their decisions regarding classroom composition. Therefore, the overarching research question that guided this study was: What factors may be related to principals' grouping practices in utilizing heterogeneous, homogeneous, or within-class ability grouping in schools in the First District, Heart of Georgia, Okefenokee, and Central Savannah River Area RESA in Southeast Georgia? The following sub-questions supported the overarching research question:

1. Is there a relationship between organizational factors and the principals' grouping practices?
2. Is there a relationship between external factors and the principals' grouping practices?
3. Is there a relationship between personal factors and the principals' grouping practices?
4. Is there a relationship between demographic factors and the principals' grouping practices?

Research Design

The purpose of this research study was to examine the factors that may influence elementary and middle school principals' choice of heterogeneous, homogeneous, or within-class ability grouping in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. This study employed a quantitative, methodological research design along with descriptive analyses of four research questions using a convenience sample. The choice for a quantitative approach was made based on the desire to ascertain possible relationships specific to organization, personal, external, and demographic factors and principals' choice of ability grouping. It was a cross-sectional study in which data were collected during the spring of 2018. Elementary and middle school principals in all four RESA areas received an instrument (see Appendix E). A quantitative method was utilized in order to analyze data from the instrument with objective measurements. In this study there were four independent variables (organization factors, external factors, personal factors, and demographic factors) and one dependent variable (choice of ability grouping) whose relationship between and among each other are being investigated. Accordingly, a correlational research design will be employed.

Participants

The participants in this study were the elementary and middle school principals in the Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area in Southeast Georgia. The selection of the four RESA areas in Southeast Georgia allowed the researcher to perform a study that is relevant and beneficial in making local decisions in regard to classroom grouping and instruction. The superintendents in the following districts approved for their principals to be surveyed: Appling, Bryan, Bulloch, Camden, Candler, Chatham, Effingham, Evans, Long, McIntosh, Screven, Tattnall, Toombs, Vidalia, Wayne, Pierce, Brantley, Charlton, Wheeler, Columbia, Jefferson, Richmond, and Wilkes. There are 142 elementary school principals and 55 middle school principals (197 total possible participants) within the districts approved to participate in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. Of the 197 possible participants, 64 participated in the study for a response rate of 33% after three repeated mailings of the

instrument. The majority of the participants were female (67.19%) with 21 males responding. In terms of race/ethnicity, the majority were Caucasian (73.02%) with 23.81% being African-American. Only one participant was multi-racial and one marked other (1.59%). The 64 principals represented both elementary (58.46%) and middle schools (41.54%).

Instrumentation

The instrument was created by the researcher to measure the factors that may be related to principals' grouping practices in classrooms. The anonymous instrument measured four factors that may be related to the principals' decision to implement ability grouping: organizational factors, external factors, personal factors, and demographic factors. Specifically, it measured the relationship of the following elements of the organizational factors: (a) school level, (b) percent of minority students, (c) percent of economically disadvantaged students, (d) number of behavior referrals, (e) enrollment, and (f) academic performance. The instrument also addressed external factors on the principals' decision: (a) professional literature, (b) pressure for a diverse classroom, (c) pressure for personalized or individualized learning environment, (d) policy directives, (e) parents, (f) teachers, and (g) morale. Similarly, it examined personal factors such as the principal's (a) personal belief and (b) personal experience. Finally, it measured the demographic factors such as (a) sex, (b) race/ethnicity, (c) age, (d) highest level of education, and (e) years of experience as a principal. Questions one to six measured the organizational factors; questions 8 to 14 measured the external factors; questions 15 to 22 measured the personal factors; and questions 23 to 27 measured the demographic factors. Question 28 allowed for elaboration on the choice of grouping by the participant. Each question on the instrument was aligned to literature and to the research questions (see Appendix G).

In order to establish validity, it was necessary to have a small sample of pilot participants who are school administrators, but not be in the target population, take the instrument to give expert input. They were asked to respond to the following questions:

1. Were the contents of the questions understandable? If not, which items were not and what issues were there with the items?

2. How long did it take you to complete the instrument?
3. Did you feel comfortable answering the questions? If no, why not?
4. Do you have any specific suggestions for improving or modifying the questionnaire? If yes, please supply the suggestions.

The instrument was then revised and restructured based on feedback from the pilot group. This target population also assisted with the test-retest reliability measure. They were sent the instrument an additional time, two months later to complete. By completing the instrument an additional time, this allowed for the researcher to check for the reliability of responses.

Data Collection

After receiving approval to proceed with the study from Georgia Southern University Institutional Review Board, an email was sent to each superintendent in the 47 counties within the RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area requesting approval to send the instrument to the principals within their districts (see Appendix A). Of the 47 counties, 23 approved for their principals to be surveyed. An email was then sent to 197 elementary and middle school principals in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area with an email cover letter on January 22, 2018 (see Appendix C). The email included the purpose of the study, information about anonymity and the survey being voluntary, and a link to the instrument in *Qualtrics*®, an online platform. If a principal followed the link to complete the instrument in *Qualtrics*®, they were giving passive consent to participate.

Two weeks after sending out the initial instrument, a reminder email was sent on February 5, 2018, to emphasize the need for principals' participation (see Appendix D). Due to a low participation rate, two more reminder emails were sent to encourage participation in the research (February 12 and February 19, 2018)

Limitations, Delimitations, and Assumptions

This study had a limited geographical parameter to Southeast Georgia and a short collection period of data limited to the spring 2018 semester. Therefore, the findings from this research cannot be generalized to other geographical areas or times. Delimitations with this study included the use of principals from elementary and middle schools in the Southeast Georgia's Regional Educational Service Agency (RESA) areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area, as well as the collection of responses being limited to the Spring 2018 semester. This study examined the perceptions of elementary and middle school principals. A limitation is that there was a low number of respondents to the instrument (32%). However, the researcher made attempts to improve the sample size and made adjustments in analysis for the small sample size. An assumption was that the participants would answer the instrument honestly based upon their perceptions of ability grouping. An additional assumption was that the participants willingly volunteered to answer the questionnaire.

Chapter Summary

This was a quantitative, correlational study in which the researcher was seeking to explore the specific factors that may be related to principals' utilization of heterogeneous, homogeneous, or within-class ability grouping in forming classes. These data provide a representation of the factors that may be related to the decisions made by principals in terms of classroom composition in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. All 197 elementary and middle school principals in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area were surveyed to receive information about what form of grouping they use and what factors are contributing to those choices. It is important to study specific factors that may be related to principals' utilization of heterogeneous, homogeneous, or within-class ability grouping in forming classes, because ability grouping remains a controversial issue in regard to achieving academic success. The data are essential as they provide a representation of the factors that may be related to the decisions made by principals in terms of classroom composition in Southeast

Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area.

The findings may also be generalized to other areas of Georgia or the nation.

CHAPTER IV

REPORT OF THE DATA AND DATA ANALYSIS

Introduction

The purpose of this study was to examine the factors that may influence elementary and middle school principals' choice of heterogeneous, homogeneous, or within-class ability grouping in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. This chapter will provide a discussion of the data analyses procedures, as explained in Chapter 3, and the results of those procedures relative to the findings of the investigation as they relate to the research questions.

Research Questions

The research study focused on the following overarching question: What factors may be related to principals' grouping practices in utilizing heterogeneous, homogeneous, or within-class ability grouping in schools in Southeast Georgia to include the RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area? The following sub-questions were used to answer the overarching question and to guide the study:

1. Is there a relationship between organizational factors and the principals' grouping practices?
2. Is there a relationship between external factors and the principals' grouping practices?
3. Is there a relationship between personal factors and the principals' grouping practices?
4. Is there a relationship between demographic factors and the principals' grouping practices?

This chapter contains the following information relative to data analysis: a demographic profile of the respondents and the findings of the study in response to the research questions.

Research Design

As discussed in Chapter 3, the researcher created instrument was piloted with 10 school administrators who were not part of the target sample. Modifications were made to the instrument based on their feedback. The 10 school administrators also assisted with test-retest reliability after taking the instrument two months after the initial participation. The researcher compared the results for questions 7,

11, 13, and 19 between the two completions by the 10 administrators. The questions were chosen to represent the dependent variable (question 7) and 3 independent variables of external (questions 11 and 13) and personal factors (question 19). Using the chi-square contingency table in SPSS, the percent agreement was 100% for question 7, 100% for question 11, 90% for question 13 and 90% for question 19. The analyzed Kappa (κ) for all four questions were in almost perfect or perfect agreement with 1.000 for question 7, 1.000 for question 11, .846 for question 13, and .831 for question 19 (Table 1).

Table 1
Test-Retest Reliability

Question	Kappa (κ)	Percent Agreement
7. What is the primary means by which most of the general population (students who are not labeled special education or gifted) in your school is grouped?	1.000@	100%
11. What policy drives your choice of assigning students to classrooms?	1.000@	100%
13. What type of classroom grouping do teachers in your school prefer?	.846@	90%
19. Which type of classroom grouping resulted in the most positive experience for you as a child?	.831@	90%

Note. @ = Kappa (κ) is almost perfect or perfect agreement.

Demographic Profile of Participants

This study investigated the factors that may be related to elementary and middle school principals' grouping practices. Participants in this study were elementary and middle school principals from 23 counties in Southeast Georgia to include the RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. All principals were invited via email to participate in the research. There were 197 elementary and middle school principals in the 23 counties invited to participate. In regard to response rate, 64 responses were received from the 197 invited to participate with

38 elementary principals and 27 middle school principals for a response rate of 33%. The response rate goal was 90 due to the population size of 197 with a confidence level of 80% with a margin of error at 5%. With three repeated mailings of the instrument to the sample group, the researcher attempted to raise the response rate from the 197 principals. According to Ronald, Minja, Noriko, Larry, and Emi (2015) low response rates do not lead to biased results. Similarly, Morton, Bandara, Robinson, and Atatoa Carr (2012) found that response rates can be important and are informative but are not the best representation for study validity.

A description of the principals participating in the study are presented in Table 2. Of the 64 participants, the majority were female (67.19%) with 21 males responding. Ages of the participants were distributed across all age grouping, except for 0% from 21-30. Principals from 31-40, comprised 12.5 %, 45.31% from ages 41-50, 37.5% were aged 51-60, and over 60 made up 4.69% of respondents (Table 2).

Principals specified the total number of years' experience within four choices which ranged from 0- 4 years to 15 or more years. Specifically, the participants had 29.69 % with 0-4 years, 26.56 % had 5-9 years, 29.69% had 10-14 years, and 14.06% had 15 or more years of experience (Table 2). As for the highest level of education for the participants surveyed, 0% had received a Bachelor's degree, 34.38% Masters, 42.19% Specialist, and 23.44% Doctorate (Table 2). Table 2 provides an outline of the race/ethnicity of the 64 participants with 23.81% (15) of the participants being African-American, 73.02% (46) Caucasian, 1.59% (1) Multi-Racial, and 1.59% (1) other.

Table 2
Description of Principal Respondents in Southeast Georgia Elementary and Middle Schools

Demographic Factor	Number	Percentage
Sex		
Female	43	67.19
Male	21	32.81
Other	0	0
Race/Ethnicity		
African-American	15	23.81
Asian/Pacific Islander	0	0
Caucasian	46	73.02
Hispanic	0	0
Multi-Racial	1	1.59
Other	1	1.59
Age		
21-30	0	0
31-40	8	12.50
41-50	29	45.31
51-60	24	37.50
Over 60	3	4.69
Highest Level of Education		
Bachelor	0	0
Master	22	34.38
Specialist	27	42.19
Doctorate	15	23.44
Years of Experience as Principal		
0-4 years	19	29.69
5-9 years	17	26.56
10-14 years	19	29.69
15 or more years	9	14.06

Similarly, data were also gathered about the participating principals' schools through questions 1-6 on the instrument (Table 3). According to the responses, 59.38% are principals of an elementary school while 40.62% are leading middle schools. The principals were also asked about their percent of minority enrollment. As indicated in Table 3, the response rate for minority enrollment was 20.31% at 0-20%, 39.06% at 21-40%, 20.31% at 41-60%, 12.5% at 61-80% and 7.81% at 81-100% minority enrollment. The principals were also asked to choose their percent of economically disadvantaged students, based upon FTE. Table 3 indicates that the majority had 41-60% of economically disadvantaged students. There were 7.81% principals that responded with 0-20%, 18.75% had 21-40%, 25% had 41-60%, 23.44% had 61-80%, and 25% with 81-100% of economically disadvantaged students. The fourth question on the

instrument asked about the number of behavior referrals that occurred, on average, at the school weekly. There were 5 choices that are outlined on Table 3 that there were found to have 56.25% with 0-10, 31.25% with 11-20, 12.5% with 21-30, 0% with 31-40, and 0% with over 40 behavior referrals, on average, per week. Student enrollment was another aspect of the organizational factor for principals. Of the principals surveyed, 3 principals (4.69%) have less than 300 students, 13 (20.31%) have 300-499, 39 (60.94%) have 500-999, and 9 (14.06%) have 1,000 or more students. Finally, principals were asked to describe their school's performance from three choices. An equal amount of the principals (23 for each) stated that their school's scores were similar to the state's average or lower than the state average (35.94%), while 28.13% said they are usually higher than the state's average.

Table 3
Participating Principals' Schools

	Number	Percentage
Level of School		
Elementary	38	59.38
Middle	26	40.62
Percent of Minority Enrollment		
0-20	13	20.31
21-40	25	39.06
41-60	13	20.31
61-80	8	12.5
81-100	5	7.81
Percent of Economically Disadvantaged		
0-20	5	7.81
21-40	12	18.75
41-60	16	25
61-80	15	23.44
81-100	16	25
Number of Behavior Referrals (weekly)		
0-10	36	56.25
11-20	20	31.25
21-30	8	12.5
31-40	0	0
More than 40	0	0
Student Enrollment		
Less than 300	3	4.69
300-499	13	20.31
500-999	39	60.94
1,000 or more	9	14.06
Academic Performance		
Usually Lower than the State	23	35.94
Usually Similar to the State	23	35.94
Usually Higher than the State	18	28.13

Data Analysis

Due to the use of continuous variables, dichotomous variables, and multi-category nominal scale variables within the instrument, a multinomial logistic regression analysis would be best suited to assess the relationship between the four factors and the type of grouping used in the school. The regression would have been used with the independent variables to predict the 3-category dependent variable of

principals' choice of classroom composition (heterogeneous, homogeneous, or within-class ability grouping). However, due to the low sample size, a multinomial logistic regression analysis was not appropriate for this research, so the researcher had to focus on the bivariate relationship only. Therefore, the chi-square test of association was used with the data received from the instrument. A chi-square test was run for each of the factors in regard to the association with the dependent variable of the principal's choice of ability grouping, question 7 on the instrument. In order to prevent false positive results and unwarranted conclusions, it was necessary to consider that multiple tests were being conducted simultaneously. With 26 tests run with an alpha of .05 there was an increased likelihood of a Type 1 error. The error rate was computed as follows:

$$= 1 - (1 - .05)^{26}$$

$$= .736$$

Therefore, with the alpha at .05, the increased familywise error rate was .736 with 26 tests. On the other hand, with the alpha set at .01, the familywise error rate was .23 with 26 tests.

$$= 1 - (1 - .01)^{26}$$

$$= .23$$

With the error rate taken into consideration, the researcher used the dependent variable as the column variable in a chi-square test to discover the p value for each factor. In order to control for the false discovery rate, the Benjamini-Hochberg procedure was used. According to Benjamini and Hochberg (1995), it is important to have an awareness of the multiple comparison problems and attempt to control for the false positives of 5%.

All of the independent variables in the instrument were examined to assess an association with the dependent variable of the grouping of students through a chi-square tests and then analyzed with the formula for the Benjamini-Hochberg to control for the familywise error rate (Table 4). First, the questions were ranked based upon their chi-square p value from 1-26. As seen in Table 4, once ranked, the researcher used the Benjamini-Hochberg procedure of taking the ranking (i) divided by the number of tests run (m) and then multiply by Q (the percent chance of false discovery). For the first attempt, the

researcher used a 10% chance of false discovery; therefore, each ranked item had their rank divided by 26 and multiplied by .10. To make the research more reliable, due to the chance of error, the researcher decided to apply a false discovery rate of 5% to the research. Thus, the ranking was divided by 26 and then multiplied by .05 to find the adjusted p value. In order to find an association with a 5% chance of false discovery, the p value was compared to the Benjamini-Hochberg adjusted p value. If the chi-square p value is lower than the Benjamini-Hochberg adjusted p value set at a 5% chance of false discovery, then there is an association with the dependent variable.

Table 4
Benjamini-Hochberg Procedure

Question	Question	p value	Rank	(i/m)Q -Q=.1	(i/m)Q -Q=.05
Parents' preference	Q14	< 0.001	1	0.004	0.002
Teachers' preference	Q15	< 0.001	2	0.008	0.004
College- and career-ready students	Q17	< 0.001	3	0.012	0.006
Best classroom formation	Q18	< 0.001	4	0.015	0.008
Within-class ability grouping works well for teachers	Q19	< 0.001	5	0.019	0.01
Decrease or close the achievement gap?	Q20	< 0.001	6	0.023	0.012
Positive experience as a child	Q21	< 0.001	7	0.027	0.013
Academically rigorous program	Q24	< 0.001	8	0.031	0.015
Homogeneous grouping is equal and fair	Q22	0.001	9	0.035	0.017
Heterogeneous grouping is equal and fair	Q23	0.017	10	0.038	0.019
Economically disadvantaged students	Q3	0.026	11	0.042	0.021
Level of school	Q1	0.032	12	0.046	0.023
Teacher morale	Q16	0.060	13	0.05	0.025
Policy	Q13	0.111	14	0.054	0.027
Sex	Q25	0.204	15	0.058	0.029
Years of Experience as Principal	Q29	0.208	16	0.062	0.031
School's academic performance	Q6	0.228	17	0.065	0.033
Race/Ethnicity	Q26	0.251	18	0.069	0.035
Enrollment	Q5	0.283	19	0.073	0.037
Professional literature	Q10	0.311	20	0.077	0.038
Minority enrollment	Q2	0.322	21	0.081	0.04
Personalized or individualized learning environment	Q12	0.491	22	0.085	0.042
Age	Q27	0.504	23	0.088	0.044
Weekly behavioral referrals occurrence	Q4	0.553	24	0.092	0.046
Culturally diverse classroom	Q11	0.766	25	0.096	0.048
Highest Level of Education	Q28	0.769	26	0.1	0.05

Item 7 on the instrument dealt with the dependent variable, the primary means by which most of the general population is grouped, and according to Table 5, 26.15% of principals use homogeneous grouping, 56.92% use heterogeneous grouping, and 16.92% use within-class grouping.

Table 5
Type of Grouping Used

Grouping Used	Number	Percentage
Homogeneous grouping by ability	17	26.15
Heterogeneous grouping by ability	37	56.92
Within-Class ability grouping	11	16.92

A chi-square test was then completed with the 26 independent variables, and the variables were grouped into the 4 factors of organizational, external, personal, and demographic.

Findings

It is essential to present the findings in an applicable and impactful manner for usability. Therefore, in order to address the four research questions, the findings are presented by factor. The separation of the data by factor illustrates the findings in both the adjusted chi-square data and contingency data in order to show the relationship between the factor and the principals' grouping practice.

Organizational Factors

The first six questions of the instrument sought to uncover if organizational factors are associated with the principal's choice of ability grouping. These questions and the analyses answered the first research question: Is there a relationship between organizational factors and the principals' grouping practices?

Table 6 shows the association between the organizational factors of questions 1-6 and a principal's choice of ability grouping. With the p value of 0.032 and the alpha at .05, there would seem to be an association found between the level of the school and the principal's choice of ability grouping. Similarly, with a p value of 0.026, there was an assumed association found between the percentage of

economically disadvantaged students in the school and the principal's choice of ability grouping. On the other hand, there was no association found between the percent of minority enrollment, number of behavior referrals, the school enrollment, and the academic performance of the schools with the p values respectively at 0.322, 0.553, 0.283, 0.228 with the alpha at .05. However, using the formula for the Benjamini-Hochberg procedure to control for the familywise error rate ($(i/m)Q$), none of the organizational factors is significant when having $Q = .05$ or a 5% chance of false discovery. Therefore, there was no relationship between the organizational factors and a principal's choice of ability grouping.

Table 6
Chi-Square Data - Organizational Factors

Factor Variables	Question	p value	Rank	(i/m)Q
1. How would you describe the level of your school?	Q1	0.032	12	0.023
2. What is the percent of minority enrollment in your school?	Q2	0.322	21	0.040
3. Based upon your FTE, what percent of economically disadvantaged students do you have in your school?	Q3	0.026	11	0.021
4. On average, how many behavioral referrals occur weekly at your school?	Q4	0.553	24	0.046
5. How many students are enrolled in your school?	Q5	0.283	19	0.037
6. How would you describe your school's academic performance?	Q6	0.228	17	0.033

Notes. *= p value is less than the Benjamini-Hochberg adjusted p value with alpha at .05 Benjamini-Hochberg adjusted p value that controls for false discovery rate at 5%

Although organizational factors were not found to be associated with a principal's grouping practice, numerous observations can be made from the data (Table 7). The p values did not indicate a strength of association between organizational factors and a principal's grouping practices; however, the contingency tables demonstrate a level of association that could be due to the small sample size or to

chance. According to the data, the majority of middle school principals (57.7%) reported using heterogeneous grouping. In comparison, 38.5% use homogeneous grouping while only 3.8% of middle school principals reported the use of within-class ability grouping. Similarly, the majority of elementary principals (55.3%) reported the use of heterogeneous grouping with 26.3% using within-class ability grouping and 18.4% using homogeneous grouping. In regard to the percent of minority enrollment and the grouping practice, the lowest percent of minority enrollment 0-20% had an almost equal split with 38.5% homogeneous, 38.5% heterogeneous, and 23.1% within-class. However, the use of heterogeneous grouping raises as the percent of minority enrollment increases to 69% percent of principals use heterogeneous grouping with 21-40% minority enrollment, then 61.5% for 41-60% minority enrollment, to 80% with 80-100% minority enrollment. The organizational factor of the percent of economically disadvantaged showed no association with the grouping practice; however, the data showed that the principals who had schools with 0-20% economically disadvantaged used homogeneous grouping the most (80%). On the other hand, schools with 61-80% economically disadvantaged students used heterogeneous grouping the most (80%). The data shows that as the percent of minority or economically disadvantaged increases, the principals reported a higher use of heterogeneous grouping. For all numbers of behavior referrals per week, the highest reported grouping practice was heterogeneous grouping (47.2%, 70%, and 62.5%). Principals of smaller schools were more likely to utilize heterogeneous grouping. Schools with 300-499 students reported using heterogeneous grouping the most with 84.6%. Principals of schools with fewer than 300 reported a 66.7% use of heterogeneous grouping while 500-999 student enrollment had principals that reported 51.3% use of heterogeneous grouping. However, schools with a population of 1,000 or more had a more equal distribution of grouping practices with 44.4% homogeneous, 38.9% heterogeneous, and 16.7% within-class ability grouping. The final organization factor of a school's academic performance showed that principals of schools who reportedly perform lower than the state's average use heterogeneous the most (65.2%). Likewise, 60.9% of principals from schools who perform similar to the state's average use heterogeneous grouping. On the other hand, for principals who reportedly perform better than the state, they are more divided with the use of grouping

with 44.4% homogeneous, 33.3% heterogeneous, and 22.2% within-class ability grouping. It is important to note that the data from the contingency chart could be affected by the sample size of only 64 principals or random chance.

Table 7
Contingency Data- Organizational Factors

		Number	Homogeneous	Heterogeneous	Within-class
Level of school	Elementary	38	18.4 @	55.3	26.3
	Middle School	26	38.5	57.7	3.8
Percent of minority enrollment	0-20	13	38.5	38.5	23.1
	21-40	25	24.0	60.0	16.0
	41-60	13	38.5	61.5	0.0
	61-80	8	12.5	50.0	37.5
	80-100	5	0.0	80.0	20.0
Percent of economically disadvantaged	0-20	5	80.0	0.0	20.0
	21-40	12	25.0	50.0	25.0
	41-60	16	43.8	50.0	6.3
	61-80	15	6.7	80.0	13.3
	80-100	16	12.5	62.5	25.0
Number of weekly behavior referrals	0-10	36	30.6	47.2	22.2
	11-20	20	20.0	70.0	10.0
	21-30	8	25.0	62.5	12.5
Enrollment	less than 300	3	33.3	66.7	0.0
	300-499	13	7.7	84.6	7.7
	500-999	39	28.2	51.3	20.5
	100 or more	9	44.4	33.3	22.2
School's Academic Performance	Lower than the state's average	23	13.0	65.2	21.7
	Similar to the state's average	23	26.1	60.9	13.0
	Higher than the state's average	18	44.4	38.9	16.7

Note. @ = contingency table comparing across row percentages

External Factors

Questions 8-14 of the instrument sought to uncover if external factors are associated with the principal's choice of ability grouping. These questions and the analyses answered the second research question: Is there a relationship between external factors and the principals' grouping practices?

Table 8 shows the association between the external factors of questions 8-14 and a principal's choice of ability grouping. With the p value of <0.001 for both parent and teacher preference, an association was discovered. Likewise, when taking into account the formula for the Benjamini-Hochberg procedure to control for the familywise error rate ($(i/m)Q$), there remained a relationship between both parent and teacher preference and the principal's choice of ability grouping when having $Q = .05$ or a 5% chance of false discovery. However, the other factors of professional literature, pressures to create a culturally diverse classroom, pressure to create a personalized or individualized learning environment for all students, and a policy in regard to principal's choice of ability grouping with the chi-square results of the following p values: 0.311, 0.766, 0.491, 0.111. Therefore, the only relationship found between the organizational factors and a principal's choice of ability grouping, once the Benjamini-Hochberg procedure was completed, was the teacher's and parent's preference and the principals' grouping practices. Only 36% of principals have a policy that drives their choice of grouping practice.

Table 8
Chi-Square Data- External Factors

Factor Variables	Question	p value	Rank	(i/m)Q
8. To what extent do you use professional literature to support your educational choices for your school?	Q8	0.311	20	0.038
9. To what extent do you feel pressure to create a culturally diverse classroom?	Q9	0.766	25	0.048
10. In order to meet state mandates, to what extent do you feel pressure to create a personalized or individualized learning environment for all students?	Q10	0.491	22	0.042
11. What policy drives your choice of assigning students to classrooms?	Q11	0.111	14	0.027
12. What type of classroom grouping do parents at your school prefer?	Q12	< 0.001*	1	0.002
13. What type of classroom grouping do teachers in your school prefer?	Q13	< 0.001*	2	0.004
14. How would you describe your teacher morale at your school?	Q14	0.060	13	0.025

Notes. *= p value is less than the Benjamini-Hochberg adjusted p value with alpha at .05
 Benjamini-Hochberg adjusted p value that controls for false discovery rate at 5%

External factors, according to the chi-square test with adjusted p values, were not associated with the principals' grouping practice, but the analysis of the responses found information to be examined (Table 9). The associations seen in the contingency chart, although not found to be significant by the chi-square p value, could be due to the low participation rate (33%) or random chance. For those principals who reported to seldom use of professional literature to inform decisions, 66.7% of them utilize heterogeneous grouping. This finding is similar to those who often use professional literature with 64.1% reportedly using heterogeneous grouping. However, for those who always use professional literature, the grouping use was split with 40% homogeneous grouping, 40% heterogeneous grouping, and 20% within-

class ability grouping. Those principals who felt very high pressure to create a culturally diverse classroom reported to using heterogeneous grouping (100%). On the other end of the spectrum, the majority of those who did not feel the pressure to create a culturally diverse classroom utilize homogeneous grouping (66.7%). Similar findings occurred for the pressure to create a personalized learning environment. Principals who reportedly felt very low pressure to create a personalized learning environment use homogeneous grouping (100%); but, the majority of those who felt very high pressure use heterogeneous grouping (62.5%). According to the data from the instrument, the principals with district policies use homogeneous grouping (100%). If a school policy was reported, 75% heterogeneous, and with an undocumented policy, 71.4% use heterogeneous grouping. Finally, with no policy reported, principals are divided upon the grouping practice used with 24.4% using homogeneous, 48.8% using heterogeneous, and 26.8% using within-class ability grouping. There were two areas in external factors with which an association was found with the chi-square test and the adjusted p value: parents' preference and teachers' preference. For parents who, according to the principals, prefer homogeneous grouping, 80% of the principals reported to using homogeneous grouping. Likewise, for parents who prefer heterogeneous grouping, 88.2% of principals use heterogeneous grouping, and for the parents who prefer within-class ability grouping, 71.4% are using within-class ability grouping. A similar pattern occurred in the data for teachers' preference. The majority of principals reported using homogeneous grouping and that their teachers' preferred homogeneous grouping (59.1%). Ninety-two percent of principals who reported using heterogeneous grouping had teachers' who prefer heterogeneous grouping, and 76.9% of principals reported using within-class ability grouping when their teachers' preferred within-class ability grouping. There was a positive relationship found between the parents' and teachers' preference of grouping practice and the grouping practice reported by the principals occurring at the elementary and middle schools. In reference to teacher morale, principals with low morale reported to using heterogeneous grouping (100%). On the other hand, the majority of principals who reported very high teacher morale use homogeneous grouping (71.4%).

Table 9
Contingency Date- External Factors

		Number	Homogeneous	Heterogeneous	Within-class
Use of professional Literature	Seldom	3	0.0 @	66.7	33.3
	Sometimes	17	47.1	41.2	11.8
	Often	39	17.9	64.1	17.9
	Always	5	40.0	40.0	20.0
Pressure to create a culturally diverse classroom	Very Low	3	66.7	33.3	0.0
	Low	10	20.0	60.0	20.0
	Moderate	31	25.8	51.6	22.6
	High	19	26.3	63.2	10.5
	Very High	1	0.0	100	0.0
Pressure to create a personalized or individualized learning environment	Very Low	1	100.0	0.0	0.0
	Low	3	0.0	66.7	33.3
	Moderate	22	22.7	50.0	27.2
	High	32	28.1	62.5	9.4
	Very High	6	28.1	62.5	9.4
Policy for assigning students to classrooms	A district policy	1	100.0	0.0	0.0
	A school policy	8	25.0	75.0	0.0
	An undocumented policy	14	28.6	71.4	0.0
	No policy	41	24.4	48.8	26.8
Parents' preference	Homogeneous	15	80.0	13.3	6.7
	Heterogeneous	17	5.9	88.2	5.9
	Within-Class	7	14.3	14.3	71.4
	Unsure	25	12.0	72.0	16.0
Teachers' preference	Homogeneous	22	59.1	40.9	0.0
	Heterogeneous	27	3.7	92.6	3.7
	Within-Class	13	15.4	7.7	76.9
	Unsure	2	50.0	50.0	0.0
Teacher morale	Low	2	0.0	100.0	0.0
	Moderate	21	19.0	71.4	9.50
	High	34	20.6	55.9	23.5
	Very High	7	71.4	14.3	14.3

Note. @ = contingency table comparing across row percentages

Personal Factors

Questions 15-22 of the instrument sought to uncover if personal factors are associated with the principal's choice of ability grouping. These questions and the analyses answered the third research question: Is there a relationship between personal factors and the principals' grouping practices?

Table 10 shows the association between the personal factors of questions 15-22 and a principal's choice of ability grouping. All of the personal factors were found to have a p value of 0.001 or <0.001. Even after controlling for the familywise error rate with the Benjamini-Hochberg procedure, all personal factors were significant. Interestingly, as well was that 60% of principals are mirroring their grouping practice with the type of grouping that they had a positive experience with as a child and that 75% of principals are using the grouping that they believe is best.

Table 10
Chi-Square Data- Personal Factors

Factor Variables	Question	p value	Rank	(i/m)Q
15. Which classroom composition do you believe will most likely create college- and career-ready students?	Q15	< 0.001*	3	0.006
16. For the general population (students who are not labeled special education or gifted), which classroom formation do you think is best?	Q16	< 0.001*	4	0.008
17. To what extent do you believe that within-class ability grouping works for teachers?	Q17	< 0.001*	5	0.01
18. Which classroom composition do you believe is best suited to help decrease or close the achievement gap?	Q18	< 0.001*	6	0.012
19. Which type of classroom grouping resulted in the most positive experience for you as a child?	Q19	< 0.001*	7	0.013
20. In regard to formation of classes, to what extent do you agree that homogeneous grouping is equal and fair?	Q20	0.001*	9	0.017
21. In regard to formation of classes, to what extent for you agree that heterogeneous grouping is equal and fair?	Q21	0.017*	10	0.019
22. When forming classes, which classroom composition do you believe will allow for an academically rigorous program?	Q22	< 0.001*	8	0.015

Notes. *= p value is less than the Benjamini-Hochberg adjusted p value with alpha at .05
 Benjamini-Hochberg adjusted p value that controls for false discovery rate at 5%

All personal factors were found to have an association with principals' grouping practice when using the chi-square test and adjusting the p value for errors. The principals' beliefs aligned heavily with their choice of grouping as shown in Table 11. For example, 90.9% of those who use homogeneous grouping believe it is most likely to create college-and career-ready students. Similarly, principals who use heterogeneous grouping also believe it will most likely create college-and career-ready students

(93.9%), and the majority (50%) of those who use within-class ability grouping believe that it will create college- and career-ready students. When it comes to personal preference, a relationship can be seen between what formation principals believe is the best and the form of grouping they currently use in their elementary and middle schools. Principals who believe that homogeneous is the best form of grouping aligned with the belief by 71.4% of them using homogeneous grouping. Likewise, 90.3% of those who use heterogeneous grouping believe that it is the best, and 52.6% of those who think within-class ability grouping is the best use it in their schools. The data shows that those who have a very high belief that within-class ability grouping works well for teachers, also use within-class ability grouping (85.7%). The majority of the principals (58.3%) who have a high belief that within-class ability grouping works for teachers are actually using heterogeneous grouping. Not surprisingly, principals who had a very low belief that within-class works well for teachers are not using within-class ability grouping (0%), but those principals were split between heterogeneous (50%) and homogeneous grouping (50%). Principals also aligned their current practice with the type of grouping that they believe is best suited to help decrease or close the achievement gap. Principals who use homogeneous grouping were also in favor of homogeneous grouping to decrease or close the gap (75%). Principals who use heterogeneous grouping had 90.9% believing that heterogeneous grouping will help to decrease or close the gap. Finally, principals who use homogeneous grouping, although not as high a percentage, still had a majority who are in favor of within-class ability grouping for helping with the achievement gap (50%). Another important piece of information gathered from the data was in regard to the participant's positive experience as a child with a form of grouping and the relationship that had to their current practice. The majority of those who had a positive experience with homogeneous grouping and also using homogeneous grouping at their school (57.9%). The majority of principals who had a positive experience with heterogeneous grouping as a child are also using heterogeneous grouping as their practice (91.3). Principals who had a positive experience as a child with within-class ability grouping, are actually spread out between the three grouping types with the majority using heterogeneous grouping (45.5%), 22.7% using homogeneous grouping, and 31.8% using within-class ability grouping. The participants were asked about their

agreement level that homogeneous grouping is equal and fair. Only 16.7% of those who strongly disagree are using homogeneous grouping; on the other hand, 60% of those who strongly agree are using homogeneous grouping. Also noted from the data was that no participants strongly agreed that homogeneous grouping is equal and fair. In reference to the fairness of heterogeneous grouping, it is surprising that the majority of principals who strongly disagreed that heterogeneous is equal and fair are using heterogeneous grouping (66.7%). The majority of principals who believe that homogeneous grouping allows for an academically rigorous program are using homogeneous grouping (73.3%) and the majority who believe that heterogeneous grouping allows for an academically rigorous program are using heterogeneous grouping (93.1). Half of principals who believe that within-class ability grouping allows for an academically rigorous program are using within-class ability grouping and the remaining principals are split between heterogeneous (25%) and homogeneous grouping (25%).

Table 11
Contingency Data- Personal Factors

		Number	Homogeneous	Heterogeneous	Within-class
Most likely create college- and career-ready students	Homogeneous	11	90.9 @	9.1	0.0
	Heterogeneous	33	3.0	93.9	3.0
	Within-Class	20	30.0	20.0	50.0
Formation participant thinks is best	Homogeneous	14	71.4	28.6	0.0
	Heterogeneous	31	6.5	90.3	3.2
	Within-Class	19	26.3	21.1	52.6
Extent of Participants belief that within-class ability grouping works for teachers	Very low	2	50.0	50.0	0.0
	Low	5	80.0	20.0	0.0
	Moderate	26	15.4	73.1	11.5
	High	24	33.3	58.3	8.3
	Very High	7	0.0	14.3	85.7
Best suited to help decrease or close the achievement gap	Homogeneous	12	75.0	25.0	0.0
	Heterogeneous	32	6.3	90.6	3.1
	Within-Class	20	30.0	20.0	50.0
Participant's positive experience as a child	Homogeneous	19	57.9	26.3	15.8
	Heterogeneous	23	4.3	91.3	4.3
	Within-Class	22	22.7	45.5	31.8
Agreement that homogeneous grouping is equal and fair	Strongly Disagree	12	16.7	50.0	33.3
	Disagree	27	3.7	77.8	18.5
	Undecided	10	50.0	40.0	10.0
	Agree	15	60.0	33.3	6.7
	Strongly Agree	0	0.0	0.0	0.0
Agreement that heterogeneous grouping is equal and fair	Strongly Disagree	3	33.3	66.7	0.0
	Disagree	5	100.0	0.0	0.0
	Undecided	6	33.3	33.3	33.3
	Agree	39	20.5	64.1	15.4
	Strongly Agree	11	9.1	63.6	27.3
Allows for an academically rigorous program	Homogeneous	15	73.3	26.7	0.0
	Heterogeneous	29	3.4	93.1	3.4
	Within-Class	20	25.0	25.0	50.0

Note. @ = contingency table comparing across row percentages

Demographic Factors

Questions 23-27 of the instrument sought to uncover if demographic factors are associated with the principal's choice of ability grouping. These questions and the analyses answered the fourth research question: Is there a relationship between demographic factors and the principals' grouping practices?

Table 12 shows the association between the demographic factors of questions 23-27 and a principal's choice of ability grouping. With the p value for all factors greater than 0.05, no association was found between any of the demographic variables and the principals' grouping practices. The null hypothesis could not be rejected. After completing the chi-square test, the Benjamini-Hochberg procedure was used to control for the familywise error rate ((i/m)Q) with Q= .05 or a 5% chance of false discovery. There remained no relationship between any of the demographic variables and the principal's choice of ability grouping.

Table 12
Chi-Square- Demographic Factors

Factor Variables	Question	p value	Rank	(i/m)Q
Sex	Q23	0.204	15	0.029
Race/Ethnicity	Q24	0.251	18	0.035
Age	Q25	0.504	23	0.044
Highest Level of Education	Q26	0.769	26	0.05
Years of Experience as Principal	Q27	0.208	16	0.031

Note. *= p value is less than the Benjamini-Hochberg adjusted p value with alpha at .05
Footnote- Benjamini-Hochberg adjusted p value that controls for false discovery rate at 5%

Demographic factors were not found to be associated with the principals' grouping practice; however, the data provided by the principals gives insight to their grouping practice as seen in Table 13. The majority of females (51.2%) and majority of males (66.7%) use heterogeneous grouping. The fewest percentage of males (4.7%) use within-class ability grouping. In terms of race, the majority of African-

American principals (62.5%) and Caucasian principals (53.2%) use heterogeneous grouping. The one participant who aligned with the race provided as other uses within-class ability grouping. Interestingly, when it comes to age, the data shows that the use of heterogeneous grouping diminishes the older the principal. Principals in the range of 31-40 had 71.4% reporting the use of heterogeneous grouping, 55.2% of the 41-50 year old principals use heterogeneous grouping, 56% of those 51-60 , and only 33.3% of over 60 principals use heterogeneous grouping. The majority (66.7%) of the principals over 60 years of age use homogeneous grouping. The majority of principals who had a master's degree (54.5%), specialist (57.1%), and doctorate (57.1%) all use heterogeneous grouping. The data for the number of years' experience as a principal mirrors the data for the principals' ages. The more years, the more likely the use of homogeneous grouping, the fewer years, the more likely the use of heterogeneous grouping. Principals with 0-4 years of experience reported that 73.7% of them use heterogeneous grouping, 5-9 years had 64.7% using heterogeneous grouping, 10-14 years had 42.1% heterogeneous, while principals with 15 or more years' experience only had 33.3% using heterogeneous grouping. The majority of those principals with 15 or more year is using homogeneous grouping (55.6%). An association between a principal's age and a principal's years of experience to the decreased use of heterogeneous grouping that was not uncovered with the chi-square test, may only appear to be significant in the contingency chart due to the small participation rate or random chance.

Table 13
Contingency Data- Demographic Factors

		Number	Homogeneous	Heterogeneous	Within-class
Sex	Female	43	25.6@	51.2	23.3
	Male	21	28.6	66.7	4.7
Race/Ethnicity	African-American	16	18.8	62.5	18.8
	Caucasian	47	31.9	53.2	14.9
	Other	1	0.0	0.0	100.0
Age	31-40	7	28.6	71.4	0.0
	41-50	29	20.7	55.2	24.1
	51-60	25	28.0	56.0	16.0
	Over 60	3	66.7	33.3	0.0
Highest level of Education	Master	22	22.7	54.5	22.7
	Specialist	28	32.1	57.1	10.7
	Doctorate	14	21.4	57.1	21.4
Years of Experience as Principal	0-4	19	15.8	73.7	10.5
	5-9	17	17.6	64.7	17.6
	10-14	19	31.6	42.1	26.3
	15 or more	9	55.6	33.3	11.1

Note. @ = contingency table comparing across row percentages

Open Ended Responses

Principal participants were afforded the opportunity to elaborate on their choice of grouping students and factors that determined that choice through an open-ended question. To gain a better understanding of the determining factors for principals, the open-ended response allowed the participants to elaborate beyond the multiple choice questions. Thirteen principals of the 64 (20%) commented about their choice of grouping. The content of the responses was coded by categories that revealed that a majority of the principals believed that the choice of within-class ability grouping allowed for differentiation (23%). Two principals (15%) expressed that homogeneous grouping allowed teachers “to meet the needs of all students.” Other principals pointed out factors such as diversity of ethnicity in the classroom, as well as balancing the number of boys and girls in the classes. Another principal expressed that although homogeneous grouping may be beneficial for both high and low students, the groups need to remain fluid. Even a principal who utilizes within-class ability grouping expressed the need for the

groups to remain fluid. Regardless of the type of grouping identified, five principals (38%) discussed meeting the needs of the students through their choice of grouping. Only one principal expressed that student achievement was a factor in how he/she grouped students.

Summary of Findings

The purpose of this research was to determine the factors that lead elementary and middle school principals to select homogeneous, heterogeneous, or within-class ability grouped classroom compositions. Sixty-five participants, both elementary and middle school principals, responded to the survey providing their feedback in regard to the factors that may be related to their choice of classroom composition. After analyzing the responses of the principals by conducting chi-square tests and Benjamini-Hochberg procedure to control for the familywise error rate with the 26 chi-square tests, the following associations emerged:

1. Principals indicated that all personal factors had an association with their choice of classroom composition. All factors had a p value at 0.001 or <0.001 with the chi-test, but still remained significant when controlling for the error rate.
2. Principals indicated that teachers' preference and parent preference had an association with their choice of classroom composition. These were the only external factors for which the null hypothesis could be rejected.
3. Principals indicated that no demographic factors had an association with their choice of classroom composition. None of the null hypothesis could be rejected.
4. Principals indicated that no organizational factors had an association with their choice of classroom composition. None of the null hypothesis could be rejected.

Although some factors did not have an association found and the null hypothesis could not be rejected, significant observations can be made from the data. For example, it is important to note that for both age and years of experience, as the number increases in both factors, so does the likelihood of using homogeneous grouping, and as the number decreases, the likelihood of using heterogeneous grouping increases. Similarly, the likelihood of using heterogeneous grouping commensurate with the increase in

the percent of economically disadvantaged and the percent of minority students. The same likelihood occurs in tandem with the increase of pressure felt to create a culturally diverse classroom and a personalized learning environment. The more pressure felt by both external factors, the more likely the principals were to reportedly use heterogeneous grouping.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

The problem addressed in this study was the lack of knowledge that exists about the factors related to principals' grouping practices. While the assets and confines of ability grouping are available (Ansalone, 2010; Kalogrides & Loeb, 2013), no research has been conducted about the organizational, personal, external, and demographic factors that influence the choice of homogeneous, heterogeneous, or within-class ability grouping by principals in the Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. As the educational gap widens, these data may be essential for choosing the grouping of students.

The researcher sought to identify factors that may be related to principals' grouping practices in utilizing heterogeneous, homogeneous, or within-class ability grouping in schools in four RESAs in Southeast Georgia. Secondly, the factors categorized as organizational, external, personal, and demographic were analyzed to determine if there were significant differences as to their influence on principals' grouping practices. One hundred and ninety-seven (197) elementary and middle school principals from 23 counties were invited to participate in the study. Participants (64) completed a survey asking him/her to indicate the organizational, external, personal, and demographic factors and his/her choice of student grouping. Opportunity was provided for respondents to further elaborate on their choice of grouping students and factors that determined that choice.

Content and construct validity of the instrument developed for this study was established through a three-step process that comprised a review of the literature, solicitation of opinions from an expert group of administrators, and a pilot test of the survey with ten individuals similar to the study's population. An adequate level of test-retest reliability was established by perfect and almost perfect agreement from the 10 pilot participants across two months with the following Kappas (κ): 1.000, .846, .831, and 1.000. Data were analyzed by factors using chi-square to discover an association between the factors and the principals' choice of grouping. According to the principals, an association was found

between the personal factors and the principals' choice of grouping students. In addition, there was also an association found between the external factors of both teacher and parent preferences. Similarly, the open-ended questions showed the principals' (23%) desire to allow for differentiation with the choice of grouping. One overarching research question and four subquestions guided the research. This research will help inform school administrators as they plan for classroom organization to close the achievement gap and allow for student success. This chapter will discuss the major findings of this study with conclusions and implications.

Discussion of Research Findings

Results of the quantitative data from 64 elementary and middle school principals from 23 counties in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area was collected via a *Qualtrics*® link through an email dissemination plus an open-ended question. The following overarching research question guided the research: What factors may be related to principals' grouping practices in utilizing heterogeneous, homogeneous, or within-class ability grouping in schools in Southeast Georgia to include the Regional Educational Service Agency (RESA) areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area? While, previous research indicated that organizational factors, demographic factors, and external factors leads to principals making decisions with instructional implications (Dietrich, 2010; Polka et al., 2016; Shen et al., 2010), the results of this study did not substantiate those findings. The results from this research, on the other hand, showed that personal factors are associated with principals' grouping practices.

Four research subquestions further explored the specific factors that may influence the principals' grouping practices. Research subquestion one stated: Is there a relationship between organizational factors and the principals' grouping practices? The data did not show an association between any of the organizational factors and the principals' grouping practices.

Research subquestion two asked: Is there a relationship between external factors and the principals' grouping practices? For the majority of the factors (71%), there was no association found between the external factors and principals' grouping practices. However, in regard to parent and teacher

preferences, there was evidence to support an association. Principals' grouping practice is associated with both the parent preference of classroom grouping and teacher preference of classroom grouping. This was supported by the literature in Chapter 2 where Olayiwola and Alabi (2015) reported that the decision-making process is politically dominated with the values and interests of not only principals but also other stakeholders. Stakeholders such as parents and teachers should be a part of the decisions that impact improving academic approaches (Olayiwola & Alabi, 2015). According to Gonzalez and Firestone (2013), parents and teachers as are a form of external accountability for principals. It is apparent, from the data analysis, that principals in Southeast Georgia were impacted by the external accountability of parents and teachers.

Research subquestion three asked: Is there a relationship between personal factors and the principals' grouping practices? The quantitative data indicated that there is an association between all personal factors and the principals' grouping practice, even when controlling for errors. This finding was supported in Chapter 2 when according to Jonassen (2012), decisions are often made based upon personal experiences. Similarly, Larsen and Hunter (2014) explained that more than half of the decisions that principals make are clarified through an examination of their values and beliefs. Similarly, Coleman (2016) explained that assigning students to classes is determined by the leader's beliefs and values. It is not surprising that with the rise of accountability, principals lean on their internal accountability first in regard to decision making (Gonzalez and Firestone, 2013) Principals are chosen because of their knowledge and experiences, and those experiences form great leaders (Silva, 2014).

Finally, research subquestion four asked: Is there a relationship between demographic factors and the principals grouping practices? Although the literature showed that Dietrich (2010), Lehnert, Park and Singh (2015), and Shapiro and Stefkovich (2016) found that gender, race and age are factors that influences decision-making skills, no association between any of the demographic factors and principals' grouping practices were found.

As an administrator for 10 years and making educational decisions about grouping practices at both an elementary and middle school, the researcher has been involved in many conversations with

principals, teachers, parents, and other stakeholder about the most appropriate grouping practice that would support educational success. According to the survey responses, the research did not find an association between any organizational or demographic factors and the principals' grouping practice. This was contrary to the research that found that indicate that found that gender, sex, age, years' experience, ethnicity, and level of education are factors that influences decision-making skills for leaders (Center for Public Education, 2012; Dietrich, 2010; Lehnert, Park, & Singh, 2015; Shapiro & Stefkovich, 2016). The open-ended responses reflected that the need for differentiation is a factor that determined the grouping practice for principals. This is not surprising since the literature explained that the need for differentiation is causing within-class grouping to be used more frequently (Park & Datnow, 2017). Tomlinson (2015) also concluded that students benefit from differentiation to meet their varying needs by creating flexible grouping within the classroom, and teachers can better meet the needs of their students by using within-class grouping. The majority of elementary school principals are meeting these needs through the use of heterogeneous (55%) or within-class ability grouping (28%). Only 18% of elementary principals are utilizing homogeneous grouping. On the other hand, middle school principals indicated that 38% utilize homogeneous grouping, 58% utilize heterogeneous grouping, and only 4% use within-class ability grouping. There remains a variation of grouping practices among principals across both elementary and middle schools.

However, this research gives insight into the factors that influence those choices for principals. As the data indicated, 64% of principals do not have a policy that dictates their choice of ability grouping. Therefore, as the literature suggested, principals play an important role in preparing their school for success (Willhoft, 2012). The use of good judgment in terms of making high-quality decisions, analyzing the available data, and working collaboratively on common goals are all integral parts of the principal's job (Reed, 2013a). In the study conducted by Biafora and Ansalone (2008), 52.5 % of principals in the study responded that they had a lot of influence on the decision-making process; thus, the decision of whether to group by ability or not lies with them. Principals are aware of their influence and are using personal factors, as found in this research to impact their decision making. Interestingly, as the data

showed, 60% of the principals are utilizing the same grouping in their schools with which they expressed a positive experience with as a child. Similarly, 75% of principals reported that their grouping of students in their schools matches the classroom composition that they think is best. Therefore, principals have a lot of impact on how students are grouped and that grouping is aligned with the grouping with which they had a positive experience and what they believe is best.

Conclusions

The grouping of students by principals has come to the forefront of discussions as the responsibility of achieving educational outcomes rests on the shoulder of the principal as the instructional leader (Kasprzhak et al., 2015). In order to uncover the factors that are related to a principals' grouping practice in Southeast Georgia, this research focused on examining organizational, external, personal, and demographic factors to determine which ones are associated with the principals' grouping practice. The small sample size of the study may have limited the findings of this research. Additionally, a low survey response rate (32%) for the participants may have produced results that were not representative of all principals in Southeast Georgia to include the Regional Educational Service Agency (RESA) areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. Furthermore, only 20% of the participants responded to the open-ended question to elaborate on factors that may influence their grouping practice.

For the most part, this study demonstrated that principals' personal factors are associated with their choice of ability grouping. Of these, 60% of principals noted mirroring their grouping practice with the type of grouping that they had a positive experience with as a child and that 75% of principals are using the grouping that they believe is best because only 36% have a policy that drives their choice of grouping practice. The study may suggest that principals need to be empowered with the data, implications, assets, and confines of the various forms of grouping practices in order to make the best educational decision for their schools.

Implications

With students' instructional needs and abilities rapidly diversifying, principals are called to ensure that all their students are college- and career-ready. Tomlinson (2015) concluded that "the nature of life in the 21st century suggests that schools must prepare students to be thinkers, problem solvers, collaborators, wise consumers of information, and confident producers of knowledge" (p. 203). To meet this myriad of demands, principals must locate the best practices that positively impact student achievement. In many states, including Georgia, school systems are looking at ways to meet these demands, which means that factors that influence the principals' choice in grouping need to be evaluated. This research contributes to the existing body of literature focused on ability grouping; however, this research focused on the factors related to principals' grouping practices. This data can be used to empower principals with the knowledge base that their personal factors are associated with their grouping practices in order to make the best educational decisions for students. The results of this study found that demographic and organizational factors are not associated with the principals' grouping practice. The results also show that external factors other than teacher and parent preference are not associated with the principals' grouping practice. However, the data does imply that the principals' take into account the preference of teachers and parents when deciding on the schools' grouping of students.

Recommendations

Based upon this study's findings and conclusions related to practice, the researcher recommends the following for further research:

1. The 64 schools, represented by elementary and middle school principals in this study, reflect 23 Southeast Georgia counties out of the state's 159. A study to determine if geographical differences impact principal's grouping practices is recommended for other areas within Georgia.
2. A qualitative case study of three to five principals with more than 10 years of experience is recommended to gain in-depth knowledge about factors related to grouping practices.

3. Elementary and middle school districts in other states should be identified and a similar study conducted to determine whether findings from this study are comparable to principals in other states.
4. Another instrument with proven reliability and validity is recommended to strengthen the discovered associations of the data.

Dissemination

Principals and Superintendents may be interested in the results of this study as it would provide a knowledge base as to the factors that are related to principals' grouping practice. Knowing that personal factors have an association with the principals' grouping practice would increase the self-reflection of principals in the decision making process. Furthermore, it would demonstrate to stakeholders that principals' grouping practice is associated with the preference of teachers and parents. In regard to dissemination, this study will be included in the Georgia Southern Library and disseminated through Galileo, an online database. Dissemination would also occur through professional publications.

Impact Statement

Principals are facing the pressure to create college- and career-ready students with a population of students with diverse abilities, behavior concerns, overcrowded classrooms, and smaller budgets. Principals are being held accountable for students' academic achievement, and principals are called to find the best practices to improve student achievement to assure that students are college- and career-ready. Ability grouping remains a means by which classrooms can be organized to achieve academic success and meet the demands placed on principals. This research provided a unique representation, undocumented previously, of the factors that may be related to the decisions made by principals in terms of classroom composition in Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area. This research uncovered the factors related to principals' decisions in the selection of ability grouping in Southeast Georgia. In regard to action, by examining the factors that may be related to the selection of ability grouping, this study enhanced the understanding of

the principal's decision-making process, thereby enriching current research on ability grouping and why it is still prevalent in the United States.

Data collected and analyzed in this research study represent a contribution to the limited research that exists about principals' grouping practices and the factors that are associated with the choice of grouping. Information gathered clarified an understanding of factors that have the greatest influence on principals' grouping practices. These factors were categorized into the following groups: organizational, external, personal, and demographic. The research uncovered that there was no association between organizational and demographic factors and a principals' grouping practice. Likewise, only two external factors showed an association. Principals in the research expressed that parent and teacher preferences are associated with their grouping practice. On the other hand, all personal factors had an association with the principals' grouping practice. It was apparent that the principals' belief and personal experience are associated with their choice of grouping. It is the hope of this researcher that the results of this study will generate the development of a thorough knowledge base for principals with the data, implications, assets, and confines of the various forms of grouping practices in order to make the best educational decision for their schools to ensure that the children of Southeast Georgia continue to receive the highest quality education.

The impact of this research will be to empower elementary and middle school principals to employ self-reflection as a tool to enhance decision making since personal factors are associated with principals' grouping practice.

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APPENDIX A

Email to Superintendents

Dear (Superintendent's Name),

As a doctoral student at Georgia Southern University in the program of Educational Leadership, I am researching the factors related to principals' decision to utilize either homogeneous, heterogeneous, or within-class ability grouped classrooms in elementary and middle schools. I'm writing to ask for your cooperation in conducting my study, and for your permission to include the elementary and middle school principals within your county to participate in my research. I am limiting my research to the elementary and middle school principals within Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area because the findings will be applicable to me in my educational career.

With your permission, I will email the attached survey to the principals in your county. It contains items dealing with factors that contribute to principals' decisions to group students by ability. It should take approximately fifteen minutes to complete the questionnaire, and I will encourage participants to complete the survey during non-work hours. Participation is voluntary, and participants may withdraw at any time without penalty. In order to maintain their anonymity of themselves and their schools, principals will complete the survey via a *Qualtrics*® link that will be emailed to them. If you agree that the principals in your district can participate, please complete the attached letter of cooperation for the Georgia Southern University Institutional Review Board, and return it to me within two weeks, if possible. Please print the letter on your letterhead to verify your approval, and return to me as an email attachment.

If you wish to receive a summary of the findings, please contact me via phone, mail, or e-mail and I will be happy to provide one.

Once again, thank you very much for your time, cooperation, and commitment to educational research. I look forward to your decision regarding your principals' participation. If you have any further questions regarding this study, you may contact me or my faculty advisor:

Title of Project: Deciding on Classroom Composition: Factors Related to Principals' Selection of Grouping Practices

Principal Investigator: Brigid Nesmith, [REDACTED]

Faculty Advisor: Dr. Teri Ann Melton, 3107 College of Education Building, (912) 478-0510,
tamelton@georgiasouthern.edu

Sincerely,

Brigid Nesmith
Doctoral Student
Georgia Southern University

APPENDIX B**LETTER OF COOPERATION****[Insert School District Letterhead]**

November 28, 2015

Human Subjects - Institutional Review Board

Georgia Southern University

P.O. Box 8005

Statesboro, GA 30461

To Whom It May Concern:

Brigid Nesmith has requested permission to collect research data from the principals in the Southeast Georgia's RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area, county of _____ through a project entitled *Deciding on Classroom Composition: Factors Related to Principals' Selection of Grouping Practices*. I have been informed of the purposes of the study and the nature of the research procedures. I have also been given an opportunity to ask questions of the researcher.

As the Superintendent of _____ county, I am authorized to grant permission to have the researcher recruit research participants from our schools. Brigid Nesmith is also permitted to collect research data through email to the principals through a survey format.

If you have any questions, please contact me at _____.

Sincerely,

Superintendent of _____ County

APPENDIX C

EMAIL COVER LETTER

COLLEGE OF EDUCATION

DEPARTMENT OF LEADERSHIP

My name is Brigid Nesmith and I am a Doctoral student at Georgia Southern University, Statesboro, Georgia. I am currently enrolled in the Educational Leadership in the College of Education, and am in the process of completing my Doctoral Dissertation entitled “Deciding on Classroom Composition: Factors Related to Principals’ Selection of Grouping Practices.” The purpose of this research is to determine the factors that lead elementary and middle school principals to select homogeneous, heterogeneous, or within-class ability grouped classroom compositions. I would like to request your participation in this study.

Participation in this research will include completion of a 28-question anonymous survey that has been designed to collect information on the relationship of organizational, external, personal, and demographic factors on principals’ grouping practices. There are minimal risks to completing the survey, potentially including discomfort, but no more than that encountered in everyday life. Your participation will generate several benefits to the educational research community, including more precise knowledge of the factors that may be related to principals’ implementation of heterogeneous, homogeneous, or within-class ability grouped classrooms in Southeast Georgia’s RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area.

The survey should not take more than 15 minutes to complete, and can be easily submitted through the internet. I ask that you not complete this survey during school hours. You and your school will not be identified by name in the data set or any reports using information obtained from this study, and your anonymity as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

There is no compensation or other incentive to participate in the survey, nor are there any additional costs that may result from your participation. Your participation in this research project is completely voluntary. You may decline altogether, or leave blank any questions you don’t wish to answer. There is no penalty for not participating in the study, and you may decide at any time that you do not want to participate, without penalty or retribution. You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please continue to the survey by clicking the link below. By completing the survey, you are indicating your passive consent to participate.

This project has been reviewed and approved by the GSU Institutional Review Board under tracking number H18190. If you have any questions about this study, please contact me or my faculty advisor; our contact information is located at the end of this informed consent. For questions concerning your rights as a research participant, please contact the Georgia Southern University Office of Research Services and Sponsored Programs at (912) 478-5465.

Title of Project: Deciding on Classroom Composition: Factors Related to Principals' Grouping Practices

Principal Investigator:

Brigid Nesmith, [REDACTED]

Faculty Advisor:

Dr. Teri Ann Melton, 3107 College of Education Building, (912) 478-0510, tamelton@georgiasouthern.edu

APPENDIX D**REMINDER EMAIL COVER LETTER**

COLLEGE OF EDUCATION

DEPARTMENT OF LEADERSHIP

REMINDER: Survey of “Deciding on Classroom Composition: Factors Related to Principals’ Selection of Grouping Practices”

You may have already received an e-mail inviting you to participate in this survey. If you have already completed and returned the questionnaire, please accept our thanks and delete this e-mail as no further involvement is required. If you have not completed the questionnaire please take the time to consider helping us with this important research.

My name is Brigid Nesmith and I am a Doctoral student at Georgia Southern University, Statesboro, Georgia. I am currently enrolled in the Educational Leadership in the College of Education, and am in the process of completing my Doctoral Dissertation entitled “Deciding on Classroom Composition: Factors Related to Principals’ Selection of Grouping Practices.” The purpose of this research is to determine the factors that lead elementary and middle school principals to select homogeneous, heterogeneous, or within-class ability grouped classroom compositions. I would like to request your participation in this study.

Participation in this research will include completion of a 28-question anonymous survey that has been designed to collect information on the relationship of organizational, external, personal, and demographic factors on principals’ grouping practices. There are minimal risks to completing the survey, potentially including discomfort, but no more than that encountered in everyday life. Your participation will generate several benefits to the educational research community, including more precise knowledge of the factors that may be related to principals’ implementation of heterogeneous, homogeneous, or within-class ability grouped classrooms in Southeast Georgia’s RESA areas of First District, Heart of Georgia, Okefenokee, and Central Savannah River Area.

The survey should not take more than 15 minutes to complete, and can be easily submitted through the internet. I ask that you not complete this survey during school hours. You and your school will not be identified by name in the data set or any reports using information obtained from this study, and your anonymity as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

There is no compensation or other incentive to participate in the survey, nor are there any additional costs that may result from your participation. Your participation in this research project is completely voluntary. You may decline altogether, or leave blank any questions you don’t wish to answer. There is no penalty for not participating in the study, and you may decide at any time that you do not want to participate, without penalty or retribution. You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please continue to the survey by clicking the link below. By completing the survey, you are indicating your passive consent to participate.

This project has been reviewed and approved by the GSU Institutional Review Board under tracking number H18190. If you have any questions about this study, please contact me or my faculty advisor; our contact information is located at the end of this informed consent. For questions concerning your rights as a research participant, please contact the Georgia Southern University Office of Research Services and Sponsored Programs at (912) 478-5465.

Title of Project: Principals' Perceptions of Ability Grouping

Principal Investigator: Brigid Nesmith, [REDACTED]
[REDACTED]

Faculty Advisor: Dr. Teri Ann Melton, 3107 College of Education Building, (912) 478-0510, tamelton@georgiasouthern.edu

APPENDIX E

Georgia Southern University Office of Research Services & Sponsored Programs		
Institutional Review Board (IRB)		
Phone: 912-478-5465		Veazey Hall 3000
		PO Box 8005
Fax: 912-478-0719	IRB@GeorgiaSouthern.edu	Statesboro, GA 30460

To: Nesmith, Brigid; Melton, Teri

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees
(IACUC/IBC/IRB)

Approval Date: 1/22/2018

Subject: Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered **H18190** and titled "**Deciding on Classroom Composition: Factors Related to Principals' Grouping Practices**" it appears that your research involves activities that do not require full approval by the Institutional Review Board (IRB) according to federal guidelines. In this research project research data will be collected anonymously.

According to the Code of Federal Regulations Title 45 Part 46, your research protocol is determined to be exempt from full review under the following exemption category(s):

- B2 Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (I) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (II) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Any alteration in the terms or conditions of your involvement may alter this approval. *Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research, as submitted, is exempt from IRB approval. No further action or IRB oversight is required, as long as the project remains the same. If you alter the project, it is your responsibility to notify the IRB and acquire a new determination of exemption. Because this project was determined to be exempt from further IRB oversight, this project does not require an expiration date.*

Sincerely,



Eleanor Haynes
Research Integrity Officer

APPENDIX F
INSTRUMENT

Deciding on Classroom Composition:

Factors Related to Principals' Selection of Grouping Practices

This instrument is designed to determine the factors related to principals' utilization of heterogeneous, homogeneous, or within-class grouping practices. The study will determine what factors may be related to choosing a model for the school. Read each item carefully, and indicate your answer by checking the most appropriate response.

For the purpose of this instrument, the following definitions will be used:

- **Heterogeneous grouping** is the placement of students with varying abilities and academic achievement in the same class. Heterogeneous grouping is also called mixed ability grouping (Association of Supervision and Curriculum Development, 2014).
- **Homogeneous grouping** of students is grouping students with similar abilities and academic achievement in the same class together (ASCD, 2014).
- **Within-class ability grouping** is the grouping of students by ability and other factors into groups within a classroom (Matthews et al., 2013).

1. How would you describe the level of your school?
 - Elementary School
 - Middle School

2. What is the percent of minority enrollment in your school?
 - 0-20 percent minority
 - 21-40 percent minority
 - 41-60 percent minority
 - 61-80 percent minority
 - 81-100 percent minority

3. Based upon your FTE, what percent of economically disadvantaged students do you have in your school?
 - 0-20 percent economically disadvantaged
 - 21-40 percent economically disadvantaged
 - 41-60 percent economically disadvantaged
 - 61-80 percent economically disadvantaged
 - 81-100 percent economically disadvantaged

4. On average, how many behavioral referrals occur weekly at your school?
 - 0-10
 - 11-20
 - 21-30
 - 31-40
 - more than 40

5. How many students are enrolled in your school?
- less than 300
 - 300-499
 - 500-999
 - 1,000 or more
6. How would you describe your school's academic performance?
- My school's scores on standardized tests are usually lower than the state's average
 - My school's scores on standardized tests are usually similar to the state's average
 - My school's scores on standardized tests are usually higher than the state's average
7. What is the primary means by which most of the general population (students who are not labeled special education or gifted) in your school is grouped?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
8. To what extent do you use professional literature to support your educational choices for your school?
- Never
 - Seldom
 - Sometimes
 - Often
 - Always
9. To what extent do you feel pressure to create a culturally diverse classroom?
- Very Low
 - Low
 - Moderate
 - High
 - Very High
- In order to meet state mandates, to what extent do you feel pressure to create a personalized or individualized learning environment for all students?
- Very Low
 - Low
 - Moderate
 - High
 - Very High
11. What policy drives your choice of assigning students to classrooms?
- A district policy dictates how students are placed in classes
 - A school policy dictates how students are placed in classes
 - An undocumented policy drives the placement of students
 - There is no policy on how I place students in classes
12. What type of classroom grouping do parents at your school prefer?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
 - Unsure

13. What type of classroom grouping do teachers in your school prefer?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
 - Unsure
14. How would you describe teacher morale at your school?
- Very Low
 - Low
 - Moderate
 - High
 - Very High
15. Which classroom composition do you believe will most likely create college- and career-ready students?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
16. For the general population (students who are not labeled special education or gifted), which classroom formation do you think is best?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
17. To what extent do you believe that within-class ability grouping works for teachers?
- Very Low
 - Low
 - Moderate
 - High
 - Very High
18. Which classroom composition do you believe is best suited to help decrease or close the achievement gap?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
19. Which type of classroom grouping resulted in the most positive experience for you as a child?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
20. In regard to formation of classes, to what extent do you agree that homogeneous grouping is equal and fair?
- Strongly disagree
 - Disagree
 - Undecided
 - Agree
 - Strongly agree

21. In regard to formation of classes, to what extent do you agree that heterogeneous grouping is equal and fair?
- Strongly disagree
 - Disagree
 - Undecided
 - Agree
 - Strongly agree
22. When forming classes, which classroom composition do you believe will allow for an academically rigorous program?
- Homogeneous grouping by ability
 - Heterogeneous grouping
 - Within-class ability grouping
23. Sex
- Female
 - Male
 - Other
24. Race/Ethnicity
- African-American
 - American Indian
 - Asian/Pacific-Islander
 - Caucasian
 - Hispanic
 - Multi-racial
 - Other
25. Age
- 21-30
 - 31-40
 - 41-50
 - 51-60
 - Over 60
26. Highest Level of Education
- Bachelor
 - Master
 - Specialist
 - Doctorate
27. Years of Experience as Principal
- 0-4 years
 - 5-9 years
 - 10-14 years
 - 15 or more years

Open Response

Question 28 allows you to elaborate.

28. Please use this area to elaborate on your choice of grouping students and factors that determined that choice. Please do not provide information that could identify you or your county in your response.

APPENDIX G

REFERENCES IN THE DEVELOPMENT OF INSTRUMENT

Research Question	Factors	Instrument Question	Literature & Notes
1	Organizational Factors	1	According to Loveless (2013), 61% of elementary math classes were grouped by ability and 75% of middle school students were enrolled in ability grouped math classes.
		2	Shen et al. (2010) found that students' background lead to principals making decisions with instructional implications. Students that are grouped based solely upon ability are segregated by race and economics (Mickelson, Bottia, & Lambert, 2013). Loveless (2013) stated that the practice of ability grouping divides students according to traits aligned with achievement, such as race and class.
		3	Shen et al. (2010) found that students' background lead to principals making decisions with instructional implications. Students that are grouped based solely upon ability are segregated by race and economics (Mickelson, Bottia, & Lambert, 2013). Loveless (2013) stated that the practice of ability grouping divides students according to traits aligned with achievement, such as race and class.
		4	Hong et al. (2012) found that there exists a correlation between behavior problems and low academic achievement. Catsambis et al. (2012) found that teacher perception of student behavior impacted the student's placement into the low-ability group and that perceived academic effort and misbehaviors caused a student to be placed into the low-ability group.
		5	Bosworth (2014) found that class size and class composition affect student achievement.
		6	Shen et al. (2010) found that the most frequently used data by which the principals made decisions is students achievement. Adodo and Agbayewa (2011) found that homogenous ability grouping is superior for promoting student achievement at all levels of ability. On the other hand, Webb (2011) found that heterogeneous ability grouping produces identical collective results as the homogeneous group when examining all ability levels.

All	Grouping	7	According to Loveless (2013), 61% of math classrooms were grouped by ability in 2011. Similarly, Dieterle, Guarino, Reckase and Wooldridge (2015) found that many schools group students based on prior academic performance.
2	External Factors	8	According to Chitpin (2014), “A database of sound empirical studies, evidenced- based research and practical literature support a leader’s sound decision making process” (p.216).
		9	McCray and Beachum (2014) explained that school leaders must create culturally diverse environments to allow all students to achieve success.
		10	According to Tomlinson (2017), personalized learning has gained fame with educators and government to meet the needs of all students.
		11	According to Louis and Robinson (2012), administrators in schools supported district policies if it was aligned to the administrator’s goals and agenda for student learning. School administrators must “comply with various regulations, including legislation relating to the school education system, as well as local regulations” (Meczynska, Kmiecziak, Michna, & Flajszok, 2014, p. 94).
		12	According to Gonzalez and Firestone (2013), parents as clients bring demands upon principals and are a form of external accountability. As explained by Loveless (1999), parents of various races and academic abilities favor homogeneous grouping for their children.
		13	Belfi, Goos, De Fraine, and Van Damme (2012) found that ability grouping allows teachers to meet the needs of like-ability students more easily. Teachers believe that the practice of ability grouping is indispensable and allows them to manage the variances of ability and achievement in their classrooms (Ansalone, 2010). Teachers must support the goal of the school leaders in an effective school (Lezotte, 2011).
		14	Principals’ decision making has a direct effect on teacher satisfaction and commitment (Wijayati, Syamsudin, Retnowati, & Si, 2013)

3	Personal Factors	15	Carlin (2010) found that all school leaders surveyed felt the stress of closing the achievement gap, responding to accountability measures, and ensure that all students achieve on standardized tests.
		16	Gonzalez and Firestone (2013) found principals with internal accountability have high performing schools and that internal accountability comes first for principals. Coleman (2016) explained that assigning students to classes is determined by the leader's beliefs and values.
		17	Steenbergen-Hu, Makel, and Olszewski-Kubilius (2016) explained that within-class ability grouping is widely used by teachers in elementary schools and is beneficial for students. Tomlinson (2014) explained that teachers can better meet the needs of their students by using within-class grouping.
		18	Carlin (2010) explained that 50% of principals in the study focused their school improvement on narrowing the achievement gap. In the attempt to close the achievement gap, schools follow the assumption, as explained by Belfi, Goos, De Fraine, and Van Damme (2012), that ability grouping allows teachers to meet the needs of like-ability students more easily.
		19	According to Jonassen (2012), decisions are often made based upon personal experiences.
		20	Shen et al. (2010) found that the most frequently used data by which the principals made decisions is students achievement. Adodo and Agbayewa (2011) found that homogenous ability grouping is superior for promoting student achievement at all levels of ability. On the other hand, Webb (2011) found that heterogeneous ability grouping produces identical collective results as the homogeneous group when examining all ability levels.
		21	Principals' concern to create heterogeneous classrooms derives from allowing poor and minority children to low-status educational and life opportunities in a homogeneous classroom (Coleman, 2016). According to Loveless (2013) the call to detrack came from the concern of equity.
		22	According to Jonassen (2012), decisions are often made based upon personal experiences. As a leader, the principal must use respect to make judgments about what is best for the organization and to make an effective educational community (Strike, 2007).

4	Demographic Factors	23	Dietrich (2010), Lehnert, Park and Singh (2015), and Shapiro and Stefkovich (2016) found that gender is a factor that influences decision-making skills.
		24	Dietrich (2010) and Lehnert, Park and Singh (2015) found that race influences decision making.
		25	Dietrich (2010), Lehnert, Park and Singh (2015), and Shapiro and Stefkovich (2016) explained that age is a factor that influence decision-making skills.
		26	Center for Public Education (2012) explained that a principal's education is important for a school's performance.
		27	Center for Public Education (2012) found that principals become more effective with experience.