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LOST IN TRANSITION: A GRADE NINE TRANSITION PROGRAM USING
ARTICULATION ACTIVITIES

A dissertation submitted

By

Denise Allen

To the faculty of the
University of Louisville
In partial fulfillment of
the requirements for the
degree of

DOCTOR OF EDUCATION

College of Education and Human Development
University of Louisville
Louisville, Kentucky

May 2011

LOST IN TRANSITION:
A GRADE NINE TRANSITION PROGRAM USING ARTICULATION ACTIVITIES

By

Denise Allen

A Dissertation Approved

March 29, 2011

By the following committee:

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DEDICATION

This dissertation is dedicated to my late father, Tommy Cox, who believed in the pursuit of academic excellence. I also dedicate this work to my husband, Terry Allen. I would like to thank my husband for his support, encouragement, and patience through three years of research. There is no doubt in my mind that without his continued support and push I could not have completed this process.

I would also like to dedicate this dissertation to my mother, Lois Cox, and two sons, Brett and Brian Allen, in their support in completing this dissertation. Finally, I would like to dedicate this dissertation to the staff at Mount Washington Middle School in Bullitt County, Kentucky and members of the Bullitt County Central Office and Bullitt East High School staff that provided support in assisting me in retrieving data and aide in locating resources.

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A special thanks to Dr. Robert Ronau, my committee chairman for his guidance, reading, encouraging, support and most of all patience throughout the entire process in developing this dissertation. His passion for research and quantitative analysis has been inspirational. I wish to thank my committee members who were more than generous with their expertise and precious time, Dr. Molly Sullivan, Dr. Tom Tretter, Dr. Bill Bush, and Dr. Sam Stringfield. I thank each and every one of them for their contribution and positive support.

ABSTRACT

LOST IN TRANSITION: A GRADE NINE TRANSITION PROGRAM USING ARTICULATION ACTIVITIES

Denise Allen

March 29, 2011

The purpose of this study was to investigate the impact of a set of structured articulation activities on the transition of students from grade eight to grade nine. Data were collected by retrieval from the state data collection system. This study was time-interrupted series with a treatment (implementation) group and two comparison groups analyzed using the MANCOVA approach. The study relied on the literature review of three vital concepts: organizational learning; high reliability organizations; and effective schools.

Descriptive data were gathered through the state- wide Infinite Campus program. The study is quasi-experimental design with a quantitative analysis. The outcome data were analyzed using two-way ANOVA (analysis of variance) and MANCOVA (multivariate analysis of variance). The results of the study indicated statistical significance in the areas of GPAs, final mathematics grades for a given year, student

behavior, and results on standardized tests. The results have potential implications for educators. There are policy implications for increasing the cooperation between middle and high schools.

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CHAPTER ONE

INTRODUCTION

Too many students become lost in the transition from middle school to high school. Academic success spirals downward and absenteeism accelerates, causing students to fall further behind their grade level peers and ultimately fail to graduate. The physical, social, and emotional developmental issues that young adolescents face complicate and intensify the environmental changes as they transition from middle school to high school. These environmental changes may include larger, more impersonal and unfamiliar school cultures and more rigorous academic coursework. The consequences of an ineffective transition to high school often translate into low achievement, high-dropout rates, and low graduation rates (Kennelly & Monrad, 2007).

Over the past 30 years, the number of students retained (and hence enrolled) in ninth-grade has increased. At the beginning of the 1970s there were nationally less than 4% fewer students in grade ten than in grade nine the previous year. By the end of the 1970s retention-by-failure of students in grade nine began to increase so that by the year 2000 there were almost 12% fewer students in grade ten than in grade nine of the previous year (Haney et al., 2004). This expansion of grade nine, commonly referred to as the ninth- grade bulge is the result of grade nine students who fail multiple courses, and as a

consequence, remain in the ninth-grade, thus adding to the number of incoming freshman (Kennelly & Monrad, 2007). Students who enter grade nine with low grade point averages, high absenteeism, and inappropriate behavior incidences have failed to successfully navigate the system at the middle school level. Clearly they were unprepared to handle the increased behavioral and academic expectations of high school. As success breeds success, the converse is true for the students who experience little success in grade eight and who are destined to repeat the cycle in grade nine. According to Hertzog and Morgan's (1999) study of 450 high schools and their respective feeder middle schools, ninth-grade has become somewhat of a holding tank for high schools. More explicitly, students who have experienced a successful transition to grade nine usually move forward on-track to graduate from high school in four years, where their unsuccessful peers repeat grade nine, adding to the incoming first time freshman and creating a bulge in the grade nine student population.

Furthermore, retention-by-failure at the ninth-grade often leads to students dropping out of high school altogether. The rate at which students disappear between grade nine and grade ten has tripled over the last three decades (Haney et al., 2004). Not only does grade nine have the largest failure rate in high school across the nation (George & McErwin, 1999), but also students who have been retained once during high school face reduced chances for graduation by up to 50%. Furthermore, students who have been retained twice have a less than 25% chance of attaining a high school diploma (Hertzog & Morgan, 1999).

Success in grade nine is an important predictor of individual student success and of organizational and school level performance. Research indicates that higher

performing schools function as learning centers (Fullan, 1995). As learning centers, these schools develop the ability to manage change in dynamic environments (Fullan, 1993; Giles & Hargreaves, 2003; Louis, 2006; Silins, Mulford & Zarins, 2002). To manage change, these schools must create mechanisms and systems for such learning to take place. Louis (1994, 2006) argued that schools' capacity for innovation and reform depends on their ability to collectively process and apply the most current information about teaching and learning. This argument is supported by Spender and Grant's (1996) critical analysis of schools' overemphasis on what should be learned, instead of emphasizing the process and how it should be learned. According to Barnes (2000), teachers must be provided with the opportunity to gather and share information on a continuous basis. To accomplish this goal, schools must establish systematic structures, processes, and practices that facilitate continuous learning for all its members (Silins & Mulford, 2002).

The conceptual framework for this study emerges from the work on high reliability organizations (Datnow & Stringfield, 2000; Welck, Sutcliffe & Obstfeld, 2000) and effective schools (Brookover et al., 1982; Edmonds, 1982; Lezotte, 2007; Sammons, 2006) connected through organizational learning (Louis, 1994; Senge, 1990). Both high reliability organizations and effective schools address school improvement at the organizational level, that is, the district and school levels. The components of high reliability organizations and effective schools have been shown to be effective; however they differ from each other, but they do overlap. To better understand how to select and implement parts of both of these models into a school improvement plan, organizational learning was used to bring these two ideas together and develop a set of articulation

activities at the organizational and school levels. Furthermore, transition studies (Blyth, Simmons & Bush, 1978; Isakson & Jaris, 1999; Johnston, 1992; Lee & Smith, 1995; Waggoner, 1994; Williamson & Johnson, 1999) were analyzed and synthesized to better understand how to implement and evaluate the set of articulation activities with a transition from middle to high school focus.

In the last eight years, from 2002-2010, the No Child Left Behind (NCLB) Act of 2002 has placed an increased focus on the achievement levels of at-risk students. Graduation rates and measures of high school proficiency in Kentucky are factored into state-defined standards for adequate yearly progress (AYP). Absences and retention-by-failure rates are components of the non-cognitive data that contribute to school scores. NCLB requires high schools to achieve a graduation rate of 90% or better to meet AYP and to avert subsequent sanctions and consequences (Innes, 2009). Federal accountability and school reporting measures force schools to monitor student absence, behavior, and retention-by-failure rates. With the increased pressures of student and school accountability occurring along with sanctions and consequences from No Child Left Behind, school personnel face a critical need to know what strategies will help their students secure successful transition from grade eight to grade nine.

Limited empirical research that examines the transition from middle school to high school is available. Little research exists which provides specific recommendations on what strategies, activities, and programs school personnel can implement to ensure the successful transition from grade eight to grade nine (Akos & Galassi, 2004; Mizelle, 1995). Therefore, this study addresses a research area of high need.

This study will investigate the impact that a set of structured articulation activities has on the transition of students from grade eight to grade nine. The researcher hypothesizes that these structured articulation activities will have a positive impact on improving student academic performance.

Problem Statement

Most middle and high schools do not usually implement strategies to ensure the successful transition of students from middle school to high school. Mizelle and Irwin (2000) reported that schools implement, on the average, fewer than three articulation activities to support the transition from grade eight to grade nine. Hertzog and Morgan (1999) found that schools that implement five or more articulation activities from the categorical areas of (1) curriculum, (2) facilities, (3) safety and discipline, (4) teachers, counselors, and administrators, and (5) general increased the probability of student's successful transition from grade eight to grade nine. The general category contains any activities that do not directly fall into one of the other four categories. Therefore, with the research by Mizelle, Irwin, Hertzog, and Morgan as a foundation, this study implemented a set of structured articulation activities into an intervention titled the Grant County Transition Initiative. The Grant County Transition Initiative (GCTI) administrative team selected a structured set of twelve articulation activities that encompass all five categorical areas from the research of Hertzog and Morgan (1999).

Purpose of the Study

The purpose of this study is to determine the impact of a set of structured articulation activities on the successful transition of students in the treatment group from grade eight to grade nine.

Significance of the Study

The transition of students from grade eight to grade nine has become a topic of inquiry for school districts across the nation. Too many students are being retained in grade nine, and too many grade nine students are not prepared to graduate in four years with their grade level peers. In the past 30 years, the number of retained students who comprise the freshman class of high school has more than tripled from 8% to 13%, creating the ninth-grade bulge. Grade nine contains the largest percentage of the overall high school population (Kennelly & Monrad, 2007). Lower enrollments are reported in subsequent grades due to the number of retention-by-failure in grade nine. Statistics from the National High School Center (Kennelly & Monrad, 2007) revealed school leaders need for a sense of urgency to address the alarming failure, retention-by-failure, and drop-out data that surround the freshman year of high school. Nationally, the failure rates in grade nine are three to five times higher than that of any other grade (George & McErwin, 1999). Seventy to eighty percent of students who fail to pass ninth-grade will not graduate from high school (Black, 2004), making failing grade nine a strong predictor of a school's increase in drop-out statistics (Carroll & Scherer, 2008).

In 2000, Kentucky had 20% more students in grade nine than in grade eight during 1999. This percent ranked Kentucky in the top six states for having the largest bulge, with respect to its population, in grade nine (Haney et al., January 2004). This rate of failure has impacted the country on a global scale as the United States has slipped from 1st to 13th in the percentage of the adult population with a high school diploma (Wise, 2008). In Kentucky, as in any other state, the results of this situation are critical for

society as a whole. In the 21st century a high school diploma, and the knowledge and skills associated with it, is essential for the majority of jobs.

Little empirical research existed to support the use of a set of structured articulation activities to improve student progress in middle to high school transition; however, research that has been conducted recognized some correlation between the executions of those articulation activities with improved success in grade nine. Early studies (Hertzog & Morgan, 1999; Mac Iver, 1990, Mac Iver & Epstein, 1991) indicated improved student progress data when transition programs included a clearly defined set of structured articulation activities. On the other hand, the wide variety of variables studied exacerbates the task of identifying a reasonable set of structured articulation activities that will ensure a successful transition.

This study expands the existing body of knowledge regarding the potential effectiveness of strategies middle schools or school districts can implement as they relate to transition to high school with specific attention to the implementation of a set of structured articulation activities.

Context-Inception of Grant County Transition Initiative

The Grant County Transition Initiative (GCTI) was implemented at the beginning of the 2008-2009 school year at Grant County Middle School. Grant County High School continued with the same structured set of articulation activities throughout the 2009-2010 school year when this group of students were ninth-graders. This study examines the impact the GCTI had on student achievement and behavior in Grant County. For this study Grant County Middle School was identified as the treatment site and two Bullitt County middle schools functioned as comparison sites. The Grant

County High School staffs were involved in many of the articulation activities as this initiative is an approach to improving the transition from middle school to high school.

The transition research of Hertzog and Morgan (1999) and Mizelle and Irwin (2000) served as the guide for specific articulation activities to be implemented for this study. The literature review detailed in chapter 2 outlines the various articulation activities found in the body of research that support the selection of the specific articulation activities applied in this initiative.

The goal of this study was two-fold: (1) to create an initiative that would positively impact the transition of students to grade nine as evidenced through achievement and behavioral data, and (2) to add to the body of knowledge about the impact of a set of structured articulation activities on the successful transition from grade eight to grade nine.

Research Questions

The original project that focused on four research questions are separated into three individual studies. The four research questions in the original project included:

Research Question 1: What impact does a set of structured articulation activities have on student academic performance?

Research Question 2: What impact does a set of structured articulation activities have on student behavior?

Research Question 3: What impact does a set of structured articulation activities have on Grant County Schools as a learning organization.

Research Question 4: What impact does a set of structured articulation activities have on student attitude?

This study will specifically address the following research questions:

Research Question 1: What impact does a set of structured articulation activities have on student academic performance?

Research Question 2: What impact does a set of structured articulation activities have on student behavior?

Assumptions of the Study

One might assume that the issues students face during transition from one grade level to another are the same. However, during adolescence, the transition to a new environment further exacerbates the complex social, developmental and cognitive issues the learner experiences. School leaders and teachers should consider the transition needs of each student (Mizelle & Irwin, 2000). A study by Firestone and Harriott (1982) suggested that

...the basic organizational structure at the secondary level may necessitate different approaches to improving effectiveness and even different definitions of effectiveness. The results of the study suggest that some of the features that characterize effective schools are significantly less prevalent at the secondary level than in the elementary schools (p. 51).

There are several assumptions that were made in this study. Listed below are the major assumptions fundamental to this study.

1. All the Grant County middle school students in year 2008-2009 went to Grant County high school in year 2009-2010 (and same for Bullitt County).

2. Each of the participating high schools had a ninth-grade Freshman Academy.
3. The Freshman Academies in both counties share common traits.
4. The concept that all students in this study who were included in the general education setting had the ability to demonstrate academic success.
5. The certified staff at all participating schools were highly qualified.
6. Course requirements in each high school were comparable.
7. All participating middle level schools functioned as middle schools with the teaming structure.
8. The school in Bullitt County which functioned as non-treatment groups would refrain from implementing articulation activities.

Summary

In Laskey et al., 2005, they discuss how Stringfield and Land (2002), in their writings, indicated that rigorous research was needed to determine what works in schools since a large number of students were still at risk of failing. Most educators believe that all children have the potential to learn, but many students still have not reached their potential. Since many students have not reached their academic potential, directives from the federal, state, and district level have been placed on schools to align standards and assessments in an effort for students to be more academically successful.

Research reveals that reform programs can temporarily repair schools, but for long term results to occur, the school as a loosely connect set of structures must become a learning organization and must focus on continuous improvement. Creating more

effective schools will require schools to understand and document both what happens in the classroom and at the school level. This change is based on an idea of how fluid change should occur. Organizational learning requires a shared, social construction that is common to all members of the school organization (Louis, 2006). In this study the research on organizational learning, high reliability organizations, and effective schools will provide the groundwork for developing and implementing a program of articulation activities designed to improve student performance and behavior as they transition from middle school to high school.

Despite the progress made in effective schools research, researchers have begun to search for a new paradigm, involving the merging of school effectiveness and school improvement (Reynolds & Stoll, 1996; Creemers, 2002). School improvement should be based upon the awareness of what components within schools and classrooms increase student academic performance (Skipper, 2006).

Chapter 2 presents a review of the research on organizational learning and how this links with the characteristics found in high reliability organizations and effective schools. High reliability organizations and effective schools will set the groundwork for the implementation of a set of structured articulation activities in an effort to improve student academic performance as they transition from middle school to high school.

Definitions of Terms

Advisory Period –a time when teachers and students examine predicted life issues: conflict resolution, diversity, goal setting, and peer relationships.

Articulation activities – activities designed to create a smooth transition from one school level to another, thereby increasing the likelihood of success at the next level. These

activities familiarize students and parents with the new school, the new teachers, and the school's policies, expectations and programs in order to create a seamless transition. In this study they are considered a set of structured articulation activities, with none of the activities considered to be of greater value than others. The activities implemented for this study have been organized into five categories: curriculum; facilities; safety and discipline; teachers, counselors, and administrators; and general.

Curriculum – these activities inform students and parents about curricular expectations, course offerings, the number of credits per year needed to stay on track for graduation, ACT information, homework policies, schedules, etc.

Facilities – these activities acclimatize students to the building to which they will transition.

Safety and Discipline – these activities inform students of the school's discipline policies, dress code, behavior expectations, and student absence policies.

Teachers, counselors and administrators – these activities help teachers, counselors, and administrators build relationships with students and their parents, and provide career expectations and response to intervention opportunities.

General – these activities include any activity that doesn't fall into one of the other four categories.

Athletic competence – the adolescent's perception of his or her athletic ability and competence at sports.

Dropout – a grade 7 through 12 student who leaves school prior to completing the school year or fails to return to school yearly until he or she has completed graduation requirements.

EXPLORE Data – a component of the ACT assessment program (a commercially marketed curriculum-based assessment program) which is designed to help eighth-grade students expand an understanding of their academic development in terms of preparation for future educational opportunities. EXPLORE assesses academic progress.

GCTI – Grant County Transition Initiative.

Horizontal Planning Meeting – a meeting of teachers who teach the same content area at the same grade level. The purpose of the meeting is to analyze and monitor curriculum and student progress.

Individual Learning Plan (ILP) – individual student plans that include coursework, credits, learning style inventories, career goals, grades, behavior, student absence and RTI (response to intervention) plans.

Infinite Campus Student Data Tracking System – Kentucky’s technology system for tracking student information.

Interdisciplinary Meetings – meetings in which educators who teach different content focus come together to discuss strategies to increase a particular student’s progress.

PLAN Data – a component of the ACT assessment that provides tenth-graders with information that will assist them in building a solid foundation for future academic and career success and provide information needed to address school district issues.

Progress monitoring – a system through which educators monitor student performance and set specified timelines and benchmarks.

Retention-by-Failure rate - the percentage of students that do not meet the academic requirements of the institution to move on to the next grade level.

Small learning communities (SLCs) – SLCs are school structures such as freshman academies or multi-grade academies organized around career interests or grade level teams. Students are assigned to a particular SLC and remain with that group of peers and teachers through the school year. SLCs are also known as “schools within a school” (Bernstein, Millsap, Schimmenti & Page, 2008).

Set of structured articulation activities – the 12 articulation activities implemented by Grant County during the 2008-2009 and continued in the 2009-2010 school year.

Student behavior – In this study the target is disruptive student behavior and is defined as behavior that persistently impairs or interferes with the goals and functions of the school setting. A disruptive student is one who interferes with learning process in the classroom.

Tier Consequences – levels of consequences created by the state for individual schools or districts for not meeting specific federally mandated assessment goals. Various tiers result in labeling the school/district as underperforming.

Transition Committee – a committee that includes teachers and, to various degrees counselors and administrators, from a middle school and high school, whose task is to develop a transition program that consists of a set of structured articulation activities for students moving from grade eight to grade nine.

Vertical Planning Meetings – varied grade level same content meetings or varied content (interdisciplinary) meetings. These meetings can extend to school personnel below or above the school level.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter contains the description of and literature support for the conceptual framework of this study, developed from three well established, powerful concepts: Organizational Learning (OL), High Reliability Organizations (HRO) and Effective Schools (ES). It also includes a detailed review of studies that specifically address transition of students from one grade level to another. The integration of these three concepts, organizational learning, high reliability organizations, and effective schools can help an organization increase performance and reliability. Integrating these three concepts is equivalent to installing an attentive infrastructure. In the specific case of this study, this infrastructure would be critical to effective and systematic implementation of the grade eight to grade nine set of structured articulation activities.

In this study, organizational learning effectively connects high reliability organizations with effective schools which provide a robust structure for school reform, lays the foundational structure for developing a transition program, and informs the research and activities for guidance of this study.

Organizational Learning

During the last decade, organizational learning has served as a research based framework for examining school improvement (Cousins, 1998). Organizational learning, for the purpose of this study, is defined as the social processing of knowledge, or the

sharing of individually held knowledge or information in ways that construct a clear, commonly held set of ideas (Louis, 1994). Central to this concept is that organizational learning involves turning facts or information into knowledge that can be shared and acted upon.

Each organization develops unique characteristics that influence the individual members of the organization and are also transmitted to communities of individuals through their history and norms (Fiol & Lyles, 1985). Senge (1990) identified the characteristics of organizations to include the following: systems thinking, shared mental models, team-based learning, and shared vision building. Levitt and March (1988) described organizational learning as routine-based, history-dependent, and target-oriented. Fiol and Lyle's (1985) definition of organizational learning appropriately summarized the particular foundational theory of this study as, "the process of improving actions through better knowledge and understanding "(p. 803).

When applying the theory of organizational learning to transition programs, schools as organizations must work collaboratively to develop a shared vision and a common set of goals for school improvement. The school organization must work systematically to create a process for sharing information within and between schools in order to turn advocacy into action and improve the efficacy of the organization. Effective school transition programs which incorporate the characteristics of organizational learning create clear goals based on better knowledge and understanding of the school's needs and therefore, the schools, become smarter organizations (Coleman, 1974). Combined with vertical and horizontal communication within the organization, transition programs have the potential to successfully impact the organization, student progress,

student behaviors and student attitudes. Organizational learning represents a core competency of both effective schools and high reliability organizations that is paramount to implementing organizational change.

High Reliability Organizations

Welck, Sutcliffe and Obstfeld (2000) determined that the high reliability organization is a conscientious process. High reliability organizations use sophisticated forms of another concept, organizational learning (Marais, Dulac & Levison, 2004). Organizational learning shares the following characteristics of high reliability organizations that embody the high reliability conditions of a school or school system identified by Datnow and Stringfield (2000): a set of clear goals, a shared belief across all levels, and maintenance of databases, repeating standard operating procedures, extensive recruiting, targeted training, two-way monitoring, collegial decision making and strong communication.

Datnow and Stringfield (2000) stated that high reliability organizations such as a school require well-focused coordination among key groups within a school, district, and state. Changing the atmosphere and giving a school new direction requires that the organizational process of change occur from top to bottom during the implementation stages. Those who do the implementation must be involved in the development, yet those leaders at the top must be providing focus and setting expectations. Stakeholders involved in the implementation process must be involved in the developmental process throughout each step of the journey. Datnow, Hubbard and Mehan (1998) propose that social structures such as schools and school systems follow a pattern of emphasis on structure, culture, and agency. In more direct terms these structures are seen as “real

people confronting real problems in classrooms, school board meetings, and reform design labs” (Datnow & Stringfield, 2000, p.8), and as the process of creating the collaborative structure that will create reform of ideas and implementation of those ideas into practical outcomes. For transitions from one grade level to the next to positively impact change, schools must work collaboratively with the feeder schools as students leave and with the receiving schools students enter. In 1994, Dr. Sam Stringfield made a recommendation to the Memphis school system that they consider adopting a set of break-the-mold school reforms. This list of eight reforms included “ATLAS” a model which established a pathway across feeder schools (Ross, 2001). All stakeholders must be involved in the development and implementation of the program for organizational change to produce high reliability organizations.

Schools that employ the characteristics of these three concepts (organizational learning, high reliability organizations, and effective schools) face an enormous amount of pressure from special interest groups that try to influence the organizational change process at both the school and district level. As was observed in the “Memphis Story” stakeholders such as members of the school community and policymakers expect immediate and visible results, which usually include improved test scores (Ross, 2001). Stringfield and Yonezawa (2000) critiqued the impact of district support for schools when implementing high reliability organization characteristics. Stringfield and colleagues recognized the need for unwavering district support in bringing about the changes needed for reform. The effectiveness of the implementation process relies heavily on the support and involvement from district level administrative teams. District support is an example of the high reliability organization characteristic of connecting at

all levels of the organizational structure. For transition programs to be effective, all stakeholders must have a clear understanding (and a commitment to) the purpose of the reform and the goals of the initiative, an understanding of the powers that impact the change, and an understanding of their power in influencing change.

Stringfield and Teddlie (1991) and Teddlie and Stringfield (1993) point out that district leadership, school level administration, and building level instructors need to be prepared to spend the time required to develop an effective program. Stringfield and Datnow (1998) studied numerous school districts, examining why each experienced success or failure with reform movements. Schools that experienced success in organizational change received early district support and used characteristics common to high reliability organizations to establish sustainability for reform. Schools that experienced instability of district leadership often derailed the sustainability of the reform attempt and success if was short-term. Researchers emphasized the need for schools to emulate the following characteristics of high reliability organizations when initiating school organizational change: the need for shared goals, a focus on measures for school improvement, the development of a systematic process for disseminating information, the development of a process of inquiry into what needs to be changed and why, the need for collaborative decision making, and the alignment of policy systems (Datnow & Stringfield, 2000; Rossi & Stringfield, 1998).

In summary, the research clearly directs schools and school districts toward embracing the characteristics of high reliability organizations. These two components, high reliability organizations and an organizational learning structure are critical parts of the foundation for this study's middle school to high school transition program. LaPorte

and Consoline (1991) reinforced the importance of operating under systematic plans to ensure predictable outcomes rather than relying on the trial and error method.

The concepts we have mentioned are strategic, systematic, and paramount to increasing the success rate of transitioning eighth-graders to ninth-graders. The set of structured articulation activities used in this transition program are systematically planned, clearly defined, continuously monitored, and serve to change the organization and produce outcomes of improved student performance, student behavior and student attitudes.

Effective Schools

Schools and district can become high reliability organizations by excelling at the carrying out of existing expertise. An effective school has been defined as one in which students advance academically further than might be presumed based on the student's likelihood of academic performance (Sammons, 2006). Therefore, it is reasonable that effective schools reflect many of the characteristics common to organizational learning and high reliability organizations. High reliability organizations and organizational learning have the following characteristics in common with the research on effective schools: a clear set of goals, systems thinking, shared mental models, collaborative efforts and a shared vision and strong leadership (Lezotte, 2007). These characteristics, when embedded in successful grade eight to grade nine transition programs, develop a strong structure for organizational change in schools.

Proponents of effective schools recognize the school and all its stakeholders have the power to make a difference in student achievement regardless of a student's socio-economic status (Edmonds, 1982; Brookover et al., 1982). This study provides support

to schools by offering them the ability to develop school structures and programs, such as school transition programs that positively impact the organization, student academic performance, student behaviors and student attitudes, regardless of student family backgrounds. The Brookover and Lezotte (1982) study confirmed that all students can achieve at high levels in a variety of school settings from rural to urban, elementary to high school, and among varying income levels. Edmonds' question summarizes the authority of schools in developing organizational structures that make a difference in student outcomes,

What is the interaction between pupil performance and family background? If there is an interaction, is it a correlation or is it a causal interaction? I take this to be a fairly serious question because if you conclude, as does a good deal of the literature, that family and social class causes pupil performance, then the only way to do something about that is to intervene in the nature of the American family, at least those families whose characteristics we have reservations about. If you conclude, on the other hand, that it is merely a correlation, and that social class and family background are not, in fact, causes of performance, then you don't have to intervene in the life of the family. You intervene instead in the nature of the way schools respond to the differences in families that they are supposed to serve (1980, p. 5).

Transition programs provide an avenue for schools to collaborate with students and their families in a positive manner, regardless of the family cultural or socio-economic background.

Edmonds (1982) published the first of several updates to what became known as the Correlates of Effective Schools in the paper *Programs of School Improvement: An Overview*. The first correlates identified the following as what characteristics effective schools had in common: (1) strong leadership of the principal, (2) a focus on instruction, (3) a safe and orderly climate, (4) high expectations for all students, and (5) the use of measures of student achievement. The characteristics of effective schools found that the research of Ainscow and Muncey (1989), Armor et al. (1976), Trisman, Waller, and Wilder (1976), Doss and Holley (1982) continued to support the characteristics found in the research of Edmonds. Case studies noted in *Effective Schools Review* (Purkey & Smith, 1983) reviewed the research of numerous studies all of which recognized many of the same characteristics of Effective Schools.

Effective schools are organizations that are entrenched in a culture of respect, communication, and collaboration among all stakeholders. An example of the connection that exists between high reliability organizations and effective schools is found in the research of Deal, Intilli, Rosaler, and Stack-house (1977). This research is relative to the characteristics of high reliability organizations in suggesting the inclusion of teachers in the development of activities that impact change. The study by Deal et al. suggested that change would more likely be engrained within the culture of the school if teachers were empowered and involved in the process. Transition programs that involve all stakeholders, including teachers, in the development and implementation of a set of structured articulation activities are more likely to experience success.

Effective schools research has evolved through various stages (Lezotte, 2007). Updates to the correlates of effective schools include the addition of the following

characteristics: (1) the use of disaggregated data; (2) school effectiveness judged by results; (3) data-driven decision making; (4) collaboration and ownership among staff; (5) the notion that change is complex, takes time, and is a part of the process; and (6) the need to involve all stakeholders in the dialogue of change. Many of the characteristics focus on organizational change.

Lezotte recognized the importance of system-wide success. “Eventually it became clear that school improvement, resulting in increased student achievement, could only be sustained with strong district support” (Lezotte, 2007, p. 5). Furthermore, the research looked at relationships and interactions between and among members of the system at large.

Common characteristics appear to emerge from the literature of effective schools. These characteristics, universal to organizational learning and high reliability organizations, when embedded in a middle school to high school transition program, change the organizational structure to ensure the likelihood of successful student transition. Research concludes that effective schools are: (1) disciplined, safe and orderly places of learning; (2) schools that have a culture and climate of high expectations for all students’ academic achievement; (3) led by strong instructional leaders; (4) structured in a way that fosters a systematic process of monitoring student progress and program implementation; and (5) places where teachers and leaders collaboratively make decisions based upon data (Sammons, Hillman, & Mortimore, 1995).

An increasing number of researchers are suggesting that the primary focus for school improvement should be an institutional change using organizational development. One group of researchers indicating this focus is Purkey and Smith. Their position is that

organizational change due to a transition program is likely to take root when the entire school culture is moved to action to produce changes in student academic performance, student behavior, and student attitudes. For sustained change to occur a deeper level of commitment is needed. That deeper level of commitment requires changing behaviors and attitudes as well as the school organization. This commitment requires change within, among, and between people and the organization itself (Purkey & Smith, 1982). Without an internal change in the culture of the school, the implementation of the characteristics of organizational learning, high reliability organizations and effective schools will happen only in the form of compliance. Structured articulation activities such as building level tours are surface level activities.

Another concept directly related to this study is “loosely coupled systems” Scholars such as Sarason (1990) and Cohen (1995) have described educational organizations as “loosely coupled systems,” referring to the aspect that while making changes in one area of a school as an organization does not mean there will be a fundamental change in another area of the organization. Weick’s (1976) research indicated that schools are intrinsically loosely coupled organizations in regard to student achievement and classroom instruction. An example found in loosely coupled systems is school based decision making. While this system may be beneficial to the individual school, the district as an organization does not benefit from each separate component of the district making decisions in different directions. The research and study conducted by Marzano and Waters (2009) determined those highly reliable organizations and the highest performing school districts should be tightly coupled systems regarding student achievement.

Weick (1979) viewed school management and classroom instruction as “loosely coupled systems” due in part to teachers’ isolations and the practice of teachers enjoying relatively high degrees of independence. In Figure 1 the model describes the progression of transition from elementary school to middle school to high school. The thin line arrow from elementary school to middle school indicates the loosely coupled system described by Weick above.

In this study the school system is articulating schools to one another, specifically from middle school to high school. Therefore the arrow from middle school to high school is wider indicating that the existing loosely coupled system in this study is attempting to tighten the linkage. Another perspective is that loosely coupled systems are the “glue” that attaches the separate components of the organization together. The implementation of a set of structured articulation activities in this study is designed to tighten the linkage of the system that involves the transitioning from middle school to high school. This particular study is an example of systemic affects.

Figure 1. Illustration of the Focus of the Study

Organizational Learning, High Reliability Organizations, and Effective Schools

The intent of this study is to demonstrate that transition programs that incorporate the commonly shared characteristics of all three concepts of the conceptual framework of this project (organizational learning, high reliability organizations, and effective schools) create organizations that produce positive outcomes. Transition programs that include a set of structured articulation activities emulating the characteristics of these three concepts increase the possibility of successful student transition from grade eight to grade nine. Research has found that when middle school students took part in a middle school to high school transition program with several diverse articulation activities, fewer students were retained in grade nine (Mac Iver, 1990).

Furthermore, when middle school principals were asked, they indicated that they expected fewer of their students to drop out before graduation when a transition program provided supportive advisory group activities or responsive remediation programs (Mac Iver & Epstein, 1991). When strong school leaders work collaboratively with all participants in the development, implementation, and monitoring of a transition program, they increase the probability of program success. Schools that create systemic structures for transition from grade eight to grade nine create organizational change that produces positive results evidenced through student academic performance, student behaviors, and student attitudes (Hertzog & Morgan, 1999).

Conceptual Framework Foundation

Organizational learning effectively connects the attributes of high reliability organizations with those of effective schools to develop a healthy structure for the development of a successful transition program. The structure formed by these ideas

provides a healthy framework to interpret and evaluate studies that address transition issues for students.

Murphy's (1992) study of organizational learning identified the educability of learners, a focus on outcomes and attention to consistency, and coordination throughout the school community to be three critical components in creating a positive change. An example of a study utilizing Murphy's components of organizational learning is Hertzog and Morgan (1999) in their study of 57 middle schools in Florida and Georgia determined that transition programs that embed a set of structured articulation activities serve as the catalyst in producing organizational change that impacts academic performance, student behavior, and student attitudes.

Figure 2. Grant County Transition Initiative Conceptual Framework

The conceptual framework for this study is shown in the diagram in Figure 2. The diagram shows a set of structured articulation activities being implemented based on the foundation of the three concepts of high reliability organizations, effective schools, and organizational learning along with the research that has been conducted in the past on transitioning from one school setting to another. The study's purpose is to show that when this scenario occurs, there is the likelihood that the organization will show a positive change. Student academic performance will increase. There will be a decline in negative student behavior and student attitudes will improve. In general, the conceptual framework demonstrates that schools which employ the characteristics of organizational learning, high reliability organizations, and effective schools to inform their understanding of the transition issues that students face in the move from grade eight to grade nine can move in the direction of developing and implementing a systemic process which consists of a set of structured articulation activities. The set of structured articulation activities implemented in this study are not randomly chosen, but are contextually based on the work conducted by Connell and Wellborn in 1991, Datnow, Park, and Wohlstetter in 2007, and Rumberger and Palardy in 2005.

The Connell and Wellborn framework of 1991 (Appleton, Christenson, & Furlong, 2008) pointed directly to the successful transition of ninth-grade and beyond, linking teacher support to student engagement and success. This model supports the concept of teachers working together to ensure individual student success. According to Connell and Wellborn, there is a need for schools to provide a more caring, personalized learning environment that will positively influence student performance. Middle school students with high levels of teacher support are almost three times more likely to have

high levels of engagement. Articulation activities within the structure of teams and freshman academies serve as the catalyst in creating more personalized environments and more positive transition experiences.

Datnow, Park, and Wohlstetter's (2007) research provides another foundational pillar for this study in support of schools building capacity for data driven decisions, connecting educators across schools in the sharing of student data and the development of intervention strategies to ensure successful transition to high school. Middle school and high school teachers who collaborate and reciprocate in the implementation of articulation activities based on individual student needs help create a smoother transition for students as they enter grade nine. Among the outcomes of the implementation of a set of structured articulation activities are the improvement of student data in the areas of: academic performance, student absence and behavior as they relate to student performance.

Rumberger and Palardy (2005) explored the relationship between school characteristics and student outcomes. Their study recognized that school inputs at the student level + school experiences = outputs in the form of test scores and drop-out rates. Schools have little control over inputs, but they do have control over how they organize and manage school processes and structures. Inputs are considered factors such as gender, culture, and socio-economic status. Academies and teaming are examples of structures and the set of structured articulation activities serve as the processes over which schools have control. The conceptual framework for this transition project reflects the findings from the Rumberger and Palardy study with regard to the characteristics that produce successful outcomes.

Transition Research

This section describes research on three school transitions that students negotiate throughout their schooling: (1) the move or transition from elementary school to middle school, (2) the subsequent transition from middle school to high school, and (3) the move from high school to college. The goal is to smooth out these critical transitions. Student success is in the end a matter of productive transition. Students must successfully navigate a series of transitions through each level of their education. First, the student encounters the entering transition: orientation to the school's expectations; participation in the academic program; acclimating into the student body. Second, the student undergoes the involvement transition, or making progress. Finally, the student experiences the culminating transition, successful transition to the next level of education or life. With each change, students' transition experiences either add to their educational foundation or create a barrier that diminishes their chances of success. The purpose of this section is to examine the various levels of transition and the characteristics of the environment and participating student in an effort to create a set of structured articulation activities that embody the academic, social and emotional level of participating students.

Usually, after five to six years in elementary school, students negotiate the first transition from the elementary school environment to the middle school environment. At this time, elementary students leave behind classrooms where "everybody knows their name," and where students are taught by a single teacher, who serves "in loco parentis", to enter middle schools with departmentalized, multi-teacher schedules. Ordinarily, within a period of only three years, the next transition occurs, as students who have just become accustomed to the culture of middle school move to larger, more impersonal high

schools that are grade oriented rather than student oriented (Eccles, Midgley & Adler, 1984).

Schools that employ the characteristics of the three concepts of organizational learning, high reliability organizations and effective schools, combined with the school experiences of a set of structured articulation activities, exhibit increased student academic performance and student behavior.

Elementary Transition Research

Probably the first transition in school that a student must navigate after beginning school is the transition from elementary school to middle school. Sufficient research has been conducted on transition from elementary schools to middle schools to help provide us with an understanding of the impact such a transition has on students. Research conducted by individuals such as Rockoff and Lockwood (2010), Dutrow (1997), Diemert (1992), and Wagonner (1994) provides insight into the difficulties that occur for students as they maneuver through one of the most significant experiences in their young lives as they transition from elementary school to middle school. During this transition period from primary school to middle schools, students face a range of new demands that are associated with such varied issues as school structure, classroom organization, varied teaching strategies, academic standards, and teacher expectations (Blyth, Simmons & Bush, 1978).

The transition from elementary school to middle school can be characterized by a focus shifted more toward academics and less on the affective development of students. Major considerations should be given to meeting students social needs. An example of this is the major issue for students of self-perception. Diemert in 1992 conducted a

survey of 23 fifth graders in a middle level school focusing on self-perception. The survey indicated that at least 50% of both boys and girls reported that social needs were a priority for them. The changes in self-perception for students making the transition from elementary to middle school is similar to that experienced by students making the transition from middle to high school. Another example of a focus on social needs is the study conducted by Waggoner (1994) of 171 sixth-graders focused on students' self-esteem. His study indicated that upper elementary students who rotated between classes have fewer concerns when transitioning into middle schools. The results indicated that these students were more confident in adjusting to the demands of the middle schools. The rotation mirrored middle school class changes and allowed students to interact with various student groups and adjust to different teachers' expectations. Another aspect that affects transition is the fact that elementary schools tend to be task oriented, while middle schools are focused on performance (Midgley, Anderman & Hicks, 1995). As students move from elementary to middle school the student-teacher relationships change due to the number of individuals with which the student is now working. Middle school teachers may have five classes of 20 students in each, which reduces the time spent with each student and makes it harder to forge that all-important teacher-student bond. Elementary teachers may have one group of 26 students, thus allowing them to know and serve their students more personally. The situation often results in a change from small-group or individual instruction to whole-class instruction.

Yet another aspect of this transitional period involves motivation and performance. Eccles and Midgley (1989) describe studies in which students, in transitioning from the elementary setting to the middle school, experience a decline in

motivation and performance. In the elementary schools, student success depends on effort; in middle school, student success depends more on ability and competition. Rockoff and Lockwood (2010) conducted a study using data from the New York City schools for students in grades three through eight from 1998-2008. Data were gathered on individual academic achievement as measured by annual standardized test scores in English and mathematics. Scores were compared of students in both middle schools and K-8 settings. The results, though complex, indicated that students who enter public middle schools in New York City fall behind their peers in K-8 schools. The researcher of this study suggests that a contributing factor may be that when students enter middle school, frequently, they are arriving from several different elementary schools.

In conclusion, as students move from elementary to middle school, they experience intellectual, moral, social, emotional, and physical changes. For a student to make a smooth transition, Schumacher (1998) recommends elementary students receive assistance before, during, and after the move to avoid damage to their social, psychological, and academic well-being. Highly organized elementary schools would benefit, as well, from the transition research in developing transition programs that include a set of structured articulation activities to better prepare students for the move to the middle school. Many of the same concerns students face in transitioning from elementary schools to middle schools are also found in the transition from middle school to high school.

Middle School to High School Transition Research

One of the initial roles of the middle level education movement was to coordinate adolescents' transition into high school (Vars, 1998). In recent years middle schools developed transition programs to address the needs of students. However, young adolescents are still having trouble making the transition into high school. To ensure that young adolescents make an effective transition into high school, middle and high school educators must work together with parents and students to structure their programs and curriculum so that young adolescents "experience a seamless transition between schools" (Williamson & Johnson, 1999, p. 16).

The studies cited below provide empirical evidence of what matters most in determining a successful freshman year of high school. Barone, Aquirre-Deandries and Trickett (1991); George and McEwin (1999); Hertzog, Morgan, Diamond and Walker (1996) note the challenges eighth-graders experience in the transition from the middle to the high school. As a result of these and similar studies, more "schools in the middle" are developing transition programs aimed at meeting the specific needs of the adolescent as they enter high school (Cognato, 1999). According to Gruhn and Douglas (1947); McErwin (1998), Vars (1998); and Williamson and Johnson (1999), educators need to implement a set of structured articulation activities and practices at both the sending and receiving institutions to ensure successful entry into high school and throughout grade nine.

A longitudinal study conducted by Isakson and Jaris (1999) and qualitative studies by Kinney (1993) and Morgan and Hertzog (2001) found that many current transition programs function at the surface level by implementing a small number of activities designed to ease the transition from middle school to high school. These

surface level activities usually include discussion about course offerings and building tours. Even though familiarity with courses and the facilities are important in initiating a smooth transition, they do not address issues that students themselves see as critical during this time of transition.

A 2006 research summary by the National Middle School Association (NMSA) reported that students are more concerned with affective issues, such as the need to belong, peer acceptance, and fitting in (Oakes, 2009). Academic concerns, though understood by students as important, are less important than these social issues that matter most to students during this period of growth, social development, and self-awareness. Studies showed freshmen are excited about the possibilities of becoming more involved in extra-curricular activities, about meeting new friends, and about the freedom associated with this transition such as having some authority over course selection and electives (Cognato, 1999; Maute, 1991; Mizelle, 1995; Phelan, Yu & Davidson; 1994; and Wells, 1996). This same study found students also admit to the anxieties of not fitting in, fear of harassment and bullying, concerns about getting lost, and worries about making poor grades.

Both the NMSA (2006) and research from the Center for Equity and Excellence in Education (2009) emphasize the importance of the collaborative efforts and shared responsibility from middle school and high school faculty and parents in achieving the goal of student success in grade nine. The collaborative efforts of leaders, counselors, and teachers are critical in developing and implementing a set of structured articulation activities that create a seamless and successful transition to grade nine. In this study, it was vital that all stakeholders at both affected schools be involved in the process of

developing the set of structured articulation activities and the implementation of such activities.

As students transition from one school to another, parental involvement begins to fade. This loss of parental oversight is unfortunate because parental involvement is even more critical during the transition from grade eight to grade nine. According to Linver and Silverberg (1997); Paulson (1994); Paulson, Marchant and Rothlisberg (1998) students who have active and involved parents achieve at higher levels and, as a result, are better adjusted to the new environment (Hartos & Power, 1997). Allensworth and Easton (2005) studied three indicators of success in grade nine: course failure, overall grade point average, and student absence. This study found that 95% of students with a B average or better during their freshman year later graduated from high school. In addition, course failures and the number of credits attained during the freshman year were critical to the performance of grade nine students. A student's being "on-track" is a strong predictor in forecasting graduation from high school. Students are considered "on-track" if they received at least five out of seven credits and failed no more than one course (Allensworth & Easton, 2005). Researchers found that "on-track" students were three-and-a-half times more likely to successfully complete high school in four years than students who were not on track.

Student absence is a critical variable in transition from grade eight to grade nine. The Center for Comprehensive School Reform and Improvement Fund (Oakes, 2009) determined that 90% of freshmen, who miss less than a week of school per semester, graduate. Freshman students who miss more than two weeks of school, on average, fail

at least two classes. Of students who missed five to nine days of school in the freshman year, only 63% graduated compared with 87% who missed fewer than five school days. “Attendance not only predicted graduation, but it is also predicted course failure. Grade nine attendance rate was eight times more predictive of course failure than grade eight test scores” (Allensworth & Easton, 2005, p. 16).

Freshmen who arrive with high achievement test scores and who miss more than two weeks of school were found to be more likely to fail a course than freshmen who miss only one week of school yet have low achievement test scores (Allensworth & Easton, 2005). Further statistics from this study showed that more than half of the Chicago freshmen failed a class, 40% or more freshmen missed more than a month of school, and the average GPA was lower than a “C”. A solid transition program will include activities that focus on encouraging students to come to school. The set of structured articulations implemented in this study include strategies for encouraging students to attend school. A component of the study includes analysis of student data focused on changes in student absences after the implementation of the set of structured articulation activities. The hypothesis is that the implementation of the set of structured articulation activities will result in an improvement in individual student absence which is very critical to the success of a student in grade nine.

In summary, addressing successful transition to grade nine does not start with grade nine; it must start in the middle school. The transition into high school involves the middle school program, as well as the implementation of specific articulation practices at the time of the transitions (Gruhn & Douglass, 1947; McEwin, 1998; Vars, 1998; Williamson & Johnston, 1999). For a successful transition from middle school to high

school there must be a purposeful focus on meeting the specific needs of the adolescent. These include academic concerns, social issues, student absence, entering ninth-grade on track, and parental involvement. This study proposes that successful middle school to high school transition programs help create a seamless transition to grade nine by focusing on the above-mentioned needs of the adolescent.

High School to College Transition Research

One of the last transitions to take place during a student's educational career happens during the move from high school to college. For others, this process ends as students leave high school and enter the world of work. With each transition, students increase their chances of becoming lost in the process unless schools implement research based practices that help create a sense of community (Lee & Smith, 1995; Lee, Bryk & Smith, 1993; Johnston, 1992; and Bryk & Driscoll, 1988). During any transition period, students' grades, student absence, and behavior may be negatively impacted unless schools have in place programs that include a set of structured articulation activities to increase the likelihood of a successful transition.

The UCLA Center for Mental Health found that the successful transition of high school students to college needed a solid system of transitional activities to help students experience success during their first year of college (Journal of College Admissions, 2009, p. 18). The center suggests the following: (1) develop an individual transition plan, (2) ease anxieties and strengthen specific coping with self-advocacy attitudes and skills, (3) ensure availability and access to relevant support mechanisms, (4) ease into college demands, (5) minimize financial concerns, (6) monitor, problem solve, and celebrate successes, and (7) revamp plans and supports. The use of these transitional strategies is

predicated upon developing support systems at the level that a transitioning high school student will find helpful and productive. The Center's research indicates the importance of preparing the ground for new students to find support systems that invest in their well-being. Like the transition from middle school to high school, the transition from high school to college is also filled with many challenges for students.

As it was determined that being "on-track" academically was beneficial for students in transitioning from middle school to high school, Bragg and Rudd (2007) found that students who experienced success during their high school career through college dual credit courses experienced success rates that were significantly higher than their peers who did not have the same experiences. The transition process where "dual credit" opportunity existed for students proved helpful to students when they began their college experiences. Reducing the remediation process at the college level also proved to be significant as well. Again, the transition process from one level to another was influenced by the introduction of specific interventions that helped the high school students in transition to college.

Another aspect of transitioning that is very beneficial when transitioning from high school to college is the need to prepare students for careers and employment. Waggoner and Blackorby (1996) found in their examination of high school seniors that almost half of the students in the population pursued a bachelor's degree. This finding supports the importance that students recognize the demands of the present day economy and the need for further education beyond high school. Waggoner and Blackorby (1996) concluded that the employment needs of our society require educational credentials that address skill, knowledge, and work ethics. Tech Prep, along with dual credit, is a strong

transition program that helps students move into college with success as pointed out by the Abell Foundation and their Jump Start program implemented in Baltimore City, Maryland (Abell Foundation, 2007). The importance of transitioning students towards the demands of post secondary academic requirements and the experience of college rigor course work has proved successful for students. The Abell study found students who took AP course work, regardless of their score on the AP exam, experienced college success. The National Center for Education Statistics (<http://nces.ed.gov/>) in 2009 reported the completion rate of college graduates from 1972 to 2007. This information showed that students are graduating at a 67% rate from colleges in an average of six years to complete degree requirements.

Research shows that students need many of the same types of interventions in the transition from high school to college as they encountered when moving from middle school to high school and from elementary to middle school. These include the following: help in coping with demands and expectations of the new environment, on-going assistance provided before, during, and after the transition, and a focus on student academic and social needs. This study provides information that supports the belief that the transition will be more successful when schools work collaboratively in the transition and when teachers and school leaders create a systemic transition program that includes a set of structured articulation activities to help students be successful in the new educational environment.

Critical Models

“Transition is a process, not an event” (Oakes, 2009). Schools and districts need to design a systematic process of transitions that begin early in grade eight and continue

through grade nine. Some research models support effective transition processes lasting five to six years (NASBE, 2008). This long term model is supported by involving parents and school guidance counselors in working collaboratively to help students realize the connection between course offerings at the middle school and high school levels and their relevance to career goals.

NMSA (2006) found four actions critical to effective transition programs. These actions included the following:

- (1) ensuring collaboration between eighth-grade and ninth-grade building personnel, (2) providing targeted early interventions to support academic recovery and failing students, (3) making available to students and families pertinent and consistent information about academic, social, and organizational similarities and differences between middle school and high school, and (4) offering information on the curriculum, facilities, safety and discipline of the high school (p. 2).

Research by the Center for Equity and Excellence in Education (2009) at George Washington College made the following recommendations to ensure successful transition from grade eight to grade nine:

- (1) ensure that curriculum standards are aligned to prepare eighth-grade students for the challenge of high school work, (2) communicate the importance of literacy, mathematics, science, and social studies through policy and funding initiatives, (3) prepare teachers for teaching challenging content in middle grades, (4) provide structure to support middle school students with the extra help they need for success in high school, (5) ensure that middle school leaders are prepared to implement a program that prepares all students for the transition to college

preparatory courses in high school, and (6) ensure that middle-grade students and parents receive guidance and advice to plan for high school, postsecondary learning, and careers (p. 51-55).

Herzog and Morgan (1999) conducted a study of 57 high schools in Georgia and Florida. The results indicated that high schools which offered extensive transition programs had significant reductions in failure and dropout rates. The researchers concluded that schools which included activities such as counseling, schools visits and special summer programs produce students with higher academic performance. Schiller (1999) noted that when students enter high school “on-track” with their middle school peers, they tend to earn better grades.

Many studies have been conducted on the effect on student success of double transitions versus the single transition. Double transitions are defined as a move from elementary to middle and then another move from middle school to high school. Single transitions are experienced by students who make only one transition from K-8 to high school.

Alspaugh (1998) found that when students participated in the double transition, greater achievement loss and higher dropout rate occurred than if they had only taken part in one transition. In response, schools incorporated transition programs in an attempt to provide students with extra help with academics and with other types of support. This support came in forms such as tutoring, counseling, advocacy, and included an effort to increase parental involvement. Manning and Baruth (1995) provided evidence that such programs produce positive results in student performance and attitudes. An example of a school attempting to make such changes was the Culbreth Middle School Communities-

In-Schools High School Transition Initiative. Chapman and Sawyer (2001) supported the needs for schools to provide collaborative efforts among middle school and high school faculty to address the needs of at-risk students. All participants deemed the program to be successful.

Sunrise Middle School in inner city Philadelphia created a comprehensive program for middle school students as they transitioned into high school. The Community for Learning Program (CFL) provided the following key components to middle school students at Sunrise Middle: (1) support and training for the middle school teachers, (2) learning systems to assist students in developing a sense of responsibility for their own learning and behavior, and (3) emphasis on community and family involvement. The results from this program indicated that students who participated were more successful as they transitioned into high school than students who did not have the opportunity to participate in the program (Oates, Flores & Weishew, 1998).

In an effort to keep incoming ninth-grade students from getting “lost” in the high school setting, Needham B. Broughton High School in Raleigh, North Carolina, created a comprehensive transition program called Project First Step. The program included strategies to help students stay on track and was designed with the student driver as the theme. This included among other programs, “Homework Repair Shop”, a lunchtime program which allowed students to spend their lunchtime completing missing assignments for credit. Project First Step was determined to be successful as it provided an avenue for students who have been sheltered in middle school to find success in the high school setting (Hertzog & Morgan, 1999).

Allensworth and Easton (2005), working at the Consortium on Chicago School Research at the University of Chicago, determined that not only was course failure common in Chicago high schools, approximately half of ninth-graders were failing at least one course during their first semester of high school. During the next few weeks, the consortium worked to develop a statistical predictor of student progress toward high school graduation. The Consortium, in collaboration with the Chicago Public Schools, worked to develop and incorporate an “on-track” indicator to measure high school student performance. Reports showed improvement in freshman “on-track” rates in Chicago Public Schools during the period of 1993-1994 and 1999-2000 school years (Allensworth & Easton, 2005) due to school climate and structure.

Summary

In summary, students struggle with the physical changes, social pressure and increases in academic expectations that come with every transition, whether it occurs from elementary to middle school, middle school to high school or high school to college. During this time of transition, students frequently begin the downward spiral in academic performance, student absence and poor behavior in schools and colleges where there is the absence of a systematic process for addressing the transition. During times of transition, schools that work collaboratively in developing systematic processes for implementing a set of structured articulation activities increase the chances of student transition success, minimizing drop-outs, retention-by-failure, and poor academic and behavior performance.

In this study, the GCTI focuses on the implementation of a set of structured articulation activities introduced to the eighth- grade class of 2008-2009 at Grant County

Middle School and involved the ninth-grade class at Grant County High School that same year. To strengthen the study, two middle schools in Bullitt County, Eastside Middle and Mount Washington Middle are used as comparisons, neither receiving the treatment.

Implementation

Research on Fidelity of Implementation

The discussion of fidelity of implementation in educational studies of transition and sets of structured articulation activities should include the Hertzog and Morgan study of 56 high schools in the states of Georgia and Florida in 1996. This researcher found the work by Hertzog and Morgan to be referenced more than any other connected to transitions. In the past, most of the literature consisted of individual school's efforts to smooth the transition without the details of program effectiveness. The Hertzog and Morgan study was different in that the researchers developed a survey which included 97 middle schools and 56 high schools. The purpose was to evaluate the transition practices in place at that time. The analysis provided interesting connections between the various types of programs and the extent of implementation in the participating institutions. The researchers found a connection between the number of transition articulation activities and successful transition from grade eight to grade nine.

The National Education Longitudinal Study of 1988 (NELS: 88) (Ingels et al., 1998) was the first stage of a major longitudinal study designed to provide trend data gathered at critical transitions in a student's life. The data were gathered as students moved from elementary school to middle school to high school and on to college or career. At the time of the study's implementation, it was the first to contain such comprehensive objectives in the educational arena. The study contained the following

specific characteristics: (1) four different sources of information; (2) planned integration of student, parent, school and teacher studies; (3) initial concentration on eighth-grade cohort with planned two-year interval follow-ups; (4) components that allow for geographic and demographic subgroup analysis; (5) links designed to connect to previous longitudinal studies and current studies (Ingels et al., 1998). The central theme of this study was that education in America is a lifelong process intertwined in a complex social context. The key topics in the NELS: 88 included: (1) math and science programs, (2) effective schools, (3) academic growth, (4) dropouts, (5) disadvantaged students, (6) language minority, (7) transition to high school, and (8) peer groups. This longitudinal study consisted of a large, nationally representative sample of eighth- grade students (N = 24,599) from 1,052 schools, with 22,651 parents, 1,035 administrators, and 5,193 teachers completing job related questionnaires. The longitudinal study has been cited in numerous articles since its implementation.

Fidelity and Implementation of Organizational Change

The process of change in the educational community can lead to “overload and extreme fragmentation” according to Fullan (2000, p. 1) if the fidelity of the implementation falls victim to grim troubles. Fullan described reform efforts as not fully developed and never developed into “strong institutionalization” (Fullan, p.1). In other words, the change process is introduced, but early success fails to create the implementation of the change into long term sustainability. Newmann and Wehlage (1995) found that successful change required the following elements: (1) the development of professional learning communities by teachers and administrators; (2) a clear focus on student work, and (3) the change of instructional strategies that produce

results. They indicate that these changes need to be continuous and long term so that the change or reform becomes sustainable and effective. Recognizing the problems and developing action plans that will address the problem is a strong characteristic of positive change. Fullan (2000) explained that simply restructuring provided little or no improvement in the “quality of teaching and learning” (p. 3). He indicated that “reculturing involves going from a situation of limited attention to assessment and pedagogy to a situation in which teachers and others routinely focus on these matters and make associated improvements” (p. 3). This process, along with structural change, can produce “internal school development” which enhances positive change. Therefore, the transitional changes that can occur during an action plan that changes student behavior and academic outcomes needs a combination of culture and structural change.

Huberman (1973) reported that “things or information are easier to cope with than change in practice, attitudes or values” (p. 10). For example, introduction of the white boards as added equipment in a classroom can be viewed as easier than the implementation of common course planning for teachers to understand and accept. This aspect of change in reference to the transitional process of moving eighth-grade students to the ninth-grade successfully is more than a physical movement of students to another level of academics. It represents a change in the implementation of new strategies that will enhance success for students. These strategies are directed toward changing “practices, attitudes, and values” for district and building level administrators and teachers in the implementation process.

The change process is difficult to develop, complicated to implement, and even harder to sustain. Greenwood, Mann, and McLaughlin (1975) found in their in-depth

examination of the process of change in education that “projects generated essentially by opportunism were characterized by a lack of interest and commitment on the part of local participants, from district administrators to classroom teachers (p. 20). This culture created an atmosphere of indifference toward the change and the results of the change had little or no impact on the desired outcomes from the process. In contrast, Iver, Abele, Kemper, and Stringfield (2003) in their four year study of The Baltimore Curriculum Project found that district and building level support can produce positive outcomes. They reported “In schools where teachers have become heavily invested in the program and scores are rising, we believe it is particularly important to continue implementing the reform, as change would be potentially disruptive” (p. 7). This aspect of “buy in” is an important aspect of the change process that Datnow and Stringfield (2000) identified as a clear need for any change to occur with reliable results.

Miles (1998) examined the change process in education and in that process developed a list of the change “odyssey.” He described many strategies implemented over the years directed specifically at school change: train individuals in group skills; clarify concepts of innovation; diffusion and adoption, and; train change agents. These variables of the change process describe to teacher educators the skills necessary to make change as an intense and dramatic attempt to change how students will perform academically. The transition of students from grade eight to grade nine is a good example of that process, in which Lee (2001) suggests that outcomes be evaluated on the basis of two tiers: one being the “effectiveness, popularity and fidelity” of the change, and; the other being “adaptiveness and survival or longevity” of the outcomes of the process. The process of seeing students achieve better results from the transitional,

physical, and mental movement from one grade level to another is the “clear vision” of the implementation processes for a school district and school to achieve.

Summary of Implementation of Organizational Change

Vail (2010) indicated that change “takes courage and it’s not for the faint of heart” (p. 3). She explained that the fidelity of implementation of change requires the total buy-in of all individuals involved in the change. In her examination of the Adams County School District 50 in Colorado, she found the change process fully implemented. Fidelity of implementation was evident in her review of the district’s Re-inventing Schools Coalition which created skill levels for students to progress through grade levels. The program produced a 95% transition rate to college or the military in schools that were producing half of that success before the changes were made. A key element for success was the commitment of 80% of all the teachers working together in this format.

Horner et al.(2005) concluded in their research on the implementation process of a “practice” introduced to make significant change was that it “must be described with sufficient precision so that individuals other than the developers can replicate it with fidelity” (p. 176). In education reform efforts, this aspect of creating change must have longevity. Horner and others explained the importance of documenting the change so the implementation of the practice was done with fidelity. The outcomes should be proved with solid documentation supporting the implementation.

McLaughlin (1990) found through his study of educational change that the following variables needed to occur consistently in effectively delivered educational change:

(1) concrete, teacher-specific and extended training, (2) classroom assistance from local staff, (3) teacher observation of similar projects in other classroom, schools, or districts, (4) regular project meetings that focused on practical issues, (5) teacher participation in project decisions, (6) local development of project materials, and (7) principals' participation in training (p. 12).

According to McLaughlin, the emphasis on “local expertise, capacity, and sophistication” will enhance the motivation and implementation of the change process. The building of a transitional action plan for moving eighth- graders to the ninth-grade needs the fidelity of implementation to be strong and effective.

Summary of Implementations

With monitoring comes the responsibility of ensuring that fidelity of implementation is followed as prescribed in order to add validity to the program or process. As with the implementation of this study's grade eight to grade nine transition programs embedded with a set of structured articulation activities, school leaders must: (1) work collaboratively with all stakeholders to create the vision of the study, (2) collaboratively develop the systemic processes to be followed in the program, and (3) monitor the fidelity of implementation for program effectiveness. Far too many programs are initiated and dropped due to lack of successful results when the lack of program success was due in great part to the lack of fidelity of implementation. This study on the implementation of a set of structured articulation activities in the Grant County Transition Initiative will provide a systematic process of monitoring to ensure the fidelity of implementation to support the program's validity and reliability.

Final Comments

The supporting literature of this study provides a foundational structure for developing a grade eight to grade nine transition programs that incorporates the characteristics common to organizational learning, high reliability organizations and effective schools. Louis (1994, 2006) contended that a given school's ability to implement innovation and reform depended on the school's ability to process, understand, and apply knowledge as a group towards teaching and learning. Therefore, schools need to establish "systematic structures, processes and practices that facilitate continuous learning of all its members" (Sillins & Mulford, 2002, p. 444).

The introduction of the Grant County Transition Initiative includes a systematic process for organizational change through a set of structured articulation activities that may impact outcomes in the transition from middle school to the high school. The GCTI used the knowledge of the literature to create the vision for employing change by working collaboratively with school leaders and district stakeholders in the development and implementation of the initiative. For long term sustainability, changes in school structure and the organization must occur as well as changing people and processes. A set of structured articulation activities occurs at the surface level to some degree in most schools across the country in the transition from grade eight to grade nine. To ensure the positive outcomes of student academic performance, student behaviors and student attitudes during that transition, schools must intentionally, systematically and collaboratively develop a process for implementation. A structure for monitoring the progress and fidelity of implementation of a set of structured articulation activities must be included.

The product of this study, the Grant County Transition Initiative, will examine the results of a systemic process for implementing a set of structured articulation activities in the transition from grade eight to grade nine that serve to develop organizational change that produces the outcomes of improved student academic performance, student behavior, and student attitudes.

CHAPTER THREE

METHODOLOGY

This chapter's research design components addressed below include: research questions, population and samples, implementation of the treatment, analytic methods and limitations inherent in the study.

Research Design

Research Questions and Purpose

The review of prior research indicated that few middle and high schools systematically implement strategies to ensure successful transition of students from middle school to high school. The focus of this research is on how programs in school districts that implement a set of structured articulation activities affect the successful transition of students from eighth- to ninth-grade. A related set of studies addressed a set of specific research questions that collectively operationalized the impacts that will be investigated. This particular study addressed research questions 1 and 2 below, however, two other research questions not part of this study also contextualized the specific focus of this study within the larger framework of the set of studies which were initiated by a transition team that designed, implemented and investigated a school implementation plan focused on the successful transition of students from grade eight to grade nine.

Research Question 1: What impact does a set of structured articulation activities have on student academic performance?

Research Question 2: What impact does a set of structured articulation activities have on student behavior?

Research Question 3(not part of the study): What impact does a set of structured articulation activities have on Grant County Schools as a learning organization?

Research Question 4 (not part of the study): What impact does a set of structured articulation activities have on student attitude?

Implementation of Grant County Transition Initiative (GCTI)

The Development of (GCTI)

Middle school and high school teachers, administrators, and counselors established a freshman transition committee during the initial stage of the GCTI initiative, in summer 2008. This voluntary committee reviewed the literature on articulation activities and collaboratively selected the activities to be used in this study. Hertzog and Morgan (1999) stated that when five or more articulation activities are implemented the likelihood of transition success increases. The GCTI committee eventually selected 12 structured articulation activities for this program. The specific activities selected had particularly strong literature support and were based on convenience, feasibility, and activities with evidence of success in the literature. Committee members intentionally selected articulation activities to address the categorical areas identified in chapter 2 (curriculum, facilities, safety and discipline, teachers, counselors, administrators, and general).

Structured Articulation Activities

Hertzog and Morgan (1999) found that schools that implement five or more articulation activities within the areas of curriculum, facilities, safety and discipline,

teachers, counselors, and administrators, increase the probability of successful transition from grade eight to grade nine. The committee of this study selected a set of 12 structured articulation activities based on the research of Hertzog and Morgan (1999) and MacIver and Epstein (1991). They encompassed one or more articulation activities from each of the five categorical areas as shown in the following table:

Table 1

Selected Structured Articulation Activities Organized Around Five Categorical Themes

Curriculum	<ol style="list-style-type: none"> 1. A meeting preceding the freshman year was held with grade eight parents so that parents could become familiar with the high school scheduling process and to develop a preliminary student schedule for their child's upcoming freshman year. 2. Teachers were engaged in team building sessions with grade eight and grade nine students to discuss college readiness and review prior EXPLORE data and PLAN data to prepare students for these assessments. These meetings also addressed the impact of a set of structured articulation activities on student progress. 3. Grade eight teachers and grade nine teachers met to discuss each student's progress. The frequency of the meetings varied depending on the needs of each child, but most teachers met once a month to review student progress. A data summary was developed for each student. Included in this tracking system were: absences, behavior, GPA, final grades in language arts and mathematics, and number of student F's earned.
Facilities	<ol style="list-style-type: none"> 4. Grade eight students toured the high school in the spring semester.
Safety & Discipline	<ol style="list-style-type: none"> 5. Two freshman orientation meetings were held with grade eight parents. The first meeting was held preceding the freshman year to discuss the freshman academy, high school behavior expectations, discipline and safety. These meeting were

separate meetings from the scheduling meeting.

6. Freshman Academy teachers (grade nine) and grade eight teachers participated in vertical alignment meetings to discuss curriculum, alignment, behavior and philosophical aspects to prepare students for the transition.

Teachers,
Counselors &
Administrators

7. Grade eight teachers in freshman academy teachers swap places for a day.
8. Freshman teachers, counselors and administrators attended the following: grade eight dances; grade eight trips; and the grade eight picnic and grade eight graduations. This strategy was intended to build positive relationships with students.
9. Identified teachers in core academic area subjects participated in individual meetings with students identified as “at-risk” to build rapport and relationships prior to the start of their freshman year in high school.
10. High school special education teachers attended eighth-grade Annual Review Committee (ARC) transition meetings after January 1st. All students that have an IEP and are in the eighth- grade were required to have a transition meeting in the spring of their eighth- grade school year prior to entering high school.

General

11. During a two -day summer transition program for incoming freshmen, Junior Reserve Officer Training Candidates (JRROTC) orchestrated leadership activities to promote teamwork and organization. Cadets from the high school came to the middle school to lead these sessions.

12. Staff members conducted Counselor/Parent meeting transition
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sessions. This meeting involved eighth -and ninth- grade counselors and eighth-grade parents.

The implementation plan agreed upon by the GCTI Transition Committee required that each month, at least one element from the set of structured articulation activities would be introduced and implemented. Committee members specified which articulation activity to implement during a particular month, and each member had the responsibility of overseeing the implementation and follow-through for a specific activity. Some activities were one-time activities, while others were on-going. The 12 activities were each implemented during a time frame that coincided with the purpose of the activity as seen in Table 2.

Table 2

Timeline for Implementation of Each Structured Articulation Activities

Activity 1 & 2 Curriculum	Activity	January- March: Freshman orientation meeting
	Purpose	The first meeting for grade eight students included parents and school counselors. The purpose of the meeting was to provide an overview of the school, the schedule, course offerings, extra-curricular activities, and academic help available to students. Curriculum and behavioral syllabi were provided. The second orientation meeting occurred in March and focused on the scheduling process.
Activity 3 Teachers, Counselors,	Activity	January – March: Teacher swap

	Purpose	Middle school and high school content area teachers traded teaching responsibilities for one day. Teachers traded places in mathematics, science, social studies and language arts. The purpose was to familiarize grade eight students with their high school teachers and to build student-teacher relationships in advance of students entering high school. These swaps also provided valuable information for the participants of the grade eight and nine vertical alignment meetings with regard to academic and behavioral needs of the incoming freshman.
Activity 4 General	Activity	January – May: Ninth-grade teachers participated in grade eight activities
	Purpose	Grade nine teachers began participating in grade eight activities, such as dances, picnics, sporting events, awards night, graduation and other extra-curricular activities. The expected result of this activity was to develop teacher/student relationships that would carry forward into grade nine.
Activity 5 Curriculum	Activity	January – May: Vertical alignment meetings
	Purpose	Grade eight and grade nine teachers met monthly in content area meetings to focus on students' academic and behavioral issues, such as student absence, behavior, GPA, language arts and mathematics grades, and failure rate.
Activity 6 Curriculum	Activity	January – May: Team building sessions
	Purpose	Bi-weekly teacher team meetings were scheduled in both grade eight and grade nine. In grade eight, students were scheduled in teams. In grade nine, students were scheduled in the Freshman Academy. The teacher teams

		met regularly to monitor and discuss the data collected as a result of the implementation of a set of structured articulation activities, as well as, individual student data with regard to student absence, behavior, GPA, grades in language arts and mathematics, and course failures. If warranted, adjustments were made within the teacher teams to improve student progress.
Activity 7 Curriculum	Activity	February: Guidance Counselor/Parent/Student meeting
	Purpose	This meeting was designed to develop the student's freshman class schedule. At this meeting a guidance counselor informed parents of the high school's academic and behavioral expectations, as well as, of the need for strong parent/school communication and involvement for the successful transition of their child from grade eight to grade nine.
Activity 8 Safety and Discipline	Activity	April: Counselor and Parent meeting
	Purpose	Grade eight students and parents met with the high school counselors. The purpose of this one time meeting was to discuss possible pitfalls of the transition to grade nine (student absence, behavior, homework, etc.)
Activity 9 Facilities	Activity	May: Grade eight tour of the high school
	Purpose	Grade eight students were provided a tour of the high school. The purpose of this activity was to acclimatize students to the new environment and to familiarize students with classroom locations.
Activity 10 Facilities	Activity	June: Grant County Transition Committee met to analyze data

		(Curriculum)
	Purpose	
Activity 11 Facilities	Activity	July: Summer Transition Program (General)
	Purpose	During the summer between grade eight and grade nine, all students were invited to participate in a two-day summer session that took place two weeks prior to the start of the freshman year. The purpose of this two-day session was to provide students with organizational, team-building, and leadership skills. All activities were led by high school upper class members and student Reserve Officer Training Candidates (ROTC).
Activity 12 Teachers, Counselors, and Administrators	Activity	July: At-risk student meetings
	Purpose	Two weeks prior to the start of the freshman year, parents of students who had been identified as at-risk students were invited to attend a private session with school counselors and the academic principal to develop a student data form to help monitor student absences, behavior, and grades. At-risk students were identified as students missing at least 20 or more school days and/or failing one or more courses in grade eight.

Monitoring GCTI Implementation

Monthly transition team meetings were scheduled to monitor articulation activities and student achievement progress. Meetings were data driven with committee members reviewing data with regard to the following: student absences, behavior, grade point average (GPA), language arts and mathematics grades, failure rates, and EXPLORE, and PLAN data. Individual student monitoring data were gathered along

with data for the entire grade eight. Data were collected for the eight dependent variable areas.

Sample

Two similar school districts in Central Kentucky (Bullitt County and Grant County) were chosen for this study. They constitute a convenience sample because they were chosen based on the researcher's access to the requisite district data and ability to influence the implementation of a freshman transition plan. Both districts are located in rural areas with very little ethnic student diversity. The districts are in proximity to urban areas; yet, they have retained a conservative, close knit, sense of community. Bullitt County is the seventh largest school district in the state of Kentucky, consisting of 24 schools, with six middle schools and three high schools. Grant County, a smaller district, has only seven schools, with only one middle school and one high school. At the inception of this project, both school districts had smaller learning communities in place with teaming at the middle school level and freshman academies at the high school level. Neither school district had structured freshman transition plans in place. No systematic process for implementing articulation activities was in place in either district. The two participating high schools, Bullitt East High School and Grant County High School, serve students in grades 9-12. Table 3 displays school-level demographic variables for the schools included in the study.

Table 3

Study Participants' Demographics for 2008-2009 Academic School Year

BEHS	GCHS	EMS	MWMS	GCMS
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Population	1,153	1,090	531	509	848
# of Caucasian Students	1,126	1,058	511	505	818
# of African-American Students	3	8	6	1	6
# of Hispanic Students	11	12	4	2	15
# of American Indian Students	2	3	0	0	0
# of Asian Students	1	2	2	0	2
# of Other Students	10	7	0	0	0
# of Limited English Language Students	0	0	0	0	11
# of Free or Reduced Lunch Students	262	547	81	173	481
# of Identified Students with Disabilities	114	107	55	55	102

BEHS = Bullitt East High School

GCHS = Grant County High School

EMS = Eastside Middle School (Bullitt County)

MWMS = Mount Washington Middle School (Bullitt County)

GCMS = Grant County Middle School

Bullitt East High School in Bullitt County is a small town/rural community school, serving 1,153 students in Mount Washington, Kentucky. It is the second largest high school in the county and has rich traditions and a strong connection to the community. The students at the school performs well both academically and athletically. Bullitt East High has outstanding parental and community support and traditionally scores the highest in state testing among the three district high schools.

Grant County High School is in Dry Ridge, Kentucky. The school is centrally located in the county and, as the only high school, serves as a hub for community activities. Grant County High School is traditionally known for quality academic, fine arts, and vocational programs.

Eastside Middle School is one of two schools feeding into Bullitt East High School. It was built during the 2005-2006 academic school year and students moved into the building in January, 2006. Due to the school's status as a new institution, their scores for the 2005 are simply the district scores. Therefore, Tables 4, 5, and 7 include a dash for the year 2005-2006, a consequence of the school's being new and not having designated state assessment scores that year. The school is housed in a state-of-the-art facility. Eastside Middle School's academic focus is on technology. Eastside is a top performing middle school in the state of Kentucky.

The other feeder school for Bullitt East High is Mount Washington Middle School in Mount Washington, Kentucky, located in the eastern portion of Bullitt County. This middle school is one of the oldest schools in Bullitt County, having been a vital part of the Mount Washington community for over 50 years. The school offers a comprehensive range of courses for all students at all ability levels, as well as, a full range of extra-curricular activities. Eastside Middle and Mount Washington Middle are both nationally recognized Schools to Watch.

Grant County Middle School is the only middle school in Grant County. The mission of the school is to involve students, parents, school staff, and the community in establishing a learning environment that promotes the educational, social, and emotional needs of all students. The school's main academic focus is on school-wide reading.

Tables 4 through 8 describe each participating school's data with respect to student absences, retention-by-failure, dropout, and graduation rates prior to the start of the study. The data are presented to establish characteristics of the schools and describe similarities among the schools.

The tables below represent each of the school's non-cognitive performance indicators from 2004 to 2009. The data were valuable when examining relationships among the confounding and dependent variables. Table 3 defines each school's population as it relates to the study's confounding variables: disability, ethnicity, gender, and socioeconomic status. The numbers indicate that all the schools combined had fewer than 25 total students of minority ethnicity group representation. All of the schools had in the range of 15% to 57% of the students receiving free/reduced lunch and 1 out of every 10 students having an identified disability. The data indicated that the student bodies of all participating schools were composed of primarily middle class Caucasian students. The smallest percent of Caucasian students were enrolled at Eastside Middle School with 511/531 or 96.2% to Mount Washington Middle School with 505/509 students or 99.2% Caucasian students

Table 4

School Attendance Rates (in percents) prior to Treatment

School	2004	2005	2006	2007	2008
Bullitt East High	93.30	94.00	94.00	93.00	93.00
Grant County High	92.20	92.00	92.70	92.00	92.80
Eastside Middle	94.30	-	96.20	96.00	96.10

Mount Washington Middle	95.20	95.00	95.00	95.00	95.40
Grant County Middle	94.80	94.90	95.20	95.00	94.90

Table 4 provides data on the five schools respective attendance rates over time. Student absences were identified as a dependent variable and the focus of research question 2. Both high schools had a lower rate than the middle schools. There was very little fluctuation over time with the percents ranging from 92-96%.

Table 5

School Retention-by-Failure Rates (in percents) prior to Treatment

School	2004	2005	2006	2007	2008
Bullitt East High	3.70	1.90	3.40	2.80	4.60
Grant County High	7.70	8.30	12.80	13.40	1.00
Eastside Middle	3.80	-	0.20	1.10	0.40
Mount Washington Middle	1.90	1.30	2.90	3.80	6.20
Grant County Middle	0.80	0.10	0.30	1.10	0.0

Table 5 reflects the retention-by-failure rates over time for all five schools in this study. Several pieces of data were significant. Grant County High School reduced its retention-by-failure rate by approximately 12% in a single year. In a time when retention-by-failure and dropout rates are increasing, GCHS accomplished an astonishing task in reducing the retention-by-failure by this amount. In 2008, the 12% decrease in retention-by-failure mathematically breaks down to approximately 135 students not

failing at Grant County High School that year. On the other hand, Mount Washington Middle School doubled its retention-by-failure rate in one year from 3% to 6%.

Table 6

9th Grade School Retention-by-Failure (actual number of students failing)

Year	2007	2008	2009
Bullitt East High School	27	13	18
Number of students retained in 9th grade			
Grant County High School	12	10	7
Number of students retained in 9th grade			

Table 6 displays the number of students retained in ninth-grade for each of the participating high schools. In the past three consecutive years Grant County High School the number of students retained in ninth-grade decreased whereas that was not the case for Bullitt East High School. The 2008-2009 school years were the year of actual implementation of the treatment of the set of structured articulation activities. The number of students retained at the ninth-grade for each of the high schools represented the students in the trend data group, year 2008-2009. For the year 2008-2009, Bullitt East High School (BEHS) retained 13 students in grade nine reflecting a decrease of 14 students from the previous year. Grant County High School (GCHS) retained ten ninth-graders, which was also a decrease from the previous year, of only two students. The year after the treatment, 2009-2010, BEHS, actually had an increase of five students

retained in the ninth-grade. BEHS students in the ninth-grade that year were part of the comparison group or non-treatment group. GCHS, which had ninth-graders that year participating in the treatment, decreased the number of ninth-graders retained by three, for the second consecutive year. The data demonstrated that the values fluctuated and continued monitoring is necessary to identify a trend.

Table 7

School Dropout Rates (in percents)

School	2004	2005	2006	2007	2008
Bullitt East High	0.5	0.8	0.2	1.0	1.3
Grant County High	6.3	2.7	4.3	5.7	3.5
Eastside Middle	1.9	-	0.0	0.0	0.0
Mount Washington Middle	0.0	0.2	0.0	0.0	0.3
Grant County Middle	0.2	0.2	0.0	0.0	0.0

Table 7 describes changes in dropout rates over time for each school. The middle schools had insignificant numbers of dropouts which is normal for elementary and middle schools. The three middle schools' dropout rates ranged from 0.0 to one particular school having a rate of 1.9. School counselors make sure students that withdraw are re-enrolled in another middle school and documenting such information. Otherwise, a student is declared as dropping out. For the 2008-2009 school year Grant County High School recorded nearly three times the rate of student dropouts as Bullitt East High School. For

2008-2009, BEHS has a 1.3% student dropout rate and GCMS had a 3.5% drop out rate. The data show that over the five-year period Bullitt East High School rate of dropouts increased and during the same time period Grant County High School reduced its number of student dropouts by 50%.

Table 8

High Schools – Graduation Rates (in percents)

School	2004	2005	2006	2007	2008
Bullitt East High	96.90	97.80	97.60	93.60	94.00
Grant County High	75.60	79.40	76.90	79.30	82.20

Table 8 presents the graduation rates for each high school. Five years of data used in this study were from the school report cards. During this time, Bullitt East High School has seen a 3% decrease in graduation rates and Grant County High School has seen an 8% increase in graduation rates. What stands out in the table is the change for both schools from 2006 to 2007. During this time frame, the two schools made approximately the same change numerically; one was an increase and the other a decrease in graduation rates. During this time span, BEHS decreased in graduation rate by 4.0% and GCHS increased in graduation rate by 3.6%.

The number of students participating in the study in the comparison, non - treatment or treatment group is shown in Table 9.

Table 9

School Participating Numbers

School	Number of Students
Bullitt East High	311
Grant County High	210
Eastside and Mount Washington Middle (combined)	319
Grant County Middle	234

Dependent Variables

The two research questions focus on student academic performance in ninth-grade and student behavior in ninth-grade. The academic performance was described through the following six data sets: (1) final GPA of students in ninth-grade, (2) number of student F's earned in ninth-grade, (3) final language arts grade for the ninth-grade, (4) final mathematics grade for the ninth-grade, and (5) EXPLORE and (6) PLAN data.

Language arts and mathematics grades as the two core content areas were selected based on the NCLB Act. GPA and number of student F's earned in a given year are generally two strong predictors of high school success or failure. The student behaviors were described through the following two data sets: (1) number of student absences and (2) number of behavior events.

Independent Variable

The independent variable was a set of structured articulation activities controlled in the study. The independent variable was dichotomous, consisting of a set of 12 articulation activities described in Table 1.

Confounding Variables

Confounding variables frame the context of the school. The study attempted to describe the relationships among the confounding variables and the impact of the treatment on dependent variables. The confounding variables in this study included gender, race, socio-economic status (free/reduced lunch), and disability status.

Research Design

The study used a quasi-experimental pre/post quantitative design. The type of quasi-experimental design selected for this study was an interrupted time series because several years of data were collected. Pre-treatment measures included seven measures (student absences, behavior, GPA, number of student F's, final language arts and mathematics grade, and EXPLORE and PLAN results) and post-treatment measures included the same measures after exposure to a treatment. The pre-treatment phase of the study established a baseline of data reflecting the seven measures prior to the implementation of the treatment. A treatment effect was determined if the results from the post-treatment indicate a different pattern from the pre-treatment. This type of design allows for controlling the majority of the confounding variables since they were present in both pre-treatment and post-treatment responses. The one confounding variable in this design that cannot be controlled was history. The study was strengthened by including a comparison group to lessen the effects of history that would be shared by disparate districts across the state (e.g. state-level policy history) and to decrease other threats to validity.

The research design used in this study was quantitative. The following model, Figure 3, is a schematic of the research design.

T	01	02	03	04	05	06	07	X	01	02	03	04	05	06	07
NT	01	02	03	04	05	06	07		01	02	03	04	05	06	07

Figure 3. Research Design

T= treatment group, NT =non-treatment group, 01-7 = pre-treatment measure, X = treatment (implementation of a set of structured articulation activities), 01-7 = post-treatment measures. The measures are identified as: 01 = student absences, 02 = behavior, 03 = GPA, 04 = number of student F's, 05 = final language arts grade, 06 = final mathematics grade, 07 = EXPLORE for pre-treatment, PLAN for post-treatment

The pre-test data was collected from both groups (treatment and non-treatment) of grade eight students throughout the 2008-2009 school year. The post-test data was based on the same variables collected after the freshmen year in high school from both groups at the end of the 2009 school-years.

Instrumentation

All public school districts in the state of Kentucky maintain quantitative student records data using the Infinite Campus student record system. Infinite Campus combines web-based technology with a relational database that is shared across applications. Data are stored on the system; once data are updated, the information is available for all users who have access rights (Infinite Campus Manual, 2009).

The following data were retrieved from this record system for each student: feeder school; gender; race; free or reduced lunch status; identification of existing disability; number of student F's earned for the seventh-, eighth-, and ninth-grade school year as retrieved in the student transcript; grade point average; number of behavior events; student absences as based on absentee events; and both language arts and mathematics

final grades for the school year. The data were gathered for both treatment and non-treatment groups from their seventh-, eighth-, and ninth-grade school years; the cohort of students for whom these data will be collected are those who were freshmen in school year 2008.

The statistics of the 2008-2009 freshman class (the group of students who entered ninth-grade WITHOUT any articulation activities) from both high schools (Bullitt County East and Grant County High) provide baseline data to allow examination of trends in both school districts. Longitudinal data were retrieved on students in the freshman classes, from their status as students in seventh-grade classes, from 2006 through 2009. This set of students constituted Cohort 1.

Grant County middle and high school faculty and administrators provided the treatment to Grant County middle school students and was referred to as the treatment group. Students participated in the set of structured articulation activities during the 2008-2009 school year. Both Eastside and Mount Washington Middle (Bullitt County) Schools were used as non-treatment groups. They did not participate in the set of structured articulation activities. This set of students constituted Cohort 2.

Figure 4 below visually explains the implementation of the set of structured articulation activities. By following the diagram visually from left to right, the details pertaining to the comparison or non-treatment group can be interpreted.

Figure 4. Implementation Framework for the Grant County Transition Initiative

Measures and Data

The following data were collected from the Infinite Campus Program. Table 10 identifies the variable data collected and the time period for the participating schools, which were providing trend data.

Table 10

Data Collection for Participating Schools for both Cohort1 Data and Cohort 2 Groups

Variable	2006	2007	2008
Cohort 1 Group (non-treatment and pre-treatment)			
	7th grade	8 th grade	9th grade
Absences	01	01	01
Behavior	02	02	02
GPA	03	03	03
# of F's earned	04	04	04
Yearly Language Arts Grade	05	05	05
Yearly Mathematics Grade	06	06	06
EXPLORE PLAN		07	

Variable	2006	2007	2008	2009
Cohort 2 Group				

	7th grade	8th grade	8th grade	9 th grade
		EMS	GCMS	
		MWMS (non-treatment group)	(treatment group)	
Absences	01	01	01 (X)	01
Behavior	02	02	02(X)	02
GPA	03	03	03(X)	03
# of F's earned	04	04	04(X)	04
Yearly Language Arts Grade	05	05	05(X)	05
Yearly Mathematics Grade	06	06	06(X)	06
EXPLORE		07	07(X)	
PLAN				08

Description of Measures

Six of the eight measures retrieved for this study were retrieved from the state data system known as Infinite Campus. The Kentucky Department of Education selected this student records management program for all school districts to use to manage student information. This is a web-based system allowing student records to quickly be accessible as students' transition from one school setting to another.

The first measure utilized in determining student academic performance was the number of student F's. Historically, the most common grading system in the United States is the five letter system, A, B, C, D, and F. The five letter grading system was initiated by teachers in 1918 (Guskey, 1994). A represents the highest grade and an F, the lowest grade represents failure. The "F" letter grade earned has traditionally represented the inability to reach the desired goals. For this study the variable, number of student F's, is the actual number of classes in middle school or courses in high school that an individual student earned an F in a given school year based on the school district's grading scale.

The second variable examined pertaining to student academic performance was the final language arts grade. Language Arts is a middle school and high school course that consists of: reading, spelling, literature, and composition. The intention of the course is to develop a student's reading and writing skills. The final language arts grade reflects a student's performance for the school year.

The next variable utilized is the final mathematics grade. The mathematics classes students in middle school participate in include: pre-algebra, algebra, or

geometry. In high school as freshman, the students could even participate in an algebra II course. The final grade reflects a student's performance for the school year. Students at Bullitt East High School are on a block schedule, therefore, the final language arts and mathematics grade was based on a course that was completed in 18 weeks versus 36 weeks.

The fourth dependent variable used was GPA. GPA is the numerical value that represents a student's grade point average. Since there were participating middle schools in the study that do not calculate GPAs, this variable was only collected at the ninth-grade level.

EXPLORE and PLAN data are the final dependent variables associated with student academic performance. EXPLORE and PLAN test are two of the three components of the American College Testing System (Quinn, 2010). EXPLORE and PLAN are norm-referenced tests that increase in difficulty as you progress from EXPLORE to PLAN and finally to the third component, the ACT test. EXPLORE is a 25 point test and PLAN is 32 points. The average student should increase by an average of 2 points as they progress from the EXPLORE to the PLAN test (Quinn, 2010). Since both tests are administered during the early fall of the eighth-and tenth-grade school years, this data can be examined to determine growth between various groups.

The first dependent variable utilized in research question 2 analyses is student absence. This number represents the actual number of days a student is not present at school. The Infinite Campus program tabulates student absences as decimal, calculating portions of a day that is missed when students enter or leave school early.

The last dependent variable is behavior. Infinite Campus records student infractions as behavior events. Each time a student violates a school rule resulting in consequences for their actions, the action is recorded in Infinite Campus as a behavior event.

Validity

Cook and Campbell (1979) define validity as the “best available approximation to the truth or falsity of a given inference, proposition or conclusion” (p. 37). In this study the four types of validity (construct, internal, external, and statistical conclusion) were addressed and how they will be minimized was discussed based on the validity types from Shadish, Cook, and Campbell (2002). Table 11 presents a summary of the research questions and the specific categories of threat to validity for each question.

Table 11

Research Questions and Validity Threats

Research Question	Research Question	Construct Validity	Internal Validity	External Validity	Statistical Conclusion Validity
RQ1	What impact does a set of structured articulation activities have on student academic performance?	X	X	X	X
RQ2	What impact does a set of structured articulation activities have on student behavior?	X	X	X	X

Construct Validity Threats

Some treatment diffusion was expected to occur during the study because public schools are dynamic systems and students continually move in and out of school. Also existing patterns indicated that some students missed excessive school days. The comparison school may attempt to implement some of the treatment articulations once the administration learned about them from teachers and administrators from the treatment district. This intentionally did not occur due to the impact it may have had on the study.

Internal Validity Threats

In this study results may be attributed to the school climate to which the students transition. The two school districts were similar, yet the school climates were different, resulting in some deviations in performance. Another factor beyond the researcher's control was the combined academic abilities of the participants in one class compared to those of another class.

External Validity Threats

In this particular study, specific limitations which will cause difficulty in making these generalizations existed. These limitations includes: the use of only two schools in Kentucky; the schools' rural settings; and the lack of diversity. However, these results may generalize to other schools that match the characteristics of these schools.

Statistical Conclusion Validity Threats

Statistical validity refers to the quality of the data and the analysis used on that data. There were several concerns in this area. First, both school districts in 2007 used the STI Computer Program for collecting data in the areas of: absences, behavior, GPA, and grades. In 2008, the state of Kentucky converted to the Infinite Campus system for data collection. The STI program's format for collecting data was to round to the nearest tenth of a whole number, and the format was to keep student absence information separate from behavior. The Infinite Campus Program, on the other hand, reports student absence data to the nearest thousandth of a whole number, and the records for student absence letters are kept in the file with behavior events. Therefore, the data collector had several issues to resolve. When collecting the behavior events, the data collector had to accurately determine the number of events, eliminating student absence reports. Therefore transferring data accurately was essential. A factor that may be significant was the difference between the grading scales of the two schools systems. The grading scales used by the schools in the two districts are provided in Table 12.

Table 12

School Grading Scales

Letter Grade	Bullitt County School District Numerical Average	Letter Grade	Grant County School District Numerical Average
A	92-100	A	93-100
B	83-91	B	85-92
C	74-82	C	75-84

D	65-73	D	68-74
F	64 and below	F	67 and below

Data Analysis Plan

Table 13 outlines the overall data analysis plan implemented in this study, including the analysis tool applied to each research question.

Table 13

Data Analysis Plan

Research Question #	Research Question	Data Instrument	Analysis Tool
RQ1	What impact does a set of structured articulation activities have on student academic performance?	Data retrieved from Infinite Campus Data Management	Descriptive Statistics Two-way ANOVA MANCOVA
RQ2	What impact does a set of structured articulation activities have on student behavior?	Data retrieved from Infinite Campus Data Management	Descriptive Statistics Two-way ANOVA MANCOVA

Analysis

A time interrupted series design provided the researcher with a number of data points before and after an event, which in this study was the actual implementation of a set of structured articulation activities. The objective of the interrupted time series was to

determine if the articulation activity had a significant effect. The simple logic of the interrupted time series is that if the graph of the dependent variable (in this case; student absence, behavior, GPA, # of student F's earned, yearly language arts grade, yearly mathematics grade, EXPLORE or PLAN data) shows an abrupt shift in level or direction at the point of the intervention, then the intervention is interpreted as a cause of the effect on the dependent variable. Time-series experiments require little more than good graphing skills, a skeptical attitude toward one's hypothesis and the capacity to subdivide the data to locate hidden effects. Besides simply creating linear graphs, descriptive statistics were conducted for each of the dependent variables using SPSS.

The comparison group pre-test/post-test design was used for this portion of the study which involved the implementation of a set of structured articulation activities. Using an interrupted time series model, grade distributions, the number of student F's earned each year, and student GPA was collected and analyzed by creating linear graphs and using two-way ANOVA and MANCOVA to compare results or by removing the results of the confounding variables.

CHAPTER FOUR

RESULTS

This chapter is organized by: exploratory data analysis of each measure's data for each of the research questions, comparing means for each participating school for dependent variables both numerically by using two-way ANOVA and line graphs, and finally conducting MANCOVA to examine the impact of the confounding variables.

Background of GCTI

The Grant County Transition Initiative began in the fall of 2008. A group of administrators and teachers developed a plan to implement a set of structured articulation activities in the fall of 2008 and continuing through the spring of 2009. The format of this program was to focus on the eighth- grade class and to monitor each individual student's performance in eight different areas preceding the implementation of the articulation activities and following the implementation. The analysis in this study involved only those participants with non-missing data. The participating schools in the treatment year had students that were not initially enrolled in the school that year; therefore; no pre-test data were available, and students that withdrew from the school the following year; had no post-test data. These students were eliminated so that all samples were enrolled in the school during the two year process. Table 14 displays the number of student samples after the cleanup of data.

Table 14

School Participating Numbers and Location at time of Implementation after Data

Cleanup

School	# of Students
Bullitt East High (Cohort 1)	311
Grant County High (Cohort 1)	210
Eastside/Mount Washington Middle (Cohort 2)	262
Grant County Middle (Cohort 2)	220

Exploratory Data Analysis

The program used to conduct all analyses efficiently was the SPSS Program. The SPSS (Statistical Program for the Social Sciences) program in 2009 was changed to the title PASW (Predictive Analytics Software) and finally to IBM SPSS Statistics. Due to familiarity the title SPSS will be used when referring to the analytical tool used for this study. The first step was to conduct an exploratory data analysis (EDA). The analysis began with exploring normality because normality is an assumption for ANOVA. Table 15 describes the results from conducting EDA for each dependent variable. Exploration of whether the dependent variables were normally distributed was done by computing skewness and kurtosis for each. According to the University of Surrey Psychology Department (2007), a distribution with skew and kurtosis values in the range of +2 to -2 are near enough to be considered normally distributed for most purposes. Higher kurtosis means more of the variability is due to a few extreme differences from the mean, rather than a lot of modest differences from the mean (DeCarlo, 1997). The results in Table 15 indicate that the majority of the dependent variables had higher values of kurtosis. These

kurtosis values are due to extreme outliers. The high kurtosis for student absence is not surprising because in many cases a relatively few number of students tend to have excessive numbers of absences whereas the bulk of the student population have relatively few. These extreme outliers are the cause of the high kurtosis. The results from EXPLORE and PLAN all had skewness and kurtosis values within the normal distribution range. The majority of skewness values in the +2 to -2 range except for the dependent variables: student absence, behavior, and number of student F's earned.

Table 15

Data Distribution for each Dependent Variable for Cohort 2

Dependent Variable	Measure of the Skewness	Kurtosis
Absence 7	+3.35	22.51
After excluding cases ≥ 35 @	+1.33	+2.00
Absence 8	+2.24	8.50
After excluding cases ≥ 35 @	+1.34	+2.21
Absence 9	+2.74	10.69
After excluding cases ≥ 35 @	+1.36	+2.06
Behavior 7	+3.34	14.59
Behavior 8	+3.82	20.47
Behavior 9	+4.60	30.54
GPA 9	-0.62	0.07
Final Language	-2.35	14.62

Dependent Variable	Measure of the Skewness	Kurtosis
Arts Grade 7		
Final Language	-0.78	0.60
Arts Grade 8		
Final Language	-1.53	5.11
Arts Grade 9		
Final Mathematics	-1.66	10.52
Grade 7		
Final Mathematics	-1.38	8.63
Grade 8		
Final Mathematics	-1.22	2.34
Grade 9		
Number of Student	+7.00	61.14
F's 7		
Number of Student	+5.28	29.48
F's 8		
Number of Student	+20.03	424.68
F's 9		
EXPLORE English	+0.16	0.97
EXPLORE	-0.68	2.58
Mathematics		
EXPLORE Reading	+0.16	1.59

Dependent Variable	Measure of the Skewness	Kurtosis
EXPLORE Science	-1.03	5.43
PLAN English	+0.40	0.63
PLAN Mathematics	+0.65	0.65
PLAN Reading	+0.40	-0.30
PLAN Science	+0.64	0.55

The student absence dependent variable reveals high kurtosis values and through examination of the data using a scatter plot, there are several values that are in the range of 1.5 to 2.0 standard deviations from the mean.

Three or more standard deviations from the mean resulted in the exclusion of all values where number of students absences were 35 days or greater. This resulted in the exclusion of nine cases or 0.9% of the combined total of 961 seventh-grade Cohort 1 and 2. At the eighth-grade level, based on ≥ 35 student absences, 12 cases were excluded, which reflect 1.2% of the combined total of 961 eighth-grade students in Cohort 1 and 2. Finally, there were 23 excluded cases at the ninth-grade based on the required criteria, which represented 2.4% of the combined cohort sample.

The results from the exclusion indicated that the number of outliers increased as the grade level increased. From eighth-to ninth-grade the number of outliers doubled. There were two students' absences that fell in the criteria for exclusion for all three years of the study. There were three students' absences that met the criteria for exclusion for two of the three years of the study. After completing analysis incorporating the

exclusions, the skewness and kurtosis values fell in the +2 to -2 range for normal distribution making the data set appropriate for analysis.

The other dependent variables that exhibited very high kurtosis were behavior and number of student F's. The researcher chose not to exclude outliers from these data groups due to the nature of the study. In particular, the number of student F's in the schools do concentrate in a small sample of students and the majority of the students had zero F's.

Descriptive Statistics

Research Question 1: What impact does a set of structured articulation activities have on student academic performance?

Table 16 describes the groups in each Cohort in regard to school district and treatment status. First, using descriptive statistics mean and standard deviation were calculated to assess a difference between the treatment (implementation) group and the non-treatment group (two comparison groups) in the knowledge existed over the course of the interventions. The mean and standard deviation were determined for each dependent variable for each year (three years for trend data group, three years for treatment (implementation) group). Table 17 displays the mean and standard deviations for number of student F's, GPA, final mathematics grade, language arts grade, and EXPLORE and PLAN test results for the trend data group (Cohort 1). The mean and standard deviations were computed for each dependent variable for each year for Cohort 1 (Table 17) and Cohort 2 (Table 18).

Table 16

Identification of Cohort Groups and Treatment Groups

School District	Cohort 1	Cohort 2
Bullitt County	Non-Treatment	Non-Treatment
Grant County	Pre-Treatment	Treatment

Table 17

Cohort 1 Mean and Standard Deviation for Academic Performance Indicators

	Non-Treatment	Pre-Treatment
	Mean (Standard Deviation)	Mean (Standard Deviation)
Number of Student		
F's		
7th (2006)	0.28(0.71)	0.23(0.65)
8th (2007)	0.06(0.25)	0.10(0.38)
9th (2008)	0.39(1.24)	0.28(0.68)
Final Language Arts		
Grade		
7th (2006)	83.28(11.79)	85.66(10.69)
8th (2007)	88.50(9.32)	86.99(7.92)
9th (2008)	82.93(11.02)	84.37(7.53)

	Non-Treatment	Pre-Treatment
	Mean (Standard Deviation)	Mean (Standard Deviation)
Final Mathematics		
Grade		
7th (2006)	80.94(11.12)	81.63(10.68)
8th (2007)	86.52(10.41)	82.97(9.05)
9th (2008)	83.65(11.12)	79.11(11.94)
GPA		
9th (2008)	2.79(0.94)	2.64(0.76)
EXPLORE (8 th grade)		
English	14.38(3.68)	13.41(3.65)
Mathematics	15.12(6.79)	14.96(3.03)
Reading	14.07(3.37)	13.82(3.40)
Science	16.37(2.70)	15.97(2.75)
PLAN (10 th grade)		
English	15.93(3.76)	15.66(4.31)
Mathematics	17.21(4.44)	16.37(3.51)
Reading	16.36(4.24)	15.85(4.25)
Science	18.16(3.40)	17.60(2.68)

Table 18

Cohort 2 Mean and Standard Deviation for Academic Performance Indicators

	Non-Treatment	Treatment
	Mean (Standard Deviation)	Mean (Standard Deviation)
Number of Student F's		
7th (2007)	0.09(0.37)	0.04(0.28)
8th (2008)	0.05(0.22)	0.03(0.20)
9th (2009)	0.42(1.11)	0.18(0.70)
Final Language Arts		
Grade		
7th (2007)	88.98(11.47)	88.73(7.11)
8th (2008)	88.06(8.05)	87.19(6.91)
9th (2009)	84.20(10.63)	84.74(6.97)
Final Mathematics		
Grade		
7th (2007)	88.71(11.89)	84.79(7.02)
8th (2008)	86.35(8.49)	81.50(9.26)
9th (2009)	85.79(11.63)	83.48(9.03)
GPA		
9th (2009)	2.95(0.93)	2.87(0.68)
EXPLORE (8 th grade)		

	Non-Treatment	Treatment
	Mean (Standard Deviation)	Mean (Standard Deviation)
English	14.76(3.69)	13.12(4.30)
Mathematics	15.47(3.31)	15.11(4.09)
Reading	14.66(3.47)	13.38(4.04)
Science	16.46(2.96)	15.63(3.74)
PLAN (10 th grade)		
English	16.69(3.70)	16.33(3.96)
Mathematics	18.22(4.18)	18.07(4.15)
Reading	17.42(4.05)	17.64(4.41)
Science	18.62(3.38)	18.95(3.37)

Next graphs of these academic performance indicators over time were generated (see Figures 5 through 11) to visually portray the trends over time. Figures 5 through 7 are line graphs displaying the results for number of student F's, final mathematics grade, and language arts grade for both Cohort 1 and Cohort 2 groups. Figures 8 through 11 are line graphs that compare the performance that occurs for both the EXPLORE test and PLAN test for both pre-treatment, treatment and non-treatment groups for both Cohort 1 and Cohort 2.

An examination of the results of Figure 5 indicate that both groups in Cohort 2 have a pattern of reducing the number of student F's from seventh- to eighth-grade (2007 to 2008) and an increase from eighth- to ninth-grade (2008 to 2009). The data showed that the treatment school, GCMS, showed a smaller increase from eighth- to ninth-grade

compared to the comparison schools in the non-treatment group. This observation of Figure 5 was further explored by calculating slopes for the lines representing these groups during this time period (refer back to graph). Table 19 displays the difference in the two lines in Figure 5. The eighth- to ninth-grade time frame is from 2008 to 2009 in Cohort 2. The slope values represent the differences in mean values from one year to the next consecutive year. For the time frame mentioned above for Cohort 2 (starting in academic year 2007), the mean number of student F's in the non-treatment group decreased by .04 and the mean number of student F's in the treatment group decreased by only .01. Table 19 provides the reader the ability to further analyze more precisely what is displayed in the graph by providing calculated slopes for each school in each cohort and the subsequent comparisons as shown in the figure.

Table 14 information included the number of students in Cohort 2 for Bullitt County, which were 262 students. Grant County had 220 students in Cohort 2. In seventh-grade (2007-2008), Bullitt County had 19 students earn a total of 23 F's, which represented 7% of the student body earning an F. At Grant County, there were four students earning a total of eight F's, representing 1.8% of the class. During their eighth-grade year (2008-2009), 13 Bullitt County students earned a total of 13 F's, which represented 5% of the class. During that same time period in Grant County, six students earned a total of seven F's, representing 2.7% of the class. Finally, the ninth-grade during 2009-2010, 47 students in Bullitt County earned a total of 64 F's which represented 17.9% of the students. There were 25 Grant County freshmen that earned a total of 40 F's, representing 11.4% of the students in the ninth-grade class.

Figure 5. Comparing Number of Student F's graphs over time for pre-treatment group (trend group) and treatment group (implementation group).

Table 19

Comparison of Cohort 1 and Cohort 2 Number of Student F's Two-Way ANOVA Results

Cohort and Group	Cohort and Group	7 th grade Mean Difference	7 th grade Sig. ^a	8 th grade Mean Difference	8 th grade Sig. ^a	9 th grade Mean Difference	9 th grade Sig. ^a
Cohort 1/NT Group	Cohort 1/PT	+ 0.05	.28	- 0.04	.07	+ 0.11	.23
	Cohort 2/NT	+ 0.20	.00	+ 0.01	.79	- 0.03	.75
	Cohort 2/T	+ 0.25	.00	+ 0.02	.32	+ 0.21	.02
Cohort 1/PT Group	Cohort 2/NT	+ 0.14	.01	+ 0.05	.04	- 0.14	.14
	Cohort 2/T	+ 0.19	.00	+ 0.07	.01	+ 0.10	.30
Cohort 2/NT Group	Cohort 2/T	+ 0.05	.30	+ 0.02	.47	+ 0.24	.01

a = adjustment for multiple comparisons: Least Significant Difference

Table 19 provides additional detail on the data in Figure 5. Columns 3, 5, and 7 in Table 19 list the mean differences for the mean number of student F's earned for each cohort group at each grade level. These values represent the points for each line segment on the graphs. Columns 4, 6, and 8 represent the significance or p-value between the two different cohorts and groups. The difference is the signal between the means, the result of the treatment or non-treatment being introduced into the data. The alpha level for this test was .05. Therefore all values in the 4th, 6th, and 8th column that are .05 or less constitutes significance difference in the dependent variable for that grade level for the two groups. In Table 19 the evidence reveals that there is significant difference between the following groups at the seventh-grade level: (1) C1/NT and C2/NT; (2) C1/NT and C2/T; (3) C1/PT and C2/NT; and (4) C1/PT and C2/T. At the eighth -grade level significant differences were found between (1) C1/PT and C2/NT and (2) C1/PT and C2/T. Finally, at the ninth-grade level significant difference was found between C1/NT and C2/T, and C2/NT and C2/T. At the eighth-grade level, the year of implementation of the treatment, no significant difference was found between the non-treatment and treatment groups in cohort 2 (last row of Table 19). Yet, at the end of the ninth-grade year, post-treatment year, significance was found between the non-treatment and treatment groups in cohort 2. This could be considered important and convincing that the implementation of the set of structured articulation activities having a positive impact over time on student academic performance as indicated by the evident reduction in student retention-by-failure by Grant County.

Table 20

Comparison of Slopes of Cohort 1 and Cohort 2 for Number of Student F's

		2006-2007 7 th – 8 th grade Slope	2007-2008 8 th – 9 th grade Slope
Cohort 1	Non-Treatment	- 0.22	+0.33
	Pre-Treatment	-0.13	+0.18
		2007-2008 7 th – 8 th grade Slope	2008-2009 8 th – 9 th grade Slope
Cohort 2	Non-Treatment	-0.04	+0.37
	Treatment	-0.01	+0.15

Figure 5 and Table 20 show a sharp increase in slope for the non-treatment group indicating a significant increase in the number of student F's from grade eight to grade nine. Ninth-graders were nearly five times as likely to receive failing grades at approximately 26 % as compared to eighth-graders at 6% (Black, 2004). A positive value in slope represents an increase and a negative slope represents a decrease in the number of student F's from one year to the next. The set of structured articulation activities included those activities that influenced and involved not just the grade eight classes of students that were receiving the implementation but also the students in the same district in grade nine. Therefore the fourth column of Table 20 documents the change in slope for both grade eight and grade nine students for the particular measure. In this case the measure is the number of student F's. The data indicated that both treatment and non-treatment groups increased the number of student F's earned during this time frame. The information in the figure and table indicate that the non-treatment

groups in both Cohort 1 and 2 from Bullitt County not only increased number of student F's from grade eight to grade nine but also indicated the increase was sharply larger than that of the pre-treatment and treatment groups in Grant County. Since both cohorts illustrate the same trend, the change cannot be presumed to be due to the articulation activities. Both the C1/PT and C2/T groups show a similar rise in number of student F's from the eighth-grade to ninth-grade. Therefore, no obvious impact of treatment on changing the eighth-to ninth- grade trajectory on this measure.

Figure 6 reveals the final language arts grade graphs which indicate clear difference in Cohort 1 and Cohort 2. The mean scores from eighth- to ninth-grade dropped in both treatment and non-treatment groups in both cohorts, as students transitioned from grade eight to grade nine in these school systems. Notably the treatment school, GCMS, and the Cohort 1 GCMS (pre-treatment group) had approximately the same amount of decrease in student language arts grade for both groups; a 2.62 point decrease for Cohort 1(pre-treatment group) and a 2.45 point decrease for Cohort 2 (treatment group). The only consistency seemed to occur in the treatment school and its pre-treatment group.

Figure 6. Comparing Final Language Arts Grades graphs over time for pre-treatment group (trend group) and treatment group (implementation group)

Table 21

Comparison of Cohort 1 and Cohort 2 Final Language Arts Grade Two-Way ANOVA

Results

Cohort and Group	Cohort and Group	7 th grade Mean Difference	7 th grade Sig. ^a	8 th grade Mean Difference	8 th grade Sig. ^a	9 th grade Mean Difference	9 th grade Sig. ^a
Cohort 1/NT Group	Cohort 1/PT	- 2.38	.01	+ 1.51	.04	- 1.45	.09
	Cohort 2/NT	- 5.70	.00	+ 0.43	.54	- 1.27	.12
	Cohort 2/T	- 5.45	.00	+ 1.31	.08	- 1.82	.03
Cohort 1/PT Group	Cohort 2/NT	- 3.32	.00	- 1.08	.15	+ 0.17	.84
	Cohort 2/T	- 3.07	.00	- 0.21	.79	- 0.37	.68
Cohort 2/NT Group	Cohort 2/T	+ 0.25	.79	+ 0.87	.24	- 0.54	.53

a = adjustment for multiple comparisons: Least Significant Difference

Table 21 describes the activity that occurred in Figure 6. In Table 21 the evidence revealed that at the seventh-grade level there was significant difference between all of the groups except C2/NT and C2/T. The only significant difference at the eighth-grade level was found between C1/NT and C1/PT. There was only one incident of significance found at the ninth-grade level. This was between C1/NT and C2/T. The significance that you hoped to observe would have been between the group's non-treatment and treatment in Cohort 2 or between Cohort 1 and Cohort 2, pre-treatment and treatment. Neither case was observed in the final language arts grade. The final language arts grade data was

negatively skewed. Based on the data provided in Table 15, the final language arts grade at eighth- grade had a low skewness value (-0.78) and a low kurtosis value (0.60) which indicate normal distribution and the group differences appeared less conspicuous. This is important when trying to determine the appropriate methods for analysis.

Table 22

Comparison of Slopes of Cohort 1 and Cohort 2 for Final Language Arts Grade

		2006-2007 7 th – 8 th grade Slope	2007-2008 8 th – 9 th grade Slope
Cohort 1	Non-Treatment	+5.22	- 5.57
	Pre-Treatment	+1.33	- 2.62
		2007-2008 7 th – 8 th grade Slope	2008-2009 8 th – 9 th grade Slope
Cohort 2	Non-Treatment	-0.92	-3.86
	Treatment	- 1.54	- 2.45

In Table 22, the slope of each line in each cohort was tabulated. When comparing Figure 6 and Table 22 several pieces of information are observed. From 2006to 2007, the pre-treatment and non-treatment groups in Cohort 1both indicated an increase in the final language arts grade. From 2007 to 2008, the eighth- to ninth-grade year for Cohort 1, the line implies a decrease in final language arts score for both groups. Whereas the treatment (implementation) group and non-treatment group in Cohort 2, both indicated a decrease in final language arts grade from seventh- to eighth- grade and from eighth- to ninth-grade, 2008to 2009. Both the C1/PT and C2/T groups show a similar decline from

eighth-to ninth-grade in the mean scores of 2.62 and 2.45. Therefore, no obvious impact of treatment on changing the eighth-to ninth-grade trajectory on this measure.

Figure 7. Comparing Final Mathematics Grades graphs over time for pre-treatment group (trend group) and treatment group (implementation group).

A review of the final mathematics grade graph, Figure 7, reveals that in Cohort 1 both the pre-treatment and non-treatment groups declined in the final mathematics grade from eighth-grade to ninth-grade. Yet, in the treatment (implementation) group, Cohort 2, the non-treatment groups showed a slight decline in the grade from eighth- to ninth-grade while the treatment group showed a meaningful increase in the final mathematics grade.

Table 23

Comparison of Cohort 1 and Cohort 2 Final Mathematics Grade Two-Way ANOVA

Results

Cohort and Group	Cohort and Group	7 th grade Mean Difference	7 th grade Sig. ^a	8 th grade Mean Difference	8 th grade Sig. ^a	9 th grade Mean Difference	9 th grade Sig. ^a
Cohort 1/NT Group	Cohort 1/PT	- 0.69	.47	+ 3.55	.00	+ 4.54	.00
	Cohort 2/NT	- 7.78	.00	+ 0.17	.83	- 2.14	.03
	Cohort 2/T	- 3.85	.00	+ 5.02	.00	+ 0.17	.87
Cohort 1/PT Group	Cohort 2/NT	- 7.09	.00	- 3.38	.00	- 6.67	.00
	Cohort 2/T	- 3.16	.00	+ 1.47	.10	- 4.37	.00

Cohort 2/NT Group	Cohort 2/T	+ 3.93	.00	+ 4.85	.00	+ 2.31	.02
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a = adjustment for multiple comparisons: Least Significant Difference

Table 23 shows a significant difference between all the groups except C1/NT and C1/PT at the seventh-grade level. At the eighth-grade level significant difference was determined between the following group means: (1) C1/NT and C1/PT; C1/NT and C2/T; (3) C1/PT and C2/NT; and (4) C2/NT and C2/T. In ninth-grade there was significant differences found in the table for all groups except C1/NT and C2/T. Significant differences were found between two group's at all three grade levels. These groups included: (1) C1/PT and C2/NT and (2) C2/NT and C2/T. There was determined to be significant differences between the group from Grant County the year of the pre-test and the post-test year. Grant County shows a rise from eighth- to ninth-grade in treatment group that was not present in the pre-treatment group. Also important to this study was the significant difference between the non-treatment and treatment groups all three years. There is the possibility that the results are due to the two school districts not starting out in the same position but the results do indicate that during this three year period there exists a significant difference in the pre-treatment versus treatment groups, yet there lacked any significant difference in the non-treatment groups.

Table 24

Comparison of Slopes of Cohort 1 and Cohort 2 for Final Mathematics Grade

	2006-2007 7 th – 8 th grade Slope	2007-2008 8 th – 9 th grade Slope
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Cohort 1	Non-Treatment	+5.58	- 2.87
	Pre-Treatment	+1.34	- 3.86
		2007-2008 7 th – 8 th grade Slope	2008-2009 8 th – 9 th grade Slope
Cohort 2	Non-Treatment	-2.36	-0.56
	Treatment	-3.29	+1.98

Table 24 reflects the calculations of the slopes for the each of the lines in Figure 7. From 2007 to 2008 when the Cohort 1 students transitioned from grade eight to grade nine both groups declined in final mathematics grade. When the treatment (implementation) group, Cohort 2, transitioned from grade eight to grade nine from 2008 to 2009, one group showed an increase while the other showed a decrease in final mathematics grade. The treatment (implementation) group from GCMS showed an increase in final mathematics grade from grade eight to grade nine. Since this groups of students' teachers and administrators participated in the implementation of the set of structured articulation activities it could be assumed that these students may have also been influenced by these activities. Simply stated, the treatment group in Cohort 2 increased their final mathematics grade in a one year period by 2% and the non-treatment group in Cohort 2 decreased their final mathematics grade in the same time frame by 0.5%. This finding that the implementation of the set of structured articulation activities had a positive impact on student academic performance is important and persuasive.

Comparing EXPLORE and PLAN scores one must consider that students' scores from EXPLORE to PLAN to the ACT reflect performance on more difficult questions at

each level. Each of the three tests consists of four content areas: English, Mathematics, Reading, and Science. Table 25 presents the composite range score for each of the tests administered by the American College Tests Program. The EXPLORE score for each category can predict tenth-grade PLAN score by adding 2 points. If the new EXPLORE score is between 23 and 25, the student is considered above average; if the score is between 1 and 10, the student is considered below average (Quinn, 2011).

Table 25

Composite Score Range on American College Tests

TEST	Composite Score Range
EXPLORE	1-25
PLAN	1-32
ACT	1-36

Comparison of EXPLORE and PLAN scores in English

Figure 8. Comparison of EXPLORE and PLAN Scores – English

Comparison of EXPLORE and PLAN scores in Mathematics

Figure 9. Comparison of EXPLORE and PLAN Scores – Mathematics

Comparison of EXPLORE and PLAN scores in Reading

Figure 10. Comparison of EXPLORE and PLAN Scores – Reading

Comparison of EXPLORE and PLAN scores in Science

Figure 11. Comparison of EXPLORE and PLAN Scores— Science

Table 26

Comparison of Slopes of Cohort 1 and Cohort 2 for EXPLORE and PLAN

EXPLORE to PLAN Slope								
Group	English	% Rise	Mathematics	% Rise	Reading	% Rise	Science	% Rise
C1NT	+ 1.55	10.78	+ 2.09	13.82	+2.29	16.28	+1.79	10.93
C1PT	+2.25	16.78	+1.41	9.43	+2.03	14.69	+1.63	10.21

C2NT	+1.93	13.08	+2.75	17.78	+2.76	18.83	+2.16	13.12
C2T	+3.21	24.47	+2.96	19.60	+4.26	31.84	+3.32	21.24

Figures 8 through 11 and Table 26 include the results for each Cohort group as they progress from the eighth-grade EXPLORE test to the tenth-grade PLAN test. The four lines in each graph display the increase from EXPLORE to PLAN for each group in each Cohort. There are four figures representing each tested core content area. The steeper the line the greater the increase in score from EXPLORE to PLAN. The test-intended growth of 2 points is approximately true for mathematics in C1/NT and reading for C1/PT. But for all the tested areas for the treatment group the growth appears as if it might be significantly higher than the anticipated 2 points. Also included in the table is the actual percent increase for each component of the test from EXPLORE to PLAN. After examining Table 26, the only quantities that are significant to the reader are the values greater than two. The values that are important to this study include: mathematics and reading in the non-treatment group of Cohort 2 and all four tested areas in the treatment group of Cohort 2 because the values are all appreciably larger than the anticipated 2 point gain.

Multivariate analysis of variance for Cohort 2

Because of the potential for confounding variables (gender, race, socioeconomic status, and disability) to differentially impact the outcomes of interest, subsequent analyses were performed to investigate this possibility. The analysis tool used is to conduct a multivariate analysis of variance since MANCOVA statistically removes the influence of the covariates. Because each of the confounding variables can affect student

academic performance and student behavior, the researcher used the four confounding variables as the covariates in this analysis. The potentially confounding variables in this study included: gender, race, socioeconomic status, and disability. As a result, MANCOVA (Multivariate Analysis of Covariance) was conducted to attribute differences in student performance to the independent variable examined rather than to a confounding variable (Sproull, 2002; Glass & Hopkins, 1996; Green, Salkind & Akey, 2003). This analysis tool was used for both research question one and two to examine potential differences in both student academic performance and student behavior.

Students' scores for all eight dependent variables were analyzed separately, at all three grade levels, using MANCOVA to analyze two or more dependent variables with a covariant (Cohen, Cohen, West & Aiken, 2003). The eight dependent variables include: (1) number of student F's, (2) final language arts grade, (3) final mathematics grade, (4) GPA, (5) EXPLORE, (6) PLAN, (7) student absence, and (8) student behavior.

Multivariate statistics are inferential statistical techniques used to assess the multivariate tests can include: Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root. The researcher chose to use Wilk's Lambda for analysis because Wilk's Lambda is the statistics of choice by most researchers (Brace, Kemp, & Snelgar, 2003). Tables 27, 29, and 31 summarize the MANCOVA results, where the set of structured articulation activities is the independent variable, and gender, race, socioeconomic status, and disability are the four covariates that function as the confounding variables in the study.

Table 27

Number of Student F's Multivariate Tests using Wilks' Lambda for Cohort 2

Effect	λ	F	Hypothesis	Error	Sig.	Observed
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	Value		df	df		Power ^b
Gender	0.99	1.04 ^a	3.00	474.00	.38	0.28
Race	1.00	0.08 ^a	3.00	474.00	.97	0.06
Socioeconomic	0.99	0.90 ^a	3.00	474.00	.44	0.25
Disability	1.00	0.50 ^a	3.00	474.00	.68	0.15

a = Exact statistic

b= Computed using alpha = .05

The results from conducting MANCOVA for the number of student F's indicated that none of the covariates demonstrated any significant difference due to none of the p-values being .05 or less. The data indicated that gender was not a significant predictor of student F's which means that the number of boys and girls failing, although different, was not impacted by the treatment. All participating schools had very little diversity in the samples participating in the study. Since none of the covariates influenced the variable there was no need in displaying the results of the between subject effects.

After conducting the multivariate tests, the next step is to compare different groups of subjects. Tables 29, 30, and 33 represent the results from MANCOVA in examining the between subject effects. The computations of significant tests here are different for these different types of factors.

Table 28 displays the results of analysis using Wilks' Lambda in MANCOVA for the final language arts grade. The numbers indicate that all of the covariates except race had a significant impact on the final language arts grade. The lack of indication of significance for race may be due to the lack of substantial diversity in any of the participating schools in this study. Gender, socioeconomic status, and disability have the

same p-values indicating they produce the same impact on the variable. The largest F-statistic is with socioeconomic status and disability.

Table 28

Final Language Arts Grades Multivariate Tests using Wilks' Lambda for Cohort 2

Effect	λ Value	F	Hypothesis df	Error df	Sig.	Observed Power ^b
Gender	0.97	4.95 ^a	3.00	474.00	.00	0.91
Race	0.99	1.69 ^a	3.00	474.00	.17	0.44
Socioeconomic	0.94	9.72 ^a	3.00	474.00	.00	1.00
Disability	0.88	22.33 ^a	3.00	474.00	.00	1.00

a = Exact statistic

b= Computed using alpha = .05

Table 29

Tests of Between Subject Effects for Final Language Arts Grade for Cohort 2

		Gender	Race	Socioeconomic Status	Disability
Final Language Arts Grade 7th (2007)	df	1	1	1	1
	F	2.30	0.17	8.70	16.35
	Sig.	.13	.68	.00	.00
Final Language Arts Grade 8th (2008)	df	1	1	1	1
	F	13.70	0.02	17.86	31.66
	Sig.	.00	.90	.00	.00

Final Language Arts Grade 9th (2009)	df	1	1	1	1
	F	8.58	2.93	28.65	66.88
	Sig.	.00	.09	.00	.00

Table 29 displays the results of the tests between subject effects for final language arts grade. Based on the results of the analysis, the covariates socioeconomic status and disability significantly influence the final language arts grade at all three grade levels. The p-value for both covariates at all three grade levels are .00. Gender has a significant impact on the final language arts grade at both the eighth- and ninth-grade. The p-values at two grade levels for gender are equivalent to the p-values for socioeconomic status and disability, .00. The F-statistic for socioeconomic status and disability are large in comparison to the F-statistic of the other covariates. In general, three of the four confounding variables had a significant impact on a student's final language arts grade.

Table 30

Final Mathematics Grades Multivariate Tests using Wilks' Lambda for Cohort 2

Effect	λ Value	F	Hypothesis df	Error df	Sig.	Observed Power ^b
Gender	0.98	2.57 ^a	3.00	474.00	.05	0.63
Race	1.00	0.76 ^a	3.00	474.00	.52	0.21
Socioeconomic	0.97	5.81 ^a	3.00	474.00	.00	0.95
Disability	0.94	9.96 ^a	3.00	474.00	.00	1.00

a = Exact statistic

b= Computed using alpha = .05

Table 30 presents the results of MANCOVA using Wilks' Lambda for the final mathematics grade. The confounding variables gender, socioeconomic status and disability had a significant impact on a student's final mathematics grade.

Table 31

Tests of Between Subject Effects for Final Mathematics Grade for Cohort 2

		Gender	Race	Socioeconomic Status	Disability
Final Mathematics Grade 7th (2007)	df	1	1	1	1
	F	2.43	0.10	7.81	2.37
	Sig.	.12	.75	.01	.12
Final Mathematics Grade 8th (2008)	df	1	1	1	1
	F	6.70	1.94	15.76	5.93
	Sig.	.01	.16	.00	.02
Final Mathematics Grade 9th (2009)	df	1	1	1	1
	F	5.71	1.23	10.68	28.36
	Sig.	.02	.27	.00	.00

The evidence in Table 31 for the tests between subject effects for the final mathematics grade shows that there are significant difference at all three grade levels for socioeconomic status. The difference in the treatment and non-treatment groups is significant at both middle school levels, seventh- and eighth-grade, yet not significant at the ninth-grade level. Gender and disability are both significant at the eighth- and ninth-grade levels.

Table 32

EXPLORE/PLAN Multivariate Tests using Wilks' Lambda for Cohort 2

Effect	λ Value	F	Hypothesis df	Error df	Sig.	Observed Power ^b
Gender	0.96	2.49 ^a	8.00	425.00	.01	0.91
Race	0.99	0.79 ^a	8.00	425.00	.62	0.37
Socioeconomic	0.96	2.47 ^a	8.00	425.00	.01	0.91
Disability	0.90	6.10 ^a	8.00	425.00	.00	1.00

a = Exact statistic

b = Computed using alpha = .05

Table 32 displays the results of conducting MANCOVA using Wilk's Lambda for the EXPLORE and PLAN data for Cohort 2. The results from running the Wilk's Lambda test indicate that there was significance in all the confounding variables except for race. As stated earlier, neither participating school district has a significant number of minority students.

Table 33

Tests of Between Subject Effects for EXPLORE/PLAN for Cohort 2

		Gender	Race	Socioeconomic Status	Disability
EXPLORE ENGLISH	df	1	1	1	1
	F	2.53	1.83	6.68	30.47
	Sig.	.11	.18	.01	.00
EXPLORE MATH	df	1	1	1	1
	F	0.35	3.34	12.35	23.26
	Sig.	.55	.07	.00	.00

		Gender	Race	Socioeconomic Status	Disability
EXPLORE READING	df	1	1	1	1
	F	0.41	2.25	10.30	14.62
	Sig.	.52	.13	.00	.00
EXPLORE SCIENCE	df	1	1	1	1
	F	0.97	2.15	5.21	18.20
	Sig.	.33	.14	.02	.00
PLAN ENGLISH	df	1	1	1	1
	F	3.47	1.92	5.67	33.34
	Sig.	.06	.17	.02	.00
PLAN MATH	df	1	1	1	1
	F	0.42	2.44	1.35	34.16
	Sig.	.52	.12	.25	.00
PLAN READING	df	1	1	1	1
	F	1.49	4.75	2.33	34.63
	Sig.	.22	.03	.13	.00

		Gender	Race	Socioeconomic Status	Disability
	df	1	1	1	1
PLAN SCIENCE	F	0.80	1.90	1.61	25.30
	Sig.	.37	.17	.21	.00

Table 33 displays the results of the tests between subject effects for the EXPLORE and PLAN tests. Significance was found in all four content areas of both tests for disability. National standardized tests can be difficult for students with special needs. Socioeconomic status was determined to be significant for all four content area tests in EXPLORE but for only English under PLAN. Race was found to only be significant for Reading in the PLAN test given in the tenth-grade. The results for the EXPLORE and PLAN test in Tables 32 and 33 indicate that there were variables that were influential in the final results yet most were not in all areas. The one confounding variable that seemed to have an influence at both the eighth- and tenth-grade level was identification of disability.

The GPA was analyzed differently because no data were collected at the middle school level by some of the participating schools. GPA for the ninth-graders in Cohort 1 was compared to the GPA for ninth-graders in Cohort 2. Cohort 2 ninth-grade GPA reflects the treatment group in the post test data of ninth-grade. Table 34 displays the results of the GPA analysis. The results indicate that the treatment group in Cohort 2 improved their GPA by 1.5 times as much as the non-treatment group.

Table 34

GPA Means and Percent Growth

Cohort 1 Group		Cohort 2 Group		Gain
9th grade mean		9th grade mean		
Non-treatment	2.79	Non-treatment	2.95	5.7%
Pre - Treatment	2.64	Treatment	2.87	8.7%

Research Question 2: What impact does a set of structured articulation activities have on student behavior?

The author used several analytic approaches (exploratory data analysis, descriptive statistics, Two-way ANOVA, visually interpreting linear graphs and MANCOVA) to respond to research question 2.

The first step was to conduct EDA (exploratory descriptive analysis) on the data; prior to conducting the first tool, descriptive statistics, to determine if a normal distribution of the data existed. The results of the analysis indicated a positive skew of data for both absence and behavior for each school. Tables 35 and 36 provide the results of the descriptive statistics analysis of determining mean and standard deviation of student absence and behavior between the dependent variables for each school at each grade level.

Table 35

Cohort 1 Mean and Standard Deviation for Behavior Indicators

Non-Treatment	Pre-Treatment
---------------	---------------

	Mean (Standard Deviation)	Mean (Standard Deviation)
Student Absence		
7th (2006)	8.27(6.65)	9.13(8.38)
After excluding cases ≥ 35 @	8.03(6.00)	8.49(7.02)
8th (2007)	9.77(9.93)	9.31(9.07)
After excluding cases ≥ 35 @	8.81(6.57)	8.67(7.21)
9th (2008)	9.29(9.97)	9.23(8.45)
After excluding cases ≥ 35 @	8.20(6.73)	8.59(7.15)
Behavior Events		
7th (2006)	0.91(1.87)	0.99(2.39)
8th (2007)	0.85(1.88)	1.03(2.17)
9th (2008)	1.91(3.02)	1.22(2.55)

Table 36

Cohort 2 Mean and Standard Deviation for Behavior Indicators

	Non-Treatment Mean (Standard Deviation)	Treatment Mean (Standard Deviation)
Student Absence		
7th (2007)	6.96(7.75)	7.15(6.16)
After excluding cases ≥ 35 @	6.46(5.87)	6.95(5.45)
8th (2008)	8.18(6.47)	8.23(8.05)
After excluding cases ≥ 35 @	7.94(5.88)	7.68(6.52)
9th (2009)	8.62(8.17)	10.54(11.20)
After excluding cases ≥ 35 @	8.02(6.58)	8.81(7.09)

Behavior Events

7th (2007)	0.64(1.33)	0.98(2.01)
8th (2008)	0.81(1.61)	1.23(2.75)
9th (2009)	1.74(3.33)	1.15(2.39)

Figure 12. Comparing Student Absence graphs over time for pre-treatment group (trend group) and treatment group (implementation group) based on means after exclusions

Based on Figure 12, the number of student absences between eighth- to ninth-grade for both groups in Cohort 1 declined. This was the only time frame studied where there was a decline in student absences. From seventh- to eighth-grade reveals an increase in number of absences for both groups. The contrast between the trend group (Cohort 1) and the treatment (implementation) group (Cohort 2) graphs on student absence indicate that the treatment which included the implementation of a set of structured articulation activities had no positive impact on the dependent variable, student absence. After student participation in the set of structured articulation activities, student absenteeism increased by almost 25%. Absenteeism seems to be a separate subject that is worthy of a future stand alone study.

Table 37

Comparison of Cohort 1 and Cohort 2 Student Absence Two-Way ANOVA Results (after exclusions)

Cohort and Group	Cohort and Group	7 th grade Mean Difference	7 th grade Sig. ^a	8 th grade Mean Difference	8 th grade Sig. ^a	9 th grade Mean Difference	9 th grade Sig. ^a
Cohort 1/NT Group	Cohort 1/PT	- 0.46	.42	+ 0.14	.82	- 0.39	.54
	Cohort 2/NT	+ 1.57	.00	+ 0.87	.13	+ 0.19	.76
	Cohort 2/T	+ 1.08	.05	+ 1.13	.06	- 0.60	.34
Cohort 1/PT Group	Cohort 2/NT	+ 2.03	.00	+ 0.73	.23	+ 0.58	.64

	Cohort 2/T	+ 1.54	.01	+ 0.99	.12	- 0.21	.75
Cohort 2/NT Group	Cohort 2/T	- 0.49	.38	+ 0.26	.67	- 0.79	.22

a = adjustment for multiple comparisons: Least Significant Difference

Table 37 describes the activity that occurred in Figure 12. In Table 37 the evidence revealed a significant difference at the seventh-grade level for all groups except (1) C1/NT and C1/PT and (2) C2/NT and C2/T. At the eighth-grade level significant difference was observed only at (1) C1/NT and C2/T and (2) C1/PT and C2/T. There was no significant difference found between any of the pairs at the ninth-grade level. This was calculated after the exclusions of the outliers. The only interesting portion of Table 37 was the significant difference at the seventh-and eighth-grade levels between the pre-treatment and treatment group. The data indicated that the articulation activities had no positive impact on student absence.

Table 38

Comparison of Slopes of Cohort 1 and Cohort 2 for Student Absence

		2006-2007 7 th – 8 th grade Slope	2007-2008 8 th – 9 th grade Slope
Cohort 1	Non-Treatment	+1.50	-0.48
	After excluding cases ≥35 @	+0.78	-0.61
	Pre-Treatment	+0.18	-0.08
	After excluding cases	+0.18	-0.08

		≥ 35 @		
Cohort 2	Non- Treatment		2007-2008 7 th – 8 th grade Slope +1.22	2008-2009 8 th – 9 th grade Slope +0.44
		After excluding cases	+1.48	+0.73
		≥ 35 @		
	Treatment		+1.08	+2.31
		After excluding cases	+0.08	+1.13
		≥ 35 @		

Table 38 and Figure 12 indicate that the number of days absent decreased for the trend data group (Cohort 1) as they transitioned from grade eight to grade nine. During 2008 to 2009 when Cohort 1 were ninth-graders and the treatment groups (implementation group), Cohort 2, were eighth-graders, all four groups of students increased their number of days absent from school.

Figure 13. Comparing Behavior Events graphs for over time for pre-treatment group (trend group) and treatment group (implementation group)

The non-treatment group in Cohort 1 showed an improvement in the number of student behavior events from seventh- to eighth- grade. After a review of the behavior

graphs in Figure 13, there is the indication that the only group to show a decline in the number of behavior events from grade eight to grade nine is the treatment group in Cohort 2.

Table 39

Comparison of Cohort 1 and Cohort 2 Behavior Events Two-Way ANOVA Results

Cohort and Group	Cohort and Group	7 th grade Mean Difference	7 th grade Sig. ^a	8 th grade Mean Difference	8 th grade Sig. ^a	9 th grade Mean Difference	9 th grade Sig. ^a
Cohort 1/NT Group	Cohort 1/PT	- 0.08	.65	- 0.18	.36	+ 0.69	.01
	Cohort 2/NT	+ 0.27	.10	+ 0.05	.80	+ 0.17	.51
	Cohort 2/T	- 0.08	.67	- 0.38	.05	+ 0.77	.00
Cohort 1/PT Group	Cohort 2/NT	+ 0.35	.05	+ 0.22	.25	- 0.53	.05
	Cohort 2/T	+ 0.00	.98	- 0.20	.33	+ 0.07	.79
Cohort 2/NT Group	Cohort 2/T	- 0.34	.05	- 0.42	.03	+ 0.60	.02

a = adjustment for multiple comparisons: Least Significant Difference

Table 39 describes the activity that occurred in Figure 13. In Table 39 the evidence revealed that at the seventh-grade level significant difference was determined

between (1) C1/PT and C2/NT and (2) C2/NT and C2/T. At the eighth-grade level significant differences were found between (1) C1/NT and C2/T and (2) C2/NT and C2/T. The ninth-grade data in Table 40 reveal significant differences found between four group combinations: (1) C1/NT and C1/PT; (2) C1/NT and C2/T; (3) C1/PT and C2/NT; and (4) C2/NT and C2/T. The important information in this table is the significant difference between the non-treatment and treatment groups in Cohort 2. This would be more valuable except there was significant difference between these two groups for all three years of data collection. Another value piece of information was the lack of significant difference between the pre-treatment and treatment group's at all three levels. This information is important to this study because of the significant difference between the non-treatment and treatment groups specifically at the ninth-grade level and the degree of significance increased from eighth-to ninth-grade.

Table 40

Comparison of Slopes of Cohort 1 and Cohort 2 for Behavior Events

		2006-2007 7 th – 8 th grade Slope	2007-2008 8 th – 9 th grade Slope
Cohort 1	Non-Treatment	-0.06	+1.06
	Pre-Treatment	+0.04	+0.19
		2007-2008 7 th – 8 th grade Slope	2008-2009 8 th – 9 th grade Slope
Cohort 2	Non-Treatment	+0.17	+0.93
	Treatment	+0.25	-0.08

An examination of Table 40 shows that during 2007 to 2008, when Cohort 1 was transitioning from eighth- to ninth-grade all participating schools showed an increase in the number of behavior events. At the treatment (implementation) location known as Cohort 2, a slight increase in number of behavior events existed for the non-treatment group during the seventh- to eighth-grade year. These values, however, are smaller than the values when they were transitioning from eighth- to ninth-grade. The slopes for 2008 to 2009 for the treatment (implementation) group present a different view. The non-treatment group revealed an increase in number of behavior events whereas the treatment (implementation group) revealed a decrease in behavior events. The non-treatment group revealed a conspicuous increase from 2007to 2008. This steep increase may be due to what constitutes a behavior event at the high school. The data in Table 40 clearly indicated that where there was a significant difference between the non-treatment and treatment group in Cohort 2 there clearly lacked any difference between the pre-treatment and treatment group's at all three grade levels. This may clearly be clearly attributed to the articulation activities or may be due to some degree to how behavioral consequences are handled. For example, in Bullitt County, the middle schools did not consider possession of a cell phone as a behavior violation whereas the high school, BEHS, included cell phone possession as a discipline violation.

A general linear model of analysis using MANCOVA and multivariate tests was conducted using SPSS software to determine the influence the covariates had on the dependent variables student absence and behavior. F values and corresponding significance level are displayed in the Table 41 through 44.

Table 41

Student Absence Multivariate Tests using Wilks' Lambda for Cohort 2(after exclusions)

Effect	λ Value	F	Hypothesis df	Error df	Sig.	Observed Power ^b
Gender	0.98	3.13 ^a	3.00	460.00	.03	0.73
Race	0.99	0.97 ^a	3.00	460.00	.41	0.27
Socioeconomic	0.93	11.16 ^a	3.00	460.00	.00	0.99
Disability	0.98	3.83 ^a	3.00	460.00	.01	0.82

a = Exact statistic

b= Computed using alpha = .05

Table 41 presents the results from running Wilks' Lambda in MANCOVA. The values displayed in the table indicate that there was a significant difference in gender and socioeconomic status regarding student absence.

Table 42

Tests of Between Subject Effects for Student Absence for Cohort 2(after exclusions)

		Gender	Race	Socioeconomic Status	Disability
Student Absence 7th (2007)	df	1	1	1	1
	F	2.82	1.81	15.53	5.46
	Sig.	.09	.18	.00	.02
Student Absence 8th (2008)	df	1	1	1	1
	F	0.02	1.55	22.44	2.51

		Gender	Race	Socioeconomic Status	Disability
	Sig.	.90	.21	.00	.11
Student Absence 9th (2009)	df	1	1	1	1
	F	1.51	2.61	31.15	10.09
	Sig.	.22	.11	.00	.00

Table 42 provides results from running the second test in MANCOVA. The table displays the result from the tests of between subjects' effects for student absence. What emerged in this table is that socioeconomic status was significant for student absence at all three grade levels and gender at the ninth-grade level.

Table 43

Behavior Events Multivariate Tests using Wilks' Lambda for Cohort 2

Effect	λ Value	F	Hypothesis df	Error df	Sig.	Observed Power ^b
Gender	0.98	3.60 ^a	3.00	474.00	.01	0.79
Race	0.98	3.29 ^a	3.00	474.00	.02	0.75
Socioeconomic	0.98	3.03 ^a	3.00	474.00	.03	0.71
Disability	0.97	5.38 ^a	3.00	474.00	.00	0.93

a = Exact statistic

b= Computed using alpha = .05

Table 43 revealed that the MANCOVA results using Wilks' Lambda showed significant difference for all confounding variables for behavior.

Table 44

Tests of Between Subject Effects for Behavior Events for Cohort 2

		Gender	Race	Socioeconomic Status	Disability
Behavior Events 7th (2007)	df	1	1	1	1
	F	2.37	1.25	18.76	4.22
	Sig.	.12	.26	.00	.04
Behavior Events 8th (2008)	df	1	1	1	1
	F	0.08	1.71	29.28	1.54
	Sig.	.78	.19	.00	.22
Behavior Events 9th (2009)	df	1	1	1	1
	F	1.58	2.62	32.09	10.01
	Sig.	.21	.11	.00	.00

Table 44 revealed the values from conducting the tests of between subject effects for behavior. At the seventh-grade level, significant differences for all four confounding variables were found. At the eighth- grade level, significant differences for all effects were found. At the ninth-grade level, significant differences for gender and disability were found.

Interpretation

This section will consist of an initial interpretation of the results. The expanded version of interpretation will be conducted in Chapter 5.

There were six dependent variables that were explored for research question 1: number of student F's earned, final language arts and mathematics grades, GPA, and EXPLORE and PLAN data. Two dependent variables were explored for measuring research question 2: student absence and behavior.

Initial descriptive data revealed that treatment group in Cohort 2 had the preferential scores on a good number of the results used compared to the non- treatment group.

The influence that the covariates had on the dependent variables was detected between the treatment group and the non- treatment group using the Wilks Lambda test, as described below to determine significant effects. Table 45 lists all confounding variables that had a significant effect on each of the dependent variables. Significance was determined by values less than .05. The results that indicated a covarying relationship were the very low probability values for (1) gender, socioeconomic status, and disability in the final language arts grade dependent variable; (2) socioeconomic status and disability in the final mathematics grade;(3) disability in the EXPLORE/PLAN results; and (4) the socioeconomic status in student absence, and disability for the behavior variable. Gender and socioeconomic status were significant for all the dependent variables except for the number of student F's. Disability was significant for everything except student absence and number of student F's.

Table 45

Wilks' Lambda Results for Cohort 2

Dependent Variable	Confounding Variable	Significance	Grade Level
Final Language Arts Grade	Gender	p = .00	8,9
	Socioeconomic status	p = .00	7,8,9
	Disability	p = .00	7,8,9
Final Mathematics Grade	Gender	p = .05	7,8
	Socioeconomic status	p = .00	7,8,9
	Disability	p = .00	8,9
EXPLORE/PLAN	Gender	p = .01	
	Socioeconomic status	p = .01	
	Disability	p = .00	
Student Absence	Socioeconomic Status	p = .00	7,8,9
	Disability	p = .01	7,9
Behavior Events	Gender	p = .01	7,8,9
	Race	p = .02	7,8
	Socioeconomic status	p = .03	7,8
	Disability	p = .00	7,8,9

Therefore, the results of this study were of practical significance. As a practitioner, the researcher was searching for significant differences that can promote improvement in student academic performance and student behavior. This study found a significant difference in schools for all the dependent variables except for number of

student F's. The four confounding variables had no impact on the number of student F's earned. Race was only significant for the behavior dependent variable. Disability was significant for all variables except student absence. Gender and socioeconomic status had a significant impact on all the dependent variables except of the number of student F's earned.

A snapshot of the data analysis was shown in Table 45. These results are important in determining whether a school or district pursues the implementation of a set of structured articulation activities.

The confounding variables were significant predictors of student achievement and student behavior. Final language arts grade, final mathematics grade, and the EXPLORE and PLAN each indicated significance. The values have greater significance in the confounding variables of disability and socioeconomic status. These findings are important because these two particular variables are common subgroups for most schools in NCLB and problem area for most schools.

Results Summary

This study explored the effectiveness of a specific program in increasing student success in transitioning from grade eight to grade nine. Data were collected for eight dependent variables relative to answering the two research questions: (1) What impact does a set of structured articulation activities have on student academic performance? (2) What impact does a set of structured articulation activities have on student behavior?

Instruments used to collect data for this study included Infinite Campus and EXPLORE and PLAN data from the American College Test Program. Data in response to Question 1 were gathered from Infinite Campus on: number of student F's earned;

GPA; final language arts and mathematics grades; and EXPLORE and PLAN results.

Analysis revealed that the implementation of a set of structured articulation activities had a positive impact on final mathematics grade for the school year, student behavior, and significant academic growth from taking the EXPLORE test in eighth- grade to the taking the PLAN test in the tenth-grade.

Statistical analysis of the data for Question 2 which was associated with student absence and behavior revealed that the implementation of the set of structured articulation activities resulted in positive changes in student behavior events. The analysis revealed no change in the number of student absences which may be a result of the set of structured articulation activities lacking a focus on student absence issues.

The impact of the covariates was made by conducting a MANCOVA analysis. The results revealed that the set of structured articulation activities that were implemented in Grant County Middle School in 2008 had positive impact on these students as they transitioned from grade eight to grade nine.

The results from the analysis of this data are sufficient to recommend continued implementation and research on projects that employ sets of structured activities designed to improve the transition of students from grade eight to grade nine. Enough validation exists to indicate an impact but the exactness in detail was lacking. Table 11 in Chapter 3 described the validity threats associated with this study. The results warrant more years of data to be collected in order to increase the study longitudinal. The results probably would be more helpful in answering research Question 1 and 2 with more confidence.

CHAPTER FIVE

Implications from Results, Recommendations, and Conclusions

This chapter presents a summary of the results of the study and provides an interpretation of these results. The discoveries are discussed relative to the existing research introduced in Chapter 2, followed by a discussion of the limits of the study, and the researcher's perception of the impact of the study and possible opportunities for future examination of this topic.

Synthesis of the Study

The literature review in Chapter 2 demonstrated that the transition from grade eight to grade nine can: (1) negatively affect students; (2) lead to increased ninth-grade retention-by-failure, decreased student motivation, decreased test scores; and (3) result in increased dropout rates (Akos & Galassi, 2004; Aspaugh, 1998). Longitudinal studies in general indicate that some students in their first year of high school suffer declines in grades and increases in absenteeism (Alspaugh, 1998; Barone, C., Aguirre-Deandries, A. I., & Trickett, E. J., 1991; Isakson & Jarvis, 1999).

Research also indicates that the transition from grade eight to grade nine can result in academic loss (Alpaugh, 1998) and those students typically have a decline in GPA as they transition to high school (Alspaugh, 1998; Barone, Aguirre-Deandreis, & Trickett, 1991). The ninth-grade year in high school is identified as having more

retention-by-failure, dropouts, and academic failures (Alspaugh, 1998). Finally, students leaving middle schools lack the necessary preparation for the freedom and responsibility that a high school setting provides (Akos & Galassi, 2004).

Problem and Purpose

The problem that initiated this study is that the majority of schools, specifically middle and high schools do not implement systemic procedures to assure students will make favorable transitions from middle to high school (Grossman & Cooney, 2009). The purpose of this study was to determine the impact of a set of structured articulation activities on the transition of students from grade eight to grade nine. The researcher of this study has studied this topic, communicated regularly with individuals that implemented the activities, and analyzed the results as a researcher in the field of education with passion for improving the transition of middle school students as they move to high school. The knowledge acquired on the effect of articulation activities on middle school to high school transition from this study has the potential to help both middle and high school staff better identify interventions effective in assisting student's transition from grade eight to grade nine. A major component of this chapter will be to describe the knowledge gained from this study and the implications for schools and districts utilizing this strategy. The literature review detailed in Chapter 2 revealed areas of greatest need for students as they enter high school. The effects these articulation activities had on student performance and academic behavior in this study can assist in identifying the needs for students in local settings before issues arise in academic and behavioral outcomes.

Implications from Results

Research Questions

The following five categories emerged from reading and interpreting literature on transitions and articulation activities: (1) curriculum; (2) discipline and safety; (3) facilities; (4) general; and (5) teachers, counselors, and administrators. The focus of this study was to determine whether implementing a set of structured articulation activities based on these five categorical areas would impact students as they transition from grade eight to grade nine. Two research questions framed this study: (1) What impact does a set of structured articulation activities have on student academic performance? (2) What impact does a set of structured articulation activities have on student behavior? Chapter 4 presented the findings based on each research question. Chapter 5 will continue with this format.

Research Question 1

What impact does a set of structured articulation activities have on student academic performance?

The first dependent variable examined was the number of student F's earned for an academic year. Four separate methods of analysis were conducted to determine the impact the articulation activities had on course failure. The results from the two-way ANOVA indicated significant difference in the non-treatment and treatment group at the ninth-grade level. The results though showed no significance between the pre-treatment and treatment groups and the covariates had no influence on the number of student F's earned in a given year.

The interesting computation was the analysis of the actual number of students in each cohort at the ninth grade level earning an F in a course and the total number of F's

earned. Bullitt County non-treatment groups increased from Cohort 1 to Cohort 2 in number of students earning F's (41/269 to 47/262) yet the total number of F's decreased by almost 50% (105 to 64). There seemed to be more students earning an F, yet the number of F's earned by students was reduced which probably reduced the actual number of students retained. Students can earn one or two F's in a given year and still advance to the next grade level. The earning of F's becomes critical when students are earning multiple numbers of F's. Grant County from Cohort 1 to Cohort 2 reduced the number of students earning an F by 8% (40/209 students to 25/220 students) and reduced the number of accumulated F's by 68% (59 to 40). Although, an increase in the number of student F's is not desirable, the increase in the treatment group for this dependent variable was significant when compared to the increase of the non-treatment group. The mean number of student F's at the ninth-grade level for the treatment group is a valuable piece of information. The cohort 2 group from Grant County has improved their retention-by-failure rates as determined from evaluating their number of student F's in Cohort 1 and 2. Both cohorts indicate from the data an increase at the ninth-grade level yet Cohort 2 is 0.10 less. Since reducing the retention-by-failure and dropout rates is critical to secondary schools today, a school district needing to reduce their retention-by-failure rate may want to consider looking at Grant County. In one year, they reduced the number of student F's at the ninth-grade by 8% which is equivalent to approximately 15 fewer students earning a total of 19 fewer earned F's.

The second dependent variable examined for research Question 1 was the final language arts grade. The results from the graphs and the two-way ANOVA clearly indicate that there was no significant difference between the pre-treatment and treatment

group nor the non-treatment group and treatment group. The Wilks' Lambda test indicated that gender, socioeconomic status, and disability had a significant influence on a student's final language arts grade. The school districts involved in the study had less than 5% minority memberships which may suggest why race was not a significant factor in these results. The specific articulation activities included in this treatment did not seem to have an impact on a student's final language arts grade for a given year.

The next dependent variable examined pertaining to academic performance was the final mathematics grade. The graphs in figure 7 plainly showed three of the groups declining in final mathematics grades from eighth-to ninth-grade. The treatment group in Cohort 2 actually improved in the final grade from eighth-to ninth-grade. The results of the two-way ANOVA further supported the graphs by indicating significant differences between the pre-treatment group and the treatment group, and between the non-treatment group and the treatment group in Cohort 2. The results of the MANCOVA using Wilks' Lambda indicated that gender, socioeconomic status, and disability were a significant influence at the eighth- and ninth-grade. Because of the NCLB mandates and mathematics as tested area in state assessment, the results for the final mathematics grade are powerful for future initiatives.

The results for GPA indicated that the treatment group, students from Grant County Middle School, at the completion of their ninth-grade year, showed almost a 10% increase in GPA when compared to the trend group from the same school when completing the ninth-grade year. Findings of the current study suggest that students did not suffer a statistically significant decline in GPA when comparing their eighth-grade and ninth-grade final grades for either the non-treatment or treatment group. Students

from both groups showed a gain in GPA; however, an important difference in increase between the treatment group, GCMS, and the non-treatment group made up of EMS and MWMS. These results are certainly worthy of future study and examination. Both groups improved in GPA which correlates with less retention-by-failure and the potential for fewer dropouts.

The last variable examined for research question 1 was EXPLORE and PLAN data. Figures 8 through 11 and Table 26 all provide evidence that the treatment group in Cohort 2 had the greatest increase in scores for all four tested areas from the EXPLORE to the PLAN test. The results from conducting the Wilks' Lambda indicated that all the covariates except race had a significant influence on the tests.

Research Question 2

What impact does a set of structured articulation activities have on student behavior?

Data to answer Question 2 were obtained from Infinite Campus. The first dependent variable examined student absence and was analyzed quantitatively. Student absences are part of the non-cognitive data a school examines and held responsible for improving. Based on the interpretation of Figure 12 the treatment had no positive impact on student absences. The results of the two-way ANOVA showed no significant difference in the pre-treatment and treatment groups nor the non-treatment and treatment groups in Cohort 2. The results of the Wilks' Lambda indicated that gender and socioeconomic status were the only covariates to have a significant influence on student absences. Student absence does not seem to be affected by the implementation of a set of structured articulation activities as this variable was not significant in the analysis. Although socioeconomic status is typically found to be a factor in student absence rates

(Rothman, 2001), this study found no effect. This result may be due to the specific activities included in the set of structured articulation activities that lacked focus on student absence or motivation to improve student absence.

The last dependent variable examined for this research question focused on student behavior. The dependent variable behavior represents the number of recorded behavior events associated with an individual student. Behavior events represent student infractions or violations which are considered unacceptable student behavior. Based on Figure 13, the treatment group in Cohort 2 was the only group to reduce the number of behavior events in the ninth grade. The results of the two-way ANOVA indicated a lack of significant difference between the pre-treatment and treatment groups from Grant County, yet there was a significant difference between the non-treatment and treatment groups in Cohort 2. The results of the Wilks' Lambda test indicated that all the covariates had a significant influence on a student's behavior. The covariate disability would be expected to be significant due to the inclusion of students who are identified as EBD (Emotional Behavior Disorder). The differences between the schools may be due to the difference in schools' code of conduct and what each school considers a violation which results in consequences.

Interpretation of Results

As discussed in Chapter 2, a limited body of research that considers the impact a set number of articulation activities has on the transition of students from grade eight to grade nine currently exists. Generally, these studies found that implementing a minimum of five articulation activities had a positive influence on student transitions from middle school to high school.

Mac Iver (1990) determined that fewer students were retained in ninth-grade when middle schools students experienced a high school transition program that involved various articulation activities. Morgan and Hertzog (1999) conducted research that involved 56 high schools in the states of Georgia and Florida. The results of their study indicated that schools with an all-inclusive transition program had significantly fewer dropouts and a lower failure rate than schools that provided a limited number of articulation activities. Hertzog and Morgan (1999) added that organizations that implemented five or more articulation activities from a set of five categorical areas increased the probability of a successful transition for a student from grade eight to grade nine.

The current study expands upon the earlier work of Hertzog, Morgan, Mizelle, and Irwin but it also differs in terms of the number of articulation activities employed. Whereas Hertzog, Morgan, Mizelle, and Irwin used five as an acceptable number of articulation activities, this study included 12 articulation activities. This study was conducted in a school setting, and the schools involved wanted to assure success. The previous researchers did not delineate which five activities were studied and some evidence existed that not all activities were the same. Finally, this study determined from the literature and from knowledge of the school setting that 12 activities were the best match, and implemented all 12 to maximize impact. Another prominent difference is the number of schools involved. Hertzog and Morgan's study was large, involving 450 schools in two states. This study involved two school districts in one state focused on the implementation of a set of articulation activities.

The current study and the study mentioned above suggest that increasing the number of articulation activities applied to a transition program focused on the transition from middle school to high school has a positive impact on student performance and behavior. None of the studies, however, addressed a particular number of articulation activities necessary to have an impact on transition. Hertzog and Morgan (1999) indicated that at least five articulation activities are needed, but they did not specify which five. A number of questions remain such as: Does implementing 5 or 12 articulation activities make a difference? Which activities have the most impact? What level of implementation intensity is necessary for a positive impact? What are possible interaction effects among the activities? What levels of intensity are needed for each activity?

The set of structured articulation activities selected for this implementation were based on five specific categories: curriculum, facilities, safety and discipline, teachers, counselors, and administrators, and general. This study substantiated that articulation activities had a positive impact on student academic performance and behavior for certain dependent variables; however, it was not able to confirm that the selected activities needed to come from the five specific categories. The results from this study do not indicate which articulation activities were effective, which were not, or how many are needed to implement for success from this analysis.

The data indicated that Grant County administration used strategies that improved student success in transitioning from grade eight to grade nine. The results in Table 6 in Chapter 3 revealed that the number of students retained in the ninth-grade decreased over the last three years for Grant County High School. At the end of the 2009 school, the end

of the ninth-grade for Cohort 2, Grant County High School retained seven students. This result compares to ten students the prior year. Bullitt East High School retained 18 students in the ninth-grade at the end of 2009-2010. This result was an increase of five from the year before. A further analysis of these results can be made using Tables 6 and 14. In 2008, the treatment occurred in Grant County with eighth- graders at Grant County Middle School. The high school groups represented Cohort 1. At the end of that school year, Grant County High School had approximately 210 ninth-graders, and they retained 10 students, representing 4.8% of the ninth-grade class. Bullitt East High School the same year had approximately 311 freshmen, and they retained 13 students, or 4.2% of the ninth-grade class. The 2010 ninth-grade class represented at the high schools represented members of Cohort 2, either being a member of the treatment or comparison groups. Grant County High School's ninth-grade class included approximately 220 students, of which seven students were retained, representing 3.2% of the freshman class. This decrease of 3 students was 1.6%. Bullitt East High School had 262 students in the freshman class of 2009. Eighteen students were retained, representing 6.9% of the freshman class. This percentage represented an increase of 5 or 2.7% students being retained. The changes in retention-by-failure are important especially when considering the implementation of the set of structured articulation activities and the evident impact they made on student success. The mean number of students F's for Cohort 1, pre-treatment group, for ninth-grade was 0.28. The following year, at the same school, the treatment group had a mean of 0.18 for ninth-grade number of student F's. This decrease of number of student F's by 0.1 may have been attributed to the articulation activities implemented the year before. Another way of examining this is the ninth-graders of

Cohort 1 in 2008-2009 had 40 students that accumulated a total of 59 F's. This corresponded to 19% of the ninth-grade class earning a F. The following year, 2009-2010, the treatment group in Grant County earned a total of 40 F's by 25 students, which represented 11% of the students. This reduction in the number of student F's may have resulted in less retention-by-failure and dropout at the ninth-grade level at Grant County High School.

An attempt was made to retrieve prior years of data for both high schools pertaining to the actual number of students retained in ninth-grade. The data were not available to the researcher at this time but this data would be an asset to future studies.

Table 41 in Chapter 4 is a compilation of the significance in regards to the confounding variables as it relates to each dependent variable. The evidence in the chart provides evidence of the effectiveness of the implementation of the set of structured articulation activities. The probability values in the table clearly indicate that student academic performance and behavior was positively influenced by the implementation of the set of structured articulation activities.

The treatment included implementing 12 different articulation activities. A separate study that is part of the initial project will examine closely the value added by each articulation activity. A few of the articulation activities fall in that three or less articulation activities that most schools implement as part of their transition program. An example would be the touring of the high school. This is an expected activity that helps students be better prepared for the first day of school. This articulation activity may influence the two student behavior variables yet does not support improved academic performance.

The involvement in special education meetings (ARCs), the teacher swap and the vertical alignment meetings that involved teachers at both levels potentially influenced student academic performance. These three articulation activities were all focused on improving communication and collaboration. The results in the Two-way ANOVA for the dependent variables of number of student F's, final mathematics grade, GPA, and growth from EXPLORE to PLAN all provided evidence that the articulation activities as a set may have positively impacted these outcomes, and among the set of articulation activities it may be that the three mentioned above were most responsible for these results.

Limitations

Some limitations to the study that may have had an impact on the results require mention. An important limitation of the study is the sample size of the student population. The sampling included eighth- and ninth-graders from two school districts in Kentucky. Therefore, generalization to other middle or high school students in eighth- and ninth-grade is limited. Attrition of students from the original sample group and the addition of new enrollees during the study could not be controlled. Few secondary school studies were available on transition in the literature review, therefore, a limit in the resources in determining which articulation activities to pursue implementing. There existed smaller learning communities in both high schools, and teaming at the middle school and freshman academies at the high school that might have influence student transition and limit generalizability to other contexts.

Also several validity issues limit confidence of the results. Internal validity issues that may have affected the results included the school climates, accurately comparing the

academic ability of one class to another; and the influence of school policies that may have affected results. An example is the robust increase in behavior events for the non-treatment group in both cohorts as they entered ninth-grade. One high school code of conduct listed possession of a cell phone as an incident. This was not the case in either of the middle schools. This factor could have had an impact on the results.

This was a time-interrupted study. This quasi-experimental strategy was a limitation to the study. The intervention effects may have been immediate or could have been delayed. The effects from the intervention at some point may have drifted back towards the pre-intervention level or have sloped over time if the effects wore off or were not continued.

Recommendations

Recommendations for Practice

Since ninth-grade is a decisive year in the high school realm, educators need to determine which practices are essential for the success of their students (Gibson, 2006).

This study and the related research introduced in Chapter 2 do not provide incontrovertible evidence for creating the best transition program in the broadest sense of the concept. In general, the results of this study do support implementing a specific set of articulation activities in eighth- grade. The final set of activities useful for school districts in different cities and states may be different from these, but the set of activities used in this study are likely to be relevant to nearly all school systems. On the other hand, selecting what might be considered the “ideal” transition program would be challenging and require more research.

Local school administrators should consider many different factors relevant to their individual school or district needs prior to deciding upon which specific articulation activities to implement. Keep in mind that simply embracing articulation activities will not necessarily produce higher student achievement by itself, but this study offers evidence that implementing them can mitigate the prevalent lack of success for so many ninth grade students, and potentially enable other strategies for increasing student achievement to be effective.

As an example, an interesting practice has resulted from this study. In the fall of 2010 the Bullitt County School Superintendent sent out a memo to all principals in the school district (Appendix F). The memo required principals at each grade level to develop minimum requirements for professional growth plans. The middle school principals were required to develop a goal statement and an ensuing SBDM Policy focused on student ILP's (individual learning plans) and transition from middle to high school. The superintendent stated that this particular expectation for middle schools was conceptualized from this particular study. He neglected to provide any further details as to his reasoning for this action, yet he has monitored the specifics of the transition plan between Bullitt East High School and Mount Washington Middle School. The growth plan goal developed by this researcher is found in Appendix G. The plan is already in progress. Bullitt East High School and Mount Washington Middle School, one of the comparison schools, are in the planning stages of implementing the set of structured articulation activities in the spring of 2011. The staff has already received feedback from several parents excited about the opportunity this will be for their children.

This study represents a model of a low cost, very feasible intervention that can make a positive impact on students as they transition from middle school to high school. In addition to the evidence this study offers for the potential positive impacts on ninth grade student outcomes, the feasibility for others to take advantage of this positive potential is high. This strategy can be implemented without the need for additional staff; the approach will not require more time, money, or people to implement the articulation activities. The combination of strong potential for positive impact in a critical area for schools, coupled with relatively easy and affordable implementation, underlines the strong possibility of a substantial impact of this study on practice. Bridging the research-to-practice barrier is a persistent challenge for the field of education, and this study may be an important thread in strengthening that bridge with its immediate impact and feasible application for practitioners working in schools.

Recommendations for Further Research

The results of the effect the implementation of a set of structured articulation activities on student academic performance and behavior as reported in this study leave a number of questions for further research to address. First, although this study described effects of the implementation of a set of structured articulation activities from grade eight to grade nine, it did not study the effect longitudinally, beyond grade nine. It also did not investigate the sustainability of the strategies across multiple years of transitions. Uncovering the effect of articulation activities on student academic performance and behavior all the way to high school graduation, however, would enable educators and policy makers to more confidently judge whether it would be beneficial to utilize articulation activities as a strategy for improving student success in high school. Future

studies might focus on following these students through graduation, and could generate evidence regarding the impact of a set of structured articulation activities on students as they transition from high school to college or work.

The most parsimonious number of implementation activities to be effective would be helpful to know. Future research might examine the number and type of articulation activities to employ, and generate evidence that can determine the specific impact of each individual activity in isolation and in various combinations with other activities. Results from such research could clarify Hertzog and Morgan's (1999) study that indicated five or more articulation activities are needed to increase the probability of a student's success as they transition from grade eight to grade nine. Determining how many activities and which activities contribute to improving student transition from grade eight to grade nine is important for efficiency, cost, and sustainability of such programs.

If other districts implement transition programs similar to the one in this study, collecting comparable data and aggregating across multiple sites would increase the power of the analysis, enabling conclusions to be drawn with more confidence. Establishing (presumably positive) impacts of articulation activities on this larger scale would likely have proportionately stronger influence on practices throughout districts.

Appraising school districts as to why they selected specific articulation activities would also be a valuable study that could contribute to streamlining the application in practice of results found in this research. Renschler (2000) stated that most decisions are not made necessarily for educationally solid reasons but primarily for non-education reasons such as finance and location. If the decision-making processes of practitioners could be unpacked, and then subsequently used to structure how to communicate the low

cost, high benefit of implementing articulation activities, then the results of research like this study could influence the field more broadly.

This study supports the need for further research on the transition from grade eight to grade nine if educators are going to make this particular transition for students more successful. Middle school teachers generally include interventions of specific middle school teaching team practices and advisory activities designed to communicate expectations for academic achievement. This study focused on the implementation of a set of structured articulation activities that included activities aligned with interventions that are part of the norm for middle schools. The following questions represent further issues that might be considered for future study:

1. How might the results differ if the population was low-performing schools?
2. How might the results change in a longitudinal study?
3. How would a scale-up of the study to include multiple states impact results?

In a time of accountability and standardized testing, a period of academic nonperformance for many pupils occurs frequently as students transition from grade eight to grade nine and the ensuing increase in dropouts. Currently, educational leaders and practitioners are attempting many strategies that could be considered possible solutions, trying to identify what will best help ninth-graders adapt to the high school environment and be successful. This study offers compelling evidence to support that implementing

an assortment of research-based interventions, students in ninth-grade will benefit and achievement will be enhanced.

Conclusion

In the past 100 years, the educational system in America has become compartmentalized. The organization is made up of numerous separate units all existing in their own bubble. Lack of communication and collaboration across these units may have contributed to the decline of the American student academically. Referring back to the conceptual framework introduced in Chapter 2, this study is the result of transition research which introduced articulation activities. This concept of implementing a set of structured articulation activities and the resulting impact on student performance is based on the theory that the common characteristics found in high reliability organizations and effective schools, linked by the philosophy of organizational learning, creates a foundation for implementing this approach to improving student outcomes. Educational leaders such as Coleman (1974) have emphasized the importance of organizations becoming smarter.

In Chapter 2 the three separate frameworks that provide the context for this study are introduced. The first framework described is the Connell and Wellborn of 1991 (Appleton, Christenson, & Furlong, 2008). The focus of this framework is the linkage of teacher support to student engagement and success. One of the five categories that the articulation activities belonged to was teachers, administrators and counselors. Connell and Wellborn state that schools with high levels of teacher support are three times more likely to have increased levels of engagement which correlates to increased student

performance. One aspect of this study was to improve support from both eighth- and ninth-grade teachers.

Datnow, Park, and Wohlester's (2007) research determined that student transition from grade eight to nine could be mitigated by data driven decision making, collaboration, and the development of intervention strategies. This study's intervention provided opportunities for the teachers involved to meet on a regular basis to examine data and create strategies for improving student performance, and the study offers evidence of the success of this initiative.

The final framework was that of Rumberger and Palardy (2005). Their work emphasized the relationship found between school characteristics and student outcomes. That study emphasized the areas over which schools have control and how these areas influence students. The implementation of articulation activities as was done in this study are processes that a school can control and positive student outcomes were shown to be a result.

Schools are presently judged by their ability to increase student achievement. This study focused on one possible approach to do this; an approach that can be feasibly implemented in schools in a quick time frame with little cost. . The results from this study showed a promising impact on student outcomes, and based on this I would recommend districts consider implementing this program of articulation activities.

REFERENCES

- Abell Foundation (2007). *A "jump start" on college: How early college access programs can help high school students in Baltimore City*. Baltimore: Abell Foundation.
- Ainscow, M., & Muncey, J. (1989). *Meeting Individual Needs*. London: David Fulton.
- Akos, P., & Galassi, J. (2004). Gender and race as variable in psychological adjustment to middle and high school. *The Journal of Educational Research*, 98 (2).
- Allensworth, E. M., & Easton, J. Q. (2005, June). *The on-track indicator as a predictor of high school graduation*. Consortium on Chicago School Research at the University of Chicago.
- Alsbaugh, J. W. (1998, September/October). Achievement loss associated with the transition to middle school and high school. *The Journal of Educational Research*, 92(1), 20-26.
- Appleton, J.A., Christenson, S.L., & Furlong, M.J. (2008, April). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, 45(5), 369-386.
- Armor, D., Conroy-Osgura, P., Cox, M., McDonnell, L., Pouly, E., Zellman, G. (1976). *Analysis of the school preferred reading programs in selected Los Angeles minority schools* (Rep. No. R-207-LAUDS). Santa Monica, CA: RAND.

- Barnes, N. (2000). Teachers training teachers. *Education Week*, 19, 38-42.
- Barone, C., Aquirre-Deandries, A. I., & Trickett, E. J. (1991). Means-ends problem-solving skills, life stress, and social support as mediators of adjustment in the normative transition to high school. *American Journal of Community Psychology*, 19(2), 207-225.
- Bernstein, L., Millsap, M.A., Schimmenti, J., & Page, L. (2008). *Implementation study of smaller learning communities final report – appendices*. U. S. Department of Education, Office of Planning, Evaluation and Policy Development and Program Studies Services.
- Black, S. (February, 2004). *The pivotal year*. American School Board.
- Blyth, D.A., Simmons, R.G. & Bush, D. (1978). The transition into early adolescence: longitudinal comparison of youth in two educational contexts. *Sociology of Education*, 51, 149-162.
- Brace, N., Kemp, R., & Snelgar, R. (2003). *SPSS for psychologists: a guide to data analysis using SPSS for Windows*. New York: Polgrace MacMillan, 239.
- Bragg, D. & Rudd, C. (2007). Career pathways, academic performance, and transition to college and careers: the impact of two select career and technical education (CTE) transition programs on student outcomes. Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.
- Brookover, W. B., Beamer, L., Eftim, H., Hathaway, D., Lezotte, L., Miller, S., Passalacqua, J., & Tornatsky, L. (1982). *Creating Effective Schools*. Holmes Beach, FL: Learning Publications, Inc.

- Brookover, W. B., & Lezotte, L. (1982). *Creating effective schools*. Holmes Beach, FL: Learning Publications, Inc.
- Bryk, A. S. & Driscoll, M. E. (1988). The school as community: Theoretical foundations, contextual influences, and consequences for students and teachers. Madison, WI: National Center on Effective Secondary Schools, University of Wisconsin.
- Carroll, S. J., & Scherer, E. (2008). The impact of educational quality on the community, a literature review. Rand Corporation: Santa Monica.
- Center for Equity and Excellence in Education (2009). *Strengthening the transition from middle grades to high school in the Mid-Atlantic region: DC, DE, MD, NJ, PA*. Washington, DC: Author.
- Chapman, M.V., & Sawyer, J.S. (2001). Bridging the gap for students at risk of school failure: a social work-initiated middle to high school transition program. *Children & Schools*, 23(4), 235-240.
- Cognato, C. A. (1999, October). The effects of transition activities on adolescent self-perception and academic achievement during the progression from eighth- to ninth grade. Paper presented at the National Annual Meeting of the National Middle School Association, Orlando.
- Cohen, R. (1995). *Students Resolving Conflict: Peer Mediation in Schools*, Good Year Books, Tucson, Arizona.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Assoc.

- Coleman, J.S. (1974, November). Youth: transition to adulthood. *NASSP Bulletin*, 58(385), 4-11.
- Cook, T.D., & Campbell, D.T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Chicago: Rand McNally.
- Cousins, B. (1998). Intellectual roots of organizational learning. In K. Leithwood & K. S. Louis (Eds.). *Organizational Learning in Schools*, 219-235. Lisse NL: Swets 7 Zeitlinger.
- Creemers, B. (2002). From school effectiveness and school improvement to effective school improvement: Background, theoretical analysis, and outline of the empirical study. *Educational Research and Evaluation*, 8 (4), 343-362.
- Datnow, A., Hubbard, L., & Mehan, H. (1998). Educational reform implementation: A co-constructed process. Technical report, University of California, Santa Cruz: Center for Research on Education, Diversity, and Excellence.
- Datnow, A., Park, V. & Wohlstetter, P. (2007). Achieving with data: How high performance driven school systems use data to improve instruction for elementary school students. Report for New Schools Venture Fund.
- Datnow, A., & Stringfield, S. (2000). Working together for reliable school reform. *Journal of Education for Students Placed at Risk*, 5(1&2).
- Deal, T. E., Intili, J., Rosaler, J. A., & Stack-house, A. (1977, May). The early childhood education program: an assessment of its impact and implementation. Sacramento: California State Department of Education.
- DeCarlo, L. (1997). On the Meaning and Use of Kurtosis. *Psychological Methods*, Vol. 2, No. 3, 292-307.

- Diemert, A. (1992). *A needs assessment of fifth grade students in a middle school*. Acton: Author.
- Doss, D., & Holley, F. (1982). A cause for national pause: Title I school wide projects (ORE Publication No. 81.55). Austin, Texas: Office of Research and Evaluation, Austin Independent School District.
- Dutrow, A. M. (1997, April). Transitioning students to the middle school: A case study. Published doctoral dissertation. Virginia Polytechnic Institute and State University. Blacksburg: Virginia.
- Eccles, J. S., & Midgley, C. (1989). Stage-environments fit: developmentally appropriate classrooms for early adolescents. In C. Ames & R. Ames (Eds.), *Research on motivation in education: Vol. 3. Goals and Cognition*, 139-186. New York: Academic.
- Eccles, J., Midgley, C., & Adler, T.F. (1984). Grade related changes in the school environment: effects on achievement motivation. In J.G. Nicholls (Ed.), *Advances in Motivation and Achievement*, 3, 228-331. Greenwich: JAI Press.
- Edmonds, R. R. (1982, December). Programs of School Improvement: An Overview. *Educational Leadership*, 1-11.
- Fiol, C.M., & Lyles, M.A. (1985). Organizational Learning. *Academy of Management Review*, 10(4), 803-813.
- Firestone, W. A., & Herriott, R. E. (December, 1982). Prescriptions for effective elementary schools don't fit secondary schools. *Educational Leadership*, 40(3), 51.
- Fullan, M. (1993). *Change forces*. London: Falmer.

- Fullan, M. (1995). The school as learning organization: Distant dreams. *Theory into Practice*, 34(4), 230-235.
- Fullan, M. (2000). The return of large-scale reform. *Journal of Educational Change*, Vol. 1, 1-23.
- George, P., & McEwin, C. (April, 1999). High schools for a new century: Why is the high school changing? *NASSP Bulletin*, Vol. 83(606), p. 10-24.
- Gibson, L.T. (2006). Working to reduce ninth-grade failure rates in urban school settings: A multi-case study of ninth-grade transition programs in four urban high schools in Virginia. Unpublished Doctoral Dissertation. The College of William and Mary, Williamsburg, VA.
- Giles, C., & Hargreaves, A. (April, 2003). Daring to be different: The sustainability of schools as learning organizations and professional learning communities during standard-based reform. Paper presented at the annual meeting of the American Education Research Association, Chicago.
- Glass, G. V. & Hopkins, K.D. (1996). *Statistical methods in education and psychology*. Needham, MA: Allyn & Bacon.
- Green, S. B., Salkind, N. & Akey, T. (2003). *Using SPSS for Windows and Macintosh: Analyzing and Understanding Data (3rd edition)*, New Jersey: Prentice-Hall.
- Greenwood, P., Mann, D., & McLaughlin, M. (1975). Federal programs supporting education change, Vol. III: The change process. U.S. Office of Education, Department of Health, Education, and Welfare. Rand, Santa Monica, CA.

- Grossman, J.B. & Cooney, S. M. (2009, January). *Paving the way for success in high school and beyond: The importance of preparing middle school students for the transition to ninth grade*. Public/Private Ventures/Groundwork. Philadelphia, PA.
- Gruhn, W. T., & Douglas, H. R. (1947). *The modern junior high school*. New York: The Ronald Press Company.
- Guskey, T. (1994). Making the grade: What benefits students? *Educational Leadership*, 52(3), p. 14-20.
- Haney, W., Madaus, G., Abrams, L., Wheelock, A., Miao, J., & Gruia, I. (January, 2004). The education pipeline in the United States 1970 – 2000. National Board on Education Testing and Public Policy. Chestnut Hill: Boston College.
- Hartos, J. L., & Power, T. G. (1997). Mother's awareness of their early adolescents' stressors: relation between awareness and adolescent adjustment. *Journal of Early Adolescence*, 17(4), 371-389.
- Hertzog, C.J., & Morgan, P. L. (1999, January-February). Making the transition from middle level to high school. *High School Magazine*, 6(4), 26-30.
- Hertzog, C.J., Morgan, P.L., Diamond, P.A., & Walker, M.J. (1996). Transition to high school: a look at student perceptions. *Becoming*, 7(2), 6-8.
- Horner, R., Carr, O., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children*, 71(2), 165-179.
- Huberman, A. M. (1973). Understanding change in education: an introduction. United Nations Educational, Scientific and Cultural Organizations. Rolland: Paris.

Infinite Campus University Product Knowledge I Training Manual Kentucky (2009).

Blaine, MN: Infinite Campus, Inc.

Ingels, S., Scott, L.A., Taylor, J.R., Owings, J. & Quinn, P. (1998, May). National education longitudinal study of 1988 (NELS:88) base year through second follow up: Final methodology report. National Center for Education Statistics. Washington, D.C.

Innes, R. G. (2009). Examining Kentucky's 'No child left behind' Tier 5 schools.

Bluegrass Institute for Public Policy Solutions: Bowling Green.

Isakson, K., & Jarvis, P. (1999). The adjustments of adolescents during the transition into high school; a short-term longitudinal study. *Journal of Youth and Adolescence*, 28(1), 1-26.

Iver, M., Abele, M., Kemper, E., & Stringfield, S (2003). The Baltimore Curriculum Project: Final Report of the Fourteen Year Evaluation Study. Center for Research on the Education of Students Placed At Risk. Baltimore, MD.

Johnston, J. H. (1992). Climate and culture as mediators of school values and collaborative behavior. In Irvin, J. Transforming middle level education: Perspectives and possibilities (pp. 77-92). Needham Heights, MA: Allyn & Bacon.

Journal of College Admissions (Winter, 2009). *On realizing its worse than I thought*.

Kennelly, L., & Monrad, M. (July, 2007). Easing the transition to high school: Research and best practices designed to support high school learning. National High School Center. Retrieved July 10, 2008, from:
http://www.betterhighschools.com/docs/NHSC_TransitionReport.pdf

- Kinney, D. A. (1993). From nerds to normals: the recovery of identity among adolescents from middle school to high school. *Sociology of Education*, 66, 21-40.
- LaPorte, T., & Consonline, P. (1991). Working in practice but not in theory: theoretical challenges of high-reliability organizations. *Journal of Public Administration Research and Theory*, 1(1), 19-48.
- Lasky, S., Stringfield, S., Teddlie, C., Kennedy, E., Schaffer, E., Chrispeels, J., Daly, A.J., & McDonald, D. (2005). Designing and conducting a gold standard effective schools study. *Journal for Effective Schools*, 27-45.
- Lee, J. (2001). Accelerated schools for quality education: Initial experiences of school change. Hong Kong: International Conference on Rejuvenating Schools, Through Partnership.
- Lee, V. E., & Smith J. B. (1995). Effects of high school restructuring and size on early gains in achievement and engagement. *Sociology of Education*, 68, 241-27.
- Lee, V. E., Bryk, A. S., & Smith, J. B. (1993). The organization of effective secondary schools. In L. Darling-Hammond (Ed.), *Review of research in education* (pp. 171-267). Washington, DC: American Educational Research Association.
- Levitt, B., & March, J. (1988). Organizational learning. *Annual Review of Sociology*, 14, 319-340.
- Lezotte, L. W. (2007). *Effective schools: past, present and future*. Effective Schools Products, Ltd: Okemos.
- Linver, M. R., & Silverberg, S. B. (1997). Maternal predictors of early adolescent's achievement- related outcomes: adolescent genders as moderator. *Journal of Early Adolescence*, 17(3), 294-318.

- Louis, K.S. (1994). Beyond managed change: Rethinking how schools improve. *School Effectiveness and School Improvement*, 5(1), 2-24.
- Louis, K.S. (2006). Changing the culture of schools: Professional community, organizational learning, and trust. *Journal of School Leadership*, 16(5), 477-489.
- Mac Iver, D. J. (1990). Meeting the needs of young adolescents: Advisory groups, interdisciplinary teaching teams, and school transition programs. *Phi Delta Kappan*, 71(6), 458-464. EJ 402 385.
- MacIver, D.J., & Epstein, J.L. (1991). Responsive practices in the middle grades: Teacher teams, advisory groups, remedial instruction and school transition programs. *American Journal of Education*, 99(4), 587-622.
- Manning, M. L., & Baruth, L. G. (1995). *Students at risk*. Needham Heights: Allyn & Bacon.
- Marais, K., Dulac, N., & Levison, N, (March 24, 2004). Beyond normal accidents and high reliability organizations: The need for an alternative approach to safety in complex systems. MIT.
- Marzano, R. J., & Waters, T. (2009). *District Leadership That Works: Striking the Right Balance*. Bloomington, IN: Solution Tree Press.
- Maute, J. K. (1991). Transition concerns of eighth-grade students in six Illinois schools as they prepare for high school. Unpublished doctoral dissertation, National-Louis University, Evanston, IL.
- McErwin, C. K. (1998). Concepts of continuing importance. In R. David (Ed.), *Moving forward from the past: early writing and current reflections of middle school*

- founders. 35-39. Columbus: National Middle School Association & Pittsburgh: Pennsylvania Middle School Association.
- McLaughlin, M. W. (1990). The rand change agent study revisited: Macro perspectives and micro realities. *Educational Researcher*, 19(9), 11-16.
- Midgley, C., Anderman, E., & Hicks, L. (1995). Differences between elementary and middle school teachers and students: a goal theory approach. *Journal of Early Adolescence*, 15(1), 90-113.
- Miles, M.B. (1998). Finding keys to school change: A 40-year odyssey. In A. Hargreaves, *International Handbook of Educational Change* (p. 37-69). Great Britain: Kluwer Academic Publishers.
- Mizelle, N. B. (April, 1995). Transition from middle school to high school. The student perspective. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Mizelle, N., & Irwin, J. (May, 2000). Transition from middle school into high school. *Middle School Journal*, 31(5).
- Morgan, L. P., & Hertzog, C. J. (2001). Designing comprehensive transition plans. *Principal Leadership*, 1(7), 10-18.
- Murphy, J. (1992). School effectiveness and school restructuring: contributions to educational improvement. Paper presented at the Annual Meeting of the International Congress for School Effectiveness and Improvement.
- National Association of State Boards of Education (2008). *Beginning in the middle: Critical steps in early secondary school reform*. Arlington, VA: Author.

- National Middle School Association (2006). *Transition from middle to high school*. (Research Summary). Westerville, OH: Author.
- Newman, F. M., & Wehlage, G. G. (1995, April). Five standards of authentic instruction. *Educational Leadership*, 50(7), 8-12.
- No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).
- Oakes, A. (2009, May). Middle-to-high school transition, practical strategies to consider. The Center for Comprehensive School Reform and Improvement Newsletter.
- Oates, J., Flores, R., & Weishew, N. (1998). Achieving student success in inner-city schools is possible, provided... *Research in Middle Level Education Quarterly*, 21(3), 51-62.
- Paulson, S. E. (1994). Relations of parenting style and parental involvement with ninth grade student's achievement. *Journal of Early Adolescence*, 14(2), 250-267.
- Paulson, S. E., Marchant, G. J., & Rothlisberg, B. A. (1998). Early adolescents' perceptions of patterns of parenting, teaching, and school atmosphere: implications for achievement. *Journal of Early Adolescence*, 18(1), 5-26.
- Phelan, P., Yu, H. C., & Davidson, A. L. (1994). Navigating the psychosocial pressures of adolescence: the voices and experiences of high school youth. *American Educational Research Journal*, 31(2), 415-447.
- Purkey, S.C., & Smith, M. (1982). Too soon to cheer? Synthesis of Research on Effective Schools.
- Purkey, S.C., & Smith, M. (1983). Effective Schools: A Review. *Elementary School Journal*, 83(4).

- Quinn, D. (2010, November 30). How to Convert EXPLORE Test Scores Into PLAN Test Scores. Retrieved March 5, 2011, from http://www.ehow.com/how_7579554_convert-scores-plan-test-scores.html
- Renchler, R. (2000). Research Roundup 16, 3 (Spring 2000) Grade Span. ERIC Clearinghouse on Educational Management. OR. (ERIC Document Reproduction Service No. ED 440471) Rourke.
- Reynolds, D., & Stoll, L. (1996). Merging school effectiveness and school improvement: The knowledge bases in Reynolds et al Making good schools: Linking school effectiveness and school improvement. London: Routledge.
- Rockoff, J.E. & Lockwood, B.B. (2010, Fall). Stuck in the middle: How and why middle schools harm student achievement. *Education Next*, 10(4).
- Ross, S. M. (2001, December). Creating critical mass for restructuring: What we can learn from Memphis. AEL Policy Brief.
- Rossi, S., & Stringfield, S. (1998). *Bold plans for school restructuring*. Mahwah: Erlbaum.
- Rothman, S. (2001). School absence and student background factors: A multilevel analysis. *International Education Journal*, 2(1).
- Rumberger, R., & Palardy, G. (2005). Test scores, dropout rates, and transfer rates as alternative indicators of high school performance. *American Educational Research Journal*, 42(1), 3-42.
- Sammons, P. (2006, January). School effectiveness and equity: making connections. Embracing Diversity: New challenges for School Improvement in a Global

Learning Society International Congress for School Effectiveness and Improvement, Fort Lauderdale Florida.

Sammons, P., Hillman, J., & Mortimore, P. (1995, April). Key characteristics of effective schools: A review of school effectiveness research. Institute of Education for the Office for Standards in Education: University of London.

Sarason, S. (1990). *The predictable failure of educational reform: Can we change course before it's too late?* Jossey-Bass Publishers, San Francisco, CA.

Schiller, K. S. (1999, October). Effects on feeder patterns on students' transition to high school. *Sociology of Education*, 72(4), 216-233.

Schumaker, D. (1998). The transition to middle school.ERIC Digest. Clearinghouse on Elementary and Early Childhood Education. University of Illinois.

Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday.

Shadish, W.R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.

Silins, H.C., Mulford, W.R., & Zarins, S. (2002). Organizational learning and school change. *Educational Administration Quarterly*, 38, 613-642.

Silins, H.C., & Mulford, W.R. (2002). Schools as learning organizations. *Journal of Educational Administration*, 40(5), 425-446.

Skipper, S. (January, 2006). Conceptual Framework for Effective Inclusive Schools. Paper presented at ICSEI: International Congress for School Effectiveness and Improvement, Ft. Lauderdale.

- Spender, J., & Grant, R.M. (1996). Knowledge and the firm: Overview. *Strategic Management Journal*, 17, 5-10.
- Sproull, N. L. (2002). *Handbook of research methods: a guide for practitioner's and students in the social sciences (2nd ed.)*. Lanham, MD: The Scarecrow Press.
- Stringfield, S. & Datnow, A. (1998). Scaling up school restructuring in multicultural, multilingual contexts: Early observations from Sunland County. Center for Research on Education, Diversity & Excellence, University of California, Santa Cruz: CA.
- Stringfield, S., & Teddlie, C. (1991). Observers as predictors of schools' multi-year outlier status. *Elementary School Journal*, 91(4), 357-375.
- Stringfield, S. & Yonezawa, S. (2000). Special strategies for educating disadvantaged student's follow-up study: Examining the sustainability of research-based school reforms. Baltimore: John Hopkins University CRESPAR.
- Teddlie, C., & Stringfield, S. (1993). *School matters: Lessons learned from a 10-year study of school effects*. New York: Teachers College Press.
- Trisman, D. A., Waller, M. I., & Wilder, C. (1976). A descriptive and analytic study of compensatory reading programs: Final Report. Vol. 2 (PR 75-26). Princeton, N.J.: Educational Testing Service.
- University of Surrey Psychology Department (2007). *How do I test the normality of a variable's distribution?* Guildford, Surrey. UK: The University of Surrey, Department of Psychology. Retrieved from <http://www.psy.surrey.ac.uk/cfs/p8.htm>
- Vail, K. (2010). Changing the grade. *American School Board Journal*, 4-8.

- Vars, G. F. (1998). You've come a long way, baby! In R. David (Ed.), *Moving forward from the past: early writings and current reflections of middle school founders*.
- Waggoner, Jan E. (1994, October). The relationship between instructional teaming and self-esteem of sixth graders transitioning to a traditional junior high. Paper presented at a meeting of the Illinois Association of Teacher Educators, Lisle, IL. ED 379 278.
- Waggoner, M, & Blackorby, J. (1996, Spring). Transition from high school to work or college: how special education students fare. *Special Education for Students with Disabilities*, 6(1).
- Weick, K. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, 21 (1-9).
- Welck,, K. E., Sutcliffe, K. M., & Obstfeld, D. (2000). Organizing for high reliability: processes of collective mindfulness. *Research in Organizational Behavior*, Vol.1, p. 81-123.
- Wells, M.C. (1996). *Literacies lost: when students move from a progressive middle school to a traditional high school*. New York: Teachers College Press.
- Williamston, R., & Johnston, J. H. (1999). Challenging orthodoxy: an emerging agenda for middle level reform. *Middle School Journal*, 30(4), 10-17.
- Wise, B. (May 2008). High schools at the tipping point. *Educational Leadership*, 65(8), 8-13.

APPENDIX A: MEMO FROM SUPERINTENDENT (BULLITT COUNTY)

Dear Principals – and Becky and Greg,

It is that time of the year again. Time to complete your growth plans for the annual evaluation. I know it is a bureaucratic process, but I assure you that it benefits us in that the thoughts and ideas that you share with me in our conversations get stolen and taken to other schools in the district. I do try to always give credit to the person who is giving me the idea that I pass along.

FOR ELEMENTARY PRINCIPALS:

One of the major goals that the Board has endorsed is to measure, monitor, and report students reading at grade level by the end of third grade. The end result of this goal, which will span a number of years, will be to put even more emphasis on making sure that every student can read on level – that this is THE priority and you, along with the teachers and the councils, will need to decide how to make it happen over the long term. The message that we all hear is that if a student doesn't read well, not much else we are doing in education for him matters a great deal. That is pretty clear (and correct). So, at least one of your major goal statements will be related to the district reading goal. For the other, I am open to most anything that will increase student achievement.

FOR MIDDLE SCHOOL PRINCIPALS:

For you guys, the one that I want to see in common is related to your use of the Individual Learning Plan and the successful transition from middle to high school. The end result needs to be a SBDM policy adopted that clearly outlines roles and responsibilities of school personnel in effectively implementing the ILP process (as opposed to a cursory minimalist approach) and setting a path toward success in high school. There is a link on KDE's web page regarding the ILP process here:

<http://www.education.ky.gov/KDE/Instructional+Resources/Secondary+and+Virtual+Learning/ILP/>. Like the elementary, the other goal is open for anything that will increase student learning.

FOR HIGH SCHOOL PRINCIPALS:

As you might imagine, drop-out rate is a hot topic with the new method of measurement coming next year. I know that all three major schools are working on this. The item I want on all high school principal growth plans is related to the building of a solid, written, directive pyramid of interventions. I have seen the draft of BC's SBDM policy that addresses this area and it looks good. I know that NB is looking at the same thing, as probably is BE. Everyone has seen the Johnny video, so you kind of know what this needs to look like. Keywords are "intentional", "progressive", and "comprehensive".

As for the other goal, wide open, but ACT stuff may be worthy of a goal since it is something we are doing anyway.

When you get a draft, please submit that draft to your level director for tentative approval. After Dave and Terry have reviewed, commented, revised, etc, they will sign off on it and send it to me for final review and signature.

APPENDIX B: AUTHOR'S PROFESSIONAL GROWTH PLAN

Need/Reason:

Too many students become lost in the transition from middle school to high school as academic success spirals downward and absenteeism accelerates, causing students to fall further behind their grade level peers and ultimately fail to graduate.

Goal Statement 1:

Principal will ensure that a policy is developed and approved by the council that will incorporate a set of structured articulation activities that will have a positive impact on the successful transition of students from grade eight to grade nine. The use of student's Individual Learning Plan will be incorporated into this program.

Action Steps	Timeline	Estimated Resources	Who is Responsible
Collaborate with BEHS to implement a set of structured articulation activities for the spring 2011	January 1, 2011 - May 1, 2011		Denise Allen

Implement a different structured articulation activity each month from January to May of 2011	January 1, 2011- May 1, 2011		Denise Allen/High School Principal/MS-HS Staff
During two of the early release days schedule vertical meetings between 8th and 9th grade teachers to discuss format and impact of articulation activities implemented.	February and March Early Release Days		Denise Allen
Invite 9th grade Special Education teachers to participate in 8th grade Special Education transition meetings	January 1, 2011 – May 1, 2011		Denise Allen/8th grade Special Education teacher
Meeting will be scheduled between middle school counselor and high school counselors to review student ILP's	Spring 2011		Middle school counselor/high school counselors
Individual meetings will be	January 2011		Middle school staff

scheduled with eighth- graders prior to scheduling of high school classes to review ILP.	- February 2011		
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Evaluation Plan:

The plan will be evaluated by a review of data compiled from Infinite Campus from a student's eighth- and ninth-grade school year and a student/staff survey incorporated at the end of the school year.

Communication Plan:

Communication will occur between the eighth- and ninth-grade administration, teachers, and the Director of Secondary Schools.

CURRICULUM VITA

DENISE ALLEN
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EDUCATION BACKGROUND

EdD in Educational Leadership, University of Louisville, Louisville, Kentucky. Spring
2011.

Director of Pupil Personnel Certificate, Instructional Supervision Certificate, Eastern
Kentucky University, Richmond, KY. May 2007.

Superintendent Certificate, University of Kentucky, Lexington, KY. December, 2001.

Level II Principal, Rank I, University of Kentucky, Lexington, KY. May, 1999.

Level I Principal, University of Kentucky, Lexington, KY. August, 1998.

Master of Arts, Middle School Education, University of Kentucky, Lexington, KY.
December, 1997.

Bachelor of Arts, Secondary Education in Mathematics, University of Kentucky,
Lexington, KY. August, 1988.

PRESENTATIONS

Allen, D. (March, 2010). Lost in Transition: A Grade 9 Transition Program using Articulation Activities. Graduate Kentucky Summit. March, 2010.

Allen, D. (June, 2010). In the Trenches: Responding to the Developmental Needs of Adolescents. Presentation made at the National Schools to Watch Conference. Washington, D.C.

Allen, D. (September, 2010). In the Trenches: Responding to the Developmental Needs of Adolescents. Invited to present at Kentucky Middle School Association Conference. Lexington, KY.

HONORS and AWARDS

Kentucky Cabinet for Health & Family Services, Youth Service Center Grant, for Henry Clay High School, \$67,400, 1999.

Member of Cambridge Who's Who (2006-2007).

Kentucky Cabinet for Health & Family Services, Youth Service Center Grant for Mount Washington Middle School, \$30,000, 2007.

Recognized by Kentucky House of Representatives for School Leadership (2010).

PROFESSIONAL DEVELOPMENT

NCTM Conference, Nashville, TN. April, 1992.

NCTM Conference, Indianapolis, IN. April, 1994.

NMSA Conference, Louisville, KY. November, 1995.

NCTM Conference, San Diego, CA. April, 1996.

NASSP Conference, Atlanta, Georgia. March, 2002.

NASSP Conference, San Diego, CA. February, 2003.

Closing the Achievement Gap, Owensboro, KY. March, 2003.

NMSA Conference, Atlanta, Georgia. November, 2003.

Homeland Security Training, Lexington, KY. May, 2005.

Leadership Summit, Louisville, KY. June, 2005.

NMSA Leadership Institute, Gatlinburg, TN. July, 2005.

Du Four Training, Lexington, KY. March, 2007.

NMSA Conference, Indianapolis, IN. November, 2009.

PROFESSIONAL MEMBERSHIPS

Association for Supervision and Curriculum Development

Kentucky Association of School Administrators

Kentucky Association of School Councils

National/State Middle School Association

National/State Association of Secondary School Principals

PROFESSIONAL ACTIVITIES

Kentucky Leadership Academy Alumni

School Based Decision Making Council Trainer

Kentucky School to Watch Reviewer

PREVIOUS WORK EXPERIENCE

Principal, Mount Washington Middle School, Mount Washington, Ky. 2005-Present.

HEED Coordinator, Woodford County Alternative School, Versailles, Ky. 2004 – 2005.

Principal, Woodford County Middle School, Versailles, Ky. 2001- 2004.

Assistant Principal, Woodford County High School, Versailles, Ky. 1999-2001.

Administrative Intern, Fayette County High Schools, Lexington, Ky. 1998-1999.

Mathematics Teacher, Grade 8, Beaumont Middle School, Lexington, Ky. 1989-1998.