

THE EFFECT OF DROPOUT INTERVENTION STRATEGIES ON THE GRADUATION  
RATE IN SELECTED RURAL SCHOOL DISTRICTS IN NEW YORK STATE

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## **Abstract**

Rural school education in the nation comprises about a third of public school enrollment. In New York State (NYS), rural school education represents about one-third of public school education. This study provided the opportunity to discern which dropout intervention strategies may benefit rural schools in NYS so that students can best be helped to stay in school to meet graduation standards. Students who stay in school provide significant economic and social benefits to the state and to the nation (Alliance for Excellent Education, 2011; Brimley, Verstegen, & Garfield, 2012; Deyé, 2011; Dianda, 2008; Rouse, 2005; Rumberger, 2011). To determine which intervention strategies may be of benefit, a researcher developed survey instrument was developed based on the 15 effective strategies derived from Schargel (2012). Schargel's work sought to determine effective practices of schools to alleviate the dropout crisis that exist in the nation's schools. Overall, this study indicated that the select rural school districts in the study employed dropout intervention strategies optimally. School districts employed such strategies either within the district or outside the district. There was a key finding revealed in this study. This study indicated that districts facing diminishing fiscal resources, while at the same time being challenged to meet tougher new graduation standards established by NYS, utilized Distance Learning Courses to improve their graduation rates.

Keywords: dropout prevention strategies; rural school communities; rural school education; graduation rates in New York State

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## **Chapter 1: Introduction**

### **Background**

National, state, and local graduation rates of urban, suburban, and rural schools are of great concern to policymakers in states and schools (Princiotta & Reyna, 2009). Across the nation, students are dropping out of high school by the thousands on a daily basis (Alliance for Excellent Education, 2010, p. 1). This phenomenon is cause for great concern and is referred to as a “dropout crisis” (Deyé, 2011, p. 1). Policymakers at the federal, state, and local levels are facing daunting challenges of cutting programs as a result of significant budgetary constraints while, at the same time, steadfastly addressing the dropout issue that persists. According to the Alliance for Excellent Education (2010), it is estimated that about 7,000 students drop out of school every day.

Students that drop out of high school will most likely not make it to a post secondary school and will be limited in their ability to be self-sufficient. Students who are unsuccessful in school are an economic cost to society (Alliance for Excellent Education, 2011c; Deyé, 2011; Dianda, 2008; Rouse, 2005; Rumberger, 2011). This population of high school dropouts most likely will struggle to be self-sufficient individuals and will more likely depend on public entities for housing, food, and medical care. Education is a critical element of our society, producing citizens who can contribute positively. These students deserve immediate attention and intervention to alleviate the dropout epidemic (Deyé, 2011).

The nation’s public education system is defined by Brimley et al. as “the most important producer of human capital in the United States” (2012, p. 1). Brimley et al. (2012) further describe this human capital as being essential to the “creation of wealth” (p. 2). Education, therefore, is an essential facet of our society that provides the impetus to increase the wealth of

our society by producing high school graduates. Brimley et al. indicate that “Education is the key to improving the quality of life for individuals, for improving the climate of economic development, and for maintaining and improving this nation’s democracy and economic competitiveness” (2012, p. 42). Thus, students need to be provided with the necessary tools to complete high school and to prepare them for college and career ready skills as indicated by Commissioner King in his press release statement in June 2012 (NYSED, Office of Communications [OC], 2012).

Graduation rates of NYS schools, especially in rural school districts, are lower than the state established rate of 80%. NYS graduation rates, as reported by NYSED, indicate a total public school graduation rate for the June 2007 cohort of 74% (NYSED P12 IRS, 2012c). This cohort was comprised of a total of 223,285 students. High need urban-suburban school districts in NYS indicated a graduation rate of 64.5%. Rural schools in NYS, indicated a 76.1% graduation rate. The 2007 cohort in rural schools in NYS was comprised of 14,135 students (see Table 1).

Students who leave high school and the dropout prevention measures that influence graduation rates were the focus of attention in this study. “The National event dropout rate (the percent of 9th-12th graders who dropped out during 2008-2009) is 4.11% and 4.2% for New York State” (Snyder & Dillow, 2012, p. 180). The National “status dropout rate (i.e. the percentage of individuals who are not enrolled in high school and have not earned a high school credential such as a diploma or equivalency credential) for rural is 11%” (Provasnik et al., 2007, p. 58). Princiotta and Reyna (2009) also reported that there was not one state that had a graduation rate higher than 88%. Some states are reported to have a graduation rate as low as 66%.

Table 1

*New York State June 2007 District Cohort Membership and Graduation Rates*

Type of District	Cohort Membership	Graduation Rates
Large city (not including New York City)	9,057	52.8%
High need urban-suburban	16,517	64.5%
High need rural	14,135	76.1%
Average need	69,517	84.4%
Low need	33,468	93.5%
All students in public school	223,285	74.0%

Note. From *Graduation rates: Students who started 9th grade in 2003, 2004, 2005, 2006, and 2007 supplemental packet* [PowerPoint Presentation] by New York State Education Department, Prekindergarten through Grade 12 Education, Information and Reporting Services, 2012, June, pp. 59-65.

**Research Problem**

Rural schools represent a third of the public schools in the nation (Strange, Johnson, Showalter, & Klein, 2012). According to Strange et al. (2012), rural education expands to “11.4 million students who comprise those who either attend rural schools or rural districts” (p. 19). These authors believe the “scope of rural education in the United States is growing” (Strange et al., 2012, p. 19).

On a daily basis, students are leaving schools at alarming rates; “Nationwide about 7,000 students drop out every school day” (Alliance for Excellent Education, 2010, p. 1). Rumberger (2011) identified several contexts in which students decide to leave school: “family, school, and the community setting” (p. 155). Schools therefore struggle to meet state established graduation standards while, at the same time, accountability standards have increased and fiscal resources have diminished. These fiscal difficulties are related to the decrease in federal and state aid

given to schools in the last several years while, at the same time, accountability standards have increased. Due to the role these rural schools play in educating a large population, singling out these districts for research on dropout prevention is important.

Districts in NYS have further been challenged by a cap on the tax levy limit that they are allowed to impose on local taxpayers to support rural school districts (NYSED P12, Office of School Operations [SO], Educational Management Services [EMS], 2012). These schools are held to the same accountability standards as those that have more financial means available to them. Exploring rural school district practices to achieve graduation rates serves as a benefit to such schools faced with the challenge of meeting the state's graduation rate of 80%.

The intention of this study was to determine which strategies may benefit rural schools so that students can best be helped to stay in school to meet graduation standards. Students who stay in school provide significant economic and social benefits to the state and to the nation (Alliance for Excellent Education, 2011c; Brimley, Verstegen, & Garfield, 2012; Deyé, 2011; Dianda, 2008; Rouse, 2005; Rumberger, 2011).

### **Purpose Statement**

The purpose of this quantitative study was to determine if graduation rates were influenced by the availability of dropout prevention intervention strategies employed in selected rural school districts in New York State (NYS). Rural school districts in central NYS were of particular concern and the focus of this study, based on the 76.1% of students who graduated in the 2007 Cohort as reported by the New York State Education Department (NYSED) (Prekindergarten through Grade 12 Education [P12], Information and Reporting Services [IRS], 2012c). The state standard graduation rate for the 2005 Cohort in the 2010-2011 school year was 80% (New York State Education Department [NYSED], P12 IRS, 2011a). This graduation rate

was a change from the 2004 Cohort in the 2009-2010 school year, which was 55% as reported in the NYS Report Cards (NYSED P12 IRS, 2009). Rural schools face graduation rates that are below the established state standard of 80%, and at the same time, face the dilemma of diminishing resources allocate to these districts by the federal and state governments.

There were 299 rural school districts identified in NYS at the time of this study. There were 245 rural districts belonging to the Rural School Association (RSA) of NYS who were invited to participate (Rural Schools Association of New York State [RSA of NYS], 2012). A survey was sent out to a total of 311 middle and high school principals belonging to RSA of NYS.

### **Research Questions**

This study was guided by three basic research questions. These questions are directly related to strategies or interventions school districts employ to improve, meet, or exceed NYS graduation rates. The questions were:

1. What intervention strategies are school districts using to improve graduation rates of all students?
2. Is there a relationship between dropout prevention strategies and graduation rates?
3. Is there any association between graduation rates and the choice of specific intervention strategies and the following demographic features:
  - a. Size of the school;
  - b. Experience of the administrator/principal;
  - c. Type of school schedule (i.e. traditional, block, modified block, semestered);
  - d. Building configuration;
  - e. Type of rural school district.

## **Definitions of Terms Used for This Study**

### *Dropout in NYS.*

A dropout is any student, regardless of age, who left school prior to graduation for any reason except death or leaving the country and has not been documented to have entered another program leading to a high school diploma or an approved program leading to a high school equivalency diploma. (NYSED P12 IRS, 2011b, p. 3)

*Graduation rates.* “The percentage of students who graduate within, four, five, or six years of entering high school” (Dynarski et al., 2008, p. 14).

*Dropout rates.* “The percentages of students who leave school without graduating after four years, five, or six years since entering high school” (Dynarski et al., 2008, p. 14).

### *Comprehensive approaches to school reform.*

The most common approach is to reform existing schools by developing a comprehensive set of practices and programs locally or adopting an externally developed comprehensive school reform (CSR) model. A second approach is to create new schools, by establishing a new school locally or adopting an externally developed whole school model. . . . The third approach, which can be combined with the other two is to create collaborative relationships between schools and outside government agencies and local community organizations to provide services and programs for students and their families. (Rumberger, 2011, p. 12)

*System approaches to school reform.* “Making changes to the entire educational system under the assumption that such changes can transform how all schools function in the system. System reform can occur at the federal, state, or local level of government” (Rumberger, 2011, p. 214).

*Dropout prevention strategies.* Schargel (2012) identified 15 effective dropout prevention strategies that are field tested, researched-based, data driven practices. These strategies include:

- *Early interventions:* family engagement, early childhood education, early literacy development;
- *Basic core strategies:* mentoring and tutoring, service learning, alternative schooling, after-school opportunities;
- *Instruction:* professional development, educational technology, active learning, individualized instruction, career and technical education (CTE);
- *School-community:* systematic renewal, school-community collaboration, safe learning environment. (Schargel, 2012, p. xxiii-xxiv)

*Rural school Definitions.*

- *Fringe:* a rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster;
- *Distant:* a rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster;
- *Remote:* a rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster. (New York State Center for Rural Schools [NYSCRS], 2012, About rural schools section)

## **Significance of the Study**

The information collected from this study was intended to inform policymakers, school district leaders, and district community members in determining necessary funding for identified programs that may be viable in rural districts for the effort of improving their graduation rates.

This study may provide school district leaders with information on effective dropout prevention strategies that may influence graduation rates. This information is especially important to district leaders who are faced with challenging fiscal circumstances. This study may be relevant to policymakers of rural schools that may be struggling to meet the graduation requirements mandated by NYS during a time of diminishing financial resources from federal, state, and local governments during difficult economic times as described by Brimley et al. (2012).

## **Limitations of the Study**

There are several limitations to be discussed regarding the limitations to the study. The first limitation had to do with the selective nature of this study. Only select rural school districts in NYS were invited to participate in the study. Opening up the study to all rural school districts in the state may have been more advantageous in order to obtain responses from all rural school districts.

Another limitation of this study was the fact that elementary administrators were not specifically included in the study. Inviting this level of administrators would have provided them the opportunity to contribute data based on potential intervention strategies used at the elementary level.

The response rate of the surveys was also another limitation in the study. There were 245 school districts eligible to participate, with 311 possible responders to the survey. There were

108 responses derived from the survey of the 311 possible responders. It would have been more desirable to elicit a higher rate of responses and a wider scope of individuals. Whereas this was acceptable data in which to conduct analyses on, the number of responses was considered low by this researcher.

Another limitation of this study included the use of data targeting the 2007 cohort. Examining data from other cohorts may have provided a more expansive data set for analysis.

### **Organization of the Study**

This study consists of five distinct chapters. Chapter 1 is the background and overview of the study, as well as the purpose and significance of the study. Chapter 1 also includes definitions and relevant terms involved in the study, along with the research questions and the organization of the study. Chapter 2 presents a review of the literature on dropout prevention strategies and systematic reform efforts as it relates to the dropout problem at the national, state, and local levels. Chapter 3 includes the methods of the study, which also includes the specific research design, sample and sampling procedures, instrumentation used, survey instrument validity, data collection, data analysis, and research bias. Chapter 4 includes a presentation and discussion of the results of the data collected from the research study, specifically as they relate to the three research questions of the study. Chapter 5 includes a summary of the findings of the study along with the conclusions and recommendations.

## Chapter 2: Literature Review

The nation's schools are in the midst of a serious dropout problem. According to the Alliance for Excellent Education (2010), approximately 1.3 million students drop out of school each year. Based on a 185 day school year, this means approximately 7,000 students drop out of school on a daily basis.

The dropout problem is not new and has long been a concern for our nation. In 1983, the nation was first identified as *A nation at risk* by the National Commission on Excellence in Education (NCEE) (U.S. Department of Education [USDOE] NCEE, 1983). This report indicated the need for large-scale reform in order to remediate the concern for education and to transform America's schools (USDOE, 1983). NCEE was directed to "define problems which must be faced and overcome if we are successfully to pursue the course of excellence in education" (USDOE NCEE, 2012, p. 7).

The nation's schools continue to struggle with the problem with students dropping out of high school after efforts to reform schools since 1983. In *A nation accountable: Twenty-five years after a nation at risk*, the United States (US) was identified as being at even greater risk of students dropping out of school because of the lack of school improvement efforts (USDOE, 2008). Princiotta and Reyna (2009) also corroborate the findings of the nation at risk reports, underscoring the lack of school improvement efforts and the nationwide dropout problem.

Based on the evidence from these two national reports, one could argue that schools may have attempted large-scale reform efforts but that these efforts have failed as a result of the inability to successfully identify and address the root cause of the dropout problem in the nation's schools. In the USDOE follow up report *A Nation Accountable*, it was noted "Twenty five years later, these warning signs remain relevant and poignant" (USDOE, 2008, p. 2). To

reiterate this concern, the report indicated “20 students who were born in 1983 started school in 1988, only 14 would have graduated on time, and only five would have earned a college degree by 2007” (USDOE, 2008, p. 2).

According to Ammerman (1998), it is important to distinguish between the primary root cause and the contributing causes in order to develop the necessary corrective actions to prevent them from reoccurring (p. 64). Ammerman believes “that without thorough investigation of the problematic situation, you may initiate corrective action that does not eliminate or alleviate the problem and wastes valuable resources” (1998, p. 64).

A great deal of research has been conducted leading to the development and implementation of several dropout prevention strategies to alleviate the drop out problem. Despite attempts at reform efforts, schools across the nation continue to struggle to help students successfully meet state mandated graduation standards which have been indicated in the literature (Deyé, 2011; Princiotta & Reyna, 2009; Strange et al., 2012).

The social and economic costs of the nation’s dropouts are concerning. Students who drop out of school have a detrimental effect on themselves and society (Alliance for Excellent Education, 2011b; Dianda, 2008; Rouse, 2005; Rumberger, 2011). These effects include limitations on the individual’s earning capacity and access to adequate housing and health care. These individuals are often dependent on assistance from the government to sustain them and, therefore, are not contributing economically to society.

Of particular interest is NYS, which has not been immune from the dropout issue. The percentage of graduates last reported in NYS is 74% (NYSED OC, 2012). There are 299 rural schools in NYS; this represents 42% of the state’s schools (NYSCRS, 2012).

## **Reform Efforts**

Since the dropout problem has been identified, this problem has remained a focus for system leaders. This effort towards systematic reform has not always achieved the desired results. Reform efforts, therefore, need to include the identification of the exact cause of the dropout problem within the nation's schools. Smink (2004) stated, "Systematic renewal focuses on discovering the root causes, directing efforts to remove them, and preventing their recurrence" (p. 25). In other words if students are dropping out, then the reason why they are doing so needs to be clearly defined and addressed. Harris (2010) indicated that "reforms fail not because they are ill conceived or under-resourced but because the wrong model of change is being deployed" (p. 198).

In August 2002, the USDOE articulated 11 components of a CSR model that were tied to school funding (Office of Elementary and Secondary Education [OESE], Comprehensive School Reform Program Office [CSRPO], 2002). This reform model was designed to help schools improve their performance. These components, although tied to school funding, represent reform efforts that would be beneficial to any school system attempting to improve student academic achievement and graduation rates (Rumberger, 2011). These 11 identified components include outside expert assistance in the following areas: effective instructional practices based on scientific research; an aligned curriculum and assessment program and practices; appropriate professional development and continued support to accomplish reform efforts; a well designed plan of implementation; and an evaluation of the achievement efforts to determine the success of these reform.

The USDOE also indicated that a comprehensive school reform model is "built on the premise that schools can improve when they provide a unified, coherent approach to reform, and

when they implement practices and programs that are grounded in scientifically based research” (USDOE OESE CSRP, 2002, p. 12). The researchers stressed the importance of utilizing their model for two reasons. This comprehensive school model is considered to be valuable because it was believed that such reform would bring about the desired outcome, and because funding available under the CSR program mandated these practices.

The elements of a CSR model, as identified previously, play an integral part in school improvement efforts. Marzano, Waters, and McNulty (2005) reiterate the value of a CSR model and indicate that these factors lead to reform by including: “high quality professional development, provides for meaningful involvement of parents and community, and employs proven methods for student learning, teaching, and school management” (p. 77).

Rumberger (2011) indicated that there have been many attempts to address the dropout issue. These have included large scale reform that defines specific effective strategies and programs. Rumberger (2011) believes that, in addition to these efforts at the national, state, and local levels, the current interventions are just not sufficient. He contends there are five recommendations that are critical to this effort: redefining high school success; changing accountability systems to provide incentives to educate all students; building capacity of the educational system; desegregating schools; and strengthening families and communities (Rumberger, 2011).

Princiotta and Reyna (2009) made another attempt towards identifying strategies to remedy the dropout concern. Their guide focused on designing actions for low performing schools facing severe fiscal challenges. These new efforts included the following: “promote high school graduation for all; target youth at risk of dropping out; reengage youth who have dropped

out of school; and provide rigorous, relevant, options for earning a high school diploma” (Princiotta & Reyna, 2009, p. 17).

School reform efforts, at the local level, must be focused on specific elements according to Dianda (2008) and Dynarski et al. (2008). These elements include the following: “examining longitudinal data; identification of at risk students; monitoring students’ academic and social performance; monitoring student sense of social engagement and belonging in school; collecting accurate information about dropout rates” (Dianda, 2008, pp. 90-91).

There are benefits to providing successful interventions. Christenson and Thurlow (2004) indicated that successful interventions do more than increase student attendance; they help students and families who feel marginalized in their relations with teachers and peers to become better academically connected to the school. Families and communities have been identified as playing a vital role in student success.

School reform is indicative of change. In order to bring about such change efforts, successful preparedness and effective leadership capacities of school leaders are indicated in the literature (Bridges, 2009; Fullan, 2008; Kotter & Cohen, 2002; Marzano et al., 2005; Marzano & Waters, 2009). Change happens, and leaders need to anticipate change, monitor change, adapt to change quickly, change, enjoy the change, and be ready to change quickly (Johnson, 2002). Systemic change in school reform efforts must take place utilizing a definitive change process. Just “the change knowledge itself does not assure success” (Harris, 2010, p. 198). Leaders are responsible for making these substantive changes in the nation’s schools using deliberate processes. When change is necessary, the research indicated that “institutions have the sufficient capacity to implement and sustain school reform” (Rumberger, 2011, p. 273). Marzano et al. (2005) state the “message for leaders is that in order to have a positive impact on student

achievement they need only to focus and understand the magnitude of change implied in the change efforts” (pp. 6-7). Marzano et al. (2005) further state, “the right focus of change is the key to improving schools and increasing student achievement” (p. 5). The urgency to change has long been justified since the issuance of the April 1983 report identifying explicitly the “Imperative for Educational Reform” (USDOE NCEE, 1983, p. 1).

**Leadership.** Leadership plays an integral role in school reform efforts, especially in dropout prevention efforts. In order for a leader to bring about change, a leader must possess specific leadership capacities in which to do so. These leadership capacities include the abilities to identify root causes of systemic problems, to work collaboratively, and to be proficient in navigating the complexities of a school environment. There are identified models for leaders in which to bring about change and to engage in continuous improvement efforts.

Bambrick-Santoyo and Peiser (2012) discuss how to create an effective school utilizing the principles of seven identified levers of leadership. The levers are delineated into two categories. The first, Instructional Levers, include data-driven instruction, observation and feedback, instructional planning, and professional development. The second, Cultural Levers, include student culture, staff culture, and managing school leadership teams.

Marzano and Waters (2009) indicate their leadership behaviors focus on the alignment of goal setting within a district. Other leadership behaviors in the literature are identified by Murphy, Elliott, Goldring, and Porter (2007). Murphy, Elliott, Goldring, and Porter (2007) present eight principles of leadership for improvement efforts. These eight principles include a vision for learning, the instructional program, curricular program, assessment program, communities of learning, resource acquisition and use, organizational culture, and social advocacy (p. 182).

Silky and Merrins (2007), note “on a daily basis a leader must navigate a very complex environment that consists of the district, the community, and the personal environment” (pp. 4-5). In addition to the environment, it is also incumbent upon a leader to have the ability to understand and operate successfully in four essential areas. These four domains of leadership consist of strategic, organizational, political and instructional environments (Silky & Merrins, 2007). These entities are intertwined and do not function in isolation. According to Bennis (2003) the “first step in becoming a leader is to recognize the context” (p. 19), as this leadership capacity plays an integral role in a leader’s success.

The research indicated that leaders must not only respond to elements in the present environment, but they must also have the ability to anticipate the future (Scharmer, 2009). The leaders’ capacity to respond this way in an organization will seek to meet the needs of the community and remain viable in an ever changing world (Bennis, 2003). Leadership responsibilities including the willingness and the ability to embrace and work with constituents without bias are also critical (Gao & Mager, 2011). This notion of unbiased leadership exemplifies the need for leaders to be keen observers of the context in order to make informed decisions (Bennis 2003). Bennis indicated that if leaders are not cognizant of this context, it might ultimately lead to their demise.

Bennis (2003) refers to the importance of leadership values in his work. Bennis (2003) indicates a leader must possess four essential competencies: to engage others by creating shared meaning, to have a distinctive voice, integrity, and an adaptive capacity. Systemic leadership change processes allow for viable decision making to take into account the organization and its constituents. A leader must be cognizant of the culture of the organization and the people for

whom they serve so as not to alienate anyone from this change process; thus, the district leader has a vital role as the system leader (Carver, 1990).

Murphy et al. (2007) conducted research on leadership models that bring about school improvement efforts. Their leadership model is referred to as the “Learning Centered Leadership Framework” (Murphy et al., 2007, p. 180). In this framework, the authors indicate the “left side of the framework consists of leadership behaviors: experience, knowledge, personal characteristics, and values and belief; while the right side of the model influences the student outcomes: school, classroom, leadership behaviors, and student success” (Murphy et al., 2007, pp. 180-181).

Murphy et al. (2007) additionally derive from their research eight dimensions that characterize successful leadership practices. These dimensions include “a vision for learning, the instructional program, the curricular program, the assessment program, communities of learning, resource acquisition and use, organizational culture, and social advocacy” (Murphy et al., 2007, p. 182). These leadership dimensions are aligned with leadership attributes identified in the literature (see Table 2). These leadership attributes and dimensions exemplify the necessary skills a leader must employ to bring about school reform efforts as previously described previously.

Marzano and Waters (2009) found, “after examining research that there is a strong correlation between district leadership and student achievement” (p. 4). In conducting their research, Marzano and Waters (2009) were able to identify five leadership responsibilities directly related to student achievement:

1. Ensure collaborative goal setting.
2. Establish nonnegotiable goals for achievement and instruction.

3. Create board alignment with and support of district goals.
4. Monitor achievement and instructional goals.
5. Allocate resources to support the goals for achievement and instruction. (p. 6)

Table 2

*Leadership Dimensions Aligned with Leadership Attributes*

Leadership Dimensions	Leadership Attributes
Vision: Developing, articulating, implementing, and stewarding	Establishment of a vision, and adherence to it, establishing attainable goals, modeling, communication, building capacity to learn.
Instructional Program: Knowledge and involvement, hiring and allocating staff, supporting staff, and instructional time	Leader involvement, monitoring, alignment, feedback, data. These leadership efforts are synonymous to progress in student achievement and improvement.
Curriculum Program: Knowledge and involvement, expectation and standards, opportunity to learn, and curriculum alignment	Alignment with instruction and assessment, curriculum, must be rigorous and relevant.
Assessment Program: Knowledge and involvement, assessment procedures, monitoring Curriculum and instruction, and communication and use of data	Alignment with instruction and curriculum, focus on student improvement, these elements are carefully selected and crafted.
Communities of Learning: Professional development, communities of professional practice, and community anchored schools	Theories and models of best practices used. Leadership, empowerment, culture of values, shared decision making, governance, professional development, high expectations, shared beliefs, continuous improvement, focused on results.
Resource Acquisition and Use: Acquiring resources, allocating resources, and using resources	Recruitment and retention of high quality teachers, professional development used towards strengthening student performance. District emphasis on fiscal responsibility and accountability.
Organizational Culture: Production emphasis, learning environment, personalized environment, and continuous improvement	Attention to all stakeholders in the organization. Upkeep of the physical plant. A culture of learning and continuous improvement is emphasized for all stakeholders.
Social Advocacy: Stakeholder engagement, diversity, environmental context, and ethics	System leadership capacities such as leading with integrity, communication, respect for diversity. Forging partnerships with the school and community at large.

Note. Adapted from “Leadership for learning: A research-based model and taxonomy of behaviors” by J. Murphy, S. N. Elliott, E. Goldring, and A. C. Porter, 2007, *School Leadership & Management*, 27(2), 179-201.

These five leadership behaviors of Marzano and Waters align with the identified 11 components of a CSR model identified by USDOE OESE CSRP (2002). Marzano and Waters (2009), like the USDOE, discovered an essential factor of system leadership. They found that there was a strong correlation between system leadership and student achievement. Marzano and Waters stated “Specifically, this finding implies that the longevity of the superintendent has a positive effect on the average academic achievement of students in the district” (2009, p. 9).

**Leadership for change.** The USDOE (2008) report suggests that continued efforts towards school improvement need to be sought as the nation’s schools continue to struggle with the successful and sustainable change first indicated in its original report in 1983. The research indicated that, indeed, the responsibility for such change rests with system leaders, which can be accomplished by initiating change efforts (Bambrick- Santoyo & Peiser, 2012; Bennis, 2003; Fullan, 2008; Kotter & Cohen, 2002; Marzano et al. 2005). The Alliance for Excellent Education (2011a) also supports the role of leadership. The Alliance states that “In order to fundamentally transform education, attention must be given to articulating explicitly the nature of leadership and teaching needed to create the conditions for powerful learning environments” (Alliance for Excellent Education, 2011a, p. 17).

According to Fullan, Cuttress, and Kilcher (2005), change efforts have not been successful because implementing change takes a great deal of time, effort, and knowledge. Fullan et al. (2005) identified eight forces for leaders of change. These eight forces consist of: “engaging people’s moral purposes, building capacity, understanding the change process, developing cultures for learning, developing cultures of evaluation, focus on leadership for change fostering coherence making, and cultivating tri-level development” (Fullan et al., 2005, p. 54). Fullan et al. state:

A missing ingredient in most failed cases is appreciation and use of what we call change knowledge: understanding and insight about the process of change and the key drivers that make for successful change in practice. The presence of change knowledge does not guarantee success, but its absence ensures failure. (2005, p. 54)

There are many change models available to system leaders. Fullan (2008) identified six change efforts in his model. These six change efforts include love your employees, connect peers with a purpose, capacity building prevails, learning is the work, transparency rules, and systems learn (pp. 11-14). Kotter and Cohen (2002) also identified a change model that system leaders can utilize. This change model involves eight identified stages. “Increase urgency, build a guiding team, get the vision right, communicate for buy-in, empower action, create short-term wins, don’t let up and make change stick” (p. 7).

Bridges (2009) identified how to manage difficult transitions during change that includes three stages. These stages are comprised of “letting go of the old ways and the old identity people had, going through an in-between time when the old is gone but the new isn’t fully operational referred to as the neutral zone, and coming out of the transition and making a new beginning” (pp. 4-5).

With a variety of models available to leaders, along with methods of implementation, the burden is on leaders to bring about the necessary changes so that students will be successful and college and career ready for the 21st century.

**NYS Regents Reform Agenda.** The Regents Reform Agenda includes the following facets of intervention, as stated by the NYSED (P12, Race to the Top [RTTT], Network Team Institute [NTI], n.d.).

- The implementation of common core standards.

- Developing curriculum and assessments aligned to those standards to prepare students for success in college and the workplace.
- Building instructional data systems that measure student success and inform teachers and principals how they can improve their practice in real time.
- Recruiting, developing, retaining, and rewarding effective teachers and principals.
- Turning around the lowest achieving schools.

The reform efforts instituted included the focus of high school completion. In June 2012, the graduation rate for the 2007 cohort was 74%, and 8.7% dropped out of school that year (NYSED P12 IRS, 2012c). The NYSED Commissioner made the argument, in a 2012 press release, that one of the keys to student success is keeping students engaged (NYSED OC, 2012). Commissioner King further indicated that engaging students and keeping them in school is essential in addressing the economic and societal burden of students who drop out of school in NYS.

Commissioner King referred to engagement as providing students with educational opportunities in “advanced math and science courses, career and technical educational programs, or a focus on humanities” (NYSED OC, 2012, p. 1). At the same time, fiscal resources allocated for schools to maintain standards and meet mandates has changed dramatically in the reduction of these resources. One of the ways in which this change has occurred has been the implementation of the tax levy limit imposed on NYS school districts by the legislature in 2011. Additionally, reduction in state aid has changed how school districts operate fiscally (NYSED P12 SO EMS, 2012).

Since the inception of the recent Regents Reform Agenda and the Race to the Top Grant application, college and career readiness standards have been implemented by NYSED to

address the preparedness of students for college and career readiness, as well as those efforts to improve graduation rates (NYSED P12 RTTT NTI, n.d.). The new rigorous standards within the Regents Reform efforts and change in resource allocations are two elements that are critical to this study. It is essential that school districts are prudent with both programmatic resources as well as their fiscal resources to ensure schools meet the newly established graduation standards.

### **Public School Enrollment Data**

Millions of students attend school every day across our nation, and the literature indicated students who complete school are an economic benefit to society (Alliance for Excellent Education, 2011c; Brimley et al., 2012; Deyé, 2011; Dianda, 2008; Rouse, 2005; Rumberger, 2011). When one student drops out of school, this is both an individual loss, as well as a societal loss, on both personal and economic levels (Rouse, 2005; Rumberger, 2011).

Snyder and Dillow (2012) report that there are 98,817 public schools that comprise our nation's public school system. Thirty four million four hundred thousand students are enrolled in public institutions in the US. Snyder and Dillow (2012) report that the "average freshman graduation rates for public secondary schools through 2008-2009 is 75.5%" (p. 179).

High school graduates, according to Snyder and Dillow (2012), are those students who earn their high school diploma in four years. This does not include students who have earned a General Educational Development (GED) credential.

Nationally, according to Snyder and Dillow (2012), dropouts are considered students between the ages of 16-24 years old who left school and did not earn their high school diploma. The term used to define the group of students who left school and did not earn a high school diploma is referred to as the status dropout rate. Snyder and Dillow (2012) report a national "dropout rate of 4.1%" (p. 180).

**New York State enrollment data.** NYS has been actively engaged in educational reform. There have been many changes, such as the adoption and implementation of new common core learning standards and the new annual professional performance review of teachers and principals, sought by the NYS Board of Regents and Commissioner King to improve NY's graduation rates in urban, suburban, and rural districts. NYS school graduation rates are ranked tenth (from the top) in the nation, according to Commissioner King (NYSED OC, 2012).

The NYS *Report card accountability and overview report for 2010-2011* indicated a total of 2,689,969 students attended public or charter schools from kindergarten through 12th grade in 697 school districts throughout the state (NYSED P12 IRS, 2012a).

### **Economic Costs of High School Dropouts**

The literature indicates that students who drop out of high school and who do not earn a high school diploma impact the individual, society, and the economy (Alliance for Excellent Education, 2011b; Dianda, 2008; Rouse, 2005; Rumberger, 2011). These impacts include those on a personal level, as well as those on a societal level; literacy, employment, healthcare, crime, economics, and standard of living are such examples.

One of the significant impacts of dropping out of school identified by Rumberger (2011) is related to the "individual consequences" (p. 86). Individual consequences associated with dropping out of school include the difficulty of finding a job. When a job is attained though, the wages are primarily low. Dianda (2008) reports "the struggle for dropouts to find employment is attributed to the lack of required skills and lack of a diploma" (p. 28). These individuals, Rumberger (2011) indicates, are less likely to be motivated to procure training to improve their employment skills. The research has also indicated that individuals who do not graduate from

school work less than those with higher levels of education and have fewer benefits (Rouse, 2005).

The social consequences of dropping out of high school, according to Rumberger (2011), involve these individuals being more likely to be involved in crime and incarceration.

Rumberger (2011) also indicates that these individuals are more likely to have poorer health, and they are less likely to be involved in community and civic activities, such as volunteering and voting.

In summary, dropouts earn less and contribute less to society. Furthermore, according to Dianda (2008), these individuals also are often on “some sort of public assistance” (p. 30), resulting in an additional cost to society.

### **Economic Benefits of High School Graduation**

The accomplishment of high school graduation is advantageous for many reasons. It benefits not only the individual, but also society (Alliance for Excellent Education, 2011c; Dianda, 2008; Rouse, 2005; Rumberger 2011). The Alliance for Excellent Education indicated, “Everyone benefits from increased graduation rates” (2011c, p. 1). According to its report, graduates themselves will have the capacity to earn higher wages and enjoy more comfortable, healthy, and secure lifestyles. Dianda (2008) indicated, “High school graduates earn 43 percent more than non-graduate students, and college graduates earn more than 150 percent; one and a half times more than high school dropouts” (p. 28).

The nation also benefits from this achievement. Those individuals that complete a high school education are in a better position to contribute economically to society. They have increased purchasing power, pay taxes, and demonstrate a higher level of worker productivity (Alliance for Excellent Education, 2011c). Rouse (2005) indicated that education has a direct

effect on earnings: “If an individual is somehow able to complete another year of schooling, his or her income will rise by approximately 10%” (p. 24). This earning capacity is the social benefit associated with increased education. Table 3 illustrates this economic benefit for completing school on both the state and national levels.

### **National High School Graduation Data**

Dianda (2008) reported that graduation rates have remained stable for the past 35 years. Dianda also indicated that during this time, 70-75% of students completed high school in four years. The 25-30% of these students who do not complete high school contribute to the societal economic cost.

Table 3

*The Projected Economic Benefits of Students Earning a High School Diploma for the United States and for New York State: Per Year*

	Projected Economic Benefits for	
	New York State	United States
Earnings	\$316,000,000	\$7,600,000,000
Spending	\$244,000,000	\$5,600,000,000
Housing sales	\$583,000,000	\$19,000,000,000
Car sales	\$37,000,000	\$741,000,000
Increased gross state product	\$415,000,000	\$2,000,000,000 (in investments)
Increased sales tax revenue	\$34,000,000	\$713,000,000
New jobs	2,150	54,000

Note. From *The economic benefits of helping high school dropouts earn both high school diplomas and college degrees* by Alliance for Excellent Education, 2011, December, p. 1.

**NYS graduation data.** Until 2009, NYS had an established state standard graduation rate of 55%. This rate was changed to 80% in the 2009-2010 school year and accountability reporting period. As previously discussed higher standards for NYS schools were established, by NYS Regents in the adoption of a new reform agenda and at the same time NYS participated in the federal Race To The Top (RTTT) grant opportunity.

The most recent NYS graduation rate reported by the NYSED was 74% for those students who started school in grade nine in 2007 and graduated in June of 2011 (NYSED OC, 2012). The previous cohort (2006) graduation rate reported was 73.4%; while the graduation rate for the 2003 cohort was 69.3% (NYSED OC, 2012).

### **Rural School Communities**

Rural school community settings serve a third of students who attend school in the nation. As indicated by Strange et al. (2012), 33% of students are educated in a rural school setting.

The characteristics of rural schools and their rural communities are closely intertwined. According to Lyson (2002), the “school setting is not only the social hub of the village, but the school setting also contributes to the sense of survival of adults in the culture” (p. 1). Rural communities, Lyson states, “are symbols of community autonomy, community vitality, community integration, personal control, community tradition, and community identity” (2002, p. 1). The features that describe these communities are unlike those characteristics of schools in other settings because of where these schools are located. These features, according to Lyson (2002), include communities that are described as “trade and service centers, and places that nurture participation in civic and social affairs” (p. 2). Lyson further contends the school community provides social, cultural, and recreational activities” (2002, p. 2). Community

members in rural settings are closely tied to the school and often choose to maintain this unique connection.

Malhoit (2005) indicated:

the school is the most important public institution in a rural community; a rallying point for services to poor families and children, a polling place, the library, and the community center. Rural schools represent the economic lifeblood of the community, often serving as a rural area's largest employer and customers for small businesses. (p. 10)

Malhoit (2005) further stated that there are unique characteristics that need to be taken into consideration pertaining to the funding of schools. These characteristics are:

community capital; rural people are strong supporters of public education and community-based schools; distance, space, and sparseness; poverty; low and declining property values; loss of population, talent, and jobs; aging population; high minority population; smaller schools; social service infrastructure and philanthropic support; technology; and transportation. (Malhoit, 2005, pp. 10-12)

### **Rural School Education**

Rural school districts possess unique characteristics and play a significant role in the communities in which they are a part. These districts comprise one third of our nation's schools. These districts, because of their size and shrinking tax base, face difficult programmatic and fiscal challenges. Some rural school districts, especially in NYS, have the capacity to meet the state established graduation rates; however, some do not.

Rural education is identified as a concern in the nation (Strange et al., 2012). Rural school enrollment according to Strange et al. (2012) is outpacing non-rural enrollment, and at the same time, rural educational needs are becoming more complex. Strange et al. (2012) state "new

more thoughtful policy reforms are customized to meet the challenges of rural education in all of its dimensions are manifestations are needed” (p. 21). These challenges include providing programs to meet student needs in the 21st century during a time when the allocation of fiscal resources has changed (Brimley et al., 2012; NYSED P12 SO EMS, 2012).

The Alliance For Excellent Education (2009) indicated there are mechanisms for schools to employ to ensure all students have the opportunity to complete high school. To employ such mechanisms is advantageous for rural schools in order to address the issue of students dropping out of school. The Alliance For Excellent Education (2009) stated that:

to guarantee both the stability of rural communities and the nation’s ongoing competitiveness in the global economy, it is more important than ever to ensure that all rural high school students graduate with the skills they need for college, careers, and life. (p. 2)

To address the challenge that rural schools face, The Alliance for Excellent Education (2009) identified 10 elements that every rural school should have in place. These elements include:

college and work-ready curriculum for all students, personal attention for all students, extra help for all students who need it, bringing the real world to the classrooms, family and community involvement, a safe learning environment, skilled teachers, strong leaders, necessary resources, and user friendly information for parents and the community. (p. 8)

These critical elements identified in the literature, if employed, provide opportunities for students to be globally competitive.

**Rural education in New York State.** Specifically, the NYSCRS indicated some unique

challenges for these schools: “Rural schools face a unique set of issues and challenges, such as consolidation, improving academics, and extracurricular programs while keeping tax levies in check” (2012, About New York State’s rural schools section, para. 6). Rural schools also face the possibility of consolidation, which may impact the socio-economic well being of the community (Lyson, 2002).

Strange et al. (2012) indicated “more than half of all rural students in the U.S. attend school in just 11 states” (p. 6), including NYS. The NYSCRS indicates that “of 697 school districts in the state, 299 are in rural areas and another 65 are in towns located in distant or remote locations” (2012, About New York State’s rural schools section, para. 2) across the state. These 299 districts represent more than 40% of the school districts in the state.

The cost of rural school education varies among rural school districts. According to NYSCRS (2012), a NYS “high need rural district spends a minimum of \$12,098 per pupil and a maximum of \$28,470” (About New York State’s rural schools section, para. 7). A necessary consideration that must be made is the cost of educating students in rural schools in the state so that students have sufficient opportunities to meet state standards.

The national graduation rate of students attending rural schools, according to Strange et al. (2012), is 77%. The NYS graduation rate as of June 2012, based on the 2007 cohort, was 73.4% for high need rural school districts (NYSED P12 IRS, 2012c), which is below the state standard of 80%.

Rural school communities indicated that “they wanted their communities to remain the same” in a recent survey of communities in NYS (Sipple, Casto, & Blakely, 2009, p. 1). The survey further indicated that “72.9% of rural New Yorkers are most satisfied with their education in their communities” (Sipple et al., 2009, p. 1).

In conclusion, this survey of rural school communities indicated that New Yorkers were satisfied with the education provided in rural settings (Sipple et al., 2009). Rural school communities have unique characteristics as described by Lyson (2002) and Malhoit (2005). A little over a third of students attend rural schools in NYS (NYSCRC, 2012). Graduation rates in these rural schools, 73.4%, are below the state standard of 80% in NYS (NYSED P12 IRS, 2012c).

### **The Causes of High School Dropouts**

The literature has identified many reasons why students drop out of school. Students who drop out cite a number of complex and manifold reasons for making the decision to leave high school prior to graduation. The research conducted in this area by Rumberger and Ah Lim (2008) is of particular relevance. Rumberger and Ah Lim conducted research that included a span of 25 years and focused on the reasons that students drop out of school. Rumberger and Ah Lim reviewed 203 published studies in which they attempted to “identify statistically significant predictors of high school dropout and graduation. The results of the research indicated two prevailing predictive factors contributing to students dropping out of school. These factors consist of individual characteristics and institutional characteristics” (Rumberger & Ah Lim, 2008, p. 1).

The individual characteristics identified and described by Rumberger and Ah Lim (2008) included educational performance, behaviors, attitudes, and background. The institutional characteristics included families, schools, and communities.

According to Rumberger and Ah Lim (2008), dropping out of high school is a “complex process that is not attributed to any single factor, and the context in which this occurs within the school, family, or community is strongly considered in this important context” (p. 3).

There is one factor identified in the literature, which is attributed to students leaving high school. “Poverty is the single most powerful demographic factor that increases an individual student’s chances of dropping out of school” (Dianda, 2008, p. 60). There were several other reasons that influence a student’s decision to drop out of school identified by Dianda (2008). These include chronic absences from school, retention, and academic failure. Yet another factor of dropouts identified in the literature, as indicated by the Alliance for Excellent Education (2010) is “the lack of student engagement” (p. 2). The Alliance for Excellent Education (2010) further states, “that both academic and social engagement in school are integral components of students successfully navigating the education pipeline” (p. 2).

**Addressing the dropout crisis.** Schools across the nation need to address the dropout crisis. Students who do not graduate have an economic impact on society (Alliance for Excellent Education, 2011b; Dianda, 2008; Rouse, 2005; Rumberger, 2011). Dianda (2008) indicated that the US was ranked 18th in high school graduation rates among developed nations. Dianda (2008) also indicated that the US ranked fifth in the percentage of young adults ages 25-34 with college degrees.

As indicated previously, students who drop out of high school will face long term social and economic consequences. Not only will this adversely affect their lives on an individual level, but this also has significant consequences on society. According to Dianda (2008), “If the nation decides to do little or nothing about high school dropouts it will pay dearly for years to come, but if it invests in dropout prevention and intervention it will accrue enormous benefits” (p. 27). According to Rumberger (2011), there have been many efforts to alleviate the problems in the nation’s schools for a considerable time. Rumberger cites research, which indicates that there have been several approaches to address the dropout crisis including targeted approaches,

comprehensive approaches, and systemic approaches. Dianda (2008) states that “solving the dropout crisis will involve nothing short of community and school transformation” (p. 58).

Schools that fail to meet established graduation standards need assistance.

The research indicates efforts to remedy the dropout crisis in the nation and in the state have been underway. In 2005, the National Governors Association (NGA) co-sponsored a report on the topic of schools preparing students for high school completion (Conklin, Curran, & Gandal, 2005). The report was the first effort towards remedying the dropout crisis and improving high schools in the nation. This action agenda by the NGA was aimed to “ensure that all high school graduates are prepared for post-secondary education and work” (Conklin et al., 2005, p. 5). The result of the educational summit produced a comprehensive plan that involved five critical elements: restoring the value of the high school diploma and ensuring rigor; redesigning the American high school to meet the needs of all students; giving high school students the best teachers and principals; holding high schools and colleges to a high standard; and streamlining governance of the educational K-12 and post educational system.

A review of the research on graduation rates, dropouts, and rural education indicates efforts have been underway to address the dropout crisis in schools. Many lawmakers, policymakers, and researchers, have contributed toward school reform and high school completion. As the Alliance for Excellent Education indicated, “The best economic stimulus package is a high school diploma” (2010, p. 3). Therefore, the effort towards resolving the obstacles of high school completion, need to continue.

**Dropout intervention strategies.** Christenson and Thurlow (2004) indicate that currently considerably more is known about who drops out than what is known about efficacious programs. The challenge, according to Dianda (2008), is to develop the capacity, know-how,

and will to implement what is known to work in all high schools. What remains to be identified in the research is the ability to determine the effectiveness of programs that may or may not influence graduation rates. Kennelly and Monrad (2007) indicated:

Still, a lot is not known about dropout prevention strategies and interventions that make a positive difference. However, interventions that have the capacity to be orientated around individual student needs, and that work in tandem with schoolwide interventions able to adjust around grade-level needs, holds promise as an effective combination for combating the nation's dropout problem. (p. 3)

Legters and Balfanz (2009) also address the need to effectively deal with dropout prevention. Legters and Balfanz identified five areas, which can be implemented to achieve system renewal in which to address the dropout problem (2009). The five areas indicated are:

1. Identify the scale and scope of the dropout problem.
2. Transform or replace low-performing schools.
3. Install early warning systems and provide comprehensive targeted intensive supports to students.
4. Establish supportive policies and resource allocations.
5. Build community will and capacity. (Legters & Balfanz, 2009, pp. 5-8)

Attempts to alleviate the dropout crisis have also been reported by Balfanz, Bridgeland, Bruce, and Fox (2012). These individuals "indicated a coalition of leading U.S. organizations gathered to develop a plan of action for ending the dropout crisis in America once and for all" (Balfanz et al., 2012, p. 20). This plan became known as the "Civic Marshall Plan (CMP)" (Bridgeland et al., 2012, p. 20). The CMP called for reaching the benchmark of a national graduation rate of 90% by the year 2020. The focus of the CMP incorporated four principles

including: “a strategic focus, high expectations for students, accountability and support for school systems, and thoughtful collaboration” (Bridgeland et al., 2012, p. 20). These strategies also are consistent with other facets of the literature presented to overcome the national dropout crisis.

There have been many intervention strategies identified in the literature that lead to students completing high school. Two such sources for dropout prevention strategies are from the research of Dynarski et al. (2008) and Smink (2004). Dynarski et al. (2008) provide six recommendations for dropout prevention measures in schools. These include the use of data systems (to track attendance, academics, and discipline) to help identify students at risk of dropping out of school, a personalized learning environment that encompasses academic rigor and relevance, academic enrichment opportunities, social skill development, and adult advocates for students (Dynarski et al., 2008).

Schargel (2012) is another researcher who identified effective strategies to prevent students from dropping out of school. His 15 strategies have been under development since 1986 at the National Dropout Prevention Center at Clemson University. These strategies have been identified as being “implemented successfully at all educational levels and environments throughout the nation” (Schargel, 2012, p. xxiii). Schargel (2012) indicates that these strategies are field tested, researched-based, and data driven practices. Schargel believes he has identified the tools to effectively deal with the dropout crisis. Schargel encapsulates all facets of a school-community environment. Schargel (2012) delineated these strategies in four distinct categories:

1. Early Interventions: family engagement; early childhood education; early literacy development.
2. Basic Core Strategies: mentoring and tutoring; service learning; alternative schooling;

- after-school opportunities.
3. Instruction: professional development; educational technology; active learning; individualized instruction; career and technical education (CTE).
  4. School-Community: systematic renewal; school-community collaboration; safe learning environment. (pp. xxiii- xxiv)

Another factor identified in the dropout prevention effort has been the effective role the counselor plays in students graduating from high school. Hayes, Nelson, Tabin, Pearson, and Worthy (2002) describe this role as integral in the understanding of students' performance needs and accomplishment on a broad level. Hayes et al. (2002) further describe the counselor's position as unique in this respect. "The school counselor has a school-wide perspective on serving the needs of every student and have the capacity to assess the school for systematic barriers to academic success" (Hayes et al., 2002, p. 3).

### **Summary**

The literature provides many examples of research conducted to alleviate the dropout crisis. Specific prevention strategies have been identified to help schools address the issue of students dropping out of school. The work of Balfanz et al. (2012), Dynarski et al. (2008), Hayes et al. (2002), Legters and Balfanz (2009), Rumberger (2011), Schargel (2012), and Smink (2004) are all examples of work that has been done to address the dropout crisis in our nation's schools.

Dropout prevention programs and strategies do exist and are available to the nation's schools. The Alliance for Excellent Education (2011b) indicates that dropout rates can be improved by "improving high schools" (p. 4). Dianda (2008) also maintains that no less than a complete transformation of the school and surrounding community is required as part of any

reform measures.

### **Chapter 3: Methods**

This chapter discusses the research methods involved in this research study. First, a brief background of the study will be discussed. The research design, sampling and sampling procedures, survey construct, and survey validity will follow. The data collection and data analysis methods will be presented. The chapter will conclude with the research bias and a brief summary of the study.

The purpose of this quantitative study was to determine what dropout intervention strategies school districts were using to improve graduation rates. This research study also sought to determine if there was an association between graduation rates and dropout prevention intervention strategies employed in rural school districts in NYS. Participants in the study included middle level and high school level principals from rural school districts.

This study was guided by three basic research questions. These questions included those directly related to strategies or interventions school districts employed to improve, meet, or exceed NYS graduation rates. The questions were:

1. What intervention strategies are school districts using to improve graduation rates of all students?
2. Is there a relationship between dropout prevention strategies and graduation rates?
3. Is there any association between graduation rates and the choice of specific intervention strategies and the following demographic features:
  - a. Size of the school;
  - b. Experience of the administrator/principal;
  - c. Type of school schedule (i.e. traditional, block, modified block, semestered);
  - d. Building configuration;

- e. Type of rural school district.

### **Research Design**

This quantitative study attempted to determine what intervention strategies schools employed to improve graduation rates, and also to determine if there was an association between graduation rates in rural school districts and the intervention strategies those school districts employed. School administrators were asked to identify their districts' graduation rates for the 2007 cohort obtained from NYSED School Report card data from the 2010-2011 school year (NYSED P12 IRS, 2012a).

The rationale for selecting a quantitative research design was to attempt to collect data from as many rural school districts as possible to ascertain what, if any, dropout prevention strategies were being used in these rural districts to improve graduation rates. The size of the school district, the experience of the school administrator, the type of high school or middle school schedule, the type of rural school, and the building configuration were also examined to determine if there was any difference in the effectiveness of dropout intervention strategies when these demographic elements were considered.

### **Sampling and Sampling Procedures**

The sampling method employed in this study was “purposeful sampling.” Purposeful sampling, according to Creswell (2012), “is sampling that is done intentionally to better understand a central phenomenon of a site or select individuals” (p. 206). The objective in this study was to elicit as much detail as possible from select rural school districts in NYS to learn what practices they employed to meet or exceed state established graduation rates. The participants specifically chosen were those rural schools who elected to become members of the RSA of NYS in the 2012-2013 school year. A list of these schools is publicly available from the

Cornell University's Center for Rural Schools (RSA of NYS, 2012). These schools are also publically available and listed in the P-12 Need-Resource Capacity document (2012).

There are currently a total of 262 school districts, including the Board of Cooperative Educational Services (BOCES) organizations that belong to the Rural School Association. The BOCES organizations were excluded from this study, since school districts fall under the boundaries of BOCES organizations. Excluding BOCES organizations, 245 rural school districts in NYS were asked to participate in the study.

### **Instrumentation**

The instrumentation for this study included a researcher designed survey. This instrument was designed based on the 15 effective strategies derived from Schargel (2012). Schargel's work sought to determine effective practices of schools to alleviate the dropout crisis that exists in the nation's schools. Schargel's strategies have been field tested. Permission to use the strategies from Schargel's (2012) work was granted (see Appendix A).

**Survey construct.** The survey consisted of 57 questions and was divided into two parts (see Appendix B). Part one included six demographic questions. These questions included enrollment, building configuration, graduation rate for the 2007 Cohort, type of rural school, type of schedule (traditional or block), and years of experience of the building administrator.

Part two included 51 questions, which directly related to the dropout prevention intervention strategies available to students that were derived and adapted from Schargel (2012). These strategies were divided into four levels that encompassed a variety of interventions and program opportunities for students. These included opportunities from those considered easily accessible to those that were more difficult to access. These also included strategies that were

available to students on campus and those strategies that were accessed off school grounds.

These four levels will be discussed.

Level One Basic Core Strategies included nine strategies. These strategies were grouped together, since their characteristics refer to the most common strategies districts may offer students. These strategies include Peer Mentoring, Adult Mentoring, Peer Academic Tutoring, Adult Academic Tutoring, Service Learning Opportunities, After School Opportunities (Clubs), After School Opportunities (Sports), Parent-Teacher Conferences, Parent -Teacher-Student-Association.

Level Two Instructional Strategies included 13 strategies, all related to instructional practices that may be utilized by districts. These included Differentiated Instruction, Project Based Learning, Collaborative Learning, Integration of Technology In Instruction, Students Are Taught How to Use Technology, Technology is Used for Instruction (Smartboard, Promethean Board, interactive projector etc.), High School Freshman Transition Course, High Interest Electives, Character Education Program, Social Skills Development, College and Career Readiness Skills Taught, Student Advisory Period, Response to Intervention, and Instructional Support Teams.

Level Three Alternative School Strategies included 13 strategies clustered together since they related to alternative schooling opportunities provided for high school students either on or off campus. These strategies included Career and Technical Education Programs provided in school (In House), Career and Technical Education Programs (Off Campus), Smart Scholars Program (Dual enrollment in college and high school), BOCES New Visions Program, International Baccalaureate Program, Advanced Placement Courses, University in the High

School Courses, Credit Recovery Program, Summer School, Project Lead the Way, Distance Learning Courses, Alternative Education (Off Campus), and Early College Admissions Program.

Level Four Building Wide Strategies included 16 strategies. These strategies were grouped together, since they relate to leadership practices and building level interventions encompassing a range of services and opportunities available for students. These strategies included Establish a Vision or Mission for Learning, Establish Goals for Learning, Ongoing Examination and Analysis of Pertinent Student Data (discipline, attendance, and performance on assessments), Guidance Counseling Services, Social Worker Counseling, Job Shadowing Opportunities, Attendance Policy, Recognition of Academic Achievement, College Fair, Career Fair, Pupil or Child Study Team Services, Academic Planning and Counseling, College Planning and Counseling, Career Planning and Counseling, Instructional Team Planning, and Agency Partnerships for Family Support.

Other strategies included in the survey incorporated recommendations from other major research studies on dropout prevention (Balfanz et al., 2012; Dianda, 2008; Dynarski et al., 2008; Hayes et al., 2002; Kennelly & Monrad, 2007; Legters & Balfanz, 2009; Rumberger 2011).

Responses for each of the 51 strategies in the survey were answered using the following choices:

1. This strategy is available for all students;
2. This strategy is available for some students;
3. This strategy is available for most students;
4. This strategy is not available for students in our district;
5. This is a strategy our district needs.

**Survey validity and reliability.** Creswell (2012) indicates it is important to select an instrument that reports individual scores that are reliable and valid. Creswell (2012) defines reliability as the scores from which an instrument are stable and consistent and validity as the development of sound evidence to demonstrate the test interpretation of scores about the concept or construct that the test is assumed to measure or match its purposed use (p. 159).

For instrument validity, Creswell (2012) identifies five standards to consider as evidence in this process. These are test content, response processes, internal structure, relations to other variables, and the consequences of testing. In this study, a process was utilized to produce an instrument that was considered valid.

To establish face validity of the survey instrument, the researcher's survey was first examined by a team of experts. This team included a group of four principals who were not part of the study: two high school principals and two middle level principals. These individuals were asked to examine the survey, take the survey, and provide feedback to the researcher. Once the responses from the panel were collected, the researcher analyzed them and adjustments to the survey were made accordingly.

To determine construct reliability, Cronbach's Alpha, a statistical analysis, was conducted on part two of the instrument tool. All 51 intervention strategies were tested as a whole using SPSS version 21. Cronbach's Alpha is defined as "a measure of internal reliability or consistency of the items in the instrument" (Vogt & Johnson, 2011, p. 86).

### **Data Collection**

Data were collected from the survey of rural school districts that elected to participate in the study. Contacts were first made to the RSA executive director, Dr. Bruce Fraser, and to the

Capital Area School Development Association (CASDA) director, Dr. James Butterworth, to discuss this research project and to obtain input and support from them. These individuals work with a vast number of individuals locally and across the state. Their knowledge and expertise of rural schools was valuable to this study. CASDA also hosts a Rural School Summit, which provides valuable resources and information on rural schools pertinent to this study.

Dr. Fraser and Dr. Butterworth then introduced the researcher to Dr. Sipple of the NYS CRS. The research study was discussed with each of these individuals. As a result of these discussions and their interest in the research study, both Dr. Sipple and Dr. Fraser encouraged participation in this study with their constituents across the state. Dr. Fraser encouraged this participation by including an announcement of it in the RSA newsletter.

In this research proposal, the unit of analysis was rural school administrators who were members of the RSA. This population included schools at the middle and high school levels. This survey was sent out to the 245 school districts' middle level and high school level principals who were members of the RSA (see Appendices B & C). The survey, which was kept anonymous, was made available to principals after contact had been made to superintendents. Then, two emails were sent after the first contact (a letter of correspondence) to superintendents to encourage participation in the study (see Appendices D & E). Finally, an email was sent out to eligible participants to indicate the survey was made available via Survey Monkey. This service was purchased by the researcher and is considered to be a secure tool. Survey Monkey uses an encrypted survey tool, referred to as Secure Sockets Layer (SSL). This security was consistent with the efforts of ensuring the anonymity of the participants.

Once the data from the survey were collected, they were then transferred to the IBM Statistical Package for Social Sciences® (SPSS) for statistical analysis. Version 21 of the student Grad Pack was utilized for this purpose.

### **Data Analysis**

The results of the survey were input into SPSS, the designated mechanism used to analyze data collected in this study. The data were checked for any errors or missing data prior to conducting the analysis. Creswell (2012) states that “the process of inspecting and examining the data” (p. 181) is beneficial in ensuring the data are accurate. If data errors were detected or missing, then that data were eliminated.

Descriptive statistics were applied first in the study. Descriptive statistics “present information to describe responses to each question obtained from the data, as well as determine overall trends and the distribution of the data” (Creswell 2012, p. 619).

For question number one, the method of analysis used was derivation of the frequencies of the demographic data, as well as of the frequencies for all intervention strategies that school districts either employed or did not employ.

The second part of the data analysis involved the use of inferential statistics. Inferential statistics, as defined by Creswell (2012) “enable a researcher to draw conclusions, inferences, or generalizations from a sample to a population of participants” (p. 621).

For research questions two and three, a Chi-Square Test of Association was conducted. This test was chosen to analyze the data because the data derived from the study were categorized as nonparametric. Nonparametric statistics are referred to as “statistical techniques designed to be used when the data analyzed depart from the distribution when data is measured on a nominal or ordinal scale” (Vogt & Johnson, 2011, p. 256). These statistics, according to

Vogt and Johnson (2011), “require fewer assumptions” (p. 256). “The use of nonparametrics are considered just as valuable as parametrics. This data comes as frequencies, such as numbers or percentages” (Salkind, 2008, p. 263). For the results obtained in this study, the number of responses, percentages, and the Chi-Square Value or Asymptotic (statistical) significance were reported.

The null hypothesis was employed as part of the data analysis process. The decision to accept or reject the null hypotheses was used to determine whether or not the results of the relationships between graduation rates, intervention strategies, and demographic features were significant. The significance value was obtained and included both the number of responses and percentages for strategies paired with graduation rates of those greater than or equal to 80% or those less than 80% in this research question. The variables were then determined to be either independent ( $p > 0.05$  – not significant) or dependent ( $p < 0.05$  – significant) based on the null hypotheses. This determination of significance was based on the null hypotheses indicating that there was no relationship between graduation rates and the 51 intervention strategies. If there was a relationship between the two variables, the null hypotheses of  $p > 0.05$  would be rejected and the value of  $p < 0.05$  would indicate a relationship between graduation rates and strategies, therefore the null hypotheses would be rejected and the data would be considered significant. Both the number of responses and percentages were analyzed in the research question. Significance in this study included p-values  $\leq 0.05$ . P-values from 0.05 to 0.067 were considered *borderline significant*.

For research question two, the Chi-Square Test of Association included analysis of the association between graduation rates and the specific intervention strategies employed in the

district. For research question three, the Chi-Square Test of Association was utilized to determine the association of graduation rates, intervention strategies, and demographic features.

Analyses of the data were examined to determine if dropout prevention strategies used in rural school districts in NYS were associated with graduation rates. Data were analyzed to determine any statistical differences that may have existed within or amongst the data.

### **Research Bias**

A bias that exists in this research study includes the researcher's own experiences in a rural school district. This experience extends to the development of a dropout prevention program for students. The researcher has personal perceptions as to what effective dropout prevention strategies work. This bias is attributed to the researcher being an administrator previously involved in a dropout prevention task force in her own school. Therefore, the researcher in the study suspended judgment by having others examine the research methods and survey instrument tool. The other essential piece is that the study was anonymous, and the researcher remained open-minded and embraced the possibility of new discoveries in this study. It was also essential for the researcher in this study to adhere to scholarly writing that was absent of biased language.

### **Summary**

This quantitative study involved determining if graduation rates from the 2007 cohort of rural schools in NYS who belong to the RSA were associated with dropout intervention strategies used by these districts. A researcher-developed survey instrument was used in this study to gather data on intervention strategies. The survey was sent to middle school level and high school level principals. Principals identified what intervention strategies were or were not available to students. The study also attempted to determine if there was any difference in

effectiveness of dropout intervention strategies when the size of the school, the experience of the administrator, or the type of schedule were considered. The data collected from the online survey were transferred to SPSS. Statistical analyses were conducted to make a determination of the correlation between graduation rates and intervention strategies.

Chapter four will include a detailed analysis of each of the three research questions. Descriptive statistics will explain the demographic features of the school districts included in the study. Chapter four will also include a detailed analysis identifying the intervention strategies school districts employed to meet or exceed graduation rates in NYS. The chapter will provide a detailed analysis of each of the 51 intervention strategies employed and the determination of any association between these and graduation rates. The analysis of intervention strategies, graduation rates, and any association between the five demographic features will also be included.

## **Chapter 4: Data Analysis**

This chapter presents the findings of the data analyses of this research study. These analyses were organized by the three research questions of the research study. Descriptive statistics were used to answer research question one. To answer question two and three, A Chi Square Test of Association was utilized to determine if a relationship or association existed between graduation rates and the 51 intervention strategies. Question three was also answered using the Chi Square test of association to determine if an association existed between graduation rates, the 51 intervention strategies, and five demographic categories. The results of the analyses were described in this study by indicating the number of responses, percentages, and Asymptotic significance. Asymptotic significance is used to describe the statistical significance of the data.

The data analyses elicited from the survey instrument utilized in the study were used first to determine what intervention strategies are employed by specific districts in NYS and then to determine if graduation rates were associated with these intervention strategies or demographic categories. The survey instrument was delineated into two parts to answer three specific research questions pertaining to dropout prevention strategies utilized in specific rural schools across NYS. The first part of the survey related specifically to demographic information about these rural schools in the study, and the second part was comprised of selected dropout intervention strategies.

The purpose of this study was to determine if graduation rates, provided by the school districts in the study from the 2007 cohort (identified in 2012 by NYSED) were associated with dropout prevention intervention strategies employed in select rural school districts in NYS. Participants in the study included middle level and high school principals from rural school

districts belonging to the Rural School Association (RSA) of NYS. Three research questions shaped the research study.

1. What intervention strategies are school districts using to improve graduation rates of all students?
2. Is there a relationship between dropout prevention strategies and graduation rates?
3. Is there any association between graduation rates and the choice of specific intervention strategies and the following demographic features:
  - a. Size of the school;
  - b. Experience of the administrator/principal;
  - c. Type of school schedule (i.e. traditional, block, modified block, semestered);
  - d. Building configuration;
  - e. Type of rural school district.

The unit of analysis of the study was defined as the school districts. The dependent variable in the study was the graduation rate of the participating school districts. The independent variables in the study included the 51 dropout intervention strategies, delineated into four categories and five demographic features of the schools previously mentioned.

The 51 dropout intervention strategies were divided into four levels that encompassed a variety of interventions and program opportunities for students. These included opportunities from those considered easily accessible to those that were more difficult to access, both on and off the school campus. The four identified levels of these strategies were: Level One Basic Core Strategies; Level Two Instructional Strategies; Level Three Alternative Schooling Strategies; and Level Four Building-Wide Strategies.

## **Demographics**

There were 262 districts that belonged to the RSA of NYS (RSA of NYS, 2012). These schools were identified on the RSA's website. The sample included 311 administrators from these districts who were invited to participate. One hundred eight responses from building administrators were elicited from the study. These participants included P-12 principals, K-12 principals, middle level principals, jr./sr. high school principals, or 9-12 high school principals.

Building enrollment of these rural school districts ranged from buildings of 190 students to those with 1700 students. Building configuration of these schools included five various building types. There were 25 P-12 schools, 12 K-12 schools, 34 high schools, 31 jr./sr. high schools, and 6 middle schools.

The types of schedules in this study are defined as block schedule (an approximate 80 minute period), a traditional schedule (an approximate 40 minute period), and a mixed schedule (block & traditional). Schools used three types of schedules; however, one type of school schedule was most frequently utilized. Nine schools used blocked scheduling, five used a mixed schedule, and 94 schools used a traditional schedule for instruction. There were seven schools in the study that indicated they used a block schedule, five used a mixed schedule, and 96 used a traditional schedule.

Administrative experience also varied significantly in this study. The number of years of experience administrators possessed ranged from one to 28. There were four types of rural schools identified in the study. There were 13 schools that were identified as Fringe, 51 identified as Distant, 41 identified as Remote, and three identified themselves as rural.

There were three types of rural schools defined in the survey. These rural schools included Fringe (rural territory that is less than or equal to 5 miles from an urbanized area),

Distant (rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area), and Remote (rural territory that is more than 25 miles from an urbanized area) (NYSCRS, 2012, About rural schools section).

Table 4 describes the detailed demographic features obtained from these districts. Two districts in the study did not identify their building enrollment. Three districts did not indicate the specific type of rural district they were in the study.

Table 4

*Demographic Features of Participating Districts*

Demographic Feature	N	Schools	
		n	%
Building enrollment	106		
1 – 399 students		45	42.5
400 – 500 students		30	28.3
501 – 1700 students		31	29.2
Building configuration	108		
P-12		25	23.1
K-12		12	11.1
Jr./Sr. high		31	28.7
Middle school		6	5.6
High school		34	31.5
Type of rural district	108		
Fringe		13	12.4
Distant		51	48.6
Remote		41	39.0
Rural		3	2.8
Type of schedule	108		
Block		9	8.3
Mixed		5	4.6
Traditional		94	87.1
Administrative Experience	108		
1 – 5 years		40	37.0
6 – 14 years		58	53.7
15 – 28 years		10	9.3

## **Graduation Rates**

Graduation rates referenced for this study were those derived from the 2007 cohort obtained from NYSED School Report card data from the 2010-2011 school year (NYSED P12 IRS, 2012, March). Graduation rates were ascertained in part one of the survey instrument. Eighty-three school districts in the survey reported graduation rates. Twenty-five schools did not report graduation rates. NYS schools have a defined graduation rate of 80% (NYSED P12 IRS, 2011a).

Graduation rates played an integral part of this study. Graduation rates were reported by 83 schools. This data was examined and divided into two categories for subsequent data analysis purposes. The first category was graduation rates greater than or equal to 80%, and the second category was graduation rates of those less than 80%.

Districts were asked to select one of the following responses regarding the intervention strategies included in the survey: (1) This strategy is not available for students in our district, (2) This is a strategy our district needs, (3) This strategy is available for some students, (4) This strategy is available for most students, or (5) This strategy is available for all students. See Appendix B for the researcher-developed survey.

Each of the three research questions is presented along with a detailed analysis of the results derived from the study.

### **Research Question One Results: What Dropout Intervention Strategies Are School Districts Using to Improve Graduation Rates of All Students?**

The first research question in this study sought to determine what intervention strategies school districts were using to improve graduation rates. First, the original intervention strategy responses were modified from the five available responses [(1) This strategy is not available for

students in our district, (2) This is a strategy our district needs, (3) This strategy is available for some students, (4) This strategy is available for most students, or (5) This strategy is available for all students], into two. This change was made because of the similarities of responses in questions one and two, and the similarities between questions three through five. Question one, and two responses, hence, were modified to those *strategies not employed by the district*, and questions three through five were collapsed to those *strategies employed by the district*.

**Strategies identified by the districts.** The 51 intervention strategies in the survey were clustered and defined into four distinct categories according to the type of characteristics and implementation methods of the interventions. These strategies were identified in chapter three and in Appendix B.

The number of responses and percentages of Level One through Level Four intervention strategies used by districts were determined using descriptive statistics in SPSS. Next, the percentage and average percentages of those strategies employed by districts and not employed by districts were then calculated for each of the four respective levels. The results of the survey indicated 108 school districts employed approximately 94% of Level One strategies, 93% of Level Two strategies, and approximately 95% of Level Three and Level Four strategies. The strategy results will be discussed in detail.

**Level One Basic Core Strategies.** There were nine strategies that comprised this level. These strategies were grouped together according to their characteristics, which refer to common strategies districts may have offered students in terms of clubs, sports, mentoring and tutoring, parent-teacher conferences and parent-teacher-student associations. Table 5 indicates the extent to which Level One strategies were employed and not employed in the select rural school districts in NYS. The number and percentages of responses for each strategy employed or not

employed by districts were included in the data set. The results from this category indicated that strategies were employed with a range of 89.8% (n = 97) to 99.1% (n = 107). The lowest employed strategy in this level was Parent-Teacher-Student Association. The highest employed strategies in this level were After School Opportunities, such as sports, and Parent-Teacher conferences.

Table 5

*Level One Basic Core Strategies – Responses and Percentages of Strategies Employed and Not Employed*

Strategy	Employed		Not employed	
	n	%	n	%
Peer Mentoring	98	90.7	10	9.3
Adult Mentoring	98	90.7	10	9.3
Peer Academic Tutoring	104	96.3	4	3.7
Adult Academic Tutoring	99	91.7	9	8.3
Service Learning	99	91.7	9	8.3
After School Opportunities (clubs)	106	98.1	2	1.9
After School Opportunities (sports)	107	99.1	1	0.9
Parent-Teacher Conferences	107	99.1	1	0.9
Parent-Teacher-Student Association	97	89.8	11	10.2
Average		94.13		5.87

**Level Two Instructional Strategies.** This level consisted of 13 intervention strategies directly related to instructional practices that may have been utilized by the select rural schools in NYS. These practices are grouped together according to the instructional practices and programs towards improving student achievement. Level Two Strategies employed by districts ranged from 85.2% (n = 92) to a 99.1% (n = 107). The strategy employed with the lowest average was identified as Student Advisory Period. The strategy employed with the highest

percentage is Technology Is Used For Instruction (including technology such as a Smartboard, Promethean Board, or Interactive Projector, etc.). Table 6 indicates the total number of responses for each strategy and the percentages (and average percentages) for whether the 13 strategies were employed and not employed by these rural school districts.

Table 6

*Level Two Instructional Strategies – Responses and Percentages of Strategies Employed and Not Employed*

Strategy	Employed		Not employed	
	n	%	n	%
Differentiated Instruction	105	97.2	3	2.8
Project Based Learning	102	94.2	6	5.6
Collaborative Learning	106	98.1	2	1.9
Integration of Technology in Instruction	106	98.1	2	1.9
Students are Taught How to Use Technology	105	97.2	3	2.8
Technology is Used for Instruction (Smartboard, Promethean Board, interactive projector, etc.)	107	99.1	1	0.9
High School Freshman Transition Course	84	77.8	24	22.2
High Interest Electives	99	91.7	9	8.3
Character Education Program	98	90.7	10	9.3
Social Skills Development	92	85.2	16	14.8
College and Career Readiness Skills Taught	105	97.2	3	2.8
Student Advisory Period	94	87.0	14	13.0
Response to Intervention Instructional Support Teams	104	96.3	4	3.7
Average		93.06		6.92

**Level Three Alternative Schooling Strategies.** Level Three strategies in the study consisted of 13 intervention strategies. These strategies were clustered together as they related to character development, social skills development, and alternative schooling opportunities provided for high school students, either on or off campus. Level Three strategies included those from career and technical opportunities to those such as students attending college while still enrolled in high school. The extent to which these strategies were employed ranged from 84.3% (n = 91) to 99.1% (n = 107). Career and Technical Education Program (off campus) was the strategy employed with the highest percentage. Credit Recovery was the strategy employed the least by school districts included the study. Table 7 indicates the number of responses for each strategy and the percentages for which the 13 strategies were employed and not employed by the participating rural school districts.

**Level Four Building -Wide Strategies.** Level Four included 16 intervention strategies. These strategies were grouped together as they relate to leadership capacities and building level interventions encompassing a range of services and opportunities available for students. This level was considered to be the most comprehensive, as these interventions required multi-faceted district resources of both time and money. This domain included planning and collaboration with and among the staff and building leadership team to address student needs at multiple levels. The strategies employed at this level ranged from 88% (n = 95) to 100% (n = 108). There were five strategies identified by districts that were employed by *all* districts with graduation rates greater than or equal to 80% and less than 80%. These identified strategies included Guidance Counseling Services, Recognition of Academic Achievement, Academic Planning and Counseling, Career Planning and Counseling, and College Planning and Counseling. The strategy employed with the lowest percentage at this level was Agency

Partnerships for Family Support. Table 8 identifies the number of responses for each strategy and the frequencies of the specific strategies employed and not employed by select rural school districts in NYS.

Table 7

*Level Three Alternative Schooling Strategies – Responses and Percentages of Strategies Employed and Not Employed*

Strategy	Employed		Not employed	
	n	%	n	%
Career and Technical Education Programs (in house)	102	94.4	6	5.6
Career and Technical Education Programs (off campus)	107	99.1	1	0.9
Smart Scholars Program (dual enrollment in college and high school)	105	97.2	3	2.8
Board of Cooperative Educational Services New Visions Program	106	98.1	2	1.9
International Baccalaureate Program	103	95.4	5	4.6
Advance Placement Courses	104	96.3	4	3.7
University in the High School Courses	104	96.3	4	3.7
Credit Recovery Program	91	84.3	17	15.7
Summer School	105	97.2	3	2.8
Project Lead the Way	102	94.4	6	5.6
Distance Learning Courses	96	88.9	12	11.1
Alternative Education (off campus)	104	96.3	4	3.7
Early College Admission Program	106	98.1	2	1.9
Average		95.08		4.92

Table 8

*Level Four Building Wide Strategies – Responses and Percentages of Strategies Employed and Not Employed*

Strategy	Employed		Not employed	
	n	%	n	%
Establish a Vision or Mission for Learning	102	94.4	6	5.6
Establish Goals for Learning	106	98.1	2	1.9
Ongoing Examination and Analysis of Pertinent Student Data (discipline, attendance, and performance on assessments)	103	95.4	5	4.6
Guidance Counseling Services	108	100.0		
Social Worker Counseling	98	90.7	10	9.3
Job Shadowing Opportunities	97	89.8	11	10.2
Attendance Policy	102	94.4	6	5.6
Recognition of Academic Achievement	108	100.0		
College Fair	108	100.0		
Career Fair	97	89.8	11	10.2
Pupil or Child Study Team Services	102	94.4	6	5.6
Academic Planning and Counseling	108	100.0		
College Planning and Counseling	108	100.0		
Career Planning and Counseling	107	99.1	1	0.9
Instructional Team Planning	101	93.5	7	6.5
Agency Partnerships for Family Support	95	88.0	13	12.0
Average		95.48		4.83

**Summary of research question one.** There were 108 valid responses analyzed as part of this research study. The research study considered five demographic features, graduation rates, and dropout intervention strategies in rural school districts that belong to the RSA of NYS.

The five demographic features examined in the study included building enrollment, administrative experience, type of schedule used by these districts, and building configurations. These demographic features were detailed in Table 4. The demographic features of these districts varied in size, building configuration, type of rural school, type of schedule used by these schools, and number of years of experience of the building administrators.

A little over half of the schools in the study either met or exceeded the 80% state established graduation rate for the 2007 NYS Cohort. Graduation rates were reported by 83 schools. These rates were examined and divided into two categories for subsequent data analysis purposes. The first category was graduation rates greater than or equal to 80%, and the second category was graduation rates of those less than 80%. Fifty-one percent (n = 43) of the schools reported graduation rates greater or equal to 80%, and 48.2% (n = 40) of the schools that reported graduation rates less than 80%.

The 51 strategies employed by school districts ranged from 84.3% (n = 91) to 100% (n = 108). Level One Basic Core Strategies were employed by districts with an average percentage of 94.13%. There were very few districts that did not employ these specific strategies for students. The four strategies districts employed with the highest percentages included Peer Academic Tutoring (96.3%), After School Clubs (98.1%) and Sports (99.1%), and Parent-Teacher Conferences (99.1%). The strategy that was employed with the lowest percentage of 89.8% (n = 97) at Level One was Parent-Teacher-Student Association.

Level Two Instructional Strategies employed by districts resulted in an average percentage of 93.3%. The strategies at this level ranged from 87% (n = 94) to 99.1% (n = 107). Technology is Used For Instruction was the intervention strategy employed with the highest

percentage of 99.1% (n = 107). The strategy employed with the lowest percentage at this level was High School Freshman Transition Course, 77.7% (n = 84).

Level Three Alternative Schooling Strategies employed by districts resulted in an average percentage of 95.08%. The percentages for employment of these strategies ranged from 84.3% (n = 91) to 99.1% (n = 107). The strategy with the highest percentage included Career and Technical Education Programs Off Campus, 99.1% (n = 107). The strategy at this level with the lowest percentage employed was Credit Recovery, 84.3% (n = 91).

Level Four Building -Wide Strategies ranged from 88% (n = 95) to 100% (n = 108). At this level, there were five strategies all districts employed 100% (n = 108). These included Guidance Counseling Services, Recognition of Academic Achievement, College Fair, Academic Planning and Counseling, and College Planning and Counseling. The strategy employed with the lowest percentage at this level was Agency Partnerships for Family Support, 88% (n = 95).

In summary, the number of responses in the survey and the percentages of responses resulting from the survey indicated select rural schools in NYS who belong to the RSA of NYS employed a much higher percentage (i.e. 94.4%), of the 51 dropout intervention strategies than those strategies not employed (i.e. 5.6%) by these districts.

### **Research Question Two Results: Is there a relationship between dropout intervention strategies and graduation rates?**

Question two was investigated by conducting Pearson's Chi Square Test of Association. Graduation rates obtained in this study were reported by districts in the study based on the 2007 cohort as identified by NYSED (P12 IRS, 2012c). Eighty-three responses of graduation rates were reported from districts and then paired with each of the 51 intervention strategies to

determine if there was any relationship between graduation rates and the intervention strategies that were either employed or not employed by the districts.

First, graduation rates of these districts were examined. Then graduation rates of these districts were delineated into two categories for data analysis purposes: those schools with graduation rates of greater or equal to 80% and those schools with graduation rates of less than 80%. This delineation of graduation rates resulted in 52% ( $n = 43$ ) of the graduation rates greater than or equal to 80% and 48% ( $n = 40$ ) with graduation rates of less than 80%.

These graduation rates were then paired with each intervention strategy at the defined four levels of intervention in the study. These strategies included Level One Basic Core Strategies, Level Two Instructional Strategies; Level Three Alternative Schooling Strategies; and Level Four Building-Wide Strategies. These strategies were examined according to those that were employed or those that were not employed by the select rural school districts in the study.

The obtained statistical significance derived from the study was provided in the data output. The decision was then made to determine whether or not the results of the relationships of these variables were significant. Both the number of responses and percentages were analyzed in this research question. The significance value was provided and included both the number of responses and percentages for strategies paired with graduation rates of those greater than or equal to 80% or those less than 80% in this research question. The null hypothesis for this question was utilized. If there was a relationship between the two variables, the null hypothesis was rejected ( $p < 0.05$ ). If there was no relationship, then the null hypothesis was retained ( $p > 0.05$ ). Significance in this study included p-values  $\leq 0.05$ . P-values from 0.05 to 0.067 were considered *borderline significant*.

The data analyses of this research question will be presented in detail by each strategy level. These analyses include the number of responses (n) and the percentages of the responses whose graduation rates were greater than or equal to 80%, along with those less than 80%. These analyses also include the statistical significance of the responses for each strategy at Level One to Level Four of those strategies employed or not employed.

**Level One Basic Core Strategies.** At Level One, nine basic core strategies were paired with the 83 valid responses of graduation rates greater than or equal to 80% or less than 80% of strategies employed or not employed by the school districts participating in the study.

At Level One, these strategies, with graduation rates of greater than or equal to 80% included responses employed or not employed that ranged from 45.8% (n = 38) to 51.8% (n = 43). Those strategies with graduation rates of less than 80% indicated percentages of those strategies employed that ranged from 43.4% (n = 36) to 48.2% (n = 40).

Basic Core Strategies not employed at this level when paired with graduation rates of those greater than or equal to 80% and those less than 80% indicated responses of less than 5%.

The results of the Chi Square Test of Association for Basic Core strategies indicated statistical outcomes that ranged from 0.297 to 0.959. The data for Level One: Basic Core Strategies are illustrated in detail in Table 9.

In summary, Level One: Basic Core Strategies indicate the null hypotheses to be retained at this level, as no significance was determined. The 83 schools that reported graduation rates in the study were employing Level One intervention strategies with high percentages with graduation rates greater than or equal to 80%, as well as those districts with graduation rates less than 80%. Almost all of these strategies were being used by almost all school districts at this level.

Table 9

*Level One Basic Core Strategies – Chi Square Results for Strategies Employed and Not Employed*

Strategy & Graduation rates	Employed		Not employed		$X^2$	$p$
	n	%	n	%		
Peer Mentoring					0.087	0.768
$\geq 80\%$	39	47.0	4	4.8		
$< 80\%$	37	44.6	3	3.6		
Adult Mentoring					0.012	0.914
$\geq 80\%$	39	47.0	4	4.8		
$< 80\%$	36	43.4	4	4.8		
Peer Academic Tutoring					0.005	0.941
$\geq 80\%$	41	49.4	2	2.4		
$< 80\%$	38	45.8	2	2.4		
Adult Academic Tutoring					0.572	0.449
$\geq 80\%$	39	47.0	4	4.8		
$< 80\%$	38	45.8	2	2.4		
Service Learning					0.143	0.705
$\geq 80\%$	40	48.2	3	3.6		
$< 80\%$	38	45.8	2	2.4		
After School Opportunities (clubs)					0.003	0.959
$\geq 80\%$	42	50.6	1	1.2		
$< 80\%$	39	47.0	1	1.2		
After School Opportunities (sports)					0.088	0.297
$\geq 80\%$	43	51.8	0	0.0		
$< 80\%$	39	47.0	1	1.2		
Parent-Teacher Conferences					0.942	0.332
$\geq 80\%$	42	50.6	1	1.2		
$< 80\%$	40	48.2	0	0.0		
Parent-Teacher-Student Association					0.057	0.812
$\geq 80\%$	38	45.8	5	6.0		
$< 80\%$	36	43.4	4	4.8		

**Level Two Instructional Strategies.** Level two included 13 instructional intervention strategies, which were examined when paired with the 83 valid responses of graduation rates that were greater than or equal to 80% and less than 80% of strategies employed or not employed by the participating districts. Results of these strategies employed with graduation rates greater than or equal to 80% indicated responses that ranged from 34.4% (n = 29) to 51.8% (n = 43). Results of strategies employed with graduation rates of less than 80% indicated responses that ranged from 39.8% (n = 33) to 48.2% (n = 40). When graduation rates were paired with the intervention strategies employed with graduation rates of greater than or equal to 80% or less than 80% the number of responses and percentages revealed similar results.

Instructional strategies at Level Two not used at this level with schools that had graduation rates of greater than or equal to 80% ranged from 0% (n = 0) to 16.9% (n = 14). Graduation rates of less than 80% had percentages of strategies that were not used that ranged 0% (n = 0) to 8.4% (n = 7).

One variable at Level Two, Technology Is Used for Instruction, is defined as a constant; meaning this strategy was employed by all districts (100%) in this study with graduation rates greater than or equal to 80% as well as graduation rates less than 80%.

The results of the Chi Square Test of Association at Level Two indicated output values that ranged from 0.089 to 0.959. The null hypothesis, therefore, at Level Two was retained, and therefore the data were determined not to be significant at this level.

Level Two revealed differences in the utilization of strategies that differed from Level One. There were several identified strategies at Level One that were not employed with graduation rates (greater than or equal to 80%) that are above 5%. At Level Two, there are several strategies that are not employed that are above 5%. Strategies at Level Two not

employed ranged from 6% ( $n = 5$ ) to 16.9% ( $n = 14$ ). These strategies included High School Freshman Transition Course, High Interest Electives, Character Education Program, Social Skills Development, and Student Advisory Period. Table 10 contains the results of this analysis in detail.

**Level Three Alternative School Opportunities Strategies.** There are 13 intervention strategies examined at this level. These strategies were comprised of Alternative Schooling Opportunities held on or off campus. These strategies were paired with the 83 responses and percentages of graduation rates greater than or equal to 80% or less than 80%.

Results of these strategies employed with schools of graduation rates greater than or equal to 80% indicated percentages of the strategies used that ranged from 39.8% ( $n = 33$ ) to 51.8% ( $n = 43$ ). Results of strategies employed with graduation rates of less than 80% indicated percentages of strategies not used that ranged from 43.4% ( $n = 36$ ) to 48.2% ( $n = 40$ ).

Alternative School Strategies not employed at Level Three with reported graduation rates of greater than or equal to 80% range ranged from 0% ( $n = 0$ ) to 12% ( $n = 10$ ). The strategies not employed with graduation rates of less than 80% resulted in percentages of schools not using these strategies that ranged from 0% ( $n = 0$ ) to 4.8% ( $n = 4$ ).

The results of the Chi Square Test of Association at Level Three indicated significance values that ranged from 0.018 to 0.959. The null hypothesis, at this level, was retained for 11 of 13 strategies. There was one intervention strategy at Level Three where the null hypothesis was rejected and determined to be statistically significant in the data analysis with a value of  $p < 0.05$ . This significant relationship was between Distance Learning Courses and graduation rates where  $p = 0.018$ .

Table 10

*Level Two Instructional Strategies – Chi Square Results for Strategies Employed and Not Employed*

Strategy & Graduation rates	Employed		Not employed		$X^2$	$p$
	n	%	n	%		
Differentiated Instruction					1.906	0.167
≥ 80%	41	49.4	2	2.4		
< 80%	40	40.0	0	0.0		
Project Based Learning					2.895	0.089
≥ 80%	40	48.2	3	3.6		
< 80%	40	48.2	0	0.0		
Collaborative Learning					0.942	0.332
≥ 80%	42	50.6	1	1.2		
< 80%	40	48.2	0	0.0		
Integration of Technology					1.088	0.297
≥ 80%	43	51.8	0	0.0		
< 80%	39	47.0	1	1.2		
Students Taught Technology					0.003	0.959
≥ 80%	42	50.6	1	1.2		
< 80%	39	47.0	1	1.2		
Technology is used for Instruction						Constant
≥ 80%	43	51.8	0	0.0		
< 80%	40	48.2	0	0.0		
High School Freshman Transition Course					2.486	0.115
≥ 80%	29	34.4	14	16.9		
< 80%	33	39.8	7	8.4		
High Interest Electives					1.179	0.278
≥ 80%	38	45.8	5	6.0		
< 80%	38	45.8	2	2.4		
Character Education Program					0.405	0.524
≥ 80%	38	45.8	5	6.0		
< 80%	37	44.6	3	3.6		
Social Skills Development					0.771	0.399
≥ 80%	36	43.4	7	8.4		
< 80%	36	43.4	4	4.8		
College & Career Readiness					0.425	0.514
≥ 80%	42	50.6	1	1.2		
< 80%	38	45.8	2	2.4		
Student Advisory Period					0.711	0.399
≥ 80%	36	43.4	7	8.4		
< 80%	36	43.4	4	4.8		
Response to Intervention					2.895	0.089
≥ 80%	40	48.2	3	3.6		
< 80%	40	48.2	0	0.0		

There was one intervention strategy that resulted in a value of  $p= 0.067$ ; the value of 0.067 in this study is considered to exhibit borderline significance. This strategy included Alternative Education (off Campus). Therefore the null hypothesis for this strategy was rejected and a relationship between graduation rates and Alternative Education (Off Campus) exists. The detailed analysis of this data is located in Table 11.

**Level Four Building-Wide Strategies.** At this level, 16 intervention strategies related to building-wide interventions were paired with the 83 school district responses of graduation rates that were greater than or equal to 80% and those less than 80% of those strategies employed or not employed by the school districts participating in the study.

Results of these strategies employed with graduation rates of greater than or equal to 80% indicated responses that ranged from 42.2% ( $n = 35$ ) to 51.8% ( $n = 43$ ). Results of strategies employed with graduation rates of less than 80% indicated percentages that ranged from 41% ( $n = 34$ ) to 48.2% ( $n = 40$ ). Strategies school districts did not use at this level with graduation rates of greater than or equal to 80% ranged from 0% ( $n = 0$ ) to 9.6% ( $n = 8$ ). Strategies not employed by districts with a graduation rate of less than 80% ranged from 0% ( $n = 0$ ) to 7.2% ( $n = 6$ ).

The Chi Square association analysis at Level Four indicated five intervention strategies that remained a constant. This result was attributed to all school districts in the study employing these intervention strategies with reported graduation rates greater than or equal to 80 % and those less than 80%. These intervention strategies included Guidance Counseling Services, Recognition of Academic Achievement, College Fair, Academic Planning and Counseling, and College Planning and Counseling.

Table 11

*Level Three Alternative Schooling Strategies – Chi Square Results for Strategies Employed and Not Employed*

Strategy & Graduation rates	Employed		Not employed		$X^2$	$p$
	n	%	n	%		
Career & Technology Education (In House)					0.008	0.927
≥ 80%	40	48.2	3	3.6		
< 80%	37	44.6	3	3.6		
Career & Technology Education (Off Campus)					0.942	0.332
≥ 80%	42	50.6	1	1.2		
< 80%	40	48.2	0	0		
Smart Scholars					0.003	0.959
≥ 80%	42	50.6	1	1.2		
< 80%	39	47	1	1.2		
BOCES New Visions					2.203	0.138
≥ 80%	43	51.8	0	0		
< 80%	38	45.8	2	2.4		
International Baccalaureate					0.275	0.600
≥ 80%	41	49.4	2	2.4		
< 80%	39	47	1	1.2		
Advanced Placement					2.895	0.089
≥ 80%	40	48.2	3	3.6		
< 80%	40	48.2	0	0		
University in High School courses					1.906	0.167
≥ 80%	41	49.4	2	2.4		
< 80%	40	48.2	0	0		
Credit Recovery					2.597	0.107
≥ 80%	33	39.8	10	12		
< 80%	36	43.4	4	4.8		
Summer School					1.088	0.297
≥ 80%	43	51.8	0	0		
< 80%	39	47	1	1.2		
Project Lead the Way					0.904	0.341
≥ 80%	40	48.2	3	3.6		
< 80%	39	47	1	1.2		
Distance Learning Courses					5.559	0.018
≥ 80%	35	42.2	8	9.6		
< 80%	39	47	1	1.2		
Alternative Education (Off Campus)					3.346	0.067
≥ 80%	43	51.8	0	0		
< 80%	37	44.6	3	3.6		
Early College Admission					0.003	0.959
≥ 80%	42	50.6	1	1.2		
< 80%	39	47	1	1.2		

The results of the Chi Square Test of Association at Level Four indicated significance values that ranged from 0.061 to 0.941. At Level Four, the null hypothesis was retained for 14 intervention strategies. Two Building-Wide Strategies resulted in a value of  $p = 0.061$ ; the value of  $p = 0.061$  in this study is considered to exhibit borderline significance. These strategies included College Fair and Instructional Team Planning. Therefore the null hypothesis for these two strategies was rejected, and these two variables were determined to indicate a relationship between reported graduation rates and these two intervention strategies exists. The detailed analyses of this data are presented in Table 12.

**Summary of research question two.** Pearson's Chi Square Test of Association was used to determine if there was a relationship between reported graduation rates from school districts and the 51 intervention strategies identified in this study. These graduation rates were divided into two categories of those greater than or equal to 80% and those graduation rates of less than 80%. These 83 graduation rates were reported from school districts that participated in the survey. The significance value was provided in the data output. Both the number of responses and percentages were analyzed for this research question. The variables were then determined to be either independent ( $p > 0.05$  – not significant) or dependent ( $p < 0.05$  – significant) based on the null hypothesis.

The number of responses and percentages of the strategies school districts used were obtained and examined at each of the four strategy levels. The percentage of these strategies utilized in districts, when associated with graduation rates greater than or equal to 80%, ranged from 34.4% to 51.8%. The percentage of these strategies utilized in districts, when associated with graduation rates less than 80%, ranged from 39.8% to 48.2%.

Table 12

*Level Four Building Wide Strategies – Chi Square Results for Strategies Employed and Not Employed*

Strategy & Graduation rates	Employed		Not employed		$X^2$	$p$
	n	%	n	%		
Vision / Mission					0.143	0.705
≥ 80%	40	48.2	3	3.6		
< 80%	38	45.8	2	2.4		
Goals for Learning					1.906	0.167
≥ 80%	41	49.4	2	2.4		
< 80%	40	48.2	0	0.0		
Data Analysis					0.425	0.514
≥ 80%	42	50.6	1	1.2		
< 80%	38	45.8	2	2.4		
Guidance Counseling						Constant
≥ 80%	43	51.8				
< 80%	40	48.2				
Social Worker Counseling					0.015	0.903
≥ 80%	38	45.8	5	6.0		
< 80%	35	42.2	5	6.0		
Job Shadowing					0.635	0.426
≥ 80%	39	47.0	4	4.8		
< 80%	34	41.0	6	7.2		
Attendance Policy					0.005	0.941
≥ 80%	41	49.4	2	2.4		
< 80%	38	45.8	2	2.4		
Recognition of Academic Achievement						Constant
≥ 80%	43	51.8				
< 80%	40	48.2				
College Fair						Constant
≥ 80%	43	51.8				
< 80%	40	48.2				
Career Fair					3.520	0.061
≥ 80%	37	44.6	6	7.2		
< 80%	39	47.0	1	1.2		
Pupil Study Team / Child Study Team					0.905	0.341
≥ 80%	40	48.2	3	3.6		
< 80%	39	47.0	1	1.2		
Academic Planning Counseling						Constant
≥ 80%	43	51.8				
< 80%	40	48.2				
College Planning Counseling						Constant
≥ 80%	43	51.8				
< 80%	40	48.2				
Career Planning Counseling					0.942	0.332
≥ 80%	42	50.6	1	1.2		
< 80%	40	48.2	0	0.0	3.52	0.061
Instructional Team Planning						
≥ 80%	37	44.6	6	7.2		
< 80%	39	47.0	1	1.2		
Agency Partnerships for Family Support					2.223	0.136
≥ 80%	35	42.2	8	9.6		
< 80%	37	44.6	3	3.6		

Those strategies not employed in districts that have graduation rates greater than or equal to 80% ranged from 0% to 16.9%, and those strategies not employed in districts of graduation rates of less than 80% ranged from 0% - 8.4%.

In this study almost all districts with graduation rates greater than or equal to 80% or less than 80% employed intervention strategies at Level One, Level Two, Level Three, and Level Four.

This study revealed six intervention strategies that were employed by all districts with graduation rates greater than or equal to 80% and those with graduation rates of less than 80%. This output is defined as a constant. These strategies included: Technology is used for instruction (Level Two Instructional Strategies); and Guidance Counseling Services, Recognition of Academic Achievement, Career Fair, Academic Planning, and College Planning (Level Four Building-Wide Strategies).

There were other significant findings in this study. Distance Learning Courses was determined to be significant at Level Three,  $p = 0.018$ . Two additional strategies were determined to exhibit borderline significance. The significance of these strategies, College Fair and Instructional Team Planning, resulted in  $p = 0.061$ .

The investigation of the research conducted in question two, which sought to determine a relationship between graduation rates and intervention strategies concluded there was a significant relationship between graduation rates and four intervention strategies: Distance Learning, Career Fair, Alternative Education (off Campus), and Instructional Team Planning.

**Research Question Three Results: Is there any association between graduation rates and the choice of specific intervention strategies and the following demographic variables: size of school, experience of the administrator, type of schedule, building configuration, and type of rural school district?**

The Pearson Chi Square Test of Association was used to analyze data for this question. Graduation rates of the districts in the study and each of the 51 intervention strategies (described in chapter 3) were examined against each demographic feature to determine if any association existed between graduation rates, intervention strategies, and demographic features when the intervention strategies were employed or not employed by participating districts in the study by employing the null hypothesis.

Graduation rates of the participating districts were delineated into two categories: those schools with graduation rates of greater or equal to 80% and those schools with graduations rates of less than 80%. This delineation of graduation rates resulted in 52% (n = 43) of the graduation rates greater than or equal to 80% and 48% (n = 40) of schools with graduation rates of less than 80%.

An example of one set of the variables used for analyses is as follows: graduation rates, intervention strategy, and demographic feature. This type of analyses was conducted on each of the 51 intervention strategies and each of the five demographic features to include: building enrollment, building configuration, type of rural school, type of schedule, and administrative experience.

The obtained Asymptotic (statistical) significance derived from the study was provided in the data output from SPSS version 21. The Chi Square values and significance of the five demographic considerations and intervention strategies paired with graduation rates of those

greater than or equal to 80% or those less than 80% were analyzed in this research question. The variables were then determined to be either independent ( $p > 0.05$  – not significant) or dependent ( $p < 0.05$  – significant) based on the null hypothesis. This determination of significance was based on the results of the null hypothesis that held there was no relationship between graduation rates, the 51 intervention strategies, and demographic considerations. If there was a relationship between the three variables, the null hypotheses of  $p > 0.05$  would be rejected, and the value of  $p < 0.05$  would indicate a relationship between graduation rates, intervention strategies, and demographic considerations; therefore, the null hypothesis would be rejected and the data would be considered significant. Both the number of responses and percentages were analyzed in this research question. Significance included p-values  $\leq 0.05$ . P-values from 0.05 to 0.067 were considered borderline significant. The detailed results of this analysis, including graduation rates greater than or equal to 80%, and those less than 80% are located in Appendix F.

**Research question 3a: Building enrollment. Is there any association between graduation rates, intervention strategies, and building enrollment?** For the purposes of the analyses in this research question building enrollment was delineated into three categories: low, average, and high. Enrollment was considered low with numbers of students ranging from 0 – 399. Average enrollment was defined as numbers of students ranging from 400 – 500. High enrollment ranged from 501 – 1700 students.

When analyzing this data set of building enrollment paired with graduation rates and intervention strategies, the output values for Level One, nine Basic Core strategies ranged from 0.296 to 0.958. There was no statistical significance revealed when Level One strategies and graduation rates in buildings when low, average, or high enrollment were analyzed; therefore the null hypothesis was retained (see Appendix G).

Level Two Instructional Strategies (13 strategies) analyses conducted resulted in a significance that ranged from 0.089 to 0.958 (see Appendix G). At this level, when analyzing the association between district graduation rates, Technology Is Used for Instruction was a constant; meaning that this strategy was employed by all districts with graduation rates of greater than or equal to 80% or rates less than 80% in buildings with low, average, and high enrollment.

The Chi Square analysis of Level Two intervention strategies indicates no significance; therefore the null hypothesis was retained. There was no association between graduation rates, Level Two intervention strategies, and building enrollment.

Level Three Alternative Schooling Strategies (13 strategies) related to opportunities for students, on or off campus, with building enrollment. The data analyses conducted on these strategies indicated statistical outputs that ranged from 0.018 to 0.958 (see Appendix G). At this level, one strategy demonstrated significance of  $p = 0.018$ , Distance Learning Courses. There were also three other indicators of borderline significance. These strategies included Alternative Education (Off Campus) with low building enrollment ( $p = 0.034$ ), Credit Recovery with buildings of average enrollment ( $p = 0.034$ ), and Distance Learning Courses in buildings with average enrollment ( $p = 0.034$ ).

Level Three strategies that indicated significance of  $p = 0.018$  were Distance Learning Courses (when enrollment is not differentiated into the three categories), Alternative Education (Off Campus) with low building enrollment ( $p = 0.034$ ), Credit Recovery with buildings of average enrollment ( $p = 0.034$ ), and Distance Learning Courses in buildings with average enrollment ( $p = 0.034$ ). These results indicate the null hypothesis was rejected, and there was an association between graduation rates, building enrollment, and the identified intervention

strategies of Distance Learning Courses, Credit Recovery, and Alternative Education (Off Campus).

Level Four Building-Wide Strategies, 16 intervention strategies were analyzed with district graduation rates greater than or equal to 80% and graduation rates less than 80%, and building enrollment. The levels of analyses on these Building - Wide Strategies ranged from 0.061 to 0.939 (see Appendix G). There were two strategies at this level that were identified as borderline significant, Career Fair and Instructional Team Planning, with a value of  $p = 0.061$  (when enrollment was not divided into the three categories).

These results indicated the null hypothesis was rejected and the variables were determined to be dependent, indicating an association between graduation rates, building enrollment, and the three identified intervention strategies of Job Shadowing, Career Fair, and Instructional Team Planning, exist at Level Four.

**Research question 3b: Administrative experience. Is there any association between graduation rates, intervention strategies, and administrative experience?** Administrative experience of the participants in the study ranged from one year of experience to 28 years of experience. An administrator's experience was divided into three categories. These categories included 1 – 5 years of experience defined as low, 6 – 14 years of experience defined as average, and 15 – 28 years of experience defined as high.

Analyses of the nine Level One Basic Core strategies, for the purposes of determining whether an association existed between reported district graduation rates, intervention strategies, and administrative experience, output values ranged from 0.051 to 0.959 (see Appendix G). The null hypothesis, at Level One, is retained as there was no statistical significance determined at this level.

Level Two Instructional Strategies (13) indicated output values that ranged from 0.051 to 0.959 (see Appendix G). There were two strategies determined to have significance at this level when administrative experience was considered with average years of experience; these were Project Based Learning ( $p = 0.052$ ) and High School Freshman Transition Course ( $p = 0.051$ ). There was one strategy analyzed as a constant at this level. Technology is Used for Instruction was used by all districts with graduation rates greater than or equal to 80% or those less than 80% when strategies were employed.

The null hypothesis at this level is not rejected except for two strategies determined to have significance at this level when average administrative experience was considered; these were Project Based Learning ( $p = 0.052$ ) and High School Freshman Transition Course ( $p = 0.051$ ).

Analyzing the data set of the 13 Level Three Alternative Schooling Strategies, in conjunction with district reported graduation rates and administrative experience, resulted in a statistical values that ranged from 0.018 to 0.959 (see Appendix G). There was a statistical significance of  $p = 0.018$  when Distance Learning Courses was not separated among the three categories of experience. There was also a significance level of  $p = 0.033$  that resulted with low administrative experience. Therefore, the null hypothesis at this level was not rejected, with the exception of Distance Learning Courses. The null hypothesis was rejected with Distance Learning Courses, as there was an association determined between graduation rates, Distance Learning Courses, and administrative experience.

Data analyzed at Level Four Building-Wide Strategies (16) in conjunction with district reported graduation rates and administrative experience resulted in statistical values that ranged from 0.023 to 0.941 (see Appendix G). There were several strategies that indicated significance

at Level Four. Two intervention strategies indicated significance with average years of administrative experience: Career Fair ( $p = 0.052$ ) and Instructional Team Planning ( $p = 0.023$ ). Career Fair also demonstrated significance with a high level of administrative experience ( $p = 0.061$ ). Two strategies, Career Fair and Instructional Team Planning, were determined to be borderline significant,  $p = 0.061$ , when administrative experience was not divided into the three categories (low, average, and high).

Strategies that indicated statistical significance with average administrative experience were Career Fair ( $p = 0.052$ ) and Instructional Team Planning ( $p = .023$ ). When administrative experience was not separated into the three categories, Career Fair ( $p = 0.061$ ) and Instructional Team Planning ( $p = 0.061$ ) indicated borderline significance. The null hypothesis was rejected, and an association between district reported graduation rates, the intervention strategies of Career Fair and Instructional Team Planning, and administrative experience was determined to exist.

There were five strategies at Level Four that indicated a statistical outcome defined as a constant. This means that all of these intervention strategies were employed by districts with graduation rates greater than or equal to 80% and those with less than 80%. These intervention strategies included: Guidance Counseling Services, College Fair, Recognition of Academic Achievement, Academic Planning and Counseling, and College Planning and Counseling.

**Research question 3c: Type of schedule. Is there any association between graduation rates, intervention strategies, and type of schedule?** The different types of schedules used in the schools in the study were divided into three categories: a block schedule (an approximate 80 minute period), a traditional schedule (an approximate 40 minute period),

and a mixed schedule (block & traditional). There were seven schools in the study that indicated they used a block schedule, five used a mixed schedule, and 96 used a traditional schedule.

When analyzing the nine intervention strategies at Level One Basic Core Strategies for the purposes of determining whether or not there existed an association between graduation rates, intervention strategies, and type of schedule, the statistical output values ranged from 0.297 to 0.959 (see Appendix G). There were no significant statistical values determined at this level; therefore, the null hypothesis was retained.

Level Two Instructional Strategies (13) analyzed indicated statistical output values that ranged from 0.089 to 0.959 (see Appendix G). There were no strategies determined to be of statistical significance at this level. Therefore the null hypothesis at this level was retained. There was one strategy, Technology is Used for Instruction, that was considered a constant at this level, indicating this strategy was employed by all districts with graduation rates greater than or equal to 80% and those less than 80%.

Analyses of Level Three Alternative Schooling Strategies data of graduation rates, type of schedule, and 13 intervention strategies obtained results that ranged from 0.016 to 0.959 (see Appendix G). The strategy of Distance Learning Courses indicated a significance level of  $p = 0.016$  when associated with a traditional schedule, and when it was not divided into the three types of school schedules, a significance of  $p = 0.018$  resulted. Alternative Education (off campus) ( $p = 0.067$ ) was also considered borderline significant when no differentiation of the type of schedule was considered.

The null hypothesis at this level was not rejected with the exception of the following: Distance Learning Courses when a traditional schedule was utilized ( $p = 0.016$ ), when no separation of the three categories was considered For Distance Learning Courses ( $p = 0.018$ ), and

Alternative Education (off campus) ( $p = 0.067$ ). For two strategies, the null hypothesis was rejected; Distance Learning Courses and Alternative Education Courses (off campus). The analyses, therefore, indicated an association existed between the district reported graduation rates, intervention strategies of Distance Learning Courses and Alternative Education Courses (off campus), and a traditional type of high school schedule.

Data analyzed for the 16 Level Four Building-Wide Strategies, in conjunction with graduation rates and type of schedule, resulted in statistical output values that ranged from 0.056 to 0.941 (see Appendix G). There were two strategies at this level that indicated a significance level. The strategies of Career Fair and Instructional Team Planning had a significance level of  $p = 0.056$  when associated with a traditional schedule. Both of these same strategies indicated borderline significance of  $p = 0.061$  when no division was made with regard to the type of schedule. The null hypothesis was not rejected at this level, with the exception of the two strategies listed above whereby the null hypothesis was rejected, indicating an association existed between district reported graduation rates, the intervention strategies of Career Fair and Instructional Team Planning and traditional high school schedule.

There were five strategies at this level that indicated a statistical outcome defined as a constant and that were employed by all districts with graduation rates greater than or equal to 80% and those less than 80%. These included Guidance Counseling Services, College Fair, Recognition of Academic Achievement, Academic Planning and Counseling, and College Planning and Counseling.

**Research question 3d: Building configuration. Is there any association between graduation rates, intervention strategies, and building configuration?** Building configuration for the purposes of these data analyses was delineated into five categories. These

categories included pre-kindergarten through grade 12 (P-12), 25 schools; kindergarten through grade 12 (K-12), 12 schools; grades 9 through 12 (9-12), 34 schools; grades 6 through 12 (jr./sr. high school), 31 schools; and middle schools, 6 schools.

When analyzing the data set for the nine Level One, Basic Core Strategies significance ranged from 0.047 to 0.959 (see Appendix G). There was one strategy that was considered significant with a K-12 building configuration: Adult Mentoring, with a significance of  $p = 0.047$ . Peer mentoring was considered borderline significant with  $p = 0.060$  in a 9-12 building configuration.

The null hypotheses were not rejected at Level One with the exception of the two strategies whereby the null hypothesis was rejected, indicating an association of the variables of Adult Mentoring ( $p = 0.047$ ) in a K-12 building and Peer Mentoring ( $p = 0.060$ ) in a 9-12 building.

Level Two Instructional Strategies (13) analyzed indicated significance that ranged from 0.089 to 0.959 (see Appendix G). There were no strategies determined to be of significance at this level. Therefore the null hypothesis was retained. There was one strategy at this level, Technology is Used for Instruction, which was employed by all school districts with graduation rates greater than or equal to 80% or less than 80%.

Level Three Alternative Schooling Strategies (13), when paired with graduation rates and type of school schedule, indicated significance that ranged from 0.018 to 0.959 (see Appendix G). There was one strategy that demonstrated significance with a K-12 building configuration. This included Career and Technical Education Courses (In House) with a significance of  $p = 0.047$ . The intervention strategy of Distance Learning Courses at this level indicated a statistical

significance of  $p = 0.018$  when no separation of the types of building configuration were considered.

The null hypothesis for Level Three Strategies was not rejected. There were, however, two strategies, Career and Technical Education (In House) ( $p = 0.047$ ) and Distance Learning Courses ( $p = 0.018$ ), where the null hypothesis was rejected and considered significant.

Data analyzed at Level Four Building-Wide Strategies (16) with graduation rates and building configuration resulted in statistical output values that ranged from 0.060 to 0.941 (see Appendix G). The strategy, Instructional Team Planning, indicated a borderline significance of  $p = 0.060$  in a 9-12 setting. When analyzing reported graduation rates, the strategy of Instructional Team Planning, with no differentiation of building configuration, a borderline significance of  $p = 0.061$  resulted. The null hypothesis for Level Four was not rejected except for the strategy of Instructional Team Planning. The null hypothesis was rejected for Instructional Team Planning where this variable is determined to have an association with a 9-12 building and when no differentiation of building configuration is considered.

Level Four resulted in five intervention strategies defined as a constant. These strategies were employed by all districts with the defined graduation rates in the study. These intervention strategies included Guidance Counseling Services, College Fair, Recognition of Academic Achievement, Academic Planning and Counseling, and College Planning and Counseling.

**Research question 3e: Type of rural school. Is there any association between graduation rates, intervention strategies, and type of rural school?** Schools in this study were categorized as distant (51 schools), fringe (10 schools), or remote (41 schools). Three schools in the study identified themselves as rural.

The statistical values ranged from 0.039 to 0.959 for the nine Level One Basic Core Strategies for the purposes of determining whether or not there existed an association between reported graduation rates, intervention strategies, and type of rural school. The null hypothesis was retained for eight of the strategies for Level One. There was one strategy which demonstrated statistical significance at this level. This included Parent-Teacher-Student Association with a significance of  $p = 0.039$ , for schools defined as remote.

The 13 Level Two Instructional Strategies analyzed ranged from 0.089 to 0.959 (see Appendix G). There were no strategies determined to be statistically significant at this level. This result was similar to the other four demographic features in the study of building size, building configuration, administrative experience, and type of schedule. There was one strategy that was identified as a constant in the other four demographic features that was also identified as a constant in this demographic of type of rural school, Technology is Used for Instruction. This intervention strategy was employed by all districts with graduation rates greater than or equal to 80% and those with less than 80%. The null hypothesis was retained for Level One strategies, indicating there was no statistical significance for the nine intervention strategies.

The values ranged from 0.012 to 0.959 for the thirteen Level Three Alternative Schooling Strategies in conjunction with reported graduation rates and type of rural schools (see Appendix G). There was one strategy that demonstrated significance when defined as a distant rural school: Credit Recovery with a significance of  $p = 0.012$ . The intervention strategy of Distance Learning Courses, graduation rates, and type of rural school and Alternative Education Programs (Off Campus) indicated a significance of  $p = 0.018$  when no differentiation of the type of rural school was considered.

The null hypothesis was not rejected at Level Three for ten intervention strategies. The null hypothesis was rejected for three intervention strategies: Credit Recovery  $p = 0.012$ , Distance Learning Courses  $p = 0.018$ , and Alternative Education Programs (Off Campus)  $p = 0.067$  (borderline significance). An association is determined to exist between reported graduation rates, Distance Learning Courses, Credit Recovery, Alternative Education (off campus) and type of rural school.

Data analyzed for the sixteen Level Four Building-Wide Strategies in conjunction with graduation rates and rural schools, resulted in statistical values that ranged from 0.061 to 0.941 (see Appendix G). The strategies Career Fair and Instructional Team Planning indicated borderline significance of  $p = 0.061$  when there was no differentiation of the type of rural school was considered. The null hypothesis was not rejected, except for Career Fair and Instructional Team Planning. The analyses indicated an association existed between reported graduation rates, Career Fair, Instructional Team Planning, and type of rural school.

Level Four strategies indicated a statistical outcome defined as a constant for five strategies. These five intervention strategies were employed by all districts with graduation rates greater than or equal to 80% and those with graduation rates of less than 80%. These interventions included Guidance Counseling Services, College Fair, Recognition of Academic Achievement, Academic Planning and Counseling, and College Planning and Counseling.

**Summary of research questions 3a-3e.** Question three focused on examining the association of graduation rates, 51 intervention strategies, and five demographic features which included building enrollment, administrative experience, type of high school schedule, building configuration, and type of rural school. The results of this Chi Square test of Association revealed significance or an association in the study amongst reported graduation rates,

intervention strategy, and demographic consideration. The summary of results from question three will be discussed in the following sections according to the five demographic characteristics included in the study. This information is also included in Table 13.

***Building enrollment.*** Building enrollment was divided into three categories: low (0-399), average (400-500), and high (501-1700) enrollment. In the Pearson Chi Square Test of Association, this demographic feature revealed three strategies with significance. These included Alternative Education ( $p = .034$ ) when enrollment was low, Credit Recovery ( $p = .034$ ), and Distance Learning ( $p = .034$ ) when enrollment was defined as average. The strategies of Distance Learning Courses ( $p = .018$ ), Career Fair ( $p = 0.061$ ), and Instructional Team Planning ( $p = 0.061$ ) also exhibited significance when all three categories of building enrollment categories were considered.

***Administrative experience.*** Administrative experience was delineated into three categories for this study. These categories were defined as low (1-5 years of experience), average (6-14 years of experience), and high (15-28 years of experience). The data for Distance Learning revealed a significance associated with low administrative experience ( $p = .033$ ). Project Based Learning ( $p = .052$ ), High School Freshman Transition Course ( $p = .051$ ), Career Fair ( $p = .052$ ), and Instructional Team Planning ( $p = .061$ ) indicated significance with average experience.

Significance in this demographic feature was also exhibited in four strategies when there was no differentiation of the three categories of experience. The four strategies included Distance Learning Courses ( $p = .018$ ), Alternative Education (Off Campus) ( $p = .067$ ), Career Fair ( $p = .061$ ), and Instructional Team Planning ( $p = .061$ ). These analyses indicated that for

Table 13

*Significant Chi Square Results Based on Graduation Rate, Intervention Strategy, and Demographic Feature*

Demographic Feature	Intervention Strategy	$\chi^2$	<i>p</i>
<b>Building Enrollment</b>			
Low	Alternative Education (Off Campus)	4.479	0.034
Average	Credit Recovery	4.485	0.034
	Distance Learning Courses	4.485	0.034
Total	Distance Learning Courses	5.563	0.018
	Career Fair	3.516	0.061
	Instructional Team Planning	3.516	0.061
<b>Administrative Experience</b>			
Low	Distance Learning Courses	4.538	0.033
Average	Project Based Learning	3.762	0.052
	High School Freshman Transition Course	3.814	0.051
	Career Fair	3.782	0.052
	Instructional Team Planning	5.157	0.023
Total	Distance Learning Courses	5.559	0.018
	Alternative Education (Off Campus)	3.346	0.067
	Career Fair	3.520	0.061
	Instructional Team Planning	3.520	0.061
<b>Type of Schedule</b>			
Traditional	Distance Learning Courses	5.779	0.016
	Career Fair	3.654	0.056
	Instructional Team Planning	3.654	0.056
Total	Distance Learning Courses	5.559	0.018
	Alternative Education (Off Campus)	3.300	0.067
	Career Fair	3.520	0.061
	Instructional Team Planning	3.520	0.061
<b>Building Configuration</b>			
K – 12	Adult Mentoring	3.938	0.047
	Career and Technical Education (In House)	3.938	0.047
9 – 12	Peer Mentoring	3.547	0.060
	Instructional Team Planning	3.520	0.061
Total	Distance Learning Courses	5.559	0.018
	Instructional Team Planning	3.520	0.061
<b>Type of Rural School</b>			
Distant	Credit Recovery	6.258	0.012
Remote	Parent-Teacher-Student Association	4.265	0.039
Total	Distance Learning Courses	5.559	0.018
	Alternative Education (Off Campus)	3.346	0.067
	Career Fair	3.520	0.061
	Instructional Team Planning	3.520	0.061

these strategies an association existed between reported graduation rates, the four intervention strategies, and administrative experience.

***Type of schedule.*** The different types of schedules examined in the study included a block schedule, a mixed schedule (block & traditional), and a traditional schedule. The data analyses did not discern any significance when employing a block or mixed schedule. In a traditional schedule, however, there were three strategies that exhibited significance. These included Distance Learning Courses ( $p = .018$ ), Career Fair ( $p = .052$ ), and Instructional Team Planning ( $p = .056$ ).

Significance was also determined for the following strategies when no differentiation of the three types of building schedule was taken into consideration. These included Distance Learning Courses ( $p = .018$ ), Alternative Education (Off Campus) ( $p = .067$ ), Career Fair ( $p = .061$ ), and Instructional Team Planning ( $p = .061$ ). This significance indicated an association existed between reported graduation rates, the four intervention strategies, and types of schedule.

***Building configuration.*** There were five school building configurations examined in this study. These configurations included P-12, K-12, 9-12, jr./sr. high school, and middle school. In the data analysis, there was no association of reported graduation rates and intervention strategies determined in P – 12 schools. Two strategies indicated significance in K-12 schools. These strategies were Adult Mentoring ( $p = .047$ ) and Career and Technical Education Programs (In House) ( $p = .047$ ). Two strategies, Peer Mentoring ( $p = .060$ ) and Instructional Team Planning ( $p = .061$ ), were considered to be borderline significant in 9-12 schools. There were no strategies determined to be significant in middle schools and jr./sr. high schools.

Significance in building configuration was determined in Distance Learning Courses ( $p = .018$ ) and borderline significance for Instructional Team Planning ( $p = .061$ ) was determined

when building configuration was not divided into the five categories. This study, therefore, determined an association existed between reported graduation rates, Distance Learning Courses, Instructional Team Planning, and building configuration.

***Type of rural school.*** Schools in this study were categorized as distant, fringe, and remote. Significance ( $p = .012$ ) was evidenced with the strategy Credit Recovery programs in schools characterized as distant. Parent-Teacher-Student Association was defined as significant ( $p = .018$ ) in schools that were considered remote. Significance was also determined when no differentiation of the three types of rural schools were considered. This included the significance of Distance Learning Courses ( $p = .018$ ) and the borderline significance of Alternative Education-off Campus ( $p = .067$ ), Career Fair ( $p = .061$ ), and Instructional Team Planning ( $p = .061$ ). This study determined an association existed between reported graduation rates, the intervention strategies named when the type of rural school was considered distant, remote, and when no differentiation of type of rural district was made.

**Research question three conclusion.** After examining statistical significance without differentiation of the demographic features, one variable, was considered significant. Distance Learning Courses (Level Three Instructional Strategies), was considered significant ( $p = 0.018$ ) in all five demographic features. Distance Learning was also identified in research question two as being significant ( $p = 0.018$ ), and determined to have an association with reported graduation rates.

Instructional Team Planning (Level Four Building-Wide Strategies) was considered borderline significant, ( $p = .061$ ) when associated with graduation rates in four demographic categories: administrative experience, type of schedule, building configuration, and type of rural school. Career Fair (Level Four Building -Wide Strategies) was identified as being borderline

significant ( $p = .061$ ) when associated with graduation rates in three demographic categories: administrative experience, type of schedule, and type of rural school. Alternative Education (Off Campus), (Level Three Instructional Strategies) was also identified as borderline significant ( $p = .067$ ) when associated with graduation rates, administrative experience, type of schedule, and type of rural school.

There were six strategies identified as a constant, in the analyses of association between graduation rates, intervention strategies, and the five demographic features. This result was attributed to the fact that these strategies were employed by all districts in the study. These strategies included Technology is Used for Instruction from Level Two: Instructional strategies and Guidance Counseling Services, Recognition of Academic Achievement, Career Fair, Academic Planning, and College Planning from Level Four: Building-Wide strategies.

The Chi Square table and significance results indicating the significance of graduation rates, intervention strategies, and demographic features are included in Table 13. Appendix F includes this information in detail. This appendix includes the number of reported responses from districts, percentages of intervention strategies employed and not employed with reported graduation rates greater than or equal to 80% and those less than 80% corresponding with each demographic feature.

## **Chapter 5: Summary of Findings, Conclusions, and Recommendations**

Chapter 5 presents the findings of this research study on dropout prevention strategies in select school districts in NYS. This chapter includes the three research questions that guided this study. The findings of this study are discussed and include those specific to the four strategy levels in the study. These levels include Level One Basic Core Strategies, Level Two Instructional Strategies, Level Three Alternative Schooling Strategies, and Level Four Building-Wide Strategies. The chapter also provides the conclusions of the study, recommendations, considerations for future research, and last a brief summary of the research.

The purpose of this quantitative study was to determine if graduation rates were influenced by the employment of dropout prevention strategies in rural school districts in NYS. This study was guided by three basic research questions:

1. What intervention strategies are school districts using to improve graduation rates of all students?
2. Is there a relationship between dropout prevention strategies and graduation rates?
3. Is there any association between graduation rates and the choice of specific intervention strategies and the following demographic features:
  - a. Size of the school;
  - b. Experience of the administrator/principal;
  - c. Type of school schedule (i.e. traditional, block, modified block, semestered);
  - d. Building configuration;
  - e. Type of rural school district.

## Summary of Findings

The study sought to determine what intervention strategies school districts were using and if these dropout intervention strategies influenced graduation rates in selected rural districts of NYS. Schools that belonged to the RSA of NYS were targeted for this study. There were currently 262 districts that belonged to the RSA across the state with 108 responses from throughout the state that were analyzed for this research endeavor.

**Finding one.** This research focused on describing the demographic features and graduation rates of the select school districts in the study. Additionally, this research determined what intervention strategies school districts employed or did not employ to improve graduation rates.

The demographics of the participants in the study varied significantly. Building enrollment of these rural school districts ranged from buildings of 190 students to those with 1700 students. There were 45 schools with 1-399 students, 30 schools with 400-500 students, and 31 schools with 501-1700 students.

Building configuration of these schools included five various building types. There were 25 P-12 schools, 12 K-12 schools, 34 9-12 Schools, 31 Jr. /Sr. high schools, and 6 middle schools.

These schools used three types of schedules; however, one type of school schedule was most frequently utilized. Nine schools used blocked scheduling, five used a mixed schedule and 94 schools used a traditional schedule for instruction.

Administrative experience varied in this study. The number of years of experience administrators possessed ranged from those having one year of experience to those with 28 years of experience.

There were four types of rural schools identified in the study. There were 13 schools that were identified as Fringe, 51 identified as Distant, 41 were identified as Remote. Despite the definitions of the types of rural school districts described in the survey, three schools identified themselves as Rural.

Graduation rates of these districts were reported by 83 schools. Graduation rates in this study were examined and then divided into two categories for data analysis purposes. The first category was graduation rates greater than or equal to 80% and the second category was graduation rates of those less than 80%. Fifty-two percent (n = 43) of the schools reported graduation rates greater or equal to 80%, and 48% (n = 40) of the schools reported graduation rates less than 80%. Just over 50% of the schools in the study either met or exceeded the 80% graduation rate for the 2007 cohort as reported by NYSED P12 IRS (2012c). The data indicated that the graduation rates of districts that were greater than or equal to 80% were almost equal to those with graduation rates that were less than 80%. These two categories differ slightly, by less than 3%.

***Level One Basic Core Strategies: Results.*** The average of Level One Strategies all districts employed in the study was determined to be 94.13%, and those not employed were 5.87%. Level One included nine basic strategies. These strategies were grouped together, as their characteristics refer to the most common strategies districts may offer students. These included Peer Mentoring, Adult Mentoring, Peer Academic Tutoring, Adult Academic Tutoring, Service Learning Opportunities, After School Opportunities (Clubs), After School Opportunities (Sports), Parent-Teacher Conferences, and Parent -Teacher-Student-Association.

***Level Two Instructional Strategies: Results.*** The average of Level Two Strategies employed by districts was found to be 93.06%, and those not employed were found to be 6.92%.

Level Two included 13 strategies all related to instructional practices that may be utilized by districts. These included Differentiated Instruction, Project Based Learning, Collaborative Learning, Integration of Technology In Instruction, Students Are Taught How to Use Technology, Technology is Used for Instruction (Smartboard, Promethean Board, interactive projector etc.), High School Freshman Transition Course, High Interest Electives, Character Education Program, Social Skills Development, College and Career Readiness Skills Taught, Student Advisory Period, Response to Intervention, and Instructional Support Teams.

***Level Three Alternative Schooling Strategies: Results.*** The average of Level Three strategies districts employed was determined to be 95.8%, and those not employed were determined to be 4.92%. Level Three included 13 strategies clustered together as they related to alternative schooling opportunities provided for high school students either on or off campus. These strategies included Career and Technical Education Programs (In House), Career and Technical Education Programs (Off Campus), Smart Scholars Program (Dual enrollment in college and high school), BOCES New Visions Program, International Baccalaureate Program, Advanced Placement Courses, University in the High School Courses, Credit Recovery Program, Summer School, Project Lead the Way, Distance Learning Courses, Alternative Education (Off Campus), and Early College Admissions Program.

***Level Four Building-Wide Strategies: Results.*** The average of Level Four strategies employed by districts was determined to be 95.48%, and those not employed were determined to be 4.83%. Level Four included 16 strategies. These strategies were grouped together, as they relate to leadership capacities and building level interventions encompassing a range of services and opportunities available for students. These strategies included Establish a Vision or Mission for Learning, Establish Goals for Learning, Ongoing Examination and Analysis of Pertinent

Student Data (discipline, attendance, and performance on assessments), Guidance Counseling Services, Social Worker Counseling, Job Shadowing Opportunities, Attendance Policy, Recognition of Academic Achievement, College Fair, Career Fair, Pupil or Child Study Team Services, Academic Planning and Counseling, College Planning and Counseling, Career Planning and Counseling, Instructional Team Planning, and Agency Partnerships for Family Support.

In summary, the number of responses of the 51 strategies employed by school districts in the survey and the percentages of responses resulting from the survey indicated select rural schools in NYS who belonged to the RSA employed a much higher percentage, 94.4%, of all the 51 dropout intervention strategies than those strategies not employed, 5.6%, by these districts.

**Finding two.** Research question two sought to determine if there was a relationship between graduation rates with or among the various dropout intervention strategies employed by the districts.

Graduation rates of districts from the study included those greater than or equal to 80% or those less than 80%. These rates were paired with each intervention strategy at the defined four levels in the study.

The results of the Chi Square Test of Association at Level One for the nine Basic Core Strategies indicated values that ranged from 0.297 to 0.959. Level One Basic Core Strategies indicated the null hypothesis was to be retained; indicating no significance existed. The 83 schools that reported graduation rates in the study employed Level One Intervention Strategies with high percentages, with graduation rates greater than or equal to 80% (51.8%), as well as those districts with graduation rates less than 80% (48.2%). Strategies not employed with graduation rates of greater than or equal to 80% or less than 80% were considered very low at

Level One (less than 5%). The nine strategies were employed by almost all school districts at this level with a percentage of 94%.

Level Two Strategies were analyzed in the Chi Square Test of Association, and the 13 strategies indicated values of significance that ranged from 0.089 to 0.959. The 83 schools that reported graduation rates in the study employed Level Two Strategies with a high percentages when graduation rates were greater than or equal to 80%, 51.8%, and those with less than 80%, 48.2%. Strategies not employed with graduation rates of greater than or equal to 80% or less than 80% were considered higher at Level Two than at level one. Strategies not employed at Level Two with graduation rates greater than or equal to 80% ranged from 0% to 16.9%. Graduation rates less than 80% were not employed with percentages that ranged from 0% to 8.4%.

One variable at this level, Technology is Used for Instruction, was employed by all districts in this study with graduation rates greater than or equal to 80%, as well as those with graduation rates less than 80%. The data at Level Two was determined not to be significant.

Level Three results of the Chi Square Test of Association for the 13 intervention strategies indicated values of significance that ranged from 0.018 to 0.959. At this level, there was significance determined for two intervention strategies. Distance Learning Courses was determined to be significant with a value of  $p < 0.05$ ; and Alternative Education (Off Campus) was determined to be borderline significant with a value of  $p < 0.067$ . This result indicates the existence of a relationship between Distance Learning Courses and graduation rates and Alternative Education (Off Campus) and graduation rates.

At Level Four the Chi Square association analysis for the intervention strategies indicated five intervention strategies that remained a constant. This result was attributed to strategies that

were employed by all districts with graduation rates greater than or equal to 80 % and those less than 80%. These strategies included Guidance Counseling Services, Recognition of Academic Achievement, College Fair, Academic Planning and Counseling, and College Planning and Counseling.

The significance at Level Four for the 16 strategies ranged from 0.061 to 0.941. At Level Four two strategies resulted in a value of  $p = 0.061$ . The strategies included Career Fair and Instructional Team Planning demonstrated borderline significance; meaning a relationship existed between graduation rates and these two strategies.

To conclude, the results of the percentages and responses of intervention strategies varied little at each of the four designated levels of the study in research question two. Percentages of those strategies employed ranged from 34.4% ( $n = 29$ ) to 51.8% ( $n = 43$ ) when intervention strategies were employed with graduation rates greater than or equal to 80%, and those with graduation rates less than 80% ranged between 39.8% ( $n = 33$ ) and 48.2% ( $n = 40$ ).

Those strategies not employed with graduation rates greater than or equal to 80% ranged from 0% to 16.9% ( $n = 14$ ). Those strategies not employed with graduation rates of less than 80% ranged from 0% to 8.4% ( $n = 7$ ).

There were two strategies at Level Three and two at Level Four that were considered significant. These strategies included Distance Learning Courses, Alternative Education (Off Campus), Career Fair, and Instructional Team Planning. This result indicated a relationship existed between these strategies and graduation rates.

**Finding three.** Research question three sought to determine if there was a relationship between graduation rates with or among the dropout intervention strategies identified in the

study and five demographic features. Significance in this study included p-values of  $\leq 0.05$ . P-values from 0.05 to 0.067 were considered borderline significant.

***Building enrollment.*** There were a total of five strategies in this demographic feature that revealed significance. These strategies included Alternative Education ( $p = .034$ ) when enrollment was low, and Credit Recovery ( $p = .034$ ) and Distance Learning ( $p = .034$ ) when enrollment was defined as average. The strategy of Distance Learning Courses ( $p = .018$ ), Career Fair ( $p = 0.061$ ) and Instructional Team Planning ( $p = 0.061$ ) also exhibited significance when there was no differentiation of the three building enrollment categories being considered. These results indicate an association existed between graduation rates, intervention strategies, when the demographic feature of building enrollment was considered.

***Administrative experience.*** There were a total of five strategies that exhibited significance in this demographic feature. Distance Learning Courses revealed significance associated with low administrative experience ( $p = .033$ ). With average administrative experience, Project Based Learning ( $p = .052$ ), High School Freshman Transition Course ( $p = .051$ ), Career Fair ( $p = .052$ ), and Instructional Team Planning ( $p = .061$ ) indicated significance.

Significance in administrative experience was also indicated in four strategies when there was no differentiation of the three categories of experience (i.e. low, average, and high). These include Distance Learning Courses ( $p = .018$ ), Alternative Education (Off Campus) ( $p = .067$ ), Career Fair ( $p = .061$ ), and Instructional Team Planning ( $p = .061$ ). These results indicated an association existed between graduation rates, intervention strategies, when the demographic feature of administrative experience was considered.

***Type of schedule.*** There were four strategies that demonstrated significance in this demographic feature. The different types of schedules examined in the study did not show any

significance when employing a block or mixed schedule. In a traditional schedule, however, there were three strategies that exhibited significance. These included Distance Learning Courses ( $p = .018$ ), Career Fair ( $p = .052$ ), and Instructional Team Planning ( $p = .056$ ).

Significance was also determined for the following strategies related to type of schedule when the three types of building schedule (block, mixed, and traditional) were not divided into the three categories. These included Distance Learning Courses ( $p = .018$ ), Alternative Education (Off Campus) ( $p = .067$ ), Career Fair ( $p = .061$ ), and Instructional Team Planning ( $p = .061$ ). These results indicated an association existed between graduation rates and intervention strategies, when the demographic feature of type of schedule was considered.

***Building configuration.*** In the analysis of the demographic feature, there were five strategies that were determined to be of significance. There were five categories of consideration in building configuration. There was no significance in P-12 schools for any strategies. Two strategies indicated significance in K-12 schools: Adult Mentoring ( $p = .047$ ) and Career and Technical Education Programs (In House) ( $p = .047$ ). In 9-12 schools, two strategies, Peer Mentoring ( $p = .060$ ) and Instructional Team Planning ( $p = .061$ ), were considered to be borderline significant. There were no strategies determined to be significant in middle schools and jr./sr. high schools.

Significance in building configuration was determined in Distance Learning Courses ( $p = .018$ ) and Instructional Team Planning ( $p = .061$ ) when building configuration was not divided into the five categories. These results indicated an association existed between graduation rates, intervention strategies, and demographic feature when building configuration was considered.

***Type of rural school.*** There were six intervention strategies that were considered to be significant in this demographic feature. Credit Recovery in schools characterized as distant ( $p =$

.012) was considered significant. Parent-Teacher-Student Association was defined as significant in schools that were considered remote ( $p = .018$ ). Significance was also determined when no differentiation of the three types of rural schools was considered for Distance Learning Courses ( $p = .018$ ), Alternative Education (Off Campus) ( $p = .067$ ), Career Fair ( $p = .061$ ), and Instructional Team Planning ( $p = .061$ ). These results indicated an association existed between graduation rates, intervention strategies, and demographic feature when the type of rural school was considered.

## **Conclusions**

The first purpose of this study sought to identify what intervention strategies rural school districts in NYS who belong to the RSA employed to improve graduation rates. The second undertaking of this study attempted to determine if a relationship existed between graduation rates and the intervention strategies employed by these districts. The third objective of this study was to determine if an association existed between graduation rates, 51 intervention strategies, and five specific demographic features of rural school districts (building enrollment, administrative experience, type of schedule, building configuration, and type of rural school).

**Conclusion one.** School districts in the study employed 94.4% of the intervention strategies. These strategies were examined at four distinctive levels (Level One Basic Core Strategies, Level Two Instructional Strategies, Level Three Alternative Schooling Strategies, and Level Four Building-Wide Strategies) with graduation rates greater than or equal to 80% or less than 80%.

There were six strategies in this research study that districts identified as being employed 100%. These included Technology is Used for Instruction, Guidance Counseling, Recognition of Academic Achievement, College Fair, Academic Planning, and College Planning.

These data indicated the select rural school districts in this study employed programs and resources identified in the literature (Alliance for Education, 2009; Balfanz et al., 2012; Dynarski et al. 2008; Schargel, 2012; Smink, 2008). The strategies employed in the study were opportunities for students to stay in school, complete high school, and be an economic benefit to society (Alliance for Excellent Education, 2011c; Dianda, 2008; Rouse, 2005; Rumberger, 2011).

**Conclusion two.** When graduation rates were analyzed with the each of the 51 intervention strategies there was one strategy, Distance Learning Courses, in which significance was discovered when paired with graduation rates. Two strategies, Career Fair and Instructional Team Planning, indicated borderline significance.

The relationship of Distance Learning Courses, Career Fair, and Instructional Team Planning when paired with graduation rates indicated the value of these opportunities for students in rural areas. The significance determined in the data indicated that graduation rates were thus positively correlated with the implementation of these strategies. The research suggests the continued need to provide access to these types of courses students would otherwise not have access to in these rural school districts. Indeed these strategies indicate the potential importance of implementing and utilizing these strategies toward meeting or exceeding graduation rates of their school districts.

There were only three identifiable intervention strategies out of 51 that were determined to be of significance when paired with graduation rates despite districts high percentages of intervention strategies being identified and employed in their districts as dropout prevention measures. These results led this researcher to conclude there may be another key factor masking or eclipsing the process of determining that a relationship exists between graduation rates and

intervention strategies. The results of the study were perplexing. On the one hand districts in the study were employing the intervention strategies with a percentage of 94.4 and yet on the other hand only 52 % of the districts in the study had graduation rates greater than or equal to 80%.

**Conclusion three.** When graduation rates were analyzed with each of the 51 strategies at each of the four designated levels and the five demographic features indicated significance occurred at varying levels that were defined in the demographic features. Significance also was determined in the analyses when the demographic features were not divided into the categories within each feature.

Significance was determined for twelve intervention strategies. These strategies include Alternative Education (Off Campus), Credit Recovery, Distance Learning, Project Based Learning, High School Freshman Transition Course, Career Fair, Instructional Team Planning, Adult Mentoring, Career and Technical Education (In House), Peer Mentoring, and Parent-Teacher-Student Association.

Alternative Education Courses (Off Campus) was significant in buildings with low enrollment. Credit Recovery was significant in buildings with average enrollment and in rural schools defined as Distant. Project Based Learning, and High School Freshman Transition Course, Career Fair, and Instructional Team Planning were considered significant for rural school administrators with average years of experience.

Adult Mentoring and Career and Technical Education were considered significant when building configuration was Kindergarten through grade twelve. Peer Mentoring and Instructional Team Planning were considered significant in a building configuration of grades nine through twelve. A Parent-Teacher- Student Association was considered significant in a rural school defined as Remote.

The relationship of these intervention strategies determined to be significant when paired with graduation rates indicated the value of these opportunities for students in rural areas. The significance determined in the data indicated that graduation rates were thus positively correlated with the implementation of these strategies. Indeed, these strategies indicate the potential importance of implementing and utilizing these strategies towards meeting the state established graduation rate.

**Conclusion four.** There were six strategies in the survey that were employed by all school districts in the study. These strategies were identified as a constant and included Technology is Used for Instruction from Level Two: Instructional Strategies, and Guidance Counseling Services, Recognition of Academic Achievement, Career Fair, Academic Planning, and College Planning from Level Four: Building-Wide strategies. Although not considered statistically significant, the fact that these strategies were utilized by all districts in the study was indicative of the relevance of these strategies to the districts in this study. Districts and policy makers need to continue to support the efforts of employing these intervention strategies fiscally, as well as on a system or school level. The literature indicated such essential opportunities be made available for students. The nation's goal is to keep students in school, so they are become an economic benefit to society not an economic loss to society (Alliance for Excellent Education, 2009; Alliance for Excellent Education, 2011b; Dianda, 2008; Murphy et al., 2007; Rouse, 2005; Rumberger, 2011; Schargel, 2012).

**Conclusion five.** The key finding in the study was the strong significance that existed between Distance Learning Courses, graduation rates that are greater than or equal to 80% and those with graduation rates of less than 80%, and the five demographic features in this study.

Distance Learning Courses were considered significant when building enrollment was considered average. Distance learning courses were also considered significant when administrative experience was low and when a traditional type of schedule is employed. This intervention strategy was also significant when building configuration and type of rural school is considered.

The significance of this finding in this research study is indicative of the importance of providing these types of courses for rural school district students who may otherwise not have the opportunity to have access to. This information is particularly important for districts and policy makers in terms of programmatic and budgetary considerations. This effort is consistent with what is articulated in the literature (Dianda, 2008; Dynarski et al., 2008; Kennelly & Monrad, 2007; Murphy et al. 2007; Schargel, 2012).

**Conclusion six.** Another notable finding in the study is the significance that existed between the intervention strategies of Career Fair, Alternative Education (Off Campus), and Instructional Team Planning with graduation rates that are greater than or equal to 80% and those with graduation rates of less than 80%, and the demographic features in this study.

Instructional Team Planning was considered significant in all five demographic features (building enrollment, administrative experience, type of schedule, building configuration, and type of rural school). Career Fair was considered significant in four of the demographic features, building enrollment, administrative experience, type of schedule, and type of rural school. Alternative Education (Off Campus) was considered significant in three demographic features, type of schedule employed, administrative experience, and in type of rural schools.

The significance of these findings identified in the demographic features of this study is indicative of the relevance of these interventions strategies for school districts with similar types

of characteristics. This information is important for districts and policy makers in terms of programmatic and budgetary considerations.

## **Recommendations**

**Recommendation one.** School districts in the study utilized intervention strategies with a high percentage. Schools should continue to employ these measures. Districts and policy makers should continue to provide the fiscal support necessary to provide and support these intervention programs in their districts. It is also recommended that districts that do not employ these strategies should give consideration in doing so. The literature has indicated that providing students these opportunities to stay in school and graduate would be of an economic benefit to society.

**Recommendation two.** Career Fair, an intervention strategy identified in four demographic areas, was indicated as significant in four demographic features: building enrollment, administrative experience, type of schedule, and type of rural school. This is another strategy that should be provided to students, and funding should be sought to ensure this strategy remains viable.

**Recommendation three.** Rural school districts that employ the strategy of Instructional Team Planning should continue doing so. This strategy exhibited significance in all five demographic features examined in the study. Those schools that do not employ the strategy of Instructional Team Planning should consider doing so, as this intervention strategy indicated significance when associated with graduation rates and all demographic features.

**Recommendation four.** Rural school districts in NYS that do not offer Distance Learning Courses should give strong consideration to adding this opportunity for students in these districts. Those school districts that do offer this program should continue doing so. This

intervention strategy indicated a positive significance when associated with graduation rates and all five of the demographic features considered in the study.

### **Recommendations for Future Research**

**Future research recommendation one.** School districts utilized all of the identified 51 strategies in the study. It would be valuable to determine what other strategies or intervention mechanisms school districts may be using to meet or exceed established graduation rates.

**Future research recommendation two.** This research study concentrated on intervention strategies utilized in specific rural school districts in NYS. It would be beneficial to expand this research study to all rural school districts in NYS to determine if similar or varying results exist in the data amongst all rural districts.

**Future research recommendation three.** Disaggregation of data is also suggested between various demographic groups such as students with disabilities and students of low socio-economic status. Perhaps there could be valuable information to discern within or amongst these groups that would be indicative of a correlation between intervention strategies and graduation rates. This information may benefit not only students but also district or policy makers in terms of making programmatic or budgetary decisions.

**Future research recommendation four.** One of the areas not explored in this research study was early intervention. Researching this aspect of intervention may provide districts or policy makers further information on dropout prevention strategies. This research endeavor could also include the exploration and inclusion of early intervention programs at the pre-kindergarten and elementary level that may be employed in these districts. This research did not include any early intervention strategies of this nature.

**Future research recommendation five.** Explore the phenomenon that existed in the results the data produced from the study that prevented the identification of a larger number of correlations or significance between graduation rates and intervention strategies. There seems to be some factor yet to be accounted for that is eclipsing a possible existence between graduation rates and intervention strategies employed. The survey instrument used in the study can be ruled out as such a factor, as the reliability function conducted on the survey tool was determined to be an acceptable instrument, indicating the instrument itself was reliable and could therefore be utilized for future research exploration. The results of this reliability test can be located in Appendix H of this study.

**Future research recommendation six.** Distance Learning Courses exhibited a strong significance when associated with graduation rates and all demographic features. The extent to which these courses are utilized are worthy of further exploration to determine how these courses may influence graduation rates.

### **Closing Statement**

There were multiple findings in this research study. First, the responses of the 51 strategies employed by school districts in the survey and the percentages of responses resulting from the survey indicated select rural schools in NYS who belonged to the RSA employed a much higher percentage, 94.4%, of all the 51 dropout intervention strategies than those strategies not employed, 5.6%, by these districts.

Another finding in the study indicated the correlation between graduation rates and the intervention strategies Distance Learning Courses, College Fair, and Instructional Team Planning.

There were also correlations between graduation rates, intervention strategies, and demographic features. These included the intervention strategies of Alternative Education (off campus), Credit Recovery, Distance Learning Courses, Career Fair, Instructional Team Planning, Project Based Learning, High School Freshman Transition Course, Career Fair, Adult Mentoring, Peer Mentoring, and Parent-Teacher- Student Association.

A key finding in this research study suggests the importance of Distance Learning Courses for rural districts. Districts are facing diminishing fiscal resources, while at the same time being challenged to meet tougher new graduation standards established by NYS. This research suggests an essential program to be continued or to be considered, Distance Learning Courses. Every resource or program a district utilizes must optimize its resources to ensure students have the opportunity to meet these tough, new standards. The key finding in the study was certainly an example of one program that rural school districts can strongly consider if they are not already doing so.

This study also identified intervention strategies school districts were using to meet or exceed graduation rates in NYS rural schools. This study serves as a bank of information for rural school districts and policy makers to consider related to data on strategies that districts employ and do not employ to meet rigorous graduation standards.

This study also provides contemplation for further study to determine what other strategies or other programs may exist to help students succeed; especially with regard to early intervention strategies. Furthermore, this study provides consideration for further examination of disaggregated groups of students who may benefit from intervention strategies or interventions.

## References

- Alliance for Excellent Education. (2009, September). *Is your local high school making the grade? Ten elements of successful high schools: A guide for rural communities* [Guide]. Washington, DC: Author. Retrieved from <http://www.all4ed.org/files/RuralElementsBrochure.pdf>
- Alliance for Excellent Education. (2010, September). *High school dropouts in America* [Fact sheet]. Washington, DC: Author. Retrieved from <http://www.all4ed.org/files/HighSchoolDropouts.pdf>
- Alliance for Excellent Education. (2011a, January). *Meeting the challenge: The role of school leaders in turning around the lowest –performing high schools* [Policy brief]. Washington, DC: Author. Retrieved from <http://www.all4ed.org/files/MeetingTheChallenge.pdf>
- Alliance for Excellent Education. (2011b, November). *The high cost of high school dropouts: What the nation pays for inadequate high schools* [Issue brief]. Washington, DC: Author. Retrieved from <http://www.all4ed.org/files/HighCost.pdf>
- Alliance for Excellent Education. (2011c, December). *The economic benefits of helping high school dropouts earn both high school diplomas and college degrees: New York*. Washington, DC: Author. Retrieved from [http://www.all4ed.org/files/NewYork\\_sebps.pdf](http://www.all4ed.org/files/NewYork_sebps.pdf)
- Ammerman, M. (1998). *The root cause analysis handbook: A simplified approach to identifying, correcting, and reporting workplace errors*. New York, NY: Quality Resources.
- Balfanz, R., Bridgeland, J. M., Bruce, M., & Fox, J. H. (2012, March). *Building a grad nation: Progress and challenge in ending the high school dropout epidemic*. Washington, DC:

- Civic Enterprises. Retrieved from America's Promise Alliance website:  
<http://www.americaspromise.org/Our-Work/Grad-Nation/~media/Files/Our%20Work/Grad%20Nation/Building%20a%20Grad%20Nation/BuildingAGradNation2012.ashx>
- Bambrick-Santoyo, P., & Peiser, B. M. (2012). *Leverage leadership: A practical guide to building exceptional schools*. San Francisco, CA: Jossey-Bass.
- Bennis, W. G. (2003). *On becoming a leader*. New York, NY: Basic Books.
- Bridges, W. (2009). *Managing transitions: Making the most of change* (3rd ed.). Philadelphia, PA: Da Capo Press.
- Brimley, V., Jr., Verstegen, D. A., & Garfield, R. R. (2012). *Financing education in a climate of change* (11th ed.). Boston, MA: Pearson Education.
- Carver, J. (1990). *Boards that make a difference: A new design for leadership in nonprofit and public organizations*. San Francisco, CA: Jossey-Bass.
- Christenson, S. L., & Thurlow, M. L. (2004). School dropouts: Prevention considerations, interventions, and challenges. *Current Directions in Psychological Science, 13*(1), 36-39.  
doi:10.1111/j.0963-7214.2004.01301010.x
- Conklin, K. D., Curran, B. K., & Gandal, M. (2005). *An action agenda for improving America's high schools: 2005 National Education Summit on High Schools*. Washington, DC: National Governors Association. Retrieved from  
<http://www.nga.org/files/live/sites/NGA/files/pdf/0502ACTIONAGENDA.pdf>
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.

- Deyé, S. (2011). *A path to graduation for every child: State legislative roles and responsibilities: A report of the NCSL Task Force on school dropout prevention and recovery* [Research report]. Denver, CO: National Conference of State Legislatures. Retrieved from <http://www.ncsl.org/documents/educ/ncsldropouttaskforcereport.pdf>
- Dianda, M. R. (2008, November). *Preventing future high school dropouts: An advocacy and action guide for NEA state and local affiliates*. Washington, DC: National Education Association. Retrieved from <http://www.nea.org/assets/docs/HE/dropoutguide1108.pdf>
- Dynarski, M., Clarke, L., Cobb, B., Finn, J., Rumberger, R., & Smink, J. (2008, September). *Dropout prevention: A practice guide* (NCEE Publication No. 2008--4025). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. Retrieved from [http://ies.ed.gov/ncee/wwc/pdf/practice\\_guides/dp\\_pg\\_090308.pdf](http://ies.ed.gov/ncee/wwc/pdf/practice_guides/dp_pg_090308.pdf)
- Fullan, M. (2008). *The six secrets of change: What the best leaders do to help their organizations survive and thrive*. San Francisco, CA: Jossey-Bass.
- Fullan, M., Cuttress, C., & Kilcher, A. (2005). 8 forces for leaders of change. *Journal of Staff Development*, 26(4), 54-58, 64. Retrieved from <http://www.learningforward.org/publications/jsd>
- Gao, W., & Mager, G. (2011). Enhancing preservice teachers' sense of efficacy and attitudes toward school diversity through preparation: A case of one U.S. inclusive teacher education program. *International Journal of Special Education*, 26(2), 92-107. Retrieved from <http://www.internationaljournalofspecialeducation.com/>
- Hall, B. (2011). K-12 distance education: The case of rural schools. *The Cornell Policy Review*, 2(1). Retrieved from <http://blogs.cornell.edu/policyreview/>

- Hayes, R. L., Nelson, J. L., Tabin, M., Pearson, G., & Worthy, C. (2002). Using school-wide data to advocate for student success. *Professional School Counseling, 6*(2), 86-94. Retrieved from <http://www.schoolcounselor.org/content.asp?contentid=235>
- Harris, A. (2010). Leading system transformation. *School Leadership & Management, 30*(3), 197-207. doi:10.1080/13632434.2010.494080
- Johnson, S. (2002). *Who moved my cheese?: An amazing way to deal with change in your work and in your life*. New York, NY: G. P. Putnam's Sons.
- Kennelly, L., & Monrad, M. (2007, October). *Approaches to dropout prevention: Heeding early warning signs with appropriate interventions*. Washington, DC: American Institutes for Research, National High School Center. Retrieved from [http://www.betterhighschools.org/docs/nhsc\\_approachestodropoutprevention.pdf](http://www.betterhighschools.org/docs/nhsc_approachestodropoutprevention.pdf)
- Kotter, J. P., & Cohen, D. S. (2002). *The heart of change: Real-life stories of how people change their organizations*. Boston, MA: Harvard Business School Press.
- Legters, N., & Balfanz, R. (2009, February). Do we have what it takes to put all students on the graduation path? The State Education Standard, 4-9. Retrieved from <http://new.every1graduates.org/wp-content/uploads/2012/06/DoWeHaveWhatItTakes.pdf>
- Lyson, T. A. (2002). What does a school mean to a community?: Assessing the social and economic benefits of schools to rural villages in New York. *Journal of Research in Rural Education, 17*(3), 131-137. Retrieved from <http://www.jrre.psu.edu/>
- Malhoit, G. C. (2005, July). *Providing rural students with a high quality education: The rural perspective on the concept of educational adequacy*. Arlington, VA: Rural School and Community Trust. Retrieved from [http://www.ruraledu.org/user\\_uploads/file/Providing\\_Rural\\_Students.pdf](http://www.ruraledu.org/user_uploads/file/Providing_Rural_Students.pdf)

- Marzano, R. J., & Waters, T. (2009). *District leadership that works: Striking the right balance*. Bloomington, IN: Solution Tree Press.
- Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. Alexandria, VA: Association for Supervision and Curriculum Development; Aurora, CO: Mid-continent Research for Education and Learning.
- Murphy, J., Elliott, S. N., Goldring, E., & Porter, A. C. (2007). Leadership for learning: A research-based model and taxonomy of behaviors. *School Leadership & Management*, 27(2), 179-201. doi:10.1080/13632430701237420
- New York State Center for Rural Schools. (2012). About rural schools. Retrieved from [http://www.nyruralschools.org/pages/about\\_rural.php](http://www.nyruralschools.org/pages/about_rural.php)
- New York State Education Department, Office of Communications. (2012, June 11). *Education Department releases high school graduation rates: Overall rates improve slightly but are still too low for our students to be competitive: College and Career readiness measures remain low* [Press Release]. Retrieved from <http://www.p12.nysed.gov/irs/pressRelease/20120611/GradRates2012.pdf>
- New York State Education Department, Prekindergarten through Grade 12 Education, Information and Reporting Services. (2009, November 25). *The New York State report card: Accountability and overview report 2008-09*. Retrieved from <http://www.p12.nysed.gov/irs/reportcard/2009/2009statewideAOR.pdf>
- New York State Education Department, Prekindergarten through Grade 12 Education, Information and Reporting Services. (2011a, February 1). *The New York State report card: Accountability and overview report 2009-10*. Retrieved from <https://reportcards.nysed.gov/statewide/2010statewideAOR.pdf>

New York State Education Department, Office of Prekindergarten Through Grade 12 Education, Information and Reporting Services. (2011b, November 9). *Acronyms and definitions: 2011-12 student information repository system*. Retrieved from <http://www.p12.nysed.gov/irs/sirs/2011-12/2011-12SIRSGuidance/NEWER/AcronymsDefinitions20111109.doc>

New York State Education Department, Prekindergarten through Grade 12 Education, Information and Reporting Services. (2012a, March 1). *The New York State report card: Accountability and overview report 2010-2011*. Retrieved from <https://reportcards.nysed.gov/statewide/2011statewideAOR.pdf>

New York State Education Department, Prekindergarten through Grade 12 Education, Information and Reporting Services. (2012b, May 9). *Need/resource capacity categories*. Retrieved from <http://www.p12.nysed.gov/irs/accountability/2011-12/NeedResourceCapacityIndex.pdf>

New York State Education Department, Prekindergarten through Grade 12 Education, Information and Reporting Services. (2012c, June 11). *Graduation rates: Students who started 9th grade in 2003, 2004, 2005, 2006, and 2007 supplemental packet* [PowerPoint Presentation]. Retrieved from <http://www.p12.nysed.gov/irs/statistics/hsgrads/2012/SupplementalGradRateSlides.ppt>

New York State Education Department, Office of Prekindergarten through Grade 12 Education, Office of School Operations, Educational Management Services. (2012, March). *Property tax cap guidance*. Retrieved from [http://www.p12.nysed.gov/mgtserv/propertytax/taxcap/docs/Tax\\_Cap\\_Guidance\\_final.pdf](http://www.p12.nysed.gov/mgtserv/propertytax/taxcap/docs/Tax_Cap_Guidance_final.pdf)

- New York State Education Department, Office of Prekindergarten through Grade 12 Education, Race to the Top, Network Team Institute. (n.d.). *The Regents reform agenda* [Powerpoint presentation]. Retrieved from <http://usny.nysed.gov/rttt/ntinstitute/docs/nti-rra.pdf>
- Princiotta, D., & Reyna, R. (2009). *Achieving graduation for all: A governor's guide to dropout prevention and recovery*. Washington, DC: National Governors Association Center for Best Practices. Retrieved from <http://www.nga.org/files/live/sites/NGA/files/pdf/0910ACHIEVINGGRADUATION.PDF>
- Provasnik, S., KewalRamani, A., Coleman, M. M., Gilbertson, L., Herring, W., & Xie, Q. (2007). *Status of education in rural America* [NCES Report No. 2007-040]. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubs2007/2007040.pdf>
- Rouse, C. E. (2005, October). *The labor market consequences of an inadequate education*. Paper presented at the Fall 2005 Symposium on the "Social Costs of Inadequate Education", New York, NY. Retrieved from Columbia University, Teachers College website: [http://devweb.tc.columbia.edu/manager/symposium/Files/77\\_Rouse\\_paper.pdf](http://devweb.tc.columbia.edu/manager/symposium/Files/77_Rouse_paper.pdf)
- Rumberger, R. W. (2011). *Dropping out: Why students drop out of high school and what can be done about it*. Cambridge, MA: Harvard University Press.
- Rumberger, R., & Ah Lim, S. (2008, October). *Why students drop out of school: A review of 25 years of research* (Policy brief 15). Santa Barbara, CA: University of California, Santa Barbara, Gevirtz Graduate School of Education, California Dropout Research Project. Retrieved from <http://www.slocounty.ca.gov/Assets/CSN/PDF/Flyer+-+Why+students+drop+out.pdf>

- Rural Schools Association of New York State. (2012). *RSA members: 2012-13 RSA member schools*. Retrieved from [http://education.cornell.edu/rsa/rsa\\_members.html](http://education.cornell.edu/rsa/rsa_members.html)
- Salkind, N. J. (2008). *Statistics for people who (think they) hate statistics* (3rd ed.). Thousand Oaks, CA: Sage.
- Schargel, F. P. (2012). *Dropout prevention fieldbook: Best practices from the field*. Larchmont, NY: Eye on Education.
- Scharmer, C. O. (2009). *Theory u: Leading from the future as it emerges: The social technology of presenting*. San Francisco, CA: Berrett-Koehler.
- Silky, W. & Merrins, J. (2007). *The 2007 Superintendent Development Program: A cooperative effort of BOCES, district superintendents, and Oswego State University* [Program Binder]. Oswego, NY: State University of New York at Oswego.
- Sipple, J. W., Casto, H., & Blakely, R. M. (2009). *How schools can help communities in NYS* (Research & policy brief No. 32). Retrieved from Cornell University, Department of Development Sociology, Community and Rural Development Institute website: <http://cardi.cornell.edu/cals/devsoc/outreach/cardi/publications/loader.cfm?csModule=security/getfile&PageID=779368>
- Smink, J. (2004). Coming to terms with at risk. In J. Smink & F. Schargel (Eds.), *Helping students graduate: A strategic approach to dropout prevention* (pp. 1-7). Larchmont, NY: Eye on Education. Retrieved from [http://www.eyoneducation.com/bookstore/client/client\\_pages/samplechapters/675-6.pdf](http://www.eyoneducation.com/bookstore/client/client_pages/samplechapters/675-6.pdf)
- Snyder, T. D. (2010, April). *Mini-digest of education statistics: 2009* (NCES 2010-014). Washington, DC: U.S. Department of Education, National Center for Education

- Statistics, Institute of Education Sciences. Retrieved from  
<http://nces.ed.gov/pubs2010/2010014.pdf>
- Snyder, T. D., & Dillow, S. A. (2012, June). *Digest of education statistics 2011* [NCES Publication No. 2012-001]. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Retrieved from  
[http://nces.ed.gov/pubs2012/2012001\\_0.pdf](http://nces.ed.gov/pubs2012/2012001_0.pdf)
- Strange, M., Johnson, J., Showalter, D., & Klein, R. (2012, January). *Why rural matters 2011-12: The condition of rural education in the 50 states* [Research Report]. Washington, DC: Rural School and Community Trust. Retrieved from <http://files.ruraledu.org/wrm2011-12/WRM2011-12.pdf>
- U.S. Department of Education. (2008, April). *A nation accountable: Twenty-five years after A Nation at Risk*. Washington, DC: U.S. Department of Education. Retrieved from  
<http://www2.ed.gov/rschstat/research/pubs/accountable/accountable.pdf>
- U.S. Department of Education, National Commission on Excellence in Education. (1983, April). *A nation at risk: The imperative for educational reform: An open letter to the American people: A report to the nation and the secretary of education*. Washington, DC: Government Printing Office, Superintendent of Documents. Retrieved from  
[http://datacenter.spps.org/uploads/SOTW\\_A\\_Nation\\_at\\_Risk\\_1983.pdf](http://datacenter.spps.org/uploads/SOTW_A_Nation_at_Risk_1983.pdf)
- U.S. Department of Education, Office of Elementary and Secondary Education, Comprehensive School Reform Program Office. (2002, August). *Scientifically based research and the Comprehensive School Reform (CSR) program*. Retrieved from  
<http://www2.ed.gov/programs/compreform/guidance/appendc.pdf>

Vogt, W. P., & Johnson, R. B. (2011). *Dictionary of statistics & methodology: A nontechnical guide for the social sciences* (4th ed.). Thousand Oaks, CA: Sage.

## *Appendix A*

### Permission to use Schargel's Strategies

**From:** Franklin Schargel <>  
**To:** <sdelaney@xxxxxxxxxxx>  
**Date:** 11/19/2012 5:18 PM  
**Subject:** Feel free to use the 15 Effective Strategies

Stacey:

Check out my website, [www.schargel.com](http://www.schargel.com) and search for information about rural schools. There are 15 states (according to the US Department of Education) that produce almost 80 percent of all dropouts. What are the commonalities? They are in the South and the West (except Michigan) are border states, fund education less than the national average (except California) are rural.

Let me know if I can be of further assistance.

Franklin  
Franklin Schargel  
Schargel Consulting Group  
[www.schargel.com](http://www.schargel.com)

## Appendix B

### Survey Instrument

#### A Survey of Dropout Prevention Strategies Used in Schools

Assurance: The information you provide in this survey will be kept anonymous.

This survey should take approximately 20 minutes to complete. The survey is divided into two sections. The first section involves a few basic demographic questions regarding your school district. The second part of the survey is related to strategies or interventions you or your school district may use to prevent students from dropping out of school. These strategies are divided into four categories.

(This survey tool is researcher developed. The tool has incorporated and adapted some of the 15 effective strategies identified in Schargel, F. (2012). *Dropout Prevention Fieldbook: Best Practices From the Field*. Larchmont, NY: Eye On Education).

#### Part I

1. What is your building enrollment?
2. What is your building configuration?
3. If you are a high school building, what was your 2007 total cohort (2010-2011) graduation rate?
4. Please indicate what type of rural school district you are:  
 Fringe (rural territory that is less than or equal to 5 miles from an urbanized area)  
 Distant (rural territory that is more than 5 miles but less than equal to 25 miles from an urbanized area)  
 Remote (rural territory that is more than 25 miles from an urbanized area)
5. Do you use a block or traditional schedule?
6. How many years have you served as an administrator in the district?

#### Part II

Please respond to the following questions that relate to prevention intervention strategies that are employed in your district. These strategies are divided into in four categories: Level One: Basic Core Strategies; Level Two: Instructional Strategies; Level Three: Alternative Schooling Opportunities, and Level Four: Building-Wide strategies. There are five choices with which you can respond with. If the strategy is not available in your district and you think your district needs this strategy then please indicate that in the appropriate response. There are five choices to which you can respond.

1. This strategy is not available for students in our district.

2. This is a strategy our district needs.
3. This strategy is available for some students.
4. This strategy is available for most students.
5. This strategy is available for all students.

**Level One:  
Basic Core Strategies**

1. Peer mentoring
2. Adult mentoring
3. Peer academic tutoring
4. Adult academic tutoring
5. Service learning opportunities
6. After school opportunities (clubs)
7. After school opportunities (sports)
8. Parent-teacher conferences
9. Parent-Teacher-Student- Association

**Level Two:  
Instructional Strategies**

10. Differentiated instruction
11. Project based learning
12. Collaborative learning
13. Integration of technology in instruction
14. Students are taught how to use technology
15. Technology is used for instruction (Smartboard, Promethean Board, interactive projector etc.)
16. High school freshman transition course
17. High interest electives
18. Character education program
19. Social skills development
20. College and career readiness skills taught
21. Student advisory period
22. Response to intervention instructional support teams

**Level Three:  
Alternative Schooling Opportunities:**

23. Career and technical education programs in house
24. Career and technical education programs off campus
25. Smart Scholars Program (Dual enrollment in college and high school)
26. Board of Cooperative Educational Services New Visions Program
27. International Baccalaureate Program

28. Advanced Placement Courses
29. University in the High School Courses
30. Credit recovery program
31. Summer School
32. Project Lead the Way
33. Distance learning courses
34. Alternative education (off campus)
35. Early college admissions program

**Level Four:**

**Building –Wide Strategies**

36. Establish a vision or mission for learning
37. Establish goals for learning
38. Ongoing examination and analysis of pertinent student data (discipline, attendance, and performance on assessments)
39. Guidance counseling services
40. Social worker counseling
41. Job shadowing opportunities
42. Attendance policy
43. Recognition of academic achievement
44. College fair
45. Career fair
46. Pupil or child study team services
47. Academic planning and counseling
48. College planning and counseling
49. Career planning and counseling
50. Instructional team planning
51. Agency partnerships for family support

*Appendix C*

Initial Superintendent Letter

Date

Address of Superintendent / RSA Executive Director / Capital District Areas School  
Development Association Director

Dear (Superintendent's Name / Executive Directors' Name):

My name is Stacey A. Delaney. I am a doctoral student in the Educational Leadership program at the Sage College of Albany. I am writing you to invite you to participate in a research study that investigates the relationship between the graduation rates of school district's 2007 cohort (2010-2011) graduation rate and the availability of dropout intervention strategies that may or may not be available to the students in your district.

The information gathered from this study will assist policy makers, district leaders, and community members in the difficult decision making process in determining what programs should be made available to students to keep them in school. Your participation will add to the input needed for important decisions on what program services should be made available to students in difficult economic times.

The research involves the completion of a brief, anonymous, survey (which will be sent to principals on-line) and several questions about data your district already maintains in your student management system and the district's accountability report. For your review, I have included a hard copy of the survey in this correspondence. In most districts this information is maintained by the principals or guidance counselors. The researcher will only collect aggregate data from your district and will not have access to the identity of any students or staff; therefore, this study will be anonymous. The results of this research will be reported in aggregate and may be published in a professional journal or presented at professional meetings. Therefore, you may withdraw from the study at any point until the survey had been submitted.

It is my intention to contact you by telephone to discuss the possibility of participating. At that time I will answer any questions you may have regarding the research study. If you have any questions or concerns prior to that feel free to contact me at xxxxxxx@sage.edu or my doctoral chairperson, Dr. Daniel Alemu at xxxxx@sage.edu. I appreciate your consideration and I hope to have the opportunity to have your support for this study.

Sincerely,

Stacey A. DeLaney  
Doctoral Candidate  
Sage Graduate Schools  
140 New Scotland Avenue  
Albany, NY 12208

*Appendix D*

Follow up Superintendent Letter

Date

Address of Superintendent / RSA Executive Director

Dear (Superintendent's Name / RSA Executive Director's Name):

I am following up to the letter I sent out to you recently. This correspondence also included a copy of the anonymous survey that will be available on line to the 245 rural school districts in NYS that belong in the Rural School Association.

The information gathered from this study will assist policy makers, district leaders, and community members in the difficult decision making process in determining what programs should be made available to students to keep them in school. Your participation will add to the input needed for important decisions on what program services should be made available to students in difficult economic times.

The research involves the completion of a brief survey and data the district already maintains in your student management system and the district's accountability report. In most districts this information is maintained by the principals or guidance counselors. The researcher only collects aggregate data from your district and will not have access to the identity of any students or staff; therefore, this study will be anonymous. The results of this research will be reported in aggregate and may be published in a professional journal or presented at professional meetings. Therefore, you may withdraw from the study at any point until the survey had been submitted

I may be contacting you by telephone to discuss the research project. At that time I will answer any questions you may have regarding the research study. If you have any questions or concerns prior to that feel free to contact me at xxxxxxx@sage.edu or my doctoral chairperson, Dr. Daniel Alemu at xxxxx@sage.edu. I appreciate your consideration and I hope to work with you in this study.

Sincerely,

Stacey A. DeLaney  
Doctoral Student  
Sage College of Albany

*Appendix E*

Second Follow up Superintendent Letter

Date

Email addresses of principals'

Dear (Superintendent /Principal's / RSA Executive Director's Name):

I am following up to the email I sent you recently regarding the completion of an anonymous survey on dropout prevention strategies you may employ in your school. This reminder is to let you know the survey will be closing in three days (insert date). Your participation in this study is greatly appreciated and it is hoped that the information gathered from this study will assist policy makers, district leaders, and community members in the difficult decision making process in determining what programs should be made available to students to keep them in school. Your participation will add to the input needed for important decisions on what program services should be made available to students in difficult economic times.

This anonymous survey should only take about twenty minutes to complete. The link to the survey is included in this correspondence for your convenience. The data asked is such data the district already maintains in your student management system and the district's accountability report. The results of this research will be reported in aggregate and may be published in a professional journal or presented at professional meetings. Therefore, you may withdraw from the study at any point until the survey had been submitted

I will be happy to answer any questions you may have regarding this research study. If you have any questions or concerns prior to that, feel free to contact me at xxxxxxx@sage.edu or my doctoral chairperson, Dr. Daniel Alemu at xxxxx@sage.edu. I appreciate your consideration and I hope to work with you in this study.

Sincerely,

Stacey A. DeLaney  
Doctoral Student  
Sage College of Albany

Appendix F

Chi Square Tables on Graduation Rate, Intervention Strategy, and Demographic Feature

Building Enrollment	Strategy & Graduation rates	Employed		Not employed		$\chi^2$	<i>p</i>
		n	%	n	%		
Low	Alternative Education (Off Campus)					4.479	0.034
	≥ 80%	22	57.9	0	0		
	< 80%	38	45.8	2	2.4		
Average	Credit Recovery					4.485	0.034
	≥ 80%	7	30.4	3	13.0		
	< 80%	13	56.5	0	0		
	Distance Learning					4.485	0.034
	≥ 80%	7	30.4	3	13.0		
	< 80%	13	56.5	0	0		
Total	Distance Learning Courses					5.563	0.018
	≥ 80%	34	42.0	8	9.9		
	< 80%	38	46.9	1	1.2		

Admin Experience	Strategy & Graduation rates	Employed		Not employed		$\chi^2$	<i>p</i>
		n	%	n	%		
Low	Distance Learning Courses					4.538	0.033
	≥ 80%	11	40.7	6	22.2		
	< 80%	10	37.0	0	0		
Average	Project Based Learning					3.782	0.052
	≥ 80%	19	39.6	3	6.3		
	< 80%	26	54.2	0	0		

	High School Freshman Transition Course					3.814	0.051
	≥ 80%	12	25.0	10	20.8		
	< 80%	21	43.8	5	10.4		
	Career Fair					3.782	0.052
	≥ 80%	19	39.6	3	6.3		
	< 80%	26	54.2	0	0		
	Instructional Team Planning					5.157	0.023
	≥ 80%	18	37.5	4	83.0		
	< 80%	26	54.2	0	0		
	≥ 80%						
	< 80%						
Total	Distance Learning Courses					5.559	0.018
	≥ 80%	35	42.2	8	9.6		
	< 80%	39	47.0	1	1.2		
	Alternative Education (Off Campus)					3.346	0.067
	≥ 80%	43	51.8	0	0		
	< 80%	37	44.6	3	3.6		
	Career Fair					3.520	0.061
	≥ 80%	39	47	1	1.2		
	< 80%	76	91.6	7	8.4		
	Instructional Team Planning					3.346	0.067
	≥ 80%	37	44.6	6	7.2		
	< 80%	39	47	1	1.2		

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Building Config.	Strategy & Graduation rates	Employed		Not employed		$\chi^2$	<i>p</i>
		n	%	n	%		
P – 12							
K – 12	Adult Mentoring					3.983	0.047
	≥ 80%	7	77.8	0	0		
	< 80%	1	11.1	1	11.1		
	Career & Technical Education (In House)					3.938	0.047
	≥ 80%	7	77.7	0	0		
	< 80%	1	11.1	1	11.1		
9 – 12	Peer Mentoring					3.547	0.060
	≥ 80%	9	29.0	4	1.2		
	< 80%	17	54.8	1	3.2		
	Instructional Team Planning					3.547	0.060
	≥ 80%	9	29.0	4	1.2		
	< 80%	17	54.8	1	3.2		
Jr./Sr. High							
Middle							
Total	Distance Learning Courses					5.559	0.018
	≥ 80%	35	42.2	8	9.6		
	< 80%	39	47	1	1.2		
	Instructional Team Planning					3.52	0.061
	≥ 80%	37	44.6	6	7.2		
	< 80%	39	47	1	1.2		

Type of Rural School	Strategy & Graduation rates	Employed		Not employed		$\chi^2$	<i>p</i>
		n	%	n	%		
Distant	Credit Recovery					6.258	0.012
	≥ 80%	13	31.7	4	9.8		
	< 80%	24	58.5	0	0		
Fringe	XXXX						
Remote	Parent-Student-Teacher-Association					4.265	0.039
	≥ 80%	12	41.4	5	17.2		
	< 80%	12	41.4	0	0		
Total	Distance Learning Courses					5.559	0.018
	≥ 80%	35	42.2	8	9.6		
	< 80%	39	47	1	1.2		
	Alternative Education (Off Campus)					3.346	0.067
	≥ 80%	43	51.8	0	0		
	< 80%	37	44.6	3	3.6		
	Career Fair					3.520	0.061
	≥ 80%	37	44.6	6	7.2		
	< 80%	39	47	1	1.2		
	Instructional Team Planning					3.520	0.061
	≥ 80%	37	44.6	6	7.2		
	< 80%	39	47	1	1.2		

*Appendix G*

Chi Square Significance of Intervention Strategies Paired with Graduation Rates and Demographic Features (When not divided into categories)

<b>Level One</b>	<b>Building Enrollment</b>	<b>Admin Experience</b>	<b>Type of Schedule</b>	<b>Building Config</b>	<b>District Type</b>
After School Op. (sports)* GR	0.296	0.297	0.297	0.297	0.297
Parent-teacher Conf *GR	0.332	0.332	0.332	0.332	0.332
Adult Academic Tutoring *GR	0.450	0.449	0.449	0.449	0.449
Service Learning *GR	0.707	0.705	0.705	0.705	0.705
Peer mentoring *GR	0.769	0.768	0.768	0.768	0.768
Adult Mentoring * GR	0.769	0.914	0.914	0.914	0.914
Parent-teacher-Stu-Assoc *GR	0.814	0.812	0.812	0.812	0.812
Peer Acad Tutor *GR	0.939	0.941	0.941	0.941	0.941
After School Op. (clubs)* GR	0.958	0.959	0.959	0.959	0.959

  

<b>Level Two</b>	<b>Building Enrollment</b>	<b>Admin Experience</b>	<b>Type of Schedule</b>	<b>Building Config</b>	<b>District Type</b>
Project Based Learn. *GR	0.089	0.089	0.089	0.089	0.089
RTI *GR	0.089	0.089	0.089	0.089	0.089
High School Fres. Trans. * GR	0.114	0.115	0.115	0.115	0.115
Differentiated Inst. * GR	0.168	0.167	0.167	0.167	0.167
High Interest Elecs. * GR	0.278	0.278	0.278	0.279	0.278
Integrat of Tech. * GR	0.296	0.297	0.297	0.297	0.297
Collaborative Learn. *GR	0.332	0.332	0.332	0.332	0.332
Social Skills Dev.* GR	0.400	0.399	0.399	0.399	0.399
Student advisory Per. * GR	0.400	0.399	0.399	0.399	0.399
College & Car Readiness. *GR	0.513	0.514	0.514	0.514	0.514
Character Ed. Program *GR	0.525	0.524	0.524	0.524	0.524
Students taught Tech. *GR	0.958	0.959	0.959	0.959	0.959
Technol. Is used for inst. *GR	Constant				

<b>Level Three</b>	<b>Building Enrollment</b>	<b>Admin Experience</b>	<b>Type of Schedule</b>	<b>Building Config</b>	<b>District Type</b>
DL Courses *GR	0.018	0.018	0.018	0.018	0.018
Alt. Ed (off Cam)*GR	0.067	0.067	0.067	0.067	0.067
AP *GR	0.089	0.089	0.089	0.089	0.089
Credit Recovery* GR	0.107	0.107	0.107	0.107	0.107
BOCES NEW V *GR	0.137	0.138	0.138	0.138	0.138
UHS * GR	0.168	0.167	0.167	0.167	0.167
Summer School* GR	0.296	0.297	0.297	0.297	0.297
Career & Tech Ed-Off Camp *GR	0.332	0.332	0.332	0.332	0.332
Project LTW *GR	0.342	0.341	0.588	0.341	0.341
IB *GR	0.601	0.6	0.6	0.6	0.6
Career & Tech Ed-In House *GR	0.925	0.927	0.927	0.927	0.927
Smart Scholars *GR	0.958	0.959	0.959	0.959	0.959
Early College Adm. *GR	0.958	0.959	0.959	0.959	0.959

<b>Level Four</b>	<b>Building Enrollment</b>	<b>Admin Experience</b>	<b>Type of Schedule</b>	<b>Building Config</b>	<b>District Type</b>
Career Fair*GR	0.061	0.061	0.061	0.061	0.061
Instr, Team Planning*GR	0.061	0.061	0.061	0.061	0.061
Agency Partnerships*GR	0.136	0.136	0.136	0.136	0.136
Goals for Learning*GR	0.168	0.167	0.167	0.167	0.167
Career Planning*GR	0.332	0.332	0.332	0.332	0.332
PST/CST*GR	0.342	0.341	0.341	0.341	0.341
Job Shadow*GR	0.423	0.426	0.426	0.426	0.426
Data Analy *GR	0.513	0.514	0.514	0.514	0.514
Vision / Mission*GR	0.707	0.705	0.705	0.705	0.705
SW Counc. *GR	0.9	0.903	0.903	0.903	0.903
Attendance Pol*GR	0.939	0.941	0.941	0.941	0.941
Guidance Counseling*GR	Constant				
Recogn. Academ. Ach*GR	Constant				
College Fair*GR	Constant				
Academ. Planning*GR	Constant				
College Planning*GR	Constant				

Appendix H

SPSS Reliability Test Data

**Case Processing Summary**

		N	%
Cases	Valid	108	100.0
	Excluded <sup>a</sup>	0	.0
	Total	108	100.0

**Reliability Statistics**

Cronbach's Alpha	N of Items
.715	51

a. Listwise deletion based on all variables in the procedure.

**Item Statistics**

	Mean	Std. Deviation	N
Peer mentoring	1.09	.291	108
Adult mentoring	1.09	.291	108
Peer academic tutoring	1.04	.190	108
Adult academic tutoring	1.08	.278	108
Service learning opportunities	1.08	.278	108
After school opportunities (clubs)	1.02	.135	108
After school opportunities (sports)	1.01	.096	108
Parent-teacher conferences	1.01	.096	108
Parent-Teacher-Student- Association	1.10	.304	108
Differentiated Instruction	1.03	.165	108
Project based learning	1.06	.230	108
Collaborative learning	1.02	.135	108
Integration of technology in instruction	1.02	.135	108
Students are taught how to use technology	1.03	.165	108
Technology is used for instruction (Smartboard, Promethean Board, interactive projector, etc.)	1.01	.096	108
High school freshman transition course	1.22	.418	108
High interest electives	1.08	.278	108

Character education program	1.09	.291	108
Social skills development	1.15	.357	108
College and career readiness skills are taught	1.03	.165	108
Student advisory period	1.13	.337	108
Response to intervention instructional support teams	1.04	.190	108
Career and technical education programs in house	1.06	.230	108
Career and technical education programs off campus	1.01	.096	108
Smart Scholars Program (Dual enrollment in college and high school)	1.03	.165	108
Board of Cooperative Educational Services New Visions Program	1.02	.135	108
International Baccalaureate Program	1.05	.211	108
University in the High School Courses	1.04	.190	108
Credit Recovery Program	1.16	.366	108
Summer School	1.03	.165	108
Project Lead the Way	1.06	.230	108
Distance learning courses	1.11	.316	108
Alternative education (off campus)	1.04	.190	108
Early college admissions program	1.02	.135	108
Advanced Placement (AP) courses	1.04	.190	108
Establish a vision or mission for learning	1.06	.230	108
Establish goals for learning	1.02	.135	108
Ongoing examination and analysis of pertinent student data such as discipline, attendance, and performance on assessments	1.05	.211	108
Guidance counseling services	1.00	.000	108
Social worker counseling	1.09	.291	108
Job shadowing opportunities	1.10	.304	108
Attendance policy	1.06	.230	108
Recognition of academic achievement	1.00	.000	108
Career fair	1.10	.304	108
College fair	1.00	.000	108
Pupil or study team services	1.06	.230	108
Academic planning and counseling	1.00	.000	108
College planning and counseling	1.00	.000	108
Career planning and counseling	1.01	.096	108
Instructional team planning	1.06	.247	108
Agency partnerships for family support	1.12	.327	108