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The University of Southern Mississippi

THE IMPACT OF SMALLER LEARNING COMMUNITIES ON 9TH GRADE MATHEMATICS STUDENT AHIEVEMENT AND GRADUATION RATES

by

Keisha Burney Cook

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

May 2013

ABSTRACT

THE IMPACT OF SMALLER LEARNING COMMUNITIES ON 9TH GRADE MATHEMATICS STUDENT AHIEVEMENT AND GRADUATION RATES

by Keisha Burney Cook

May 2013

Many problems in public education, ranging from low student achievement to high dropout rates, are being attributed to large schools, especially large high schools. While large high schools may provide more varied curriculums, they are also more impersonal. This can be especially problematic for ninth graders who are making the transition to high school. One solution that has been implemented as part of educational reform is organizing large high schools into small learning communities. The purpose of this study was to determine if the existence of a smaller learning community has an impact on ninth grade students' achievement in Georgia schools as measured by the cumulative score on the Mathematics I End-of-Course-Test (EOCT). This study includes 133. A comparison was made beween schools with smaller learning communities and schools without them. Descriptive statistics, Pearson's correlations, independent samples *t*-test, and a mixed factorial Analysis of Variance (ANOVA) were used to answer research questions and test hypotheses. The results of the data analysis showed that the majority of schools in the study used some form of freshmen transition activity for ninth graders; the more students involved in a smaller learning community, the higher their scores were on the Mathematics I EOCT. As

the total school enrollment increased, the higher the scores on the Mathematics I EOCT. There was no difference between graduation rates of schools with smaller learning communities and schools without them. Implications of the study and recommendations for further study are presented.

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2013

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Keisha Burney Cook

A Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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May 2013

DEDICATION

With much humility and gratitude, this research is in loving memory of my aunt, the late Jacqueline Faulk Brown. During this endeavor I often thought how she taught me excellence very early in my life. She told me I could do this and I thank her for sharing her love, wisdom, and encouragement. To my wonderful husband, Kevin, I extend my deepest gratitude for his unconditional love, support, understanding, patience and companionship. A very special thank you is extended to my mother, Jean Long, and sister's Shannon, Francesca, and Ebony. Along with the guidance of my Lord you all provided unwavering support and have helped me stay focused as I worked to complete this project.

ACKNOWLEDGMENTS

This dissertation could not have been completed without the support of my committee members, Dr. Rose McNeese, Dr. David Lee, Dr. J.T. Johnson, and chair Dr. Thelma Roberson. I would like to thank all of you for the support and guidance given through this process. Special thanks go to Dr. Ronald Styron for your encouraging words and timely feedback from the beginning of this project.

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CHAPTER I

INTRODUCTION

The state of education has been in arrears for decades now. The nation, individual states, and each local education agency are bombarded with a full menu of reform efforts. Thousands of students are not performing at proficient levels academically and dropping out of school every day. Educators must examine these reform efforts and determine which program or practice will lead to improved student achievement and graduation rates. Schools are accountable for positive results as policy makers and educators are demanding that the children of the twenty-first century receive an appropriate education to be able to compete in the scarce job market and to help the nation catch up academically and financially with its counterparts.

To support and monitor mandates for improved student achievement in compulsory education President George Bush signed into law the *No Child Left Behind* [NCLB] *Act of 2001* in 2002 which charged schools to use proven research-based strategies and structures (No Child Left Behind Act of 2001, 2002) One reform strategy suggested within the NCLB Act of 2001 has been smaller schools because of the potential positive effects on student outcomes. Outcomes positively linked to smaller schools have included attendance rates, frequency of disciplinary actions, school loyalty, use of alcohol or drugs, satisfaction with school and self-esteem.

At the onset of the 20th century most schools in the United States were small and those who were able to attend school then were likely schooled in a

one-room school house; where instruction took place for more than one grade level (Hampel, 2002). Hampel's research reveals that during the 1940's it was reported that there were approximately 114,000 one-room school houses. However, by the 1950's that number decreased by more than 50% to approximately 60,000 and by the 1970's the numbers were down to an estimated 2000. John Conant (1959) suggested that small schools were not equipped to meet the needs of students needing advanced curricula. Conant advocated for consolidation high schools which graduated fewer than 100 students per year. As debated by Conant and his followers, the large comprehensive high school allowed the pooling of community, financial, and academic resources. Providing one large high school in a community as opposed to several small schools meant available resources could be devoted to a single school. A large school would not have to compete for partnerships with business and human resources; therefore the school could hire more and better qualified staff. With a larger staff encompassing a wide-range of specialties and skills, more vocational and advanced courses could be offered to students. Larger schools get more money if they have more students and money is always needed to fund school operations, extra-curricular activities like football and basketball.

Conant was not the only one advocating for larger high schools in the mid-20th century. Others groups, such as the American Association of School Administrators [AASA], were committed to advancing a large-school model. In its Thirty-Sixth Yearbook entitled The High School in a Changing World (American Association of School Administrators, 1958*)* AASA offered curriculum guidelines

for a varied curriculum that included vocational offerings, advanced courses, and classes for students with special needs. Another advocate for large schools at the time included the Association for Supervision and Curriculum Development [ASCD] Commission on the Education of Adolescents (1959). ASCD also argued that the comprehensive high school would be a better model as it would serve all students through a diversified curriculum.

Moreover, in 1960 the Report of President Eisenhower's Commission on National Goals suggested a comprehensive high school as the school of the future. The United States of America had to remain viable competitors with the Soviet Union during this Cold War era. With the launch of Sputnik in 1957 United States policy makers advocated larger high schools as a means to offer move advanced mathematics and science courses in order to create a workforce that could compete globally (Johnson, Johnson, & Johnson-Holubec, 1990).

The desegregation movement of the 1960's also supported large schools because larger schools would likely have a more diverse population (Duke, DeRoberto, & Trautvetter, 2009). Furthermore according to Duke, DeRoberto, and Trautvetter (2009), desegregation aided in the demise of small neighborhood schools. Through the integration of schools throughout the 1970's the large comprehensive high school maintained its popularity. According to Oxley and Kassissieh (2008), the 1970s was not a notable period in high school development in the United States. While some students received a reasonably good education, most were unchallenged and uninspired as they moved through their high school years.

In 1983*, A Nation at Risk* articulated this educational malaise (Gardner, 1983). This document also reintroduced several key ideas from the report of the original Committee of Ten, a committee formed by the National Education Assocation, which consisted of educators throughout the United States, mainly from colleges and universities. The Committee of Ten, chaired by Charles Eliot, president of Harvard University, assumed that academic courses had the most educational value and recommended that the U.S. high school curriculum be standardized. The Committee of Ten also concluded that all public high school students should follow a liberal arts, college preparatory curriculum, regardless of their backgrounds or their intent to remain in school and graduate or pursue higher education. The Committee reflected Eliot's rationale that when students take the same academic courses, the promise of equal opportunity in education is fulfilled. *A Nation at Risk* supported this recommendation and rejected what was termed the "cafeteria style curriculum" (Gardner, 1983, p. 17) of American high schools in which curricula were differentiated (Bohan, 2003).

By 1986, U. S. public school districts made numerous changes. Forty-five states and the District of Columbia increased high school graduation requirements, 42 states increased math requirements, and 34 states increased science requirements, limiting the choices of courses for students and departing from the practices of previous years. For example, in 1982, only 32% of all high school graduates took four years of English, three years of social studies, and two years each of math and science. By 1994, this percentage increased to 75% (Greene & Forester, 2003).

The emergence of the large comprehensive high school sustained popularity and served the needs of those seeking a public education well into the 21st century. According to the National Center for Educational Statistics (2009) in the 2007-2008 academic year there were 24,426 secondary schools serving grades 7 through 12; of that number 15,179 or 62% served grades nine through twelve. NCES also reports that over 30% of those schools had enrollments of 1000 or more. Thus, the large comprehensive high school is prevailed into the 21st Century.

Although, large high schools provide more varied curriculums they are the more impersonal for students. The larger schools do not afford students the same individualized attention that they likely received in the middle school as the environment is more competitive and threatening for transitioning 9th graders (Hertzog & Morgan, 1997). Consequently, when students do not adjust to the rigors of high school or are not appropriately prepared, student achievement is lost and students are more likely to drop-out of high school or not graduate in time (Herlihy, 2007). By the dawn of the 21st century authors such as Duke et al. (2009) contend that “large schools no longer are regarded as the panacea for America’s educational challenges. Many of the problems of public education from low student achievement to high dropout rates are being traced to large schools; especially high schools” (p. 1).

With the growing discontentment for large high schools, the small school movement birthed various structures to make large schools smaller and more personalized. One of the early structures had its beginnings with Plath’s (1965)

schools-within-a-school model in the mid sixties. Plath suggested that large high schools could be divided into smaller units and housed in one building. This model is cost effective because there is no need for separate facilities. The school-within-a-school normally has its own educational program, administrators and staff and students benefit from more individualized guidance. School-within-a-school models have often been used to serve students who are gifted or part of a disadvantaged population.

Since the late 1980s creating smaller learning communities has been a common school reform in changing the structure of large high schools. Creating smaller learning communities was based on the recognition that U.S. high schools with enrollments of 1,000 to 3,000 students had become impersonal and was not conducive to high academic achievement. Smaller learning communities were necessary to build meaningful student-student, student-teacher, and teacher-teacher relationships, which, in turn, support greater academic learning throughout the school (Oxley & Kassissieh, 2008).

From 1985 to 2000, district-wide initiatives to restructure high schools into smaller units were put into place in response to national pressure to improve student achievement. For example, New York City pursued the 'house system' mandate (i.e., individual schools *housed* within one school), Philadelphia created charters in all of its high schools, and Chicago adopted a K-12 policy of forming schools-within-schools and new small schools that would allow a high level of autonomy for the small units. The rationale behind these reforms was curriculum organized around unique themes and innovative teaching strategies. In 1999, the

U.S. Department of Education launched the Small Learning Community Program to support schools with more than 1,000 students to implement small learning community structures. By 2000, organizing large high schools into small learning communities was a national reform movement. During the Clinton administration the U.S. Department of Education funded multimillion dollar projects to further develop the small learning community model. Private philanthropic institutions such as the Bill and Melinda Gates Foundation, the Annenberg Foundation, and the Carnegie Foundation supported this federal initiative and committed more funding to support high school reorganization and new small high schools (Oxley & Kassissieh, 2008).

This teaming of the federal government with private foundations is illustrated in Bloom, Thompson, and Unterman's (2010) report. Bloom et al. noted that since 2002, the New York City public school district closed more than 20 underperforming public high schools, opened more than 200 new secondary schools, and introduced a centralized high school admissions process in which approximately 80,000 students a year indicate their school preferences from a wide-ranging choice of programs. The district also established 123 new small schools of choice (SSC), which are four-year public high schools for students in grades 9 through 12 that are open to students at all levels of academic achievement, and serve the district's most disadvantaged and historically underserved students. Bloom et al. (2010) reported on a study, supported by the Bill & Melinda Gates Foundation, of the effects of SSCs on high school students' academic achievement in New York City public schools between 2002 and 2008.

The SSCs had 100 students per grade in grades 9 through 12. Bloom et al. found that students enrolled in the SSCs significantly improved their graduation rates. Students' progress toward graduation was evident in as early as the ninth grade and was sustained for the next two years. These positive effects were experienced by a broad range of students who differed in demographic characteristics, economic circumstances, and academic preparation.

Schools around the nation are seeking and implementing reform efforts to increase student achievement and graduation rates. The small learning community and small school movement has continued and expanded more than 40 years and into the 21st Century. Research that supports the contention that small learning communities increase student engagement and achievement is extensive and based mainly on research in small schools rather than on small learning communities (Levine, 2010). The literature clearly establishes that compared with large, comprehensive or traditional high schools, small schools have a greater positive effect on student achievement (Bloom et al., 2010; Davis, Chang, Andrzejewski, & Poirier, 2010; Fischetti & Smith, 2010; King, 2007; Oxley & Kassissieh, 2008; Oxley & Luers, 2010/2011; Weiss, Carolan, & Baker-Smith, 2010).

Statement of the Problem

The ninth grade is a year of dramatic change and most teenagers are not ready for the rigors of high school. The transition from middle to high school presents many emotional and academic challenges that can lead to, low academic achievement, retention, and eventual dropout. As educators seek to

meet the arduous mandates of accountability, school-wide reform efforts that are reproducible research-based models which yield optimal results are needed to help schools meet local, state, and federal goals of improved academic achievement.

Federal initiatives and current research support the reorganization of large comprehensive high schools that incorporate the use of smaller learning community structures and strategies. Schools that have reorganized into smaller units have experienced positive effects on students' academic achievement and sense of well-being (Oxley, 2001).

This present study the researcher investigated the impact of smaller learning communities on the academic achievement of high school freshmen in Georgia as determined by their performances on state standardized test. The type of small school structure employed by high schools in the state was also addressed. Education leaders and those responsible for producing legislation pertinent to education can use the information produced in this study to guide their decisions and actions when considering the implementation of smaller learning communities. In addition, to policy makers and education leaders will have further insight about smaller school reform efforts being implemented at other schools and parents who are looking for an environment to fit their high-school aged children will also benefit from the results of this study.

Purpose of the Study

The purpose of this study was to determine if the existence of a smaller learning community within a larger high school had an impact on ninth grade

students achievement as measured by the schools cumulative score on the Mathematics I End-of-Course-Test (EOCT). More specifically, this study sought to determine if there were differences between the Mathematics I EOCT scores for schools with smaller learning communities and the schools without smaller learning communities. This study also identified the number of ninth grade students involved in a smaller learning community the various smaller learning community structures and strategies used in high schools in Georgia as they relate to student achievement and investigated graduation rates for schools with smaller learning communities for four years or more.

Research Questions

This study sought to answer the following research questions.

1. What structures and strategies are employed by smaller learning communities to target ninth grade students in the state of Georgia?
2. Is there a relationship between the number of students involved in a smaller learning community and the mean score on the Mathematics I EOCT?
3. Is there a relationship between the size of a school and the mean score on the Mathematics I EOCT?
4. Does the implementation of a smaller learning community positively impact the school's graduation rate over four years?

Research Hypotheses

This study also investigated the following research hypotheses.

1. There is a statistically significant difference between the Mathematics I EOCT scores of ninth grade students at schools with smaller learning communities and those without them.
2. There is a statistically significant difference between the Mathematics I EOCT scores of ninth grade students at schools with a total school population of less than 1000 and those with a population greater than 1000.
3. There is a statistically significant difference between the graduation rates at schools that have had smaller learning communities for four or more years and those without them.

Definition of Terms

Career Academies. Academies of generally a three or four year structure in which the curricula are organized around one or more careers or occupations (Stern, Dayton, & Raby, 2010).

Charter School. A public school financed by public funds but governed by a specific charter that explicitly defines school goals and benchmarks for measuring success (Dynarski et al., 2010).

Comprehensive High School. A predominant form of public high schools in the United States that endeavors to accommodate the needs of all students instead of placing students into different high schools for different populations. A typical comprehensive high school offers general academic courses and specialized commercial, trade, and technical subjects (Levine, 2011).

Dropout. A student who was enrolled in school at some time during a previous school year, but who did not return at the beginning of the current school year and has not graduated from high school or completed a state- or district-approved educational program (Chapman, Laird, & KewalRamani, 2010).

End-of-Course-Test (EOCT). A standardized assessment used in many states by the State Board of Education to determine student achievement (Clark, Scafidi, & Swinton, 2011).

Freshmen Academy. An academy that is structured to support ninth-grade students as they transition into high school (Clark & Hunley, 2007).

Junior High School. Schools created for the purpose of easing the transition between the elementary school and high school. Junior high school consists of grades 7 and 8, and faculty is organized into academic departments (Bethea, 2011).

Middle Schools. Schools that generally serve students in grades six, seven, and eight created in response to a belief that the junior high school model was inadequate for helping students from childhood to the critical development stage of adolescence (Thomas, 2009).

No Child Left Behind Act of 2001. An act signed into law by President Bush that requires all schools receiving federal funding to administer statewide annual standardized tests, which are used to indicate student progress. NCLB also recommends that schools look for ways to create SLCs within their current structures (NCLB, 2002).

School-within-a-school. Small schools physically situated within a larger school that often have a distinct curricular focus and mission (Duke et al., 2009).

Smaller Learning Community (SLC). A form of school structure common in secondary schools in which large school populations are subdivided into smaller, autonomous groups of students and teachers (Weiss et al., 2010).

Traditional High School. Secondary schools serving grades nine through twelve in which the educational approach is teacher-centered rather than student-centered and instruction is delivered within a didactic style that emphasizes memorization, standardized testing, and textbook learning (Kohn, 2008).

Transition. Movement or change from one place or condition to another with minimal interruption or occurrence of extraordinary events (Weiss & Baker-Smith, 2010).

Delimitations

This study was limited by the following factors:

1. Schools were limited to those within the state of Georgia.
2. This study was limited to school-reported information about smaller learning communities, structures, and strategies of schools that elected to participate in this study.

Assumptions

This study was based on several assumptions. It was assumed that information about smaller learning communities was reported accurately and

completely by schools. It was also assumed that the information provided by the Georgia Department of Education was reported accurately and completely.

Justification

The study is warranted as reformers of education continue to seek research-based reproducible programs that will aid in boosting student achievement and consequently graduation rates in high schools. The empirical research that exists on the topic of smaller learning communities has mixed outcomes as some show that smaller learning communities have a positive impact on student achievement and some show that there is no difference between high schools that have smaller learning communities and those that do not (Evan et al., 2006; Rudes, 2006). This study added to the current body of research on small learning communities. The results can assist parents, administrators, and others involved in education reform to make informed decisions about initiatives that involve smaller learning communities.

CHAPTER II

LITERATURE REVIEW

Theoretical Framework

In learning communities the emphasis is on learning by doing and sharing in an accepting and trusting environment. Because learning communities are also effective for developing instructional capacity and sustaining educational reforms, they have been a focus of study for elementary, secondary, and postsecondary educators (DuFour, 2004). The term “learning community” suggests “a group of people sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth-promoting way, and operating as a collective enterprise” (Stoll, 2004, p. 34).

DuFour and Eaker (1998) identified the following characteristics for effective learning communities:

1. Guiding standards that are evidence-based, agreed-upon principles that underlie the culture of the school.
2. Collective inquiry by which individuals in a learning community analyze the status quo as a group, search for and test new techniques, and reflect on their findings. This is especially significant for teachers, who, when they collectively examine and adjust their practices toward the objective of improving instruction develop true learning communities (Schmoker, 2004a).
3. Collaborative teams of individuals who participate in cooperative team learning and learn from each other to foster continuous improvement.

4. Action orientation and experimentation; that is, learning takes place in an action environment where individuals learn by participation and experience.
5. Continuous improvement and an ongoing search for an improved learning community.
6. A focus on results, not on intentions.

According to Murphy (2005), schools can benefit from becoming collaborative communities; however, the two concepts of collaboration and cooperation are often difficult to bring into public schools, yet they are critical to learning communities. Fullan (2002, 2005) and Eaker, DuFour, and Burnette (2004) suggested that to establish learning communities reculturing in the schools was necessary. To Fullan (2002, 2005), reculturing meant moving toward teachers, administrators, and policymakers focusing on assessment and pedagogy routinely as opposed to viewing assessment and pedagogy as time-bounded events. To accomplish this change in focus, redesigning the traditional hierarchical structure in schools, with its accompanying disfunctionalties, is necessary (Murphy, 2004).

Fullan (2005) described how this could be done and proposed a tri-level, total system approach to building learning communities. At the first level, the school-community level, the capacity for creating a culture of learning communities comes from teachers, administrators, parents, and community members. At the district or regional level, the second level, the perspective is shifted from the culture of the school to the culture of the district. Creating a

culture of learning communities at the district level requires leaders who understand the concept of learning communities and structures that contribute to learning communities. The third level, the state or province policy level, poses the most challenge because of its political complexity and tendency to seek rapid and often short-term solutions. At this level policy makers, like other stakeholders in the educational process, must first become deliberate learners and become more familiar with the value and concepts of professional knowledge communities. This familiarity will be translated into the appointment of new leaders to the central team, development and implementation of new policies, and development of strategies that integrate accountability and results (Fullan, 2005). Thus, reforms should focus primarily on establishing and sustaining the structure for continuous improvement (Schmoker, 2004b). Murphy (2004) cautioned, however, that changing leadership structures does not necessarily guarantee that learning will occur and students will achieve. Rather, leadership must be shared.

DuFour (2004) noted that shifting the focus from teaching to learning has significant implications for educators because the shift in focus is based on the principle that all students can learn. In learning communities teachers need to ask themselves three questions: (a) what do we want each student to learn? (b) how will we know when student learning has taken place, and (c) how do we help students who have problems learning? To answer the first question, DuFour, DuFour, Eaker, and Karhanek (2004) noted that all teachers must understand the exact student outcomes of each unit of instruction. Answering the second

question requires regular baseline and follow-up evaluations to measure student learning. To answer the third question, teachers, acting together, must develop individual intervention strategies tailored to students for maximizing learning.

For students, once they enter high school they become a part of a larger community that has established groups and hierarchies. Although clubs and organizations in high schools are open to all; those interested will likely have to meet some criteria to be a part of the group. These criteria can include abilities and interest related to athletics, academics and talents.

Meeting criteria or finding criteria that fits one's current abilities can present pressure for budding teenagers. Furthermore, students transitioning to high school are no longer at the top of social ladder. In middle school they had experience and status as eighth graders; high school is like starting all over again for them. All of these factors can lead to a sense of isolation where students don't feel a sense of belonging about in their ninth grade year (Meier, 2002; Powell, 2002). Students entering the ninth grade face an environment that is much different from the comforts of middle school where relationships with peers have likely been developing since elementary school and stronger supports for student academic achievement are the norm. In the transition from middle school students encounter a new environment that is substantially larger, with new peers, and increased expectations. Subsequently, students are expected to adjust with minimal support which often leads to fear and isolation (Klonsky, 2003; Weiss & Baker-Smith, 2010). Maslow's Hierarchy of Needs suggest that those who do not have the needs of belongingness and safety met will not be

able to fully attain the higher level needs of self-esteem and self actualization that are needed for academic success (Maslow, 1970). The large high school reflects concerns that are consistent with Maslow's Hierarchy of Needs.

The need of safety in particular is a concern for those students entering high school. Negative peer interactions, violence, and crimes increases as school size increases (Cotton, 1996; Klonsky, 2002). Although high schools nation-wide have anti-bullying policies students upcoming freshmen and ninth graders cite hazing from upperclassmen as a major concern (Morgan & Hertzog, 2001). Students that fear being bullied or have a perception of being unsafe do not have the safety need met which adversely affects their academic performance according to Maslow (1970).

The ideas of individualization and relationships are supported by small school philosophy and, as a result, the smaller learning community has evolved from a need to personalize the large comprehensive high school. Smaller learning communities are generally associated with improved attendance and student achievement (Klonsky & Klonsky, 1999). When schools are small the intimacy makes it easier for teachers to work together as team and with lessened loads teachers can differentiate and personalize student learning. Powell's (2002) findings suggest that in a small school setting the faculty knows most of the students which creates a sense of belonging and prompts students to participate in school activities. When students feel that they are an intricate part of the school and the faculty works together to provide academic, social, and emotional support student achievement is positively impacted (DiBartolomeo,

1998; Meier, 2002). These ideas are supported by Finn's (1989) participation-identification model which suggests that students who have greater participation and identification in school have more success in school. In this study the relationship between the existence of a smaller learning community and student achievement was explored.

Learning Communities

The broad objective of learning communities is to facilitate collaborative and communal learning among teachers and students. At the end of the 20th century, the topic of learning communities was one of the most analyzed concepts in educational literature and has continued to develop in response to the increasing diversity of learners and their learning needs (Sammon, 2007). Hord (1997), DuFour (2004), and Senge (2000) are the most prominent scholars related to learning organizations and cultures. Berlinger-Gustafson (2004) and Patterson and Rolheiser (2004) elaborated on their studies.

The educational philosopher John Dewey (1929/1998, 1933/1993) emphasized the social foundation of all human learning; thus, Dewey is most often associated with student learning communities. Professional learning communities of teachers evolved from concepts from the business environment of organizational learning and management best practices. These concepts have been applied to structuring the curriculum to facilitate in-depth learning of particular subjects. In professional learning communities, faculty, students, and administrators acknowledge the importance of learning, work to improve

curriculum and instruction, and emphasize student needs and outcomes (Sammon, 2007).

Morrissey (2000) elaborated on Hord's (1997) and others' descriptions of the characteristics of learning communities in the following five broad dimensions:

1. Supportive and shared leadership. The chief administrator shares leadership, helps the staff, and has the ability to make contributions without being controlling of the group.
2. Shared values and vision (Berlinger-Gustafson, 2004; Dufour & Eaker, 1998; Hord, 1997; Patterson & Rolheiser, 2004; Senge, 2000). Collective goals are established that results from teachers' commitment to their students' education and learning and from continuous articulation of this vision.
3. Collective learning and application of learning (Berlinger-Gustafson, 2004; Dufour & Eaker, 1998; Hord, 1997; Patterson & Rolheiser, 2004; Senge, 2000). Group learning takes place among the teachers and that learning is applied to solutions and best practices that emphasize student learning and that are shared with others.
4. Supportive conditions (Berlinger-Gustafson, 2004; Hord, 1997; Patterson & Rolheiser, 2004; Senge, 2000). Such conditions support teachers meeting on a regular basis as a group to learn, make decisions, solve problems, and create new learning strategies.

5. Physical conditions and human abilities. These include adequate time to meet and discuss subjects of interest, small institutional size, and interdependent instructional roles (Morrissey, 2000, p. 4).

Schmoker (2004a) emphasized that collaboration can affect achievement only when achievement is driven by clear goals and when individuals in a learning community are allowed enough creative freedom to design their lessons for maximum learning.

Self-Efficacy

The literature suggests that to better prepare students for today's global economy and emphasis on technology, it is necessary to reform traditional high schools to help students become independent thinkers and problem solvers. According to Marzano (2000), this means that students need to be taught skills that develop their self-efficacy. Self-efficacy refers to the confidence individuals have in their ability to successfully perform a task or specific action (Bandura, 1997). Students who have high levels of self-efficacy have no fear of any challenges they may face and believe they can be successful. A prerequisite for developing strong self-efficacy is successful experiences that are neither too hard nor too easy. If students experience failure because tasks are too difficult, they will not develop adequate self-efficacy. Conversely, if tasks are too easy students will not develop the qualities of resilience that are necessary for self-efficacy (Marzano, 2000).

Marzano (2012) expanded on Bandura's (1997) concept and suggested that students can learn self-efficacy skills based on their own personal aspirations. To Marzano, self-efficacy involves the belief that individuals have control over their own lives and that this control involves skills in identifying personally meaningful long- and short-term aspirations, setting goals to work toward those aspirations, and monitoring and changing any personal beliefs that may get in the way of meeting those goals. Marzano suggested that teachers can teach self-efficacy through the use of a personal classroom project and identified seven phases of personal projects. Each phase begins with a question that helps students develop self-efficacy. The questions are:

1. What do I want to accomplish? Students identify their aspirations in which they are interested.
2. Who else has accomplished the same goal, and who will support me? Students seek role models and mentors.
3. What skills and resources will I need to accomplish my goal? Students examine whether their aspirations are realistic.
4. What will I have to change about myself to achieve my goal? Students identify personal beliefs, habits, and behaviors that may hinder them from achieving their goals
5. What is my plan for achieving my goal, and how hard will it be? Students put their long- and short-terms goals in writing.
6. What small steps can I take right now? Students monitor their progress toward the goals they set in phase 5.

7. How have I been doing, and what have I learned about myself? Students evaluate their progress toward meeting their goals and determine what they have learned about themselves.

Today's high schools face unprecedented challenges in preparing their students for the new global economy, which has shifted from skilled labor to computer and technological careers. Often the traditional large comprehensive high school model does not sufficiently challenge students or prepare them to successfully enter the labor market. In addition, high school students have evidenced poor achievement, poor attendance, discipline problems, and higher dropout rates. Waters, Marzano, and McNulty's (2003) and Waters and Cameron's (2007) meta-analysis studies conducted over a 30-year period on the effects of leadership practices on student achievement identified leadership responsibilities that are significantly associated with student achievement. From this meta-analysis Waters et al. (2003) and Waters and Cameron (2007) developed a balanced leadership framework that described the knowledge and skills leaders need to positively affect student achievement. The balanced leadership framework is based on the premise that leaders need to know not only what to do, but also when, how, and why to do it. Effective leaders know how to balance change initiatives with present culture and norms that are valued. They know which policies, practices, resources, and ncentives to align with organizational priorities and how they align them. They understand how to tailor their leadership strategies to meet specific situations. They value the people in the

organization and create supportive learning environments that provide the knowledge, skills, and resources people need to achieve and succeed.

Ninth grade students, as incoming freshman, are especially vulnerable to lack of achievement because of the difficulties associated with making the transition to high school. High schools that are concerned about graduation and dropout rates are taking proactive steps to ensure student success. One of these steps is the establishment of small learning communities (SLCs). SLCs and two forms of SLCs, charter schools and freshmen academies, are discussed in the sections that follow.

Smaller Learning Communities

Public schools in America have grown from the one room schoolhouse to the large high school campuses of today (Darling-Hammond, Ross, & Milliken, 2006/2007). The definition of a large high school varies in the research, with estimates varying from 600 to 3,000 students (Darling-Hammond et al., 2006/2007; Levine, 2011). Statistics from the U.S. Department of Education, Office of Elementary and Secondary Education and Office of Vocational and Adult Education (Bernstein, Millsap, Schimmenti, Page, & Abt Associates, Inc., 2008) indicated that more than 70% of high school students attend schools with enrollments of more than 1,000, and 50% attend schools with more than 1,500 students. In many communities there are enrollments of more than 2,500 or 3,000 students, and some urban areas have enrollments as high as 5,000 students (Bernstein et al., 2008).

Research advocating making large schools smaller has been ongoing over the last 30 years. The majority of the research shows a strong negative relationship between student achievement and school size; that is, the bigger the school, the more likelihood of less student achievement and more student dropout (Allensworth & Easton, 2007; Bloom et al., 2010; Chapman et al., 2010; David, 2008; Davis et al., 2010; Evan et al., 2006; Kahne, Sporte, & de la Torre, 2006; Levine, 2011; MacIver & MacIver, 2010). However, despite the research, school districts continue to build bigger and bigger high schools designed to hold ever-increasing numbers of students. Torrez and Kritsonis (2008) attributed this to financial pressures on public school funding that make it more economical to build fewer buildings that hold larger numbers of students.

While there is now much research supporting the value of small schools, earlier theorists argued high schools were not large enough. Conant (1959) recommended that high schools that did not graduate a class of at least 100 should be eliminated. According to Conant, that would have closed 74% of the high schools of that that time. He suggested that the current 21,000 schools be consolidated into 9000. This reasoning was based on the idea that small schools could not accommodate the needs of students in providing upper level classes. Also, teachers who were able to provide advanced classes would be more efficiently utilized in larger schools. The push for larger high schools coincided with an increase in enrollment resulting in more large high schools (Plath, 1965). Conant (1959) was convinced that the large school would improve education.

However, large schools were not without problems or critics. Problems included management, discipline, and student individualization.

Plath (1965) proposed the schools-within-a-school model as a solution. He pointed out several benefits of the model that included:

1. Student-teacher relationships that fostered long lasting friendships and devotion to the school.
2. Better guidance services by identifying individual differences early.
3. An improved integrated curriculum when students are placed in teams.
4. A strengthened extra-curricular program.
5. A sense of belonging among students.
6. Decreased administrative duties of the principals and increased administrative duties among lead teachers.
7. Increased control of student population.
8. Improved faculty morale as a result of teacher views being heard.

The problem of student individualization received the most attention. Ramsey, Henson, and Hula (1967) said “education in general and high school education in particular is too important and crucial to allow the individual to become lost” (p. 10). Moreover, studies emerged in the early 1960’s that countered the large school philosophy of Conant. Over 40 years later research has revealed “that students who attend small schools have higher attendance and graduation rates, equal or better levels of academic achievement, higher levels of extracurricular participation and fewer acts of violence” (Hendrix, 2007, p. 30).

Individualization and relationships are sustaining themes in small school philosophy. Klonsky and Klonsky (1999) attributed the size of a small school to better improved relationships within a school that creates a platform for a community of learning. When schools are small the intimacy makes it easier for teachers to work together as team and with lessened loads teachers can differentiate and personalize student learning. Powell's (2002) findings suggest that in a small school setting the students to participate in school activities. When students feel that they are an intricate part of the school and the faculty work together to provide academic, social, and emotional support, student achievement is positively impacted (DiBartolomeo,1998). These ideas are supported by Finn's (1989) participation-identification model which suggests that students who have greater participation and identification in school have more success in school. Cotton's (1996) review of 10 studies done on small schools confirms this success as it was found that smaller schools have lower dropout rates than larger schools.

Two important elements of successful creation of smaller schools and SLCs are accountability and a sense of belonging. There is more accountability when there are fewer students and more likelihood that parents will become more involved (Smith, 2009). Students experience more of a sense of belonging because smaller schools and SLCs are more personalized (Darling-Hammond et al., 2006/2007). Earlier studies (Barker & Gump, 1964; Wicker, 1968) showed that as the size of a high school increases, the level of student involvement in voluntary extracurricular activities decreases.

Because of the documented benefits the small school movement has been prevalent into the twenty-first century and is now a part of school reform. However, creating a small school within an already existing school requires resources. The Gates Foundation is a source of funding for SLCs and student engagement that involves a contemporary perspective on the three R's. To engage students we must now focus on rigor, relevance, and relationship according to the Gates Foundation (Toch, Jerald, & Dillon, 2007). This means content that is presented in classrooms must be rigorous enough to hold the attention of students, connected to their personal lives, and school staff must form positive relationships with students.

Azzam (2007) reported on a recent study by Civic Enterprises commissioned by the Bill and Melinda Gates Foundation that examined the views of diverse youth ages 16-25 who had failed to complete high school. The study identified five major reasons why students leave school: boredom (47%); missed too many days and could not catch up (43%); spent time with people who were not interested in school (42%); had too much freedom and not enough boundaries set for them (38%); and were failing (35%). While most of the dropouts blamed themselves and not their schools or teachers for dropping out, they suggested five actions that schools could take to improve students' chances of completing school: (a) make school more engaging through real-world, experiential learning; (b) improve instruction and supports for struggling learners; (c) improve school climate; (d) ensure that students have a relationship with at least one adult in the school; and (e) improve communication between parents

and schools. The report also suggested that schools and communities should promote SLCs.

The federal government funds SLCs and the *No Child Left Behind Act of 2001* that was signed into law by President Bush in 2002 recommends that schools look for ways to create SLCs within their current structures. Traditional high schools of more than 1000 are eligible to receive funds to create SLCs. The expected outcome is that these efforts will create an updraft of learning that will continue beyond graduation.

Charter Schools

Charter schools have grown rapidly in the last decade. The concept of charter schools originated with a New England educator, Ray Budde (1996), who recommended awarding contracts to small groups of teachers to develop innovative teaching methods in the 1970s. During the 1980's Philadelphia educators created smaller schools, which they called charter schools, and located them within larger public schools. In 1991 Minnesota passed a charter school law. The first public charter school law in Georgia was passed in 1993. Currently, Georgia has 121 approved charter schools (GDOE, 2009).

According to The Center for Education Reform (2005), approximately 3,625 charter schools currently operate in 34 states and the District of Columbia, with a total of 1.1 million students, comprising 4% of American schools. While state laws vary, usually charter schools may be operated by parents, teachers, community leaders, public schools, and/or entrepreneurs (Bernstein et al., 2008). Among the states that have enacted charter school legislation, to date, California

(500 schools), Arizona (491 schools), Florida (258 schools), Texas (241 schools), and Michigan (210 schools) have the most charter schools (Bernstein et al., 2008).

The objectives of charter school programs are to increase student learning, encourage educational innovation, diversify educational programs and learning environments, and increase teacher involvement in program design and school governance. The most important goal, however, is to improve student achievement. Standardized test scores are one method of measuring performance (Bracey, 2005).

Unlike magnet or alternative schools, charter schools exist outside the normal school district hierarchy. They operate under a written contract or charter from a state or local agency, such as a local school board, public university, or state board of education. Although provisions of charter schools vary from state to state, most charter schools represent an alternative vision of a school as an autonomous entity having more freedom than is traditionally allowed in the public school system (Bifulco & Ladd, 2006). Charter schools are exempt from certain state and local regulations (except from laws regarding health, safety, and non-discrimination) and are schools of choice, which means they are open to all parents within a given jurisdiction and parents must actively choose to enroll their children in a charter school. They are publicly funded, and funding is based on the number of students they enroll (Bifulco & Ladd, 2006; Dynarski et al., 2010). As recipients of public funds, they cannot be sectarian. In most states, administration of charter schools is limited to nonprofit organizations.

Advocates of charter schools believe that with autonomy from the traditional public school system, their innovative practices, and their focus on individualized learning, they will revolutionize the entire public school system. The result will be improved student achievement, satisfied students and parents, a more empowered teaching and school staff, a more positive impact on educational equity, and higher standards in instruction, curriculum, school administration, and teacher qualifications (Sass, 2006).

Types of charter schools differ throughout the nation. The following four types of charter schools are representative:

1. Conversion is a charter school that was a neighborhood public school prior to becoming a charter school. A majority of the teaching faculty and parents or guardians of the students must approve such a conversion by secret ballot.

2. Start-up is a charter school established by a petition from private individuals, private institutions, or a state/local agency.

3. Local Educational Agency (LEA) Start-up is a charter school created when a LEA petitions the local school board.

4. The State Chartered Special School is formed as a special school operating under a charter between the charter petitioner and the State Board of Education because the petitioner was previously denied by the local board (GDOE, 2009, p. 22).

Usually, charter schools are smaller than traditional public schools, frequently enrolling less than 200 students (Dynarski et al., 2010). In Georgia, approximately two-thirds of charter schools have 500 students or less. However,

the largest category of charter schools has over 500 students (GDOE, 2009). In addition to small size, charter schools are often new, have diverse curricula, and provide more individualized learning and social experiences. They also appeal to parents with relevant ethnic curricula, high academic standards, and a safe environment for their children (Bifulco & Ladd, 2006).

While charter schools' goals and objectives make sense theoretically, in practice results on student achievement in charter schools are mixed. Several studies recommended that since charter laws vary widely throughout the country and studies reveal contradictory results, it may be best to compare the performance of charter schools and traditional schools state by state rather than nationally. For example, Bifulco and Ladd (2006) found that students in North Carolina did not show greater achievement in reading and mathematics than students in traditional high schools. Sass (2006) had similar findings for charter schools in Florida, as did Plucker et al. (2006) for charter schools in Georgia.

Charter schools have been viewed as alternatives to larger, more traditional schools to enhance student academic success. With so many students being retained in the ninth grade, it is important that the momentum of learning starts in the freshmen year. The freshman academy is an SLC that can address issues that often confront incoming freshman.

Freshmen Academies

Incoming freshmen face the same problems nationwide regarding transition to high school. Among these problems are anxieties about entering a new school, social pressure, and increased academic pressure and

responsibility. To help students overcome these problems and to help them begin their high school experiences from a positive perspective, freshman academies have been introduced in many larger schools. A typical freshman academy isolates freshmen from the rest of the student population using a school-within-a-school model. The goals of a typical academy are to provide structure, to provide a sense of belonging, and to ease the transition into high school while integrating content and increasing communication between teachers and parents (Clark & Hunley, 2007).

In the early part of the 20th century the concept of the freshmen academy was not a familiar term. Small schools were not a part of school reform, as high schools remained small until the middle of the century (Hendrix, 2007). However, as a result of increased ninth grade enrollment, decreased graduation rates, and difficulty with high school transitions some schools and districts throughout the county have created freshman academies and or ninth grade centers to address these issues. Freshmen academies are SLCs within a high school. Some high schools have separate buildings and separate administrations and some are actually housed within the school sharing resources. This trend of freshmen academies has spanned more than a decade with the first freshman academies starting in the mid-90s. Hundreds of ninth grade centers and academies have opened up throughout the country, including the Chicago Public School district that implemented freshman academies for every high school within the district more than a decade ago (Anderson, 1997).

The Talent Development model for high schools was implemented in several schools in Philadelphia to address transition issues. Ninth grade academies were used along with career academies in the sophomore and senior years. When this program was evaluated by MDCR it was found that the program initiatives of an improved curricula, better teaching, and SLCs resulted in better attendance and ninth graders receiving an increased number of credits which resulted in more students being promoted to the tenth grade (Kemple, Herlihy, & Smith, 2005).

A characteristic of freshman academies is that students are organized among teams of teachers (Stern et al., 2010). Teachers are provided with common planning time to discuss and resolve various student issues (Bernstein et al., 2008). According to a U.S. Department of Education report on SLCs, teachers have common planning time to discuss the students they share in more than 75% of freshmen academy programs. Almost two-thirds of freshman academies also allow teachers to meet at least weekly (Bernstein et al., 2008).

Funding from the federal government is available for freshman academies and other similar SLCs because research reveals that students in smaller school settings have better grades, attendance, discipline, and graduation rates. However, much of this funding is targeted at schools in larger cities and not at rural schools. Clark and Hunley (2007) reported on a rural school in Greenville, Kentucky, Muhlenberg South High School, whose freshman academy does not rely on grants or outside resources. The academy uses a modified block schedule. Core subjects are taught using a middle school model and electives

are taught in a block schedule model. Increased communication between parents, students, and teachers eases anxiety about starting high school. The academy has shown success in a number ways and is constantly evaluated and modified to meet the ever-changing needs of the students.

Research studies have shown a relationship between smaller schools and higher achievement, lower dropout rates, and higher graduation rates (Darling-Hammond et al., 2008). In the sections that follow the literature relevant to SLCs and their relationship to student achievement, dropout rates, and graduation rates is discussed.

Student Achievement

Greater demands are being placed on school leaders, teachers, and students to improve learning and student performance. In 2002, the No Child Left Behind Act (NCLB) was enacted to close achievement gaps and achieve 100% student proficiency for all children in grades K-12 by 2014. NCLB differs from previous state and federal programs because it emphasizes accountability. NCLB is also based on three other key principles: flexibility for school districts to determine how they will use their resources to improve student achievement, research-based education and high quality teaching, and parental options for parents of children attending Title I schools (low-income schools that are eligible for extra resources under Title I of ESEA/NCLB).

NCLB sets standards for and requires assessments. Much of the responsibility for student achievement is placed on states and local school districts. Schools and districts must demonstrate proficiency in the form of

adequate yearly progress (AYP) toward meeting goals. For Title I schools, the accountability provisions are stricter, although all U.S. public K–12 schools, including charter schools, are subject to NCLB requirements. The assessments have consequences for the schools and districts that administer them. Schools in which students fail to demonstrate proficiency may be required to offer public school choice or provide supplemental education services. If the school is deemed in need of improvement for five consecutive years, it may be restructured or taken over by the state.

Supporters of NCLB believe that the focus on accountability, high standards, and testing will help narrow the achievement gap between disadvantaged and minority students and majority students. Others, however, have a different view, arguing that higher test scores do not always indicate any real gains in master of subject matter; rather, test scores may reflect students' having been taught to the test. In other words, the teaching of the subject matter may have been geared to test content (Popham, 2006).

The emphasis on accountability has prompted school districts to investigate the effectiveness of their teachers. For example, walkthrough classroom observation methods used by school principals and administrators provide data on the extent to which standards are implemented, how well teachers are teaching, and how well students are learning. Gathering, examining, and analyzing data gathered from walkthroughs is important to assessing student achievement (Protheroe, 2009). However, DuFour (2004) suggested that a better way to determine the effectiveness of teachers is for a team of instructors to

collaborate on ways to increase student achievement and use final outcomes to guide future efforts. Each teacher will have different data and by collaborating will be able to make evidence-based decisions about teaching strategies to enhance student achievement.

The state of Georgia, where this study took place, has several programs in place to support student success in school. The Student Support Unit (SST) program seeks to remove barriers to student achievement by involving teachers and parents. SST is a three-tiered process to help teacher-referred students be successful (GDOE, 2005-2008a). Family Connection Partnership (FCP) is a community initiative program to support a child's health and readiness, sustain success at school, and build a strong and self-sufficient family (GDOE, 2005-2008b, ¶ 1). The school social work program is based on the belief that the key to achieve success is "home-to school and community collaboration" (GDOE, 2005-2008d, ¶ 1). School guidance and counseling services help students make the right academic and career decisions (GDOE, 2005-2008c).

In 2005 a teacher quality (TQ) division was created to oversee student success in the Georgia High School Graduation Test (GHSGT) with an academic coach program (GDOE, 2005-2008e). The coaches identify, recruit, and engage parents, organizations, and government agencies to collaborate in a variety of roles to provide support to at-risk students.

In July, 2010, the GDOE identified a need to provide a system that would promote high student achievement to prepare all students for college and careers, effective teaching and learning, innovative school improvement, and

single statewide accountability. GDOE requested a waiver for federal flexibility regarding the 10 ESEA requirements offered to states in 2011 and was one of the first states to do so. The purpose of the request was to strengthen accountability by replacing current AYP calculations to reflect the definitions of Priority, Focus, and Reward Schools. This will allow Georgia to place greater emphasis the very lowest performing schools in all subject areas and highlight subgroup achievement gaps. The quality of instruction in all subject areas for all students will be increased and a system defined that supports continual improvement of student achievement (U. S. Department of Education, 2012).

Educators do not have control over the type of students that they teach. Parents send their children to school, and schools are held accountable for their success even though the reasons that students drop out depends on various factors that include socioeconomics, family background, individual variances, school experiences, school characteristics, and the present situation (Campbell, 2003-2004). Thus, the school is not solely responsible for failure; however, when the media report failures only the school and maybe the principal are mentioned. Since school staff cannot change the uncontrollable variables linked to dropping out, staff must look at what can be done with students once they enter the school.

Another way to improve student achievement in an environment of standardized testing to reduce the dropout rate and increase graduation rates that has been proposed in the literature is implementing SLCs. This will be discussed in the sections that follow.

Student Dropouts and Graduation Rates

The dropout rate of students across the nation is alarming. Some researchers (Chapman et al., 2010; Miller, Rothstein, & Rouse, 2007; Thornburgh, 2006) indicated that the U.S. has a lower graduation rate than the 84% reported by the U.S. Census Bureau. The complexity of the dropout issue is increased because the federal government does not provide a national, uniform formula for calculating graduation rates. The states develop their own formulas, and the results are often inconsistent (Habash, 2008).

Research has confirmed that there is an inverse relationship between graduation rates and dropout rates (Chapman et al., 2010; Dee & Jacob, 2006; Laird, Cataldi, KewalRamani, & Chapman, 2008). Students drop out of school because of lack of academic motivation (Darling-Hammond et al., 2006/2007). Thus, an increase in dropout rates is also considered as one of the reasons for low graduation rates.

To improve graduation rates and reduce dropout rates, research studies recommended strategies to improve student achievement on the graduation test, particularly among minority students (Braun, Wang, Jenkins, & Weinbaum, 2006; Fergus, 2009; Noguera & Wing, 2006). The recommendations include providing extra help to tutor students, improving student attendance, preventing campus violence, and improving teacher quality by proving appropriate professional training to address the needs of diverse student population. Other research studies focused on improving the academic opportunities for students coming from low SES (Crosnoe & Huston, 2007; Davis, Kilburn, Schultz, 2009; Ediger,

2008; Newman, Lohman, Newman, Myers, & Smith, 2000). Among the recommendations to improve student achievement and reduce the dropout rate included having an exemplary principal and dedicated staff, making the test score data available to teachers to identify the at-risk group, and early intervention strategies.

High schools that are concerned about graduations rates are taking proactive steps by first focusing on their ninth grade population since they will ultimately determine school success. Students that are have been retained and fail classes throughout their academic career are likely to drop out (Suh, Suh, & Houston, 2007). Thus, students with low grade point averages in the eighth grade should be targeted for support in high school because they are more likely to drop out once they do not experience success in high school.

In 2006**,** adults between the ages of 18 and 65 who dropped out of high school earned an average income of $22,000 in comparison to $31,400 for those who did complete high school or a General Educational Developmental (GED) certificate (Laird et al., 2008). Laird et al. also reported that dropouts have more health problems than high school graduates. Additionally, dropouts make up 50% of prison inmates (Cassel, 2003). Thus, those who drop out of school will likely end up in the lowest tax bracket, in jail, and in poor health. According to Cassel (2003), dropouts with children living at home will likely find it difficult to secure a job and end up on federal assistance. Thus, tax-payers end up financing high school dropouts by paying for prisons, federal assistance, and healthcare.

Twice as many African Americans drop out of high school compared to Caucasians. More alarming is the dropout rate for Hispanics, which is reportedly twice that of African Americans (Chapman et al., 2010; Laird et al., 2008). As with any problem that involves millions of different individuals with various backgrounds, intelligences, and resources, the dropout problem does not have a singe solution or cause. Nonetheless, because millions of dollars is at stake the problem of high school dropouts must be addressed.

High schools have the difficult task of getting students to complete high school in four years. High school dropout rates are calculated in at least two different ways: event dropout rate and status dropout rate. The event dropout rate percentage of students who are not enrolled in high school each year and the status dropout rate are calculated by finding the percentage of students aged 16 to 24 who are not enrolled in school and have not graduated (Laird et al., 2008). For those working in public high schools, the graduation rate is an indicator which determines Adequate Yearly Progress (AYP) that is required by federal legislation. It is calculated in some states by finding the percentage of students who complete high school in four years. The NCES calls this the Averaged Freshman Graduation Rate (AFGR). In 2004-05 the AFGR nationwide was 74.7% (Laird et al., 2008), which means that about 25 out of every 100 students that start the ninth grade do not graduate.

A longitudinal study on dropout predictors found that the number of dropouts aged 13 to17 nearly doubled from 22% in 1974 to 42% in 1985 (Janosz, Leblanc, Boulerice, & Tremblay, 1997). The study was done with two different

groups of students. The 1985 group had a large percentage of participants that had low socioeconomic status (SES), which supports research that identifies low SES as a predictor of school dropout (Rumberger, 2004). The results of this study also showed that schools should focus their dropout prevention programs on school loyalty and success of students because school experience is also a strong predictor of school dropout. If students have a positive experience at school and engage in meaningful activities outsides of the school day they are less likely to disengage from school (Finn, 1989; Meier, 2002).

Because the dropout problem is complex and can include as many as 135 predictors, Suh et al. (2007) looked at three different types of at-risk students. The three categories included low SES, school suspensions, and students that did not perform well academically. They found that number of days absent from school, household size, education of mother, whether or not the student lived with both parents, total number of schools attended, premature sexual experiences, college aspirations within peer group, and hopefulness about the future were dropout predictors for all three at-risk groups, which was only eight of the 135 predictors. As a result of their findings, they suggested different dropout prevention strategies based on the variables that put the students at risk and not necessarily their predictors.

Christle, Jolivette, and Michael (2007) found in a two year study of Kentucky high schools that the certain school characteristics of a school were linked to higher dropout rates. These characteristics include school promoting power, the physical condition of the school, tenure of administrator, background,

and parental involvement. They compared schools with high dropout rates and low dropout rates and found that schools with low dropout rates fostered a nurturing environment where students felt like they were allied with to the school in some way. There were also more positive interactions between adults and students in the schools with low dropout rates than schools with high dropout rates. Thus, school experiences are also important variables to consider in the dropout phenomena.

Individual schools and districts have addressed dropout prevention in various ways. Georgia schools have funded full-time graduation coach at every high school and middle school until budget cuts recently in 2010. Even though state funding is no longer available for Graduation coaches some local school districts have chosen to reallocate Graduation coaches are responsible for tracking attendance, monitoring student progress, and organizing interventions for those students who are at-risk of dropping out (Jacobson, 2006). Pearson and Banerji (1993) found that students who were a part of a Ninth Grade Prevention (NGP) program in Pasco County school district in Florida that focused on study skills and student achievement had better school attendance and less drop outs . They attributed this outcome to the positive school climate, teacher-student relationships and peer relationships. A school in the midwest implemented a Freshmen Summer Academy where ninth graders scheduled to start in the fall were given tools vital to high school survival such as note-taking skills, organization techniques, reading comprehension, and time management (Fulk, 2003). The results were promising for those who participated in the program;

they missed less school, had less retention, fewer office referrals, and better grade point averages than those that did not attend the program.

Although there are many empirical studies that identify variables associated with school dropout, there is little research on intervention programs. Lehr, Hansen, Sinclair, and Christenson (2003) reviewed 45 studies that dealt with data-based interventions and found that only about 25% of the studies had methodologies that were thorough enough to justify findings. Lehr et al. (2003) suggested that more rigorous studies on dropout prevention with adequate sample sizes should be done to identify interventions that work.

Ninth Grade Transition

The National Center for Educational Statistics (2008) reports that ninth graders have the largest enrollment nationwide, which is likely because students are being retained in the ninth grade. According to research done by Wheelock and Miao (2005), ninth grade enrollment is 32% larger than eighth grade enrollment , and 10th grade enrollment is up to 20% smaller than ninth grade enrollment in some states. Students reach the ninth grade and remain there. If students were promoted at a constant rate there would be smaller gaps in the number of students enrolled at each grade level. Students drop out in the ninth grade more than any other grade (Hertzog & Morgan, 1998). The research suggests that one reason this phenomenon happens in the ninth grade is due to the difficulty of the transition to high school. Students are overwhelmed with the responsibilities of making new friends after likely cultivating childhood acquaintances for eight years or more, being accountable for credit towards

graduation, and adjusting to new teachers and changing classrooms (Weiss & Baker-Smith, 2010).

Generally, the support that students receive in high school cannot be compared to the support they receive in previous grades. Students receive a great amount of attention in elementary grades, as they are usually the focus of one teacher who has at most 25 students. Similarly, in middle school, students are the focus of three or four core teachers in an environment that monitors student's progress on a regular basis. Progress is monitored regularly, but elementary schools and middle schools do not want students that are much older than the general population and many times socially promote students because of age.

In high school students are expected to operate in a more independent manner. They are no longer escorted to their destinations or confined to a cohort of classes less than five feet apart. Also, they are no longer confined to their peers, as most schools do not allow the lower grade levels to mix in any classes. However, in a typical middle school there are two teams in each grade level. Thus, students automatically belong to a group and have some sense of belonging. In high school there are hundreds of students and as freshmen they do not belong to any group immediately. This larger setting and new environment is connected to achievement loss and higher dropout rates (Alspaugh, 1998). In a study of 16 school districts throughout the United States Alspaugh (1998) found that larger schools have higher dropout rates and when students transitioned from middle school to high school there was achievement

lost in the transition. This achievement loss was measured by lower scores on standardized tests in the current grade as compared to the previous grades.

In a study of the perspectives of at-risk ninth grade students receiving services for disabilities, Kortering and Braziel (1999) found that students wanted high school to be more accommodating; that is, extra-help in academic classes and programs to help adjust to high school. This was not surprising since middle schools are much more accommodating. Middle school teachers closely monitor students for most of the day. A team concept is used where students are taught core classes by a team of three or four teachers and classrooms are located next door to each other. This is an inclusive and accepting environment. Once a student enters high school, he or she is surrounded by hundreds of other students and has more freedom. In a traditional high school there are no teams, and students are responsible for getting to their destinations with little help. Classes are mixed with all grade levels to include course repeaters. Students often get lost in the crowd without the personalized attention and structure that they received in middle school (Cohen & Smerdon, 2009).

It is apparent that students entering the ninth grade need help with this transition. Although academics is one of the prevailing variables to consider; Dedmond, Brown, and LaFauci (2006) suggested that students who are more confident about themselves are likely to start making career goals for the future, which is an important first step on the road to success. Many schools have implemented different programs to help with this process. Project Transition (Herlihy, 2007) sought to improve the transition to high school by implementing

common teams where a group of students were taught by the same teachers. Time was allotted for team meetings and an academic coach was hired who provided resources and coordinated the appropriate staff development. Project Transition was implemented in two large urban high schools, one in Kansas and one in Milwaukee. There were two significant outcomes of this study: students earned more credits toward graduation than those before Project Transition and students felt like they were cared for and connected to the school.

Research (Bloom et al., 2010; Crosnoe & Huston, 2007; Davis, Kilburn, & Schultz, 2009; Newman et al., 2000) supports the fact that minorities and those from a low SES underperform other groups and graduate at a lower rate. Thus, they are likely to have more problems in the transition to high school.

A study by Newman et al. (2000) of low SES urban minority students who were a part of an early intervention program called the Young Scholars Program (YSP) identified issues facing ninth graders as they transitioned to high school. These students had been identified in the sixth grade as being at risk of dropping out of high school because of SES, ethnic group, and the obtained education level of parents. If they survived the program requirements of year-round activities, a grade point average of 3.0, and enrollment of college preparatory classes during their high school career they would be receive a scholarship to Ohio State University. These students all maintained a 3.0 or better grade point average in the middle school. However, once they entered high school they were differentiated into two groups; those that maintained the 3.0 or better and those that did not. From both groups it was found that students felt the work in

high school was more difficult and more challenging than in middle school. However, students who maintained their grade point averages had someone at home to help them when needed.

Implementing Smaller Learning Communities

Research (Bloom et al., 2010; Davis et al., 2010; Levine, 2010; Sass, 2006; Smith, 2009; Torrez & Kritsonis, 2008) has established a positive relationship between student achievement and lower dropout rates as a result of the institution of SLCs. According to Darling-Hammond et al. (2006/2007), students in SLCs are able to develop personal relationships with small groups of peers and teachers as compared to larger high schools. Sass (2006) found that in districts with schools-within-a-school designs, test scores were consistently higher, administrators were better able to reform their curricula and teaching strategies, and relationships between teachers and students were better. As a result, student accountability increased because teachers were more aware of student performance and students felts a greater sense of belonging.

Smith (2009) examined the relationship of student achievement to implementation of an SLC model in an urban high school in New England. The model included a personalized school learning environment; collaborative leadership; a professional learning community; and integrated curriculum, instruction, and assessment to support improved student performance and student achievement. Smith used a mixed methodology to survey, interview, and analyze documented data. The CIPP Model [context, input, process, and product] (Stufflebeam, 2007, as cited in Smith, 2009) was used to evaluate

formative and summative data and was used as a framework for evaluating the SLC. In phase one of the study a customized cross sectional survey was administered to 30 students and data from the survey were analyzed. In the second phase 10 teachers and 30 students participated in separate focus groups. Student data, including grades, discipline records, and attendance data, were analyzed pre and post the SLC experience to compare and further explain the survey research findings. A major finding of this study is that personalization and positive relationships within the SLC model support the achievement and success of students. Without the SLC model, student achievement would have been less and dropout rates would have been greater at the study site.

While numerous advantages to SLCs have been pointed out in the literature, there are some negative aspects of SLCs that must be considered. One consideration is the start-up costs involved for the purchase of land, equipment costs, and construction costs. In the current economic climate it would be difficult to make a case for building new and smaller schools (Duke et al., 2009). Other considerations involve structural, organizational, and political issues. Teachers may resist changing a large high school into an SLC because doing so departs from status quo (David, 2008). Smaller schools, because of their design, have smaller curriculum offerings than their larger comprehensive counterparts (Bernstein et al., 2008). Other pitfalls that have been cited include (a) schools attempting to become small do too little too slowly (David, 2008), (b) decision makers focus only on short-term goals (Bernstein et al., 2008), (c) the concept of SLCs is misunderstood (Torrez & Kritsonis, 2008), and (d) many

mandates and practices are targeted toward larger schools and centralized operations (Bernstein et al., 2008).

To avoid pitfalls, Smith (2009) emphasized that SLCs should be something that are created by rather than imposed upon all stakeholders (i.e., students, teachers, parents, and administrators). This will permit deeper involvement and dedication to the concept of SLCs. Bernstein et al. (2008) noted that SLCs should be instituted all at once and not incrementally. Students should stay with their SLCs throughout the day with no transitions. Groups should be autonomous, distinctive, and focused and have their own principals, assistant principals, and counselors. Clustering all of the best teachers within one or two of the SLCs should be avoided (Bernstein et al., 2008).

Steinberg and Allen (2002) described the five Cs of establishing SLCs: "caring relationships, cognitive challenges, culture of support that motivates students, community for students to belong to, and connections to high-quality postsecondary learning and career opportunities" (p. 19). Torrez and Kritsonis' (2008) view of establishing SLCs was broader and included schoolwide collaboration, partnership, and community. Another important aspect of establishing SLCs is support from top administration, both at the district level and individual school level (David, 2008).

Torre and Kritsonis (2008) described three important pre-implementation principles to ensure the success of SLCs. The first principle is establishing a clear understanding for the need for the SLC. Included in this principle is an emphasis on developing meaningful and more personalized relationships among

students, peers, and teachers. The second principle is having a long-term commitment to a sustained plan for professional training that will assure that staff working in SLCs has proper skills and knowledge. Topics that should be included in training are the nature and responsibilities of professional learning communities (PLCs), interdisciplinary lessons and teaching techniques, and building support for individual and student groups and building support from the community. The third principle is establishing and working together in PLCs. Doing so will eliminate the isolation of teachers that so often exists in traditional schools.

Duke et al. (2009) proposed four options for creating smaller schools and reducing the negative impact of large schools:

1. Renovate and redesign existing schools. Duke et al. (2009) noted that high schools are subdivided into units with several designations. Houses are organized horizontally by grade level, such as a ninth grade house, or vertically, encompassing two or more grades. Academies are often referred to as career academies because of their career focus. Schools-within-schools are small schools located within a host school. In many cases, houses and academies, and schools-within-schools have a distinct curricular focus. Middle schools tend to be redesigned around pods or clusters that contain classrooms for teachers of core subjects. For example, a typical arrangement pod or cluster might involve four classrooms — English, social studies, science, and mathematics — all of which open into a common area or atrium. All four teachers function as a team, plan together, and instruct the same group of students. Students take additional

subjects elsewhere in the school, but at least half of each day is spent in the same pod or cluster.

2. Reorganize existing schools without making any major changes in the physical structures. This strategy is popular because it is relatively inexpensive.

3. Use satellite facilities. The Langston Focus School Center in Danville, Virginia, illustrated the use of satellite facilities. The school district was unable to build a new high school and, to relieve overcrowding at one of its high schools, the district encouraged teachers to propose “focus schools” that could be housed in a nearby vacant junior high school site (Butin, 2000, as cited in Duke et al., 2009). Four focus school proposals were accepted and the Langston Focus School Center was established. Each of the four focus schools opened with approximately 100 ninth grade students each, and each had a unique theme (i.e., global studies, business education, etc.).

4. Build new small schools that replace large schools. Duke et al. (2009) pointed out that construction may be costlier than renovation; however, there are also some benefits and long-term savings. When new schools are built is it not necessary to find temporary quarters for students during renovation. Building new schools also is more conducive to implementing educational initiatives that might not be possible in a renovated facility. Duke et al. (2009) suggested that if building a new small school is not possible, planners should consider some of the other models previously described.

Summary

In this chapter the literature on learning communities and their effect on student achievement, decreased dropout rates, and increased graduation rates was presented. Learning communities have been the subject of numerous studies by elementary, secondary, and postsecondary educators. Learning communities consist of individuals who work together to share and reflect on their practices. Schools can become learning communities by routinely and consistently focusing on assessment and pedagogy. When schools are small and have SLCs teachers can more easily work together as teams and students can take a more active, collaborative approach to their own learning.

If SLCs are a solution to improved achievement and decreased dropout rates, then these schools should be outperforming or doing equally well academically than traditional high schools of similar demographics. Most of the research that addresses student achievement and freshman graduation rates has been done using a single case study or as few as three schools within a one or two year time frame. However, there is little research on groups of schools that have had smaller learning communities for more than four years. There are several schools and school districts in Georgia that have had smaller learning communities for four years or longer. These schools matched together with traditional high schools in Georgia served as participants for this study.

CHAPTER III

METHODOLOGY

Introduction

This chapter provides an overview of the methodology that was used in this study. It includes the research design, information related to the participants, procedures and data analysis. Archival data for the Georgia Mathematics I End-of-Course-Test that is generally given to ninth grade students, school graduation rates, information from a survey instrument designed to identify schools with smaller learning communities, and specific structures and strategies employed by those schools are also discussed. There are approximately 500 schools that give the Mathematics I End-Of-Course-Test. These included middle schools, junior high schools, alternative schools, and other various academies that do not serve 9-12 grades exclusively or serve a specific clientele of students. To filter out these schools, high schools serving grades 9-12 in Georgia were identified through the Georgia End-of-Course-Test database provided by the Georgia Department of Education. Once the appropriate 9-12 high schools were identified that administered the Mathematics I End-of-Course-Test a questionnaire was emailed to the administrators at those schools. The responses on the questionnaire along with information obtained through website searches helped identify the schools that have smaller learning communities that target ninth graders. From this information two groups emerged: non-SLC schools and SLC schools.

Research Design

To determine the impact of smaller learning communities on Mathematics achievement and graduation rates a quantitative correlational research design was used in this study with four main variables. The quantitative dependent variables were each school mean grade conversion score on the Mathematics I End-Of-Course-Test and graduation rates as determined by Georgia's Adequate Yearly Progress school report. The quantitative independent variable was the classification of a school with a smaller learning community for ninth graders as determined by the questionnaire and school size as reported by the Georgia Department of Education. Data about specific strategies that target ninth grade students were also collected for possible multi-linear regression analysis.

Participants

Public high schools in the state of Georgia were the focus of this study. According to the Governor's Office of Student Achievement (2011) Georgia has over 1.6 million students enrolled in 2246 public schools and 187 districts. Of these students 44% are Caucasian, 37% are African American, and 18% are multiracial, Hispanic, or Asian. Representative of schools nationwide (NCES, 2008) Georgia has its largest enrollment of grades 9-12 in the ninth grade with 145,043 students. GOSA reported a 61% pass rate for all students taking the Mathematics I EOCT in Georgia and a 67.5% graduation rate in 2011.

The participants for this study included public high schools from the state of Georgia that serve students grades 9-12. The participants were categorized into two groups for data analysis; a Non-SLC group and a SLC group. The SLC

group reported having some type of smaller learning community structure exclusively for ninth graders.

Instrumentation

A survey instrument designed by Scott Rudes (2006) for a study on smaller learning communities in the state of Florida was used and adapted by the researcher for this study (Appendix A) and distributed to all public high schools in the State of Georgia. Before using the instrument the researcher obtained permission from Scott Rudes to use and alter as needed (Appendix B). The survey instrument was designed to identify specific structures and strategies used to target ninth grade students as well as the number of year's structures and strategies have been used. The following Research Question one was answered from the responses given about structures and strategies.

Research Questions

1. What structures and strategies are employed by smaller learning communities to target ninth grade students in the state of Georgia?

The instrument defined structures in a smaller learning community as a freshmen academy, career academy, house plan, school-within-a-school and magnet program. The instrument also defined strategies in a smaller learning community that targeted ninth graders as freshmen transition activities, alternative scheduling, teacher advisory systems, interdisciplinary teams, and remedial/support classes. Once schools were categorized the following research questions and hypothesis were addressed with Mathematics I EOCT, Graduation Rates, and demographic archival data.

2. Is there a relationship between the number of students involved in a smaller learning community and the mean score on the Mathematics I EOCT?
3. Is there a relationship between the size of a school and the mean sore on the Mathematics I EOCT?
4. Does the implementation of a smaller learning community positively impact the school's graduation rate over four years?

Research Hypotheses

1. There is a statistically significant difference between the Mathematics I EOCT scores of ninth grade students at schools with smaller learning communities and those without them.
2. There is a statistically significant difference between the Mathematics I EOCT scores of ninth grade students at schools with a total school population of less than 1000 and those with a population greater than 1000.
3. There is a statistically significant difference between the graduation rates at schools that have had smaller learning communities for four or more years and those without them.

Procedures

Upon approval of this study by The University of Southern Mississippi Institutional Research Board (IRB) the process of data collection began. Identified schools were sent a permission letter requesting participation

(Appendix B) along with a website link to Survey Monkey where the questionnaire could be completed online. In the permission letter schools and district administrators were informed that all information received would be kept confidential and individual schools would not be identified in the study. All returned responses were kept locked in a file cabinet in the researcher's home. Each school's Mathematics I EOCT scores and graduation rates for the 2010-2011 school year were archival data and were obtained from the GOSA website (2011).

Data Analyses

All data received were entered in SPSS to determine any trends or correlations. Descriptive statistics, Pearson's correlations, independent samples *t*-test, and a mixed factorial Analysis of Variance (ANOVA) were used to answer research questions and test hypotheses. Descriptive statistics were used to answer Research Question One and Pearson's correlations were used to answer Research Question Two and Three. The independent sample *t*-test were used to determine statistical significance in Research Hypothesis One and Two and the mixed ANOVA was used to answer Research Question Four and to determine statistical significance in Research Hypothesis Three.

Summary

This chapter outlined the methodology used to determine the impact of small learning communities on mathematics student achievement and graduation rates of ninth grade students in the state of Georgia. This methodology included

the process for categorizing SLC schools and non-SLC schools and the use of archival data for data analysis.

CHAPTER IV

ANALYSIS OF DATA

Introduction

This chapter presents the analysis of data collected for the purpose of this study, to investigate the impact of smaller learning communities on mathematics student achievement and graduation rates in the state of Georgia. Each of the research questions and hypotheses presented in Chapter I will be addressed in this chapter based on the data collected. The data that were analyzed in this chapter came from three sources. The first source was the Mathematics I End-of-Course-Test (EOCT) scores of high schools in the state of Georgia. The scores were provided from the Georgia Department of Education from the spring 2011 administration of the Mathematics I EOCT (GDOE, 2012). The Georgia Department of Education (2012) also provided the yearly Adequate Yearly Progress (AYP) reports that were used to compile the graduation rates for four years. The third source of data was gathered from the responses on a questionnaire entitled “Structures and Strategies Employed in Improving Ninth Grade Academic Achievement” (Appendix A). The analysis of the data included descriptive statistics along with a Pearson’s Correlation, independent samples *t*-test, and a mixed analysis of variance (ANOVA). The results of this analysis of data will be presented in this chapter.

Respondents

Using the Georgia of Department database of schools that had taken the Mathematics I End-of-Course-Test during the spring of 2011, 351 traditional high

schools that served grades 9-12 were identified. Questionnaires were sent electronically via Survey Monkey in two rounds: first to the principals and then the assistant principals for schools where the principals did not respond. The email addresses were identified through There were 134 responses to the survey.

School Demographics

The first question on the survey identified the school and the second question asked if the school was a public, public charter, or private school. There were 133 schools that responded to question 1; 120 schools that indicated they were public, 12 public charters, and one other. The school that indicated other gave a classification of public residential.

Question 3 asked about school enrollment by grade for the 2010-11 school year. One hundred twenty-five schools responded to this question. This provided information about the overall school size. A summary of the findings are presented in Table 1.

Table 1

Reported Student Enrollment by Grade Level

	Mean	Minimum	Maximum
9th Grade Enrollment	335.81	18	1050
10th Grade Enrollment	306.71	6	988
11th Grade Enrollment	283.6	2	856
12th Grade Enrollment	267.35	0	808
Total Enrollment	1193.50	26	3702

A review of the enrollment data and comparison of each grade level provided a clearer perspective about each grade level in relation to overall school size. Ninth grade enrollment was the largest and the enrollment decreased with each subsequent grade level. Question 4 of the questionnaire asked what grade levels the school served. The data obtained from this question allowed schools serving ninth through twelfth grade students to be identified.

Smaller Learning Community Structures

Question 5 of the survey instrument provided data about the specific structures and strategies used at responding schools to target ninth grade students. There were a total of 51 respondents to the first part of the question about the structures being utilized. Of the 51 respondents, 37 (68%) of the schools reported having a freshmen academy, and one school reported disbanding their Freshmen Academy during the 2010-2011 school year. This data provided insight about which schools had smaller learning communities within their buildings compared to schools that did not and the types of smaller learning communities most commonly used. There were six schools that reported structures utilized at their schools other than the five listed on the questionnaire. The other structures reported were:

- Dual Enrollment Program
- Community Work Programs with local companies
- Early College
- Visual and Performing Arts Specialty School
- Central Education Center

A summary of the findings in question 5 about structures are presented in Table 2.

Table 2

Structures Utilized by High Schools in Georgia

N=51

Structures	Targets 9th Graders Only		Total Respondents	
	n	*%*	*n*	*%*
Freshmen Academies	30	59	37	73
Career Academies	0	0	21	41
House Plans	0	0	2	4
School-Within-A-School	4	7	10	20
Magnet Program	0	0	10	20
Other	1	2	6	12

Smaller Learning Community Strategies

Question 5 of the survey instrument provided data about the specific structures and strategies used at responding schools to target ninth grade students. A total of 70 of the 74 respondents reported having a least one of the five strategies listed, and five of the 74 respondents gave a description of other strategies being utilized that were listed on the questionnaire. The other strategies reported were:

- Remediation and enrichment programs
- Extended time (Early School, After-School and Summer School)

- Data Teams
- Credit recovery programs
- Freshmen Friends mentor mentee initiative.
- Lunch Tutorials

A summary of the findings in Question 5 about strategies are presented in Table 3.

Table 3

Strategies Utilized by High Schools in Georgia

N=74

Strategies	Targets 9th Graders Only		Total Respondents	
	n	%	*n*	%
Freshmen Transition Activities	67	91	70	95
Alternative Scheduling	5	7	27	36
Teacher Advisory Systems	5	7	57	77
Interdisciplinary Teams	6	8	24	31
Remedial/Support Classes	7	9	70	95
Other	0	0	5	7

Smaller Learning Communities

Question 6 of the questionnaire asked how many years total had the school operated the smaller learning community structures selected in question 5. This data gave the researcher information needed to address Research

Question Four and Research Hypothesis Three. The summary of the findings in question 6 are in Table 4.

Table 4

SLC Operating Years

N = 63

SLC Operating Years	*n*	*%*
1-2 years	16	25.3
3-5 years	33	53.4
6 years or more	14	22.2

Question 7 on the questionnaire asked if the respondent's school received funding for the small learning community structures indicated in question five. Of the 70 respondents to this question, 30% (24) of the schools indicated that they received funding for their structures while 70% (56) of the schools responded that they did not receive any additional funding. Those that received funding were asked to report the source of funding. Six of the 19 schools reported that they were receiving federal smaller learning community grants. The remaining 13 schools reported the sources of funding as:

- High Schools That Work (HSTW)
- Title I
- Local Funds
- State Funds
- Federal Grant

- Wallace Grant
- Work Ready Program
- ExP Funds

The number of schools funded gave the researcher insight into how schools were funding various smaller learning community programs.

Question 8 asked how many ninth graders were targeted for the smaller learning community structures selected in question 5. There were 54 respondents to this question. The results of this response gave the researcher insight into how many ninth graders were being served in the various smaller learning communities. A summary of the responses are in Table 5.

Table 5

Number of 9th Graders Targeted by Smaller Learning Communities

N = 54

9th Graders	*n*	*%*
100-199	10	18.5
200-299	7	13.0
300-399	13	24.1
400-499	15	27.8
500 or more	9	16.7

Question 9 asked which ninth graders were selected for the smaller learning community indicated in question 5. The choices were *all ninth graders, first time freshmen, repeaters* and an option for *other* was given. The responses

from this question provided insight into which students participated in smaller learning communities were chosen. There were 63 responses to this question; the majority (57.1%) of schools that responded included all ninth graders in their smaller learning community, 34.9 % included first time freshmen. The two schools that selected *other* reported that gifted status and at-risk students who were struggling academically were included. A summary of the results are presented in Table 6.

Table 6

Ninth Graders Selected for Smaller Learning Communities

N=63

Criteria	*n*	*%*
All 9th graders were included	36	57.1
First time freshmen	22	34.9
Repeaters	3	4.8
Other	2	3.2

Question 10 was an open-ended question where respondents reported the criteria for inclusion in the schools smaller learning community structures. There 49 responses to this question and 22% reported that all ninth graders were included. The most reported response was first time freshmen for selection criteria in the smaller learning community; 29% reported only first time freshmen could be a part of smaller learning community structure. Ten (20%) schools reported that grades and scores on standardized test were considered. Two (8%)

schools reported that students could not be a part of smaller learning communities until after their ninth grade year was completed. They reported using the ninth grade year to identify interest and career paths.

Question 11 asked if any of the smaller learning community structures selected in question 5 were housed in a separate building or a separate wing. There were 79 respondents to this question, with 58.2% indicating that the smaller learning community structures at their school were not in a separate wing or building. A summary of the responses are in Table 7.

Table 7

Location of Smaller Learning Community Structures (N = 79)

SLC Structure	*n*	*%*
Not Separate	46	58.2
Separate building	16	20.3
Separate wing	17	21.5

Research Questions and Hypotheses

As outlined in Chapter I, this study sought to answer four research questions and three research hypotheses. The first research question was "What structures and strategies are employed by smaller learning communities to target ninth grade students in the state of Georgia?" The responses to the questionnaire revealed that schools in the state of Georgia are using a variety of structures and strategies to target ninth grade students. Of the 51 schools that responded to the question about smaller learning community structures used to target ninth graders, freshmen academies was the most widely used structure.

The second research question asked “Is there a relationship between the number of students involved in a smaller learning community and the mean scores on the Mathematics I EOCT?” To answer this question a Pearson’s *r* correlation was used to determine significance between the number of students (*M = 339.96, SD = 153.49*) involved in a smaller learning community and the mean scores on the Mathematics I EOCT (*M=72.4, SD = 4.61*). The data were pulled from question 8 on the questionnaire and the matching Mathematics I EOCT scores from the Georgia Department of Education database (GDOE, 2012). A summary of the descriptive data for this research question is shown Table 8.

Table 8

Summary of Descriptive Data for Research Question 2

	N	*Minimum*	*Maximum*	*Mean*	*Standard Deviation*
# of Students	54	91	904	339.96	153.48
Math I EOCT Score	54	65	84	72.74	4.61

A Pearson’s *r* revealed that there was a moderate positive correlation, *r (53)* = .366, p = .006. The more students involved in the smaller learning community, the higher the mean Mathematics I EOCT scores.

The third research question this study was “Is there a relationship between the size of the school and the mean scores on the Mathematics I EOCT?” There were 125 schools that reported their total school population for the 2010-2011

school year (M = *1193.50, SD = 676.75*). Each school was matched with its mean Mathematics I EOCT score *(M = 73.82 SD = 5.38).* A Pearson's *r* revealed that there was a moderate positive correlation, *r (125) = .269*, p = .002. As the total school enrollment increased, the mean Mathematics I EOCT scores increased.

The fourth research question asked, "Does the implementation of a smaller learning community positively impact the schools graduation rate over four years?" Answering this research question also answered the third Research Hypothesis, which stated "there is a statistically significant difference between the graduation rates at schools that have had smaller learning communities for four or more years and those without them." To give insight into Research Question Four and to test this Hypothesis 3, graduation rates data from schools that reported having smaller learning communities for four or more years (SLC Group) and for schools that reported having no smaller learning community (non SLC group) were compiled for analysis. Table 9 lists the mean graduation rates over four years of each group.

Table 9

Graduation Rates from 2008 – 2011

	Group	Mean	Std. Deviation	n
grad2008	SLC	78.21	11.98	14
	Non-SLC	78.02	8.34	34
	Total	78.07	9.41	48
grad2009	SLC	82.19	8.90	14
	Non-SLC	81.81	8.44	34
	Total	81.92	8.48	48
grad2010	SLC	85.26	7.17	14
	Non-SLC	83.09	7.90	34
	Total	83.72	7.68	48
grad2011	SLC	82.56	9.62	14
	Non-SLC	82.69	8.38	34
	Total	82.65	8.65	48

A mixed factorial ANOVA wa s conducted to determine if there was a difference in graduation rates over four years for schools that had a SLC and schools that did not. The change in graduation rate for all schools over four years was significant F (2, 44) = 16.188, p< .001. The interaction between year and SLC was not significant F (2, 44) =.958, p = .421. The mixed factorial ANOVA also revealed that there was no significant difference in graduation rates

over four years between how SLC schools and Non-SLC schools, F (1,46) = .065, p =.801.

The first Research Hypothesis stated “There is a statistically significant difference between the Mathematics I EOCT Scores of ninth grade students at schools with smaller learning comminutes and those without them.” To test this hypothesis Mathematics I EOCT scores for both SLC and Non-SLC groups were compiled for data analysis.

An independent samples *t*-test was conducted to determine if there was a statistically significant difference of Mathematics I EOCT scores between the SLC group and the Non-SLC group. On average the Non-SLC group scored better (M = 73.49, SD = 5.386) that the SLC group (M = 74.38, SD = 4.815). However, the *t*-test revealed that there was no statistically significant difference between the two groups with respect to Mathematics I EOCT scores $t(22) = -.813$, $p = .418$.

To test the second Research Hypothesis, which stated “There is a statistically significant difference between the Mathematics I EOCT scores of ninth graders students at schools with a total school population of less than 1000 and those with a population greater than 1000,” Mathematics I EOCT scores were compiled for both groups. A summary of group statistics are in Table 10.

Table 10

Group Statistics by School Size

	Size	N	Mean	Std. Deviation	Std. Error Mean
MATH 1 EOCT	< 1000	51	72.06	9.320	1.305
	≥ 1000	75	74.20	5.695	.658

An independent samples *t*-test was conducted to determine if there was a significance difference of Mathematics I EOCT scores between schools that had less than 1000 students and schools that had 1000 or more students. On average the group with 1000 or more students scored better (M = 74.29, SD = 5.695) than the group with less than 1000 students (M = 72.06, SD = 9.320). Again, the *t*-test revealed that there was no statistically significant difference between the two groups with respect to Mathematics I EOCT scores $t(124) = -1.60$ p=.112.

Summary

In this chapter the introduction outlined the purpose of this study about the impact of smaller learning communities on mathematics student achievement and graduation rates. Information about the presentation and analysis of data was also outlined. Descriptive statistics from the questionnaire were reported to address the research questions of this study along with results from the appropriate statistical test that addressed the research hypothesis of this study.

Chapter V will provide a discussion of the conclusions and implications resulting from this study and a suggested route for further research.

CHAPTER V

DISCUSSION

Introduction

The purpose of this study was to determine if the existence of a smaller learning community had an impact on ninth grade students' achievement as measured by the schools cumulative score on the Mathematics I End-of-Course-Test (EOCT). More specifically, the researcher wanted to (a) determine if there are differences between the Mathematics EOCT scores for schools with smaller learning communities and the schools without them, (b) investigate the number of ninth grade students involved in a smaller learning community, (c) investigate the different smaller learning community structures and strategies used as they relate to student achievement, and (d) investigate graduation rates for schools who have implemented smaller learning communities for four years or more. This chapter will outline and discuss the findings of this study based on the analysis of data. This chapter will also offer suggestions of further study and research.

Limitations

In the course of this inquiry of smaller learning communities in high schools in the state of Georgia, there were three main limitations that arose that should be presented before discussing any of the findings of this study. Researchers interested in pursuing similar studies should take these limitations into consideration.

1. The population of this study consisted of all traditional high schools in Georgia serving grades ninth through twelfth grade. The original sample size included 361 high schools. The return rate of questionnaires was 37.1% with 134 respondents. This percentage does not represent the majority of the initial sample.
2. The Mathematics I EOCT scores compiled for the schools included in this study represented the mean score of the school. Mathematics I is a standard 9th grade course in the state of Georgia. Consequently, the mean score for school will represent the majority of 9th graders in the school and the number of non-ninth graders included in the sample is unknown. Individual student scores were not reported thus, conclusions about the impact of smaller learning community strategies and structures cannot be made for singular students and subgroups.
3. As individual states are allowed to have their own statues and laws within certain parameters, local school districts are allowed to implement programs to maintain or increase students' achievement in a way that meets the needs of the student population at particular schools or within a particular district. Schools in this study reported having like structures and strategies that had some overlapping characteristics, but were likely implemented using different protocols. Thus, future studies are recommended that outline the different implementations used for the various strategies and structures employed to improve student achievement.

Interpretation of Findings

The bases for this research study are the research questions and hypotheses outlined in Chapter I. Each question will be restated in the subsections below and inferences will be made based on the analysis of data in this study. Research Question Four and Research Hypothesis Three will be discussed together.

Research Question 1

Research question 1 asked, "What structures and strategies are employed by smaller learning communities to target ninth grade students in the state of Georgia?" The majority of schools that participated in this study reported using at least one of the structures or strategies listed on the questionnaire. As mentioned in the review of the literature, many students have difficulty transitioning from the middle school to high school. Strategies in the case of this study are generally initiatives that can be put into place by repurposing personnel, space, and time. Of the 74 that responded to the question about strategies, 67 reported using some kind of freshmen transition activity for ninth graders only. For the schools that participated in this study a conclusion that can be drawn from the data is that these schools acknowledge the freshmen year as a difficult time for teenagers and thus offer strategies to support the transition. As Weiss and Baker-Smith (2010) observed, when students enter the ninth grade they are often overwhelmed with the responsibilities of making new friends, being accountable for credit towards graduation, and adjusting to new teachers and

changing classrooms. These students need help with transitioning by getting extra help from teachers (Alspaugh, 1998; Kortering & Braziel, 1999).

For the remaining strategies listed on the questionnaire—alternative scheduling, teacher advisory systems, interdisciplinary teams, and remedial support classes—seven or fewer of the 74 schools reported using either strategy to target ninth graders only. However, these strategies were reported being used more frequently with all students. The use of remedial and support classes was reported being used to target all students by 65 of the 74 respondents.

Structures identified in this study are more permanent initiatives that are likely to require additional funding for personnel, equipment, and space. This may help explain why the schools reported using fewer structures than strategies to target student achievement. Fifty-one schools responded to the question about the use of structures to help improve student achievement. This is less than the number that responded to using some type of structure. The most widely used structure for the respondents of this study was freshmen academies for ninth graders (30 of the 51 responses) and the next widely used structure was career academies with 21 responses. The career academies, however, targeted all students as opposed to ninth graders only. This makes sense, as career academies are career-focused (Duke et al., 2009), freshman academies are focused on freshmen and on providing structure and a sense of belonging and for helping ninth graders make an easier transition into high school (Clark & Hunley, 2007). This suggests that some schools in Georgia are embracing smaller learning community reform efforts.

Research Question 2

Research Question 2 asked, “Is there a relationship between the number of students involved in a smaller learning community and the mean sores on the Mathematics I EOCT?” A Pearson’s *r* correlation was conducted for the 54 respondents that indicated their school had a smaller learning community that targeted ninth graders only. The Pearson’s correlation indicated that the relationship was significant and positive. The more students involved in a smaller learning community, the higher the scores. These results are inconsistent with much of the research that supports smaller learning community structures as some researchers (Bloom et al., 2010; Davis et al., 2010; Levine, 2010; Smith, 2009; Torrez & Kritsonis, 2008) have found a positive relationship between student achievement and lower dropout rates. Sass (2006) and Smith (2009) found students participating in smaller learning communities had higher test scores. With the school choice provision under No Child Left Behind it is probable that higher-achieving students transferred from low-performing schools to high-performing schools, resulting in smaller enrollment and lower scores for those schools. However, more students in the smaller learning communities mean larger groups which can negate the idea of smaller learning communities. Of the 43 schools that reported having smaller learning community structures 21 (49%) of those schools had smaller learning communities that were 400 or more students. Writers and researchers do not agree on a single number that constitutes a small school but suggestions range from 200 and to a maximum of 500 and most agree that 400 or less is best for operating a smaller learning

community (Cotton, 1996). Thus, with almost half the schools reporting a smaller learning community structure the argument can be made that those schools have deviated from what is considered to be a smaller learning community.

Research Question 3

Research Question 3 asked, *"*Is there a relationship between the size of a school and the mean scores on the Mathematics I EOCT?" A Pearson's *r* correlation was conducted for the 124 schools that responded to this question. School size ranged from 26 to 3702. The Pearson's *r* correlation indicated a positive correlation. As the total school enrollment increased, the higher the mean Mathematics I EOCT scores. This supports the results of the previous research question about students involved in a smaller learning community. It makes sense that schools with larger enrollments have more students involved in the smaller learning community. Again, this result is inconsistent with the research about school size, which shows a strong negative relationship with student achievement (Allensworth & Easton, 2007; Bloom et al., 2010; Chapman et al., 2010; David, 2008; Davis et al., 2010; Evan et al., 2006; Kahne et al., 2006; Levine, 2011; MacIver & MacIver, 2010).

Research Question 4 and Research Hypothesis 3

Research Question 4 asked, *"*Does the implementation of a smaller learning community positively impact the school's graduation rate over four years?" Research Hypothesis 3 stated, "There is a statistically significant difference between the graduation rates at schools that have had smaller learning communities for four or more years and those without them." This

Research Hypothesis was tested using a mixed factorial analysis that showed that graduation rates increased over four years for both SLC and non-SLC groups. There was no statistically significance difference between the two groups, as both groups had graduation rates that were nearly identical every year. It is probable that the SLC group implemented programs to keep up with higher-performing schools. The mandates of No Child Left Behind that required schools to make adequate yearly progress in graduation rates or be named a failing school must also be considered.

Research Hypothesis 1

Research Hypothesis 1 stated, “There is a statistically significant difference between the Mathematics I EOCT scores of ninth grade students at schools with smaller learning communities and those without them.” An independent samples *t*-test showed that there was no significance between schools that reported having smaller learning communities and schools that did not have smaller learning communities. Fifty-seven schools reported having a smaller learning community structure and 37 schools reported not having a smaller learning community structure. The Mathematics EOCT I means for the two groups were less than one percentage apart, with the non-SLC mean score being slightly better. A possible rationale for these scores may be that schools that implement smaller learning communities are seeking for a reform initiative to help improve student achievement.

Research Hypothesis 2

Research Hypothesis 2 stated, “There is a statistically significant difference between the Mathematics I EOCT scores of ninth grade students at schools with a total school population of less 1000 and those with a population greater than 1000.” There were 51 schools that reported having less than 1000 students and 75 schools that had 1000 or more students. The Mathematics EOCT I mean score for the school having 1000 or more students was slightly better than the score for the group that had less than 1000 students. With the small difference between the scores it is not surprising that the independent *t*-test revealed that the difference in scores between the two groups was not significant.

Implications of Findings

Smaller learning communities are learning communities established within a larger school setting in which teachers and students work closely together (Evan et al., 2006; Oxley & Kassissieh, 2008). Teachers provide students learning activities that meet their needs, monitor their progress, and provide academic, social, and emotional support. In recent years smaller learning communities have been viewed nationwide as a best practice.

For small learning communities to have a positive impact on student learning and achievement, schools must be receptive to the idea of small learning communities. This may involve changing the school’s structure and improving what goes on in the classroom. Because teachers play a key role in small learning communities, teacher buy-in is essential. In addition, teachers

need to be provided with opportunities to learn how and what to teach within small learning communities so that student achievement will be more greatly enhanced.

It is important that educators and policymakers recognize that making high schools smaller may not be the all-inclusive solution for providing increasing mathematics student achievement in the ninth grade year or increasing graduation rates. However, smaller, more personalized learning structures can be the basis for high school improvement strategies. In this study schools that have implemented smaller learning communities are keeping pace with schools that have not implemented smaller learning communities.

Recommendations

1. The results of this study indicated that the more students involved in a smaller learning community, the higher the scores. The present study should be replicated at logical intervals to detect trends related to smaller learning communities that target ninth graders only. Future studies should include a study of the school over time with respect to enrollment and readiness of students entering the school at the ninth grade.
2. Now that specific smaller learning communities have been identified in Georgia it is suggested that further research involves the impact of each structure on individual schools and on each cohort of students. Furthermore, it would be interesting to look at specific demographics of

the schools for comparisons between schools that have implemented smaller learning communities and schools that have not.

3. Future research should be conducted on a broader scale, using larger sample sizes and more diverse samples, perhaps outside of the state of Georgia. Comparisons could be made among schools with respect to the impact of smaller learning communities on students' academic achievement as measured by standardized test scores. A broader study that includes more respondents in different grade levels and different school systems may provide greater insight and more support for the findings of the present study.
4. The present study examined ninth-grade students only. It is recommended that future studies include samples of multiple grade levels to determine the relationship between smaller learning communities and academic achievement as measured by standardized test scores and graduation rates.

Summary

Chapter V concludes this research investigation. The limitations of the study were discussed. Next, the interpretation of the findings, which include answer to the research questions and the statistical results of the hypotheses, were presented. The results of the data analysis showed that the majority of schools used some kind of freshmen transition activity for ninth graders only; the more students involved in a smaller learning community, the higher the scores; as the total school enrollment increased, the higher the mean scores; and that

there was no difference between graduation rates of schools with smaller learning communities and schools without them. Implications of the findings based on the results of the data analysis were discussed. Finally, recommendations for further study were made.

APPENDIX A

SURVEY INSTRUMENT

Structures and Strategies Employed in Improving Ninth Grade Academic Achievement

QUESTIONNAIRE

This questionnaire will require approximately 5 minutes completing.

Please provide the following information regarding 9th grade student information for the 2010-11 school year.

1. Name of school:

_____

2. How would you classify your school? □Public □Private □Public Charter □Other _____

3. What was your enrollment by grade for the 2010-2011 school-year?

9th Grade _____10th Grade _____ 11th Grade _____ 12th Grade _____

4. What grades does your school serve? □9th Grade ONLY □9th – 12 Grade □Other_____

5. Please indicate the structures and strategies that your school employed during the 2010-11 school year (Check all that apply).

Structures (Smaller Learning Community):	Does this structure target ONLY 9th graders?	
❑ Freshmen Academies	❑ YES	❑ NO
❑ Career Academies	❑ YES	❑ NO
❑ House Plans	❑ YES	❑ NO
❑ School-Within-A-School	❑ YES	❑ NO

❑ Magnet Program	❑ YES	❑ NO
❑ Other _____	❑ YES	❑ NO

Strategies:	Does this strategy target ONLY 9th graders?	
❑ Freshman Transition Activities	❑ YES	❑ NO
❑ Alternative Scheduling	❑ YES	❑ NO
❑ Teacher Advisory Systems	❑ YES	❑ NO
❑ Interdisciplinary Teams	❑ YES	❑ NO
❑ Remedial/Support Classes	❑ YES	❑ NO
❑ Other _____	❑ YES	❑ NO

6. If applicable, how many total school years has your school operated a Smaller Learning Community? _____

7. Is your school receiving any additional funding for your Smaller Learning Community? ❑ YES ❑ NO

8. If any of the structures selected in #5 targeted ONLY 9th graders, indicate how many students were targeted.

- ❑ 100- 199 Students
- ❑ 200 – 299 Students
- ❑ 300 – 399 Students
- ❑ 400 – 499 Students
- ❑ 500 or more

9. Specify which 9th graders were selected for the structures selected in #5.

- ❑ All 9th grade students

- ❑ First Time Freshmen
- ❑ Repeaters
- ❑ Other _____

10. What are the criteria for 9th grade inclusion in your smaller learning community?

_____

_____

11. Does your school have a separate building or wing for your smaller learning community?

❑ Not Separate ❑ Separate building ❑ Separate wing

By signing below I acknowledge that I have agreed to participate in this study according to the conditions outlined in the letter that I received with this questionnaire.

_____ _____

Signature of Principal or Designee Date

* Please return this questionnaire in the self-addressed envelope provided.

Thanks again for your timely response ~ *Keisha Cook, Doctoral Student, The University of Southern* Mississippi

APPENDIX B

INSTRUMENT PERMISSION

-----Original Message-----
From: Scott Rudes <smr0726@tampabay.rr.com>
Sent: March 06, 2009 9:40 AM
To: burney_keisha@hotmail.com
Subject: Re: Your Dissertation

Keisha-

Sorry for the delay! Thank you for your e-mail and interest in doing a follow-up on my study. You definitely have permission to use my instrument for your study. Please let me know if you need me to send you an electronic copy of it in case it would make it easier to adapt it. I look forward to being in touch with you about your study!

-Scott Rudes

Keisha Burney wrote:

Dr. Rudes,

My name is Keisha Cook and I am a doctoral student at the University of Southern Mississippi. I have been looking at your dissertation for about a year now because I want to do a similar study for small learning communities in Georgia. Dr. Roberson thought that I should give you a call and see if you would be willing to discuss your research. She thought a Georgia study would be a great follow-up!

I am so excited that I googled you, and a phone number came up, and your wife was super sweet when I was inquiring about you.

In the meantime, can I use your instrument for the pilot study that I am doing this semester?

I will modify it a bit to fit my needs if I cannot identify SLC school right away in Georgia.
Please give me a call at 706-442-6277 or shoot me an email. I need your permission to use your instrument now but if you are willing to talk about your dissertation with me we can talk much later. I will complete my coursework this summer and I will have my literature review done.prayerfully.

Keisha Cook

Hotmail® is up to 70% faster. Now good news travels really fast. Find out more.
Windows LiveT: Life without walls. Check it out.

APPENDIX C

SAMPLE LETTER TO SCHOOLS

3735 Arrel Drive
Columbus, GA 31909

Ms. Jane Doe
Assistant Principal
Peachy High School
Peachy, Georgia 77777

Dear Ms. Doe

As part of requirements for the completion of a PhD in Educational Leadership at The University of Southern Mississippi, I am conducting a study on strategies and structures employed in improving ninth grade academic achievement. To complete my study, I would like to request your assistance. The brief questionnaire attached will ask you to provide some information about the smaller learning community programs that may or may not be currently offered at your school. The data obtained from the questionnaire will be used to conduct research on the relationship of smaller learning communities and 9th grade student achievement and graduation rates.

Completion of this questionnaire is greatly appreciated but voluntary and your participation may be discontinued at any time. Your school name and school district name will not be disclosed and remain confidential but the research findings from this study will be used to complete my dissertation. If another member of your faculty or staff is directly responsible for the areas that this study targets, please forward this questionnaire to that individual for completion.

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subject follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (601) 266-6820.

Should you have any questions or want to know the final results of my study, please contact me at 706-442-6277, or at burney_keisha@hotmail.com. For your convenience, I have provided a self-addressed envelope for the return of the questionnaire. Please return it by Friday May 4, 2012. Thank you for completing and returning the questionnaire in a timely manner.

Sincerely,

Keisha Cook
Doctoral Student
The University of Southern Mississippi

APPENDIX D

IRB APPROVAL

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

The risks to subjects are minimized.

The risks to subjects are reasonable in relation to the anticipated benefits.

The selection of subjects is equitable.

Informed consent is adequate and appropriately documented.

Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.

Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.

Appropriate additional safeguards have been included to protect vulnerable subjects.

Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.

If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 12032801
PROJECT TITLE: Do Smaller Learning Communities Have an Impact on Mathematics Student Achievement and Graduation Rates in the State of Georgia?
PROJECT TYPE: Dissertation
RESEARCHER/S: Keisha Cook
COLLEGE/DIVISION: College of Education & Psychology
DEPARTMENT: Educational Leadership & Counseling
FUNDING AGENCY: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF PROJECT APPROVAL: 04/17/2012 to 04/16/2013
Lawrence A. Hosman, Ph.D.
Institutional Review Board Chair

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