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A Case Study of Successful Small School Reform: The Construction Academy as a Fundamentally Different Enterprise

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To the Graduate Council:

I am submitting herewith a dissertation written by Alison E. Buehler entitled "A Case Study of Successful Small School Reform: The Construction Academy as a Fundamentally Different Enterprise." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Educational Administration.

Vincent Anfara, Major Professor

We have read this dissertation and recommend its acceptance:

Ernest Brewer, Diana Moyer, Tricia McClam

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Ernest Brewer

Diana Moyer

Tricia McClam

Accepted for the Council:

Anne Mayhew

Vice Chancellor and
Dean of Graduate Studies

(Original signatures are on file with official student records.)

A Case Study of Successful Small School Reform:
The Construction Academy as a Fundamentally Different Enterprise

A Dissertation

Presented for the Doctor of Education

Degree

The University of Tennessee, Knoxville

Alison E. Buehler

May 2006

DEDICATION

This dissertation is dedicated to my family who has deep roots in the world of education and who taught me, against popular opinion, that teaching is the noblest profession of them all. It is also dedicated to my nine cohort members who are among the most supportive people I know, and who made this journey fun. To my husband who supported me emotionally and financially through this endeavor, and who loved me and learned with me through this program. And to the new love of my life, Baby Max, who puts all of this in perspective.

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ABSTRACT

In order to move successful school restructuring from the margins of educational dialogue to the center of the debate requires a detailed investigation into how these school reforms are created and sustained within the larger, current and historical educational context. This qualitative case study sought to understand how the small schools movement of school reform, as it was realized at the East Ridge Construction Academy, was able to overcome historical school reform barriers by engaging in systems thinking and forming and maintaining true learning organizations. This study was also designed to examine how remaining inside an existing system, rather than operating outside of it (i.e., charter schools, private schools), impacted the ability of East Ridge to meet its educational purposes. A theoretical framework based on the work of Sarason (2000) was used to focus the study's design and the collection, analysis, and reporting of the findings in this study. By examining the particulars at the East Ridge Construction Academy we are able to assert certain conclusions about creating and sustaining a successful small school.

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CHAPTER 1

INTRODUCTION

Chapter Introduction

According to Darling-Hammond (1997) our system of public education was never designed to teach all children effectively. This rigid and bureaucratic system of education is unable to teach the increasingly diverse population of learners and faced with an ever widening gap between minority and non-minority achievement. Yet, despite the fact that many of these problems are reflections of larger social issues, such as poverty and inadequacy of health care, schools are continually being asked to solve them. In this educational context, there are two concurrent movements being undertaken nationally with incompatible understandings about how to make education more effective for all students: standardization and customization.

The movement to standardize began in the late 1970s and exploded with the 1983 publication of *A Nation at Risk* (National Commission on Excellence in Education).

Cuban explained this movement in an interview with Scott (2002):

During the past quarter century—going back to the late 1970s— civic and business leaders have expressed a growing sense that public schools have to help the U.S. economy do well in global competition. These leaders are very sure that public schools must help train the future workforce for an information based workplace. The *Nation at Risk* report in 1983 was a marker of those beliefs.

The application of business principles to education has led to a lot of standardization. The idea of national goals, the notions that we need more efficiency in the conduct of schooling, that schools have to be more accountable, that you need a bottom line—these ideas all stem from the impulse to make schools a handmaiden of the economy. (p. 8)

The movement to standardize led to national benchmarks, scripted lessons for teachers, increased bureaucracies in school systems, uniform curriculum adoption, mandated textbooks, and the adoption of national standardized achievement tests (Darling-Hammond, 1997). The theory behind standardization is that by giving every student the same, high standards for achievement, and providing them with uniform, teacher-proof materials and lessons, we will improve achievement for all students.

The standardization movement cannot be separated from the rhetoric of strict accountability. Poppleton (1999) wrote: “When governments become dissatisfied with the output of their schools, they seek to increase direct curriculum control, monitor teacher quality, and enhance the accountability of schools” (p. 235). Calls for stronger accountability are apparent in national legislation such as the 1992 *Goals 2000* Legislation; the 1994 Amendments to *Title I*, which required states to create performance-based accountability systems for schools; and the assessment provisions of the *IDEA*. This focus on accountability was strengthened in the 2002 reauthorization of the *Elementary and Secondary Education Act* entitled "No Child Left Behind." This emphasis on accountability is reflected by state legislation, which often includes report cards, threats of reconstituting poorly performing schools, and rewards for administrators and teachers in high-performing schools (Osher & Quinn, 2003). These examples of national legislation often result in increased state standards for school, teacher, and student performance.

While the theory of increasing standards and accountability to drive school reform and improvement is popular among politicians, the public, and some educators, there are strong critics of this movement. Boyer (1983) wrote:

The pressure is on to teach the skills that can be counted and reported. As one teacher said, 'We are so hung up on reporting measured gains to the community on nationally normed tests that we ignore teaching those areas where it can't be done.' (p. 90)

More importantly, the connection between raising standards and accountability as the sole means of improving student achievement has been surrounded by little persuasive evidence (Sizer, 1995).

The movement to customize education exists on the other end of the school reform spectrum. Cuban (cited in Willis, 2002) says these trends toward standardization and customization represent incompatible values. Customization focuses on meeting the unique needs of individual learners in learner-focused educational environments, site-based decision-making and collaboration, and autonomy from stagnant bureaucracies. These environments exist in a variety of forms (i.e., charter schools, theme-based academies, magnet schools, etc.). Darling-Hammond (1997) concluded that ordinary schools can succeed in extraordinary ways when they refocus their work on the needs of students rather than the demands of bureaucracies.

The problem, says Cuban (cited in Willis, 2002), is that every time you try to customize, you run into a lack of resources. While customization may initially be expensive, it is impossible to expect a class of thirty third graders to all learn to read.

Reformers in the customization camp of educational reform believe that teaching and learning are fundamentally relational, and that the standardization movement is

structured in a way that makes relationships impossible (Ayers, 2000). Ayers states that the reform effort called the small schools movement is “aimed pointedly at this disconnection” (p. 5). It is a movement based on the theories of social justice and equity, intended to afford all students access to the democracy in which they live. Ayers wrote:

It points, first toward students at the center of the educational enterprise. In small schools every student must be known well by some caring adult, and every student must have a realistic possibility of belonging to a community of learners. The message to children and youth is clear: You are a valuable and valued person here; without you this entire enterprise would flounder and fail. (p. 5)

Born out of innovative efforts in Harlem, Chicago, and Boston, the *small schools movement* has answered the question, Can good urban schools be built? with a resounding “yes.” While smaller schools are not inherently more moral or caring than larger schools, they appear to be able to make use of the reforms that realize much of the potential of community and connectedness (Ellis & Fouts, 1994).

Standardization and customization reflect two competing theories of school reform efforts. Darling-Hammond (1997) summarized the two theories. She says one theory focuses on tightening controls while the other seeks to build local capacity by developing schools as inquiring, collaborative organizations. The outcome of this debate over how to manage schools will, according to Wise (cited in Ellis & Fouts, 1994), “determine whether teachers are talented, responsible professionals or low-level, closely managed bureaucrats” (p. 13).

Statement of the Problem

While research on the small schools movement has demonstrated the possibility of creating effective schools for all types of students (Fine, 1994; Klonsky, 1998; Lee &

Smith, 1993; Lieberman, 1995; Meier, 1995), these efforts continue to remain on the margins of the educational system as a whole. Darling-Hammond (1997) reminds us that thousands of schools have been redesigned to successfully educate a diverse student population. The problem, she says, is that these examples remain on the outskirts of the educational enterprise and are rarely embraced or supported by the systems in which they struggle to exist.

In order to move successful school restructuring from the margins of educational dialogue to the center of the debate requires a detailed investigation into how these school reforms are created and sustained within the larger, current and historical educational context. It requires that we understand the underlying assumptions and practices that cause schools to reproduce themselves despite often monumental efforts to reform. And it requires that we examine how the bureaucratic structures we take for granted in school systems hinder real change. Darling-Hammond (1997) explained:

If the challenge of the twentieth century was creating a system of schools that could provide minimal education and basic socialization for masses of previously uneducated citizens, the challenge for the twenty-first century is creating schools that ensure—for all students in all communities—a genuine right to learn. Meeting this new challenge is not an incremental undertaking. It requires a fundamentally different enterprise. (p. 5)

Purpose of the Study

The purpose of this study was to discover how the small schools movement has undertaken school reform as a “fundamentally different enterprise” (Darling-Hammond, 1997, p. 5). More specifically this study sought to understand how the small schools movement of school reform, as it was realized at East Ridge High School, was able to overcome historical school reform barriers by engaging in systems thinking and forming

and maintaining true learning organizations. This study was also designed to examine how remaining inside an existing system, rather than operating outside of it (i.e., charter schools, private schools), impacted the ability of East Ridge to meet its educational purposes.

Research Questions

The overall research question for this study centered on a question posed by Ayers (2000), How can a system of successful schools be created that are accessible to all children? In order to begin to answer this question I wanted to look at a specific example of successful reform that existed as part of the public educational system available to every child. More specifically, it was necessary to study the factors and processes that foster successful school reform. This study endeavored to answer the following three questions:

1. How does one public small school overcome historical barriers to school reform by engaging in the “systems thinking” necessary to create sustainable school reform?
2. How does one public small school overcome historical barriers to school reform by demonstrating the capacity to learn, self-correct, and self-improve?
3. How does remaining inside the existing school system impact one small school’s ability to achieve its educational purposes?

These research questions are reflective of my theoretical framework based on the work of Sarason (2000). They were used to focus the study’s design and the collection, analysis, and reporting of the findings in this study.

Definition of Terms

In this section words and concepts are defined that are pertinent to understanding this study. While some words and concepts have multiple definitions, I have purposefully chosen the following definitions for use in this study.

1. *Small Schools*: For the purpose of this study I chose the definition provided by the Small Schools Workshop (2003), which is a group of educators, organizers, and researchers based in the College of Education at the University of Illinois at Chicago. According to their website, small schools are defined in the following way:

As the name indicates, size is one determining characteristic of a small school, yet small schools are about much more than size. The concept of small schools is based on the premise that, in contrast to large, factory-model schools, small schools can create a more intimate learning environment that is better able to address the needs of those within the school. Students, teachers, and parents may all be better served if the school is small enough to allow for communication to flow, opportunities for collaboration to be cultivated, and meaningful relationships to be fostered.

Common features include: (a) a maximum population of 250-300 students in a heterogeneous mix that represents the local school community; (b) a non-exclusive admissions policy; (c) a consistent educational experience for students over an extended period of time (more than one year); (d) a coherent focus and philosophy of education, and a curriculum that is integrated around that focus; (e) a cohesive group of teachers that collaborate and discuss the needs of their students; (f) a sense of shared leadership and investment among those in the small school; and (g) involvement of families in the school community. (<http://www.smallschoolsworkshop.org>, ¶ 1-3)

2. *Schools Within a School*: According to Raywid (1996), a school-within-a-school is a separate and autonomous unit formally authorized by the board of education and/or superintendent. It plans and runs its own program, has its own staff and students, and receives its own separate budget. Although it must negotiate the use of common space (gym, auditorium, playground) with a host school, and defer to the building principal on matters of safety and building operation, the school-within-a-school reports to a district official instead of being responsible to the building principal. Both its teachers and students are affiliated with the school-within-a-school as a matter of choice. (p. 21)

3. *Career Academies:* According to the National Career Academy Coalition (2004), career academies prepare students for both college and careers. They weave the themes of a specific career into academic curricula that qualify students for admission to four-year colleges or universities. They also demonstrate the following characteristics: (a) a small learning community, comprised of a group of students within the larger high school, who take classes together for at least two years, and are taught by a team of teachers from different disciplines; (b) a college preparatory curriculum with a career theme, enabling students to see relationships among academic subjects, and their application to a broad field of work; and (c) partnerships with employers, the community, and local colleges, bring resources from outside the high school to improve student motivation and achievement. (<http://www.ncacinc.org/37583743022954/site/default.asp>, ¶ 3)

Delimitations

The following delimitations created the boundaries for this study. First, I decided to limit my study to one small school for an illustrative, single-case design (see Chapter 3, Methodology, for an in-depth explanation). I selected an illustrative case that met all specified criteria (Cresswell, 2005) to illuminate the three aspects of school reform posed by my research questions. Second, I decided to exclude two stakeholder groups from my data collection procedures. While parents and students were instrumental in the school redesign examined in this study, they were not directly involved in decision-making. Third, the selection process of my site was limited to a small school that existed within a public school system in the state of Tennessee, not autonomously like a charter, private, or private, non-profit school.

Limitations

This study was limited by two factors. First, the use of a qualitative case study design limits the ability of the findings to be generalized to other settings (Herriott &

Firestone, 1983). Second, the study was limited by the researcher's geographic location. This limitation confined the possible sites to schools within driving distance of Knoxville, Tennessee.

Significance of the Study

Innovative school reform failure has been the topic of study by researchers like Sarason (1971, 1972, 1990, 2000) for decades. However, growing support for the current small schools movement and its tentative success in integrating into the existing school systems make it a relatively new area of study. According to research done by the Consortium on Chicago School Research (cited in Daniels, Bizar, & Zemelman, 2001), small schools are more able to take advantage of school reforms than larger ones. However, understanding *how* small schools successfully accomplish these reforms has previously been unstudied. While Fullan (2001) addressed the "black box" of the change process in education, this study looked more specifically at and illuminated the "black box" of the reform process in a small school.

More importantly, it held these reform efforts up against some very stringent criteria for effective school reform (Sarason, 2000). If we can understand how one small school has effectively overcome the historical barriers to school reform by engaging in systems thinking; how it acts as a learning organization in the process of self-correction and improvement; and how it is impacted by the larger school system in which it exists, we may be able to more accurately replicate successful reforms.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Chapter Introduction

This literature review will address three areas. First it will address educational reform including its history in the United States, barriers to successful school reform, and the progression from school reform to fundamental school restructuring and reculturing. Second, this literature review will outline the history of the small schools movement, identify characteristics of small schools, and explain their success with students, faculties, families, and communities. Finally, the theoretical framework utilized in conducting this study will be explained.

Educational Reform

History of Educational Reform in the United States

Ellis and Fouts (1994) wrote, “In order to restructure anything, one must begin with the premise that there is an existing structure” (p. xii). The structure I am addressing in this literature review is the 100+ year-old structure of public education in the United States. Since its conceptualization, dissatisfaction with and efforts to reform the American educational system have co-existed with its progress (Schlechty, 2001). From the days Horace Mann rode from school house to school house documenting poor learning conditions, to the most recent *No Child Left Behind* (2002) legislation, public education has faced pressure to improve, reform, and keep up with a rapidly changing society.

Some of the most notable initiates of educational reform arrived in the form of landmark historical events such as the 1957 launching of the Russian space shuttle *Sputnik* in 1957, which caused Americans to demand immediate improvements in math and science. Other initiates arrived in the form of landmark publications. Flesch's *Why Johnny Can't Read* (1955), Bestor's *Educational Wastelands* (1953), Conant's (1959) *The American High School Today*, and the U.S. Department of Education's National Commission on Excellence in Education report, *A Nation at Risk* (1983), are all examples. Social change initiates in the form of Civil Rights movements have also impacted school reform efforts. *Brown vs. the Board of Education* (1954), and PL 94-142 *The Education of All Handicapped Children Act* (1975) forever changed who was able to access education, and therefore the means and purposes of schooling. Finally, educational trends in methodologies and delivery models have affected school reform efforts. Teaching reading through whole language or phonics, new math, cooperative instruction and learning, year-round school, site-based management, and even school choice are all examples (Ellis & Fouts, 1994).

Educational reform and restructuring is very often tied to social and political trends. Schools fluctuate in their function socially and politically from being touted as panaceas to functioning as scapegoats (Tyack & Cuban, 1995). The ebb and flow of perceptions about American schooling also appears to cycle rapidly. For example, student-centered pedagogy and teacher-centered pedagogy have come in and out of vogue multiple times; centralized control or decentralized control have alternately dominated decision-making practices; and focus on practical versus academic knowledge

have both had their time in the limelight. These trends tend to result in either discouraging assessments of the state of our schools or over-simplified solutions.

Failure of Reforms

Despite an ongoing history of reform efforts, “From the 1890’s forward, schools have remained more the same than they have become different” (Ellis & Fouts, 1994, p. xii). Educational reform writers such as Sarason (1971, 1972, 1990, 2000) and Fullan (1991, 1993) agree that the piecemeal, add-on, and surface-level approaches to educational reform are generally doomed to failure. Fullan and Hargreaves (1996) tell us that most attempts at educational reforms fail because (a) the problems themselves are complex, and not easily amenable to solutions given the resources at hand; (b) time lines are unrealistic because policy-makers want immediate results; (c) there are tendencies toward quick-fix solutions; (d) structural solutions are often preferred, but they do not get at underlying issues of instruction and teacher development; (e) follow through support systems for implementing policy initiatives are not provided; and (f) many strategies not only fail to motivate teachers to implement improvements but also alienate them further from participating in reform.

Ellis and Fouts (1994) agree:

Educational reform represents an attempt to redefine and reconfigure an entity (the public schools) that is complex, conservative, and bureaucratic by nature in order to meet the changes occurring in an often otherwise dynamic society. This is not an easy task. (p. 5)

Schools by nature are conservative (Ellis & Fouts, 1994; Sarason, 2000; Tyack & Cuban, 1995). The history of school reform, in part, can be followed as reformers come

to understand this resistance to change, and change their tactics in response to this knowledge from surface-level “tinkering” to fundamental school restructuring.

Waves of School Reform

According to Conti, Ellsasser, and Griffin (2000) school reform in the last fifty years can be divided into three waves of reform. The first wave of reforms consisted largely of surface-level changes that resulted from fears that our nation was educationally inferior to others. The second wave of reform began to address underlying structures that prevented surface-level changes from taking hold. The third-wave of school reform focuses on choice, setting higher standards, and achieving better educational outcomes.

The first wave of school reforms was based on the assumption that the nature of schools was fundamentally sound and that schools were only in need of improvements. These efforts began in the 1960s after the launching of Sputnik and spanned the next three decades. According to researchers these efforts were failures (Cuban, 1990; Fullan, 1991; Hess 1991; Sarason, 1990; Sizer, 1995).

Bachrach (1990) described the first wave as an intensification of current curriculum, rather than an examination of underlying structures. Examples of first wave reforms include changing curriculums, adding courses, raising standards for teachers and students, and other surface-level changes. These reforms are based on a mechanistic conception of schools and can be metaphorically understood as a “tightening of the screws.”

From Educational Reform to Educational Restructuring

The second wave of school reform began when reformers started to recognize the role of underlying assumptions, structures, and principles foundational to school practice. Second wave reformers believed that schools had to be overhauled in ways that fundamentally changed the institution of schooling itself (Ellis & Fouts, 1994). This fundamental change could not be accomplished through educational reform as it was currently defined, or by the practices embraced by first wave reformers. Rather it would take a new call to action in the form of educational restructuring defined as making fundamental changes in interdependent parts of the educational system. Restructuring calls for wholesale changes of the structure and nature of the educational enterprise. It implies that, “the old structure cannot be reformed, and it, therefore, must be replaced” (p.7). School improvement efforts that account for and attempt to target fundamental elements of schools as complex social systems are counted among the second wave of school improvement efforts, or second-order changes (Conti, Ellsasser, & Griffin, 2000).

According to Cuban (1998), second wave school improvement efforts included those that looked beyond current practices and beliefs and attempted to change essential ways in which organizations were put together. Fullan (1991) wrote, “The challenge of the 1990s will be to deal with more second-order changes that affect the culture and structure of schools, restructuring roles, and reorganizing responsibilities...” (p. 29). Examples of second wave reforms include site-based management, professional development, and non-graded schools. While the first wave of school reform focused on broad philosophical questions about schools’ methods, practices, and structures, the

second wave alerted educators to the need for increased teacher participation, site-based management, and teacher empowerment (Evans, 1996).

Most recently, we have begun to embark on a third-wave of school reform (Conti, Ellsasser, & Griffin, 2000). Fullan (1993) calls this reform a combination of bifurcation and confusion. On one hand, we are facing unprecedented top-down regulation from the national level, which focuses on standardization and accountability. On the other end of the spectrum we are entering the age of school choice and restructuring where never-before-seen possibilities are becoming realized (Darling-Hammond, 1997).

The current third wave of school change challenges the fundamental organization and supervision of schools (Conti, Ellsasser, & Griffin, 2000). It looks at the problems in schools as systemic and deeply ingrained in the culture and bureaucratic power relationships of educational institutions (Sarason, 1990). While it assumes part of the second wave of school reform efforts, the third wave of school reform focuses on current research suggesting that the most successful schools are those that have a purpose, a mission, and an identity of their own. These schools thrive on the capacity to honor and value the beliefs of relational communities while simultaneously adhering to the standards of education set by the larger society (Conti, Ellsasser, & Griffin).

This wave of reform advocates restructuring the very cultures, assumptions, and structures of schools so that every child, regardless of background, socio-economic status, or race, can access, as Darling-Hammond (1997) wrote, *The Right to Learn*. It is also viewed as a process that should not be standardized for all schools, but rather tailored to the unique needs of each individual school culture (Conti, Ellsasser, & Griffin,

2000). Third wave reformers like Darling-Hammond, Ayers, Meier, and Sizer recognize the complexities and messiness of schools and accept the challenge of creating systemic changes which make unrecognizable education as it has previously been known in this country.

Small Schools Movement

The small schools movement grew out of third wave reform thinking. It is described by Meier (2002), founder of one of the first and most successful small schools in Harlem, as a cultural, rather than an institutional change. The small schools movement is about relationships and creating a culture where students, teachers, families, and community members are known (Klonsky, 2000). They are the healing entity for what Palmer (1993) called the pain of disconnection in education. Ayers, R. (2000) wrote:

The large, factory model school has its own kind of culture. It is a default culture. It exists because nothing else has consciously been put in its place. This culture parodies what is most absurd, most unjust, and most cruel about society at large. (p. 99)

While the majority of school improvement strategies today focus on increased performance and standardization, small school restructuring efforts attempt to redefine schooling as a relational enterprise focusing on the unique needs of individuals and communities.

What are Small Schools?

While there are a range of structures for small schools, such as schools within a school, charter schools, and free-standing small school, according to the research they all have certain common features. For the purpose of this study I will use the definition provided by the Small Schools Workshop (2003), which is a group of educators,

organizers and researchers based in the College of Education at the University of Illinois at Chicago. According to their website, small schools are defined in the following way:

As the name indicates, size is one determining characteristic of a small school, yet small schools are about much more than size. The concept of small schools is based on the premise that, in contrast to large, factory-model schools, small schools can create a more intimate learning environment that is better able to address the needs of those within the school. Students, teachers, and parents may all be better served if the school is small enough to allow for communication to flow, opportunities for collaboration to be cultivated, and meaningful relationships to be fostered.

Common features include: (a) a maximum population of 250-300 students in a heterogeneous mix that represents the local school community; (b) a non-exclusive admissions policy; (c) a consistent educational experience for students over an extended period of time (more than one year); (d) a coherent focus and philosophy of education, and a curriculum that is integrated around that focus; (e) a cohesive group of teachers that collaborate and discuss the needs of their students; (f) a sense of shared leadership and investment among those in the small school; and (g) involvement of families in the school community. (<http://www.smallschoolsworkshop.org>, ¶ 1-3)

Other descriptions of small schools are similar. For example, the Small Schools Project (2004), which provides support and assistance to K-12 schools in Washington State and nationally that have received reinvention grants from the Bill and Melinda Gates Foundation, describes small schools on their website as:

...those that share a set of common characteristics: (a) They are small. Few effective small schools serve more than 400 students, and many serve no more than 200 students. (b) they are autonomous. The school community—whether it shares a building, administrator, or some co-curricular activities with other schools—retains primary authority to make decisions affecting the important aspects of the school (c) They are distinctive and focused rather than comprehensive. They do not try to be all things to all people. (d) They are personal. Every student is known by more than one adult, and every student has an advisor/advocate who works closely with her and her family to plan a personalized program. Student-family-advisor relationships are sustained over several years. (e) They are committed to equity in educational achievement by eliminating

achievement gaps between groups of students while increasing the achievement levels of virtually all students. (f) They use multiple forms of assessment to report on student accomplishment and to guide their efforts to improve their own school. (g) They view parents as critical allies, and find significant ways to include them in the life of the school community. (H) They are schools of choice for both students and teachers, except in some rural areas, and are open, without bias, to any students in a community. There are important benefits of small schools, including student achievement, personalization, cost effectiveness, safety benefits, and others. (<http://www.smallschoolsproject.org>. *Why Small Schools?* ¶ 1)

Collaboration among teachers, between parents and the school, and between the school and the community are important in small schools. Relationships with students and among faculty are stressed. And the use of an integrated, thematic curriculum that seeks to make all students successful is imperative in small schools. Ellis and Fouts (1994) summarize the importance of stakeholder involvement in small schools:

We are convinced that the best school environments are built on a human scale. They have about them and easy access and an air of informality that allows active participation by all those who are directly affected by what happens there. They are generally small and almost never large. (p. 215)

History of School Size

The movement from small, community schools to large consolidated schools and districts marks a distinct trend in the American educational system. As late as 1940 there were 114,000 one-room schools across America, mostly elementary. Less than 10% of rural schools had more than six teachers or 200+ students. Since the 1940's the decline of small schools spread rapidly. Small schools declined from 114,000 in 1940 to 60,000 in 1950. Small schools declined at an even steeper rate of decline in the next two decades from 20,000 in 1960 to 2,000 in 1970 (Weiler, 1998).

The decline accelerated for the next two decades spurred by the book by Harvard President James Bryant Conant, *The American High School Today* (1959), in which he argued for the consolidation of smaller schools into more efficient units that would graduate classes of about 100 students. When Conant began his studies of American education there were 50,446 school districts. Thirty years later, two-thirds of those districts had disappeared (Hampel, 2002).

School consolidation was also fueled by the reaction to the launching of Sputnik in 1957, and the need for bigger and better science and technology facilities. In addition, scientific management and the success of big business created a push to apply business models to schools. At the same time state and federal money was being used to create highways and to pave roads which made transporting students to school further away possible (Lawrence et al., 2002).

High schools became the center of school consolidation. According to the National Center for Educational Statistics (1990), a large high school before World War II educated between 500 and 2,500 students (14% of the country's high schools). Seventy-five percent of America's high schools served less than 200 students, and seven percent enrolled more than 1000 students. Fifty years later, 53% of the nation's high schools enrolled between 500 and 2,500 students (84% of the nation's students). During the four decades following Conant's (1959) report, the number of school districts dropped from 40,000 to 16,000.

Hampel (2002) proposed five widely held beliefs about education that fueled the consolidation movement. First, the need for specialization in education, and the belief

that larger schools offer more academic options for a diverse body of students, such as tracking and advanced classes, fostered support for consolidation. Second, large buildings offered more opportunities and resources for students in the areas of supplies, special areas, libraries, lunchrooms, gymnasiums, and vocational education. Third, larger schools attracted better teachers and administrators by providing the chance to specialize, affording larger salaries, and liberating teachers from the constant scrutiny present in many small schools. Fourth, it was believed that small schools held provincial value systems, were too homogenous, and often fostered isolationism and racism. Fifth, the belief that what mattered most was class size and not school size justified the move to large schools.

These beliefs that emerged after World War II were spawned by worries that small schools could not provide the scientific rigor needed to win the Russian-American space race (Allen, 2002). They were also encouraged by the admiration of specialization and efficiency present in industry at the time:

A major thrust of the Progressive Movement was the establishment of a national network of large high schools, designed to conform to such typically American ideals as efficiency, differentiation, specialization, depersonalization, and standardization; in effect this network was a ... well-oiled machine whose goal was the production of human capital. Few educational reforms have 'succeeded' as well as the comprehensive high school. (Lee & Smith, 1995, p. 241)

Implications of Large High Schools

However, the consolidation of schools led to unforeseen problems for students, communities, families, and educators. Meier (2000), proponent and activist for smaller schools, defined the biggest crisis in large public schools as a crisis in relationships. In

1930 there were 200,000 school districts with 1.5 million citizens sitting on local school boards. Currently we have twice as many citizens, but there are fewer than 20,000 school districts, and a few hundred thousand citizens to serve on boards. Meier wrote, “Public schools have lost their *publics*” (p. 34). Palmer (1993) echoed Meier’s thoughts on the pervasive isolation in large schools when he identified the rift that permeates education as an issue of disconnectedness.

In addition, rather than delivering programs to meet the needs of diverse learners promised by advocates of large schools, they tended to do the opposite:

Big schools tend to be mechanistic, managerial, hierarchical and bureaucratic. Everyone does the same tasks the same way like miniaturized factory workers or little soldiers. While all kids are different, in big schools those differences usually make no differences; youngsters and their teachers are treated as if they are interchangeable, even expendable. Big, comprehensive schools worked for some and failed for many others. Too many students, alienated from schools, disconnected from education. (Ayers, 2000, p. 4)

Ayers (2000) continued to admonish larger schools for their lack of a productive learning culture in the essay *Social Justice and Small Schools*:

In a factory-model school, students are the products that are put out, just like the Ford automobile. You move down the assembly line and one specialist screws in the English, then the next bolts on some history, they a layer of chemistry is applied. Anything that disrupts the smooth operation of the factory is suppressed or arrested or removed. (p. 99)

This lack of productive learning culture produced the same problems that ail large, urban cities: lack of attendance, participation, communication, and empathy. Dropout rates, suicides, and violence are all higher in large schools (Ayers, 2000; Fine, 1991; McNeil, 1986; Powell, Farrar, & Cohen, 1985; Sizer, 1995). Large school size was found to decrease attendance and dampen enthusiasm and decrease student involvement

in school activities (Oxley, 1994). In addition, the most compelling problem with large schools was produced by studies in 1994, which indicate a strong negative relationship between school size and student achievement: the larger the school, the lower the student's achievement levels (Howley, 1994). And most recently, the increase of school violence represented in Columbine reminds us that alienation of youth can have devastating consequences (Wasley, et al., 2000).

The Bill and Melinda Gates Foundation (2004), which has donated over six billion dollars to create innovative, smaller high schools, lists the problems with and the reasons why they believe large high schools often fail. The problems they identified include: (a) about 30% of American students drop out of high school including about 45% of Hispanic and African American students; (b) racial and economic gaps are large and growing; (c) nearly one in five seniors cannot identify the main idea in what they have read and nearly two in five seniors haven't mastered the usage of fractions, percents and averages; (d) American high school student achievement ranks in the lower half of the developed countries; (e) eleventh graders in U.S. high schools are typically taught science that students in other industrialized nations are exposed to in the ninth grade; (f) American ninth graders study math taught to seventh graders abroad; and (g) nearly half of high school graduates who go on to college require remedial courses.

The Gates foundation (2004) attributes these failures to several key attributes. Because schools have doubled in the last generation and are often overcrowded, student and teacher interaction is reduced resulting in a feeling of anonymity. High schools are also incoherent in meeting their educational goals. A huge variety of classes are offered

with little connection to each other or the real world. Teachers see over 150 students each day, which means students have very little adult contact. Additionally, schools often set low expectations for students and accept failure of part of the population as an inevitable part of schooling. Finally, high schools are slow to change due to large, isolated staffs, restrictive state and district policies, higher education entrance requirements, and little say in their own policies.

While educators might object to some of the failures listed by the foundation, they would have a difficult time refuting the “reasons why” schools are unable to meet the needs of their diverse populations. Similarly, according to the *American Civil Liberties Union* (2001), factors such as unqualified teachers, overcrowded spaces, lack of parental involvement, and lack of attention to curriculum design characterize large, failing schools.

School Size Matters

While the research on socioeconomic status and student achievement has been well established (Lipman, Burns, McArthur, 1996; White, 1982), school size is beginning to gain attention as an important factor. Heard (2002) explained that although socioeconomic status is the best indicator of school success, small school size ranks second in improving student outcomes in all areas. He stated, “in the 1980s and 1990’s, large scale research projects and reviews overwhelmingly confirmed the superiority of small schools.” (p. 1)

The results of several larger-scale studies overwhelmingly favor small school

size and absolutely contradict the claims that large school are able to meet students' needs. For example, in *CSR Connection*, a paper for the *National Clearinghouse for Comprehensive School Reform*, the research was summarized saying:

Researchers conducting statewide analyses of the effect of school and district size on student achievement in Alaska, California, Georgia, Ohio, Montana, Texas, and West Virginia uncovered the mitigating effects of small school size on poverty's influence on students' achievement. Again the results were consistent across states: small schools are better than large ones at educating students of low socioeconomic status. Small schools and districts give impoverished students an advantage that enables them to overcome many of the disadvantages of being poor. (Howley, Strange, & Bickel, 2000; Johnson, Howley, & Howley, 2002; Stern, 1994 as cited in Williams, R. 2003, p. 4)

Small schools tend to compensate for their limited resources by creating supportive, close-knit, and accountable learning communities in a safe, caring, and connected environment. They also have lower student-teacher ratios, increased ties with community members and families, lower absenteeism, higher graduation rates, and lower incidents of violence, crime, and drug abuse (Howely & Howley, 2002).

Results of the Research

The small schools literature began with the large-scale quantitative studies of the late 1980s and the early 1990s. These studies confirmed educators' assumptions that small schools make educational achievements in academic and affective domains possible. For example: students learn more and are better prepared in small schools (Lee & Smith, 1995); students make more rapid progress toward graduation (McMullan, Sipe, & Wolf, 1994); fewer students drop out of small schools (Pittman & Haughwout, 1987); students demonstrate less disruptive and violent behaviors (Stockard & Mayberry, 1992); all of these factors are especially true for minority and economically disadvantaged

students (Lee & Smith); and students from small schools tended to complete more years of higher education and accumulate more credits (Fine, 1994; Oxley, 1995).

The Bank Street Report (Wasley et al., 2000), *Small Schools: Great Strides*, is an extensive research project on school size and a number of factors. The authors concluded:

When examining a range of indicators to assess student achievement, the data from 1997 to 1999 suggest that students in small schools: (a) have better attendance rates; (b) have significantly lower dropout rates; (c) have higher GPAs; (d) fail fewer courses; (e) have stronger achievement test scores, given that more students are taking the tests and the scores have not dropped; and (f) elementary small schools are significantly less likely to have students repeat a grade than their host schools. (p. 26)

For a summary of this report see Appendix A.

In addition, because of incidents like the one in Columbine, school violence is in the spotlight more than ever. According to the National Center for Education Statistics (1999), comparing schools with less than 300 students with schools larger than 1000 students, big schools have: (a) 825 percent more violent crime; (b) 270 percent more vandalism; (c) 378 percent more theft and larceny; (d) 394 percent more physical fights or attacks; (e) 3,200 percent more robberies; and (f) 1,000 percent more weapons incidents.

More recent studies confirm these findings. For example, in a Consortium for Policy Research in Education publication, Supovitz and Christman (2003) found that small school restructuring efforts in Philadelphia had significant positive influence on the school environments. Teacher efficacy increased and teachers felt like their schools were safer and more connected. Teachers also reported small learning communities enabled

them to interact and collaborate more frequently with colleagues.

Research on Small Schools and Academic Achievement

While the results on several measures of small school success may be clear, research on small schools in relation to student academic achievement varies widely in quality (Howley, 2002). In his report to the ERIC Clearinghouse for Rural Education and Small Schools, Howley synthesized the research on school size and student achievement by giving most weight to studies with larger sample sizes and to those that are peer-reviewed.

The first task, according to Howley (2002), was defining what we mean by small schools. According to the literature he reviewed the definition of small schools can be broken down by the following generalization: high schools with 400 students or less, and K-8 schools with 200 students or less. However, Howley believes that calculating school size based on how many students are in each grade, rather than how many are in the school, is a more accurate measurement of true size (more on defining what is meant by small schools in that section). Once small schools were identified according to the acceptable definition, Howley began to examine the connection between school size and student achievement.

The Matthew Project (Howley & Bickel, 1999) expanded research findings in Alaska, California, and West Virginia. The Matthew Project focused on finding possible contributions of small schools to student achievement in rural, urban, and suburban impoverished areas. Howley (2002) wrote:

The Matthew Project, with funding (1997-1999) from the Rural School and Community Trust, investigated the Friedkin and Neochea hypothesis

of possible equity and excellence effects of school and district size in Georgia, Montana, Ohio, and Texas. The project title refers to a parable about stewardship in the gospel according to Matthew (13:12); 'For whosoever hath, to him shall be given, and he shall have more abundance: but whosoever hath not, from him shall be taken away even that he hath.' (p. 328)

The three main bodies of research on school size will be discussed in relation to student achievement, school size, and poverty (Bickel, 1999; Bickel & Howley, 2000; Bickel, Howley, Williams & Glassock, 2001; Fowler, 1992; Fowler & Walberg, 1991; Howley, 1999a; Howley, 1999b; Huang & Howley, 1993; Lee & Loeb, 2000; Lee & Smith, 1993, 1995; Walberg & Fowler, 1987, Walberg & Walberg, 1987). Each of these studies used some form of achievement test scores as dependent variables and regression analysis to estimate the influence of size on achievement.

In most of the early studies comparing school size and student achievement, socio-economic status (SES) was not controlled for. Walberg (1989) was among the first researchers to control for SES in studies concerning the relationship between school size and district size in relation to achievement. The Lee and Smith (1993, 1995) studies also controlled for SES. Walberg and associates consistently identified school and district size as negative influences on achievement (Walberg & Fowler, 1987). According to Howley (2002), this research established the possibility that smaller schools and districts were not only socially advantageous, but academically advantageous regardless of SES.

Lee and Smith (1996) concluded with four main recommendations. First, they proposed that many high schools should be smaller than they are. Second, high schools can be too small. Third, ideal size does not vary based on type of student enrolled. And fourth, smaller size is more important for students with lower SES (Lee & Smith, 1995).

Howley et al. (1993; 1995; 2000) were concerned with excellence in achievement and equity. Their conclusions differed somewhat from previous studies. Combining their research with that of the original Friedkin and Necochea studies (1988), they concluded that larger sized schools are academically beneficial in affluent communities, but harmful in impoverished communities. However, similar to the Lee studies, Howley's research team found that achievement equity was substantially enhanced in smaller schools. In other words, smaller schools helped close the achievement gap between impoverished and affluent students (Howley & Bickel, 1999). In *Critiquing the Best Research*, Howley (2002) concluded that three consensus implications permeate this body of work. First, smaller school size is associated with higher achievement under some conditions. Second, smaller schools promote substantially impoverished achievement equity. Third, smaller schools may be especially important for disadvantaged students.

Recent Small Schools Research

More recently a study by Cotton (2001) concluded that small schools are safer places for students to work with adults they trust. Her study demonstrates that small schools have a higher percentage of graduates, lower percentage of dropouts, and more students who go on to post-secondary school than compared to large schools. In addition, there are less incidents of violence, and a greater sense of belonging, and a higher percentage of students participating in extra-curricular activities. Finally, she concluded there is more involvement by members of the community, parents, and other relatives.

In a study of over twenty schools in twelve states, *Smaller, Safer, Saner, Successful Schools* (Nathan & Febey, 2001) provided evidence for several key conclusions. They surmised that smaller schools can provide a safer place for students, a more positive, challenging environment, higher achievement, higher graduation rates, fewer discipline problems, and much greater satisfaction for families, students, and teachers.

Other studies, such as the analysis produced for The Bill and Melinda Gates Foundation, report similar findings. For example, in small, independent schools, the researchers found evidence of increased relationships between students and teachers, and an improved level of care in the environment of the school (The American Institutes for Research, 2003).

Case studies. The literature on small school also includes several important case studies and collections of essays by researchers and practitioners (Ayers, 2000; Clinchy, 2001; Levine, 2002; Meier, 1995, Toch, 2003). These studies mark the beginning of *purposefully* designed small schools in the urban centers of New York, Boston, and Chicago. Their founders came from areas of social justice research and activity and designed the schools to promote equity and democracy.

An example of one small school case study is *Miracle School: A Child of the Civil Rights Movement* by Kitty Epstein (2004). In this study the author describes the achievements of the Emiliano Zapata Street Academy in Oakland, California, which serves a population of mainly low-income students, and discusses the reasons behind the school's success. She reveals that during the 2001-2002 school year, only 14 percent of

African-American students and 21 percent of Latino students who graduated from Oakland schools met the requirements to be accepted at the University of California and California State University. In the same year, half of the Emiliano Zapata Street Academy's graduating Latino and African-American students met these requirements.

Meier's school in Harlem is touted as the first official "small school" in the small schools' movement. In her school students defy the odds of social economic status, race, and environmental disadvantages. Ninety-five percent of her students go on to higher education programs (Meier, 1995). In the study of over twenty schools in twelve states, *Smaller, Safer, Saner, Successful Schools* (Nathan & Febey, 2001), the authors concluded, "While all the schools were different, they had one thing in common. They were all small" (p.1).

Other sources of information. In addition, there is a small schools list-serve that catalogs all popular media (positive and negative) articles on the small schools movement. Articles represent periodicals like the *Boston Globe*, *The New York Times*, and the *Chicago Tribune*.

National interest in small schools has grown since the Bill and Melinda Gates Foundation became a major donor to this movement. They have donated over 650 million dollars to the small schools restructuring efforts all over the country, and most recently donated enough money to restructure eighteen schools in New York City. The foundation's efforts have been matched by Mayor Bloomberg of New York City who initially agreed to fund six more restructured schools and has recently proposed to restructure 200 schools within the city (Campanile, 2004).

Other private funding groups have also supported school restructuring in recent years. For example, Knowledge Works Foundation in Ohio implements grants to urban school districts in the state to help them reconfigure large high schools into smaller learning communities and create new, small, stand-alone high schools (Philanthropy News Digest, 2002).

The Oakland Tribune publicized small schools as one of the reforms responsible for a substantial increase in this year's test scores. Oakland was part of a major project to restructure its schools into smaller learning communities. Four other Oakland schools received an increase of 100 points or more. No other schools in Alameda County or the San Francisco districts gained as much throughout the year (Katz, 2003).

Small schools have even caught the attention of federal government agencies. In 2002, 2003, and 2004 federal money was earmarked in the form of grants for districts looking to restructure their large high schools into smaller learning communities.

Cost of Small Schools

Most recently the literature has begun to include financial reports on the cost of operating small schools versus large ones. When you calculate the cost per graduate rather than per students, small schools cut the annual cost differences in half of the larger ones. According to Lawrence et al. (2002) measuring the cost per graduate makes sense when you look at how non-graduates impact the economy. About half of adults who are the head of their households receiving welfare assistance are high school dropouts. Possible income earning rate is lowered by about two-thirds by dropping out. Additionally, high school dropouts are three and one-half times more likely as high

school graduates to be arrested. Eighty-two percent of adult inmates are dropouts (Coalition for Juvenile Justice, 2001).

Other arguments for the cost effectiveness of smaller schools have to do with the elimination of bureaucracies. In many small schools the principal is also a teacher, the need for guidance counselors is reduced significantly for scheduling purposes, and security personnel are often non-existent. In these schools teachers are the curriculum specialists and educational consultants. In several small schools teachers take turns leading in-service sessions on a book the staff chooses to read, or a conference one of the teachers attended. The budget is smaller in small schools, but the resources are used more efficiently (Lawrence et al., 2002).

How Small is Small?

The most frequently asked question of advocates of small schools is How small? Researchers vary in their exact definitions. Meier (2000) gave a less formal definition saying small schools should be small enough so that the whole faculty and staff can sit around a table and have a conversation. According to Lawrence et al. (2002) five principles drawn from the research literature, are pertinent to the question of what size a school should be: (a) elementary schools are, on average, already about half the size of high schools, and they should be even smaller; (b) narrow grade-span configurations are not advisable because they enroll more students per grand than schools with wider configurations and have academic and social liabilities; (c) the smallest schools should exist in the poorest communities; and (d) one size does not fit all. However, Lawrence et al. conceded, there may be several “schools” in one building as long as they are

physically separated. For example, a K-6 elementary school may have 600 students broken down into four small schools.

There are generally two important factors attributed to the success of small schools. First, students should be well known by the adults charged with their education. Second, faculties must have time to engage in the practice of collaboration (Ayers, Klonsky, & Lyon, 2000).

Small School Configurations

Small schools exist as several types of structures (see definitions section). Small schools can exist as stand-alone facilities, generally with less than 200-400 students. These stand-alone schools can be pilot schools, charter schools, non-profit private schools, or just small public schools. Some of these stand-alone schools exist in conjunction with other organizations such as museums, universities, or businesses. Other small schools exist as schools-within-schools or academies (Noguera, 2002). Increasing in popularity are small schools that result from breaking down or transforming large schools into several small academies operating under one roof (Nathan & Febey, 2001). Research has begun to emerge comparing strengths and weaknesses of each type of small school (see The American Institutes for Research, 2003 report prepared for The Bill and Melinda Gates Foundation).

Beyond Small

Small schools are not effective solely by virtue of being small. Rather, small schools work best when they take advantage of being small (Lawrence et al., 2002). The Gates Foundation stresses that small size is necessary, but not sufficient to create schools

that are conducive to high achievement. The structure makes instructional and cultural changes possible (Hendrie, 2004). Small schools activists and supporters have very specific requirements when they talk about “small schools.” Klonsky (2000) identified the emphasis of small-school restructuring as one that focuses directly on transforming the relationships and the culture that exist within a school. He emphasizes two key functions of teachers in a successful small school: (a) teachers work together in a professional community, and (b) teachers stay together with a group of students long enough to get to know them well.

Additionally, small schools generally adhere to research based on Theodore Sizer’s (2005) *Coalition of Essential Schools*:

CES schools share a common set of beliefs about the purpose and practice of schooling, known as the CES Common Principles. Based on decades of research and practice, the principles call for all schools to offer: (a) personalized instruction to address individual needs and interests; (b) small schools and classrooms, where teachers and student know each other well and work in an atmosphere of trust and high expectations; (c) multiple assessments based on performance of authentic tasks; (d) democratic and equitable school policies and practice, and (e) close partnerships with the school's community. (www.essentialschools.org, ¶ 1)

Small schools are more flexible and responsive to the needs of their students. They believe in relationships as the foundation to academic and affective success in students. Finally, small schools rely on cooperation, collaboration, and a democratic governance system to realize their vision and succeed in their mission (Ayers, Klonsky, & Lyon, 2000).

Policy on School Size

While research suggests smaller school size demonstrates improvements for students, especially those in low SES schools, districts continue to build larger school and to consolidate small ones. There are some policies that promote large schools. For instance, some states require “specific minimum enrollments in order for a district to qualify for school facilities.” (Lawrence et al., 2002, p. 4) Others require minimum acreage for schools. Some districts pay principals of larger high schools more money per year.

Another fascinating culprit contributing to large schools is America’s fascination with “bigger and newer is better.” While schools built at the turn of the century were designed as public monuments, schools built mid century were not. Rather than putting money into the renovation of older neighborhood or community schools, the country consolidated students from older schools into large, modern buildings. According to Hansen (1992), forty-three percent of schools were built during the 1950s and 1960s era of cheap, energy efficient construction to meet the needs of the baby boom era. These schools were not designed to last more than thirty years.

In some states the policy toward school size is contradictory. North Carolina’s Department of Public Instruction (2000) recommends that elementary schools should range from 450 to 700 students, middle schools from 600 to 800 students, and high schools from 800 to 1200 students. The board of education in North Carolina concluded that schools of this size can offer the most efficient use of space and personnel at a reasonable cost per student, without losing personal contact with and among students.

However, in the same publication this statement appears:

American schools leadership continues to build large public schools in pursuit of cost effectiveness and curriculum diversity, but it may be sacrificing positive school culture and meaningful education reform in the process (Conway, 1994). This issue of school size as it relates to school climate, safety, and order, has been researched extensively over more than five decades, with remarkable consistency in the findings...What is clear from the research however, is the positive relationship between smaller school size and a number of variables associated with school climate and order...Research on school size indicate ideal school sizes...be: Elementary: 300-400, Middle: 300-600, High 400-800. (North Carolina Department of Education, 2000, p. 4)

There is some evidence of states paying attention to school size research, especially in light of foundations like the Knowledge Works Foundation funding small schools in Ohio, and the Bill and Melinda Gates Foundation, funding small schools across the nation. The Bill and Melinda Gate foundation is responsible for many of the small school initiatives in New York City and recently awarded nine hundred thousand dollars to the Los Angeles Unified School District for planning the breakdown of their large schools into smaller learning communities. Implementation money is expected to follow (DiMassa, 2003).

Additionally, Florida passed Bill 235.2157 limiting the number of students who can attend elementary, middle, and high schools. The bill requires that all newly built schools conform to these guidelines (Florida Department of Public Instruction, 2000). Maryland and Vermont have also recognized the merit of small schools. Both states have passed legislation to ensure their funding.

Convincing the Public

I want to conclude this part of the literature review by including some reactions from newspaper journalists who write educational articles. So often these general media pieces tell a story of how schools fail students and families. I believe these articles are important for the general public's attitude toward schools because local newspapers are often the only source the public uses to form opinions on current events such as the state of education. Consider this statement by a reporter who visited a small school in the *San Francisco Chronicle* (Ryan, 2003):

But here is what I also learned during my day with Naranjo-Hall: In a district of so many challenges and failures, this school works. Test scores are rising. The school's API rating climbed from 545 in its first year of operation in 2001 to 646 last year. The jump of 101 points is 88 points higher than the school's target for improvement. Students are happy. Parents show up.

The school is a microcosm of what does work in public schools—a formula so straightforward and proven that it ought to be carved into the desktop of every superintendent and governor in the nation. Begin with a small school—International Community has just 238 students in kindergarten through fifth grade. Add a strong administrator and smart, motivated teachers, then support them in doing their best work. This is it, folks. The basis for real reform. (<http://www.smallschoolsworkshop.org/sfc112103jryan.html>, ¶3)

Cheryl Reed, reporter for the *Sun Times* (2003) came to a similar conclusion after her visit to a small school. She wrote:

Here, teachers don't talk down to them and classes are tiny...and they are succeeding in a school of outcasts. Students tend to do better than they ever did at their old schools. The dropout rate is 5 percent - half that at regular high schools in Cook County. (<http://www.smallschoolsworkshop.org/st111603clreed.html>, ¶5)

Reporter Ed Williams (2003) of the *Charlotte Observer* acutely summed up the research and movement toward small schools in his article, “Bill Gates Thinks Small Schools Offer Big Benefits.” He said:

Chicago is another city moving to smaller schools. Augusta Souza Kappner, president of the Bank Street College of Education in New York, looked at the results and drew these conclusions: (a) incidents of violence were reduced; (b) student performance, attendance and graduation rates improved; (c) disadvantaged students significantly outperformed those in large schools on standardized tests; and (d) teachers, students and the local community preferred small schools. Other observers have found that small schools have lower administrative costs, less vandalism and greater teacher satisfaction than large schools. (http://www.miami.com/mld/charlotte/news/columnists/ed_williams/6823993)

Challenges Facing the Small Schools Movement

One of the main challenges facing the small schools movement is taking pilot or experimental schools that have been successful and moving them into the mainstream of education (Hendrie, 2004). Other challenges mentioned by Hendrie include keeping restructuring efforts true to the philosophy of small schools as they become more popular. As people rush to restructure schools, they may only take the time to understand the reform superficially.

Hendrie (2004) also cites the challenge of creating and finding ongoing funding. Currently money comes from several private foundations and grant from the federal government. However, there is a question about how small schools will fare as a movement when those sources dry up. Finally, Hendrie mentions the challenge of how to form the most successful small schools. There is a debate among the reformers in this area between restructuring large high schools into several small schools and creating separate, autonomous schools.

Other researchers (Darling-Hammond, 1997; Meier, 2000) describe concerns over convincing policy makers to embrace the bottom-up reforms necessary to create and maintain successful small schools. Without drastic, systemic change in the larger system, the innovation and creativity sparked by small schools may be squelched. In an era of increase call for accountability and standardization, this challenge is especially troublesome. When small schools are burdened by too many external restraints, innovative schools fall short of their potential (Levine, 2002).

Funding, like all educational endeavors, is also a challenge for small schools. The recently published Fiscal Year 2006 Education Budget cut out small learning community initiatives completely (see The U.S. Department of Education website www.ed.gov).

Current Research

The research on small schools has recently shifted from demonstrating the benefits of small school size to looking for best practice within restructured or newly formed small schools. The literature has begun telling educational reformers how they can take advantage of smallness in their own schools. For example, a recent *Phi Delta Kappan* article included eight lessons for leaders of small schools including: focus on a clear agenda; know and be known; walk the talk of social justice and equity; share power to get results; lead through inquiry; approach problems as opportunities, nurture, build and support professional communities; and foster deeper community and family connections (Copeland & Boatright, 2004). Reports from the Bill and Melinda Gates Foundation examine issues of starting and maintaining successful small school reform, and identify barriers to sustaining thriving small schools (Hendrie, 2003).

Interestingly, the information on small schools is growing so quickly there have been very few recent empirical studies appearing in educational, peer-reviewed journals. Instead, the research is pouring out of public and private centers (e.g., School Redesign Network at Stanford University, Small Schools Workshop, Center on Reinventing Public Education, Knowledge Works Foundation, The National Council for Public-Private Partnerships, The National Association for Small Schools). The grassroots “think tanks” are conducting their own research on small schools. They appear to be bypassing the educational echelons in exchange for alternative solutions to educational problems.

The empirical studies that have been undertaken in recent years appear to attack specific unanswered questions about small schools. For example, Oxley (2005) provides schools with specific advice on how to create small learning communities within larger high schools that are likely to promote academic success. There are a several articles that look at the negative impact *No Child Left Behind* has had on special education students within small schools (Coladarci, 2005; Harriman, 2005). Another example is a study that demonstrates a positive correlation between small schools and improved health education (Cleary & English, 2005).

Other recent studies indicate a deeper understanding of how small schools impact student outcomes, rather than if they have this impact. For example, Supovitz and Christman (2005) conclude that simply creating a community structure is not sufficient to change practice significantly. Instead, the key to widespread improvement in student learning through teacher collaboration is the formation of communities of instructional practice that concentrate on improving the instructional core of schooling.

Researchers are racing to keep up with small school initiatives which should produce fodder for widespread empirical studies in the near future. For example, Chicago, through the city's use of grant money to develop small schools, and through the mayor's Renaissance 2010 plan, aims to close 60 underutilized or underperforming schools and reopen them as 100 small schools (Gewertz, 2005). According to Colgan (2004) this trend is beginning to take hold across the United States, but for now support for small schools tends to rely on the base of research cited in this literature review.

Conclusion on Small Schools Research

The research on school size is well established. Vishner, Emanuel, and Teitelbaum (1999), summarizing the literature on school size, wrote:

Investigations of the effects of school size on a range of outcomes have been one of the longest and best-established traditions in the field of education research. Researchers and educators have studied this issue extensively, using data ranging from large nationally representative surveys to small qualitative case studies of schools of varying sizes. Rigorous statistical analysis has been applied in attempting to isolate the effect of school size from other variables...The majority has found that size matters for outcomes such as academic achievement, graduation and dropout rates, and successful school-to-work transitions. With a few exceptions, most studies have shown that small environments lead to improved outcomes. (p. 23)

School size is a significant factor in student academic and social achievement. The trend in the country today and for the last fifty years is to build larger and larger schools, and to consolidate schools and districts into larger schools and districts. This practice of promoting larger schools and districts runs contrary to research about effective strategies for teaching and learning.

Theoretical Framework

The theoretical framework for this study is based on the wide-ranging work of Seymour Sarason (1971, 1972, 1990, 1998, 2000, 2002), “the voice of unrelenting realism” in school reform (Levine, 2002, p. 154). I chose Sarason’s work because he is, in my view, the ultimate skeptic on school change and innovation. If a school restructuring or reform effort could meet his challenging criteria for success, I believed it would, indeed, be a powerful reform. The small schools movement appeared to come close, and I wanted to examine one example of a small school reform effort more intimately against these criteria.

While Sarason (1990,1998) has written volumes on factors that impede successful school reform, I wanted to focus on three main themes for this study: (a) schools engaging in systems thinking, (b) schools as learning organizations, and (c) reforming as part of an existing system. These three themes constituted the theoretical framework. I conducted this study through the lens of this framework, and it shaped my research questions. First, I was trying to understand if and how this school functioned as a “learning organization” with the ability to self-correct, self-improve, and foresee future problems. Second, I wanted to look for evidence that this particular school embraced a “systems thinking” approach to education, culture, and management. Third, I wanted to understand how remaining part of a larger system impacted the functioning of this school.

Systems Thinking

Systems theory was originally conceptualized in biological sciences in order to explain how an organism is an integrated system of interrelated parts. This notion of

systems was eventually borrowed by the social sciences as a metaphor for understanding complex organizations. Systems theory forces people to look beyond the propensity to attribute phenomena to a single cause, and emphasizes subsystems and multiple causations (Owens, 1991). Systems theory transforms the analysis of organizations from a linear cause and effect model to contextualized investigation of interrelated parts.

Senge (1990) identified systems thinking as a cornerstone of learning organizations. He said organizations must be concerned with moving from seeing parts to seeing wholes, from seeing people as helpless reactors to seeing them as active participants in shaping their reality, and from responders to the present to creators of the future. Senge argued against applying simplistic frameworks to what are complex systems. Instead, he encouraged us to see organization as a dynamic process.

Sarason (2000) characterized the educational reform movement as being uninformed by a systems way of thinking. He believes absence of systems thinking explains why educational reformers have learned so little from their frequent failures. He proposed the following questions to educators in order to encourage them to look at education as a holistic system: What is there about the system that produces the cause I seek to repair? What are the parts of the system? What power relationships would have to change in order to alter the system?

Sarason (1990) challenged the practice of school reformers who do not address the fundamental changes the system would have to undergo to create real changes, or the impact changing parts of the system has on other parts. He wrote:

System is a concept we create to enable us to indicate that in order to understand a part we have to study it in relation to other parts...Between

system and surround are also boundaries, and trying to change any part of the system requires knowledge and understanding of how parts are interrelated. At the very least, taking the concept of system seriously is a control against overly simple cause and effect explanations and interventions that are based on tunnel vision. (p. 15)

Additionally, systems can be classified as “open,” which interact with the outside environment, or “closed,” which do not. Metaphorically, viewing systems such as schools as closed systems means that organizations try to limit the influence of the community and tend to operate as if they are isolated from the larger context in which they exist. In order to adapt to changing needs, schools need to operate with the understanding of the context of which they are a part (Sarason, 1990). Fullan (1993) reminded us that in designing organizations as “open” systems, learning organizations must be dynamic inside, but equally plugged into their larger context.

The theme of systems thinking enabled me to closely examine how East Ridge engaged in practices and behaviors that represent interrelated systems and permeable boundaries. By viewing the school through a systems lens, I was able to gain understanding about power structures, decision-making, and how the parts of this school reform were interrelated.

Learning Organizations

Cybernetics, the study of information, communication, and control, enabled theorists to draw a distinction between learning, and learning to learn. According to Morgan (1997), simple cybernetic systems are like house thermostats. They learn by being able to sense and correct deviations from predetermined norms, but they cannot

question the appropriateness of what they are doing. More complex systems can detect and correct errors, self-question, and self-organize.

The differing ability of how systems learn is referred to as “single-loop” and double-loop” learning. Argyris and Schon (1974) applied the concepts of single- and double-loop learning to organizational management. According to Morgan (1997), single-loop learning is obvious among many organizations. These organizations scan the environment, set objectives, monitor how well objectives were met, and adjust for improvement. Double-loop learning is more difficult for organizations to accomplish because it involves questioning basic paradigms of understanding, breaking out of defensive routines perpetuated by uncertainty, and questioning operational norms.

Morgan (1997) summarized the cybernetic understanding of what learning organizations must be able to do. They must be able to scan and anticipate change(s) in the wider environment to detect significant variations. They must be able to develop an ability to question, challenge, and change operating norms and assumptions. Learning organizations allow an appropriate strategic direction and pattern of organization to emerge. They also develop designs that allow them to become skilled in the art of double-loop learning and avoid getting caught in single-loop processes. Learning organizations shun stifling cycles created by traditional management control systems and the defensive routines of organizational members.

Much of the literature on learning organizations was promoted by Senge’s (1990) landmark book on organization, *The Fifth Discipline*. According to Senge learning organizations are places “where people continually expand their capacity to create the

results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together (p. 3). The need for flexible and adaptable organizations to meet demands of rapid change is the basis for advocating that organizations possess the ability to learn and grow.

Understanding how a school operates as a learning organization permeates Sarason's (2002) writings. He criticized the educational system for having all the features of a non-learning system that learns nothing from its failures and is unable to learn from and then spread success. Schools' inability to predict the future based on past experiences and relationships characterizes the ahistorical nature of education (Tyack & Cuban, 1995).

However, the small schools movement appears to possess at least some of the criteria of a learning organization which has been acknowledged by Sarason. In his description of one of the most famous small schools, The Met, Schorr (1997) wrote:

The Met has much in common with America's most effective social programs. Successful programs create an organizational culture that is...tight about their mission but loose about how the mission is carried out. Those responsible for these programs have no illusion that they can implement the perfect model program - at once or ever. They evolve in response to the changing needs...and feedback from both the front-line staff and participants...learning from their successes and failures, and finding new and better ways to achieve their goals. (pp. 8-9)

Sarason (1990) called The Met a "truly innovative school unlike any other I have observed" (p. 94). He attributed this success to the school's unrelenting commitment to its purpose and mission, the ability to learn from mistakes and foresee future problems,

the presence of supportive networks and involvement of all constituencies, and the ability to find creative ways to overcome barriers.

Central to functioning as a learning organization is Lambert's (2003) work on professional learning communities. Lambert defines six characteristics of building leadership capacity among professional learning communities. They include: (1) principals, teachers, parents, and students as skillful leaders; (2) shared vision resulting in program coherence; (3) inquiry-based use of information to inform decisions and practice; (4) broad involvement, collaboration, and collective responsibility reflected in roles and actions; (5) reflective practice that leads consistently to innovation; and (6) high or steadily improving student achievement (pp. 6-7). Lambert defines teacher-leaders as "those whose dreams of making a difference have either been kept alive or have been reawakened by engaging with colleagues and working within a professional culture" (p. 33).

This theme of my framework focused the study on issues of how East Ridge demonstrated the capacity to learn, self-correct, predict future problems, and create workable innovations. It also allowed me to look at structures that encourage and support, or hinder learning behaviors within the school.

Change as Part of the Existing System

In many of the writings on small school reforms, at least some degree of autonomy from the existing system's constraints and requirements is recommended (Clinchy, 2000; Meier, 1996). Sarason (2000) pointed out an important phenomenon about successful reform within the existing, bureaucratic setting of public education. He

described the current system as an obstacle to innovation saying, “A school has to depart from the system if it is to achieve its purposes” (p. 194). The large, bureaucratic system of public education also appears to hinder the spread of reforms that do exist. Sarason (1990) asked, “Why do isolated instances of success remain isolated, that is, they do not spread or diffuse to other classrooms, or to other schools in the system?” (p. 86).

When Sarason (1990) called schools “intractable to reform” he meant that “the failure of educational reform derives from a most superficial conception of how complicated settings are organized: their structure, their dynamics, their power relationships, and their underlying values and axioms” (pp. 4-5). He emphasized power relationships in school systems as one of the most entrenched barriers to school reform. All attempts to reform without examining the power relationships at work in a system will ultimately lead to their defeat. In order for true reform to take place traditional power structures must be replaced. However, those people in positions of power within the structure often block this effort in order to protect themselves.

This point is important when we are looking at the possibilities for system-wide reform. Most successful school reforms occur under some form of sanctions from the regular regulations and controls of the system (Meier, 2000). Sarason (2000) cited charter schools as an example as schools that are sanctioned by the state legislatures. This sanction allows a small number of schools exemption from the rules, regulations, and practices of the local or state board of education. He regretted his conclusion that a schools is “embedded in a system that would continue to defeat its efforts to improve features in the culture of the school” (p. 194).

Other researchers echo Sarason's doubt about the ability to create real change within an existing system. Foster (1986) wrote, "leadership in the hierarchy increasingly requires conformity to the established theoretical structure" (p. 67). This structure most often legitimizes the existing system thereby negating efforts to transform it.

This theme in my framework enabled me to look for information about how remaining part of an existing setting impacted East Ridge's ability to fulfill its vision and stated purpose. It also highlighted information about how and if this reform is spreading throughout the large system.

Conclusion

In this literature review I have familiarized the reader with three areas. First, I briefly outlined the history and progress of the educational reform movement in the United States. The reform movement has undergone changes in focus from programming and curricular issues to fundamental structural and cultural changes that reflect the purpose of schooling in a democratic society.

Second, I described how the small schools movement fits into the reform movement as a third-wave attempt at fundamental educational restructuring. The small schools movement is founded on empirical research on the benefits of small school size on student achievement and affective characteristics. It is based on the understanding that teaching and learning are largely relational.

Finally, I have explained the theoretical framework which formed the design of this study and directed the analysis of data. This framework is based on three components from Sarason's large body of work on educational reform. These three

topics include: (a) schools engaging in systems thinking, (b) schools as learning organizations, and (c) schools' ability to meet their purpose while remaining part of an existing system of education.

CHAPTER 3

METHODS

Chapter Introduction

The purpose of this study was to discover how the small schools movement has undertaken school reform as a “fundamentally different enterprise” (Darling-Hammond, 1997, p. 5). More specifically this study sought to understand how the small schools movement of school reform was able to overcome historical school reform barriers by engaging in systems thinking and forming and maintaining true learning organizations. This study was also designed to examine how remaining part of an existing system impacted the ability of a reformed school to meet its educational purposes. It sought to answer the following questions:

1. How does one public small school overcome historical barriers to school reform by engaging in the “systems thinking” necessary to create sustainable school reform?
2. How does one public small school overcome historical barriers to school reform by demonstrating the capacity to learn, self-correct, and self-improve?
3. How does remaining inside the existing school system impact one small school’s ability to achieve its educational purposes?

This chapter will provide a description of the methods and procedures used to conduct this study. Figure 1, displays a flow chart of the research process. All methods and data collection procedures underwent consideration and acceptance by The University of Tennessee’s Institutional Review Board.

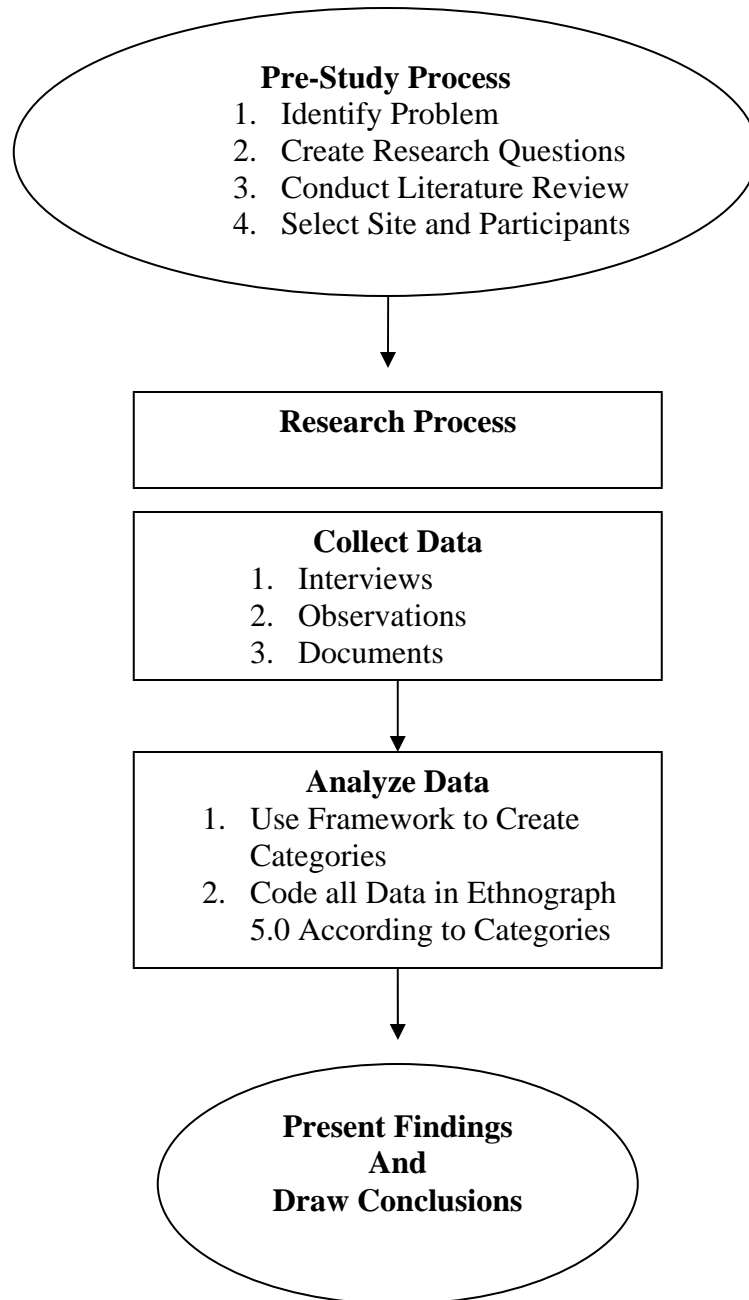


Figure 1. Research process overview.

Assumptions and Rationale for Using a Case Study Design

While there exist a variety of research designs, the research questions for this study lend themselves most closely to an exploratory, qualitative, instrumental-case study design. According to Yin (2003), “the distinctive need for case studies arises out of the desire to understand complex social phenomena” (p. 2).

School reform is, indeed, a complex social phenomenon. Sarason (1990) explained that schools are synergistic places where one action causes many reactions and interactions. Ellis and Fouts (1994) agreed, “This is why restructuring efforts must take into account schools as socially constructed, whole entities” (p. 209).

Case studies have many definitions. However, for the purpose of this study, I adopted Yin’s (2003) explanation of case study research. A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident. The case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points. It relies on multiple sources of evidence with data needing to converge in a triangulation fashion. As a result it benefits from the prior development of theoretical propositions to guide the data collection and analysis.

Type of Design: An Exploratory, Instrumental Case Study Design

According to Yin (2003), it is appropriate to use a single-case study design (as opposed to a multiple-case study design) if a single case meets all of the conditions specified by the study for testing or extending a theory. In addition, Creswell (2005)

explained that a single-case may be used to illustrate a specific issue in which the researcher is interested. This type of case is called an *instrumental case*, because it serves the purpose of illuminating a specific issue. In this study, I selected an illustrative case that met all specified criteria to illuminate the three aspects of school reform posed by my research questions.

This case study was exploratory in nature because it meets Yin's (2003) criteria for not having stated propositions and Adler and Clark's (2003) criteria for working on a relatively unstudied topic or in a new area. Innovative school reform failure has been the topic of study by researchers like Sarason (1971, 1972, 1990, 2000) for decades. However, growing support for the current small schools movement and its tentative success in integrating into the existing school systems make it a relatively new area of study. Furthermore, while this study's design and data collection and analysis were guided by a conceptual framework, I wanted to leave presuppositions or hypotheses out of my research in order to more fully understand the phenomena as the participants did.

Qualitative Methods

While case studies can use both qualitative and quantitative data collection procedures to answer the type of questions asked in this study, it was appropriate to use qualitative research methods. If the research seeks to answer "how" or "why" questions, the qualitative paradigm is more appropriate (Merriam, 1998). According to Creswell (2005), qualitative research should be used to study research problems where little is known about the problem and a detailed understanding of a phenomenon is required. In addition, Creswell said qualitative research questions seek to understand participants'

experiences. Merriam agreed “qualitative researchers are interested in understanding the meaning people have constructed, that is, how they make sense of their world and the experiences they have in the world” (p. 6). It was necessary in this study to understand participants’ experiences of the phenomenon of innovative school reform in order to gain specific insight into that phenomenon.

In qualitative data collection the researcher is the primary instrument of data collection and analysis (Merriam, 1998). The researcher uses a flexible, subjective approach to gathering data and is open to an evolving or emerging structure to the study (Creswell, 2005). According to Guba and Lincoln (1981) researchers are responsive to the context where they collect data. The researcher can adapt techniques as the context demands, respond and begin to process information immediately, and clarify and summarize unclear responses. The researcher can take into account everything that is known about the situation and consider information in light of the specific context in which they operate.

The findings in qualitative research seek to describe participants’ understanding of a phenomenon in order to gain insight into that phenomenon. Patton (1985) explained that this “understanding is an end in itself, so that it is not attempting to predict what may happen in the future necessarily, but to understand the nature of that setting” (p. 1). Modes of analysis for qualitative research are frequently inductive and interpretive, and findings are richly descriptive, and often used to create or expand on theory (Merriam, 1998). Data analysis consists of analyzing texts, developing themes, and ultimately stating the larger meaning of the findings (Creswell, 2005).

Role of the Researcher

In qualitative studies the researcher is the primary tool for data collection and analysis. According to Merriam (1998):

Because the primary instrument in qualitative research is human, all observations and analyses are filtered through that human being's worldview, values, and perspective...The researcher thus brings a construction of reality to the research situation, which interacts with other people's constructions or interpretations of the phenomenon being studied. (pp. 22-23)

I returned to school to work on my doctorate degree out of the conviction that the current system of public education was bankrupt for those most in need of it, and that the only way I could successfully impact change in this system was to learn about successful school reform. I have spent the last two years researching successful models of school reform and have been most convinced by the success of the small schools movement. That said, I have read a great deal about how successful change happens in education and why it occurs so infrequently. Throughout this study I had to be self-conscious enough to ensure that these conclusions did not impose themselves on my research.

I purposefully took the following measures to minimize my bias: triangulation of data sources through the use of interviews, documents, and observations; production of audible and written records of all data gathered; creation of code maps and temporal records explaining how data analysis is undertaken; and the use of a data analysis grid. Additionally, member checks, the process of asking participants to verify the analysis, were employed in this study.

While bias is an inevitable and expressed part of all qualitative research, it need not be seen as a negative aspect to this research as long as I remained sensitive to

understanding how “biases or subjectivity shape the investigation and its findings” (Merriam, 1998, p. 23). Maxwell (1996) explained, “It is clearly impossible to eliminate the researcher’s theories, preconceptions, and values. The task is not to eliminate bias but to understand how values influence the conduct and conclusions of the study” (p. 91). Combining rigorous and transparent data collection and analysis procedures and being critically aware of my own partiality helped minimize bias in this study.

Site and Participants

In selecting the site for this study I used what Creswell (2005) called critical sampling in order to choose a case that dramatically illustrates the situation under investigation. My selection of a site was based on three criteria. First, I selected a pool of small schools that existed as part of the public school system in the state of Tennessee. Remaining part of the established system while reforming, rather than establishing private or charter school status, was a critical factor in answering my research questions. Second, out of the pool of small schools selected under my first criteria, I considered only those small schools that meet the *School Redesign Network’s* (2004) ten features for effective small school design. These include: (a) Personalization: How smaller classes and reduced teacher pupil loads personalize learning; (b) Continuous Relationships: How advisory and looping allow relationships to develop over time; (c) Standards and Performance Assessment: How clear, high expectations and performance-based assessment help students learn; (d) Authentic Curriculum: How active, in-depth learning with real-world connections leads to higher achievement; (e) Adaptive Pedagogy: How successful teachers adjust their teaching modes to meet students where they are; (f) Anti-

racist Teaching: How democratic schools that seek out diversity can provide a caring, respectful community for all students; (g) Qualified Teachers: How qualified teachers make a difference; (h) Collaboration and Development: How schools provide time for teachers to work together and develop their expertise; (i) Family/Community Connections: How schools build relationships with families and communities to strengthen student learning; and (j) Democratic Decision-Making: How shared governance allows for the creation of a common vision. Third, out of the small schools that meet both of my first two criteria, I chose a site where the school leaders and faculty responded favorably to my request to engage them in study. I sent letters to each appropriate site describing my research purpose, questions, and methods asking the schools for permission to complete my research on their sites. The Construction Academy in East Ridge High School in Chattanooga, Tennessee responded with enthusiasm.

Participants from the selected site included members of various stakeholder groups including faculty, administrators, and outside industry supporters. All participants signed an informed consent form and were assured confidentiality, however, the participants felt the study would be more useful to them if I used the school and participants' real names. The participants interviewed included the school principal, Cheri Dedmon; four teachers in the construction academy, Mary Jenkins, Steve Price, Vincent White, and Denise Hearn; the president of AGC (American General Contractors Association) Roger Tudor; and Ron Tanner, Senior Vice President of C & I Construction in Chattanooga and Workforce Development Chair of the local AGC. Observations of a

national conference put on by AGC and East Ridge Construction Academy additionally included the superintendent of Hamilton County, the Mayor of East Ridge, construction industry supporters from Chattanooga, members of the National AGC, and parents of students in the Construction Academy.

Data Collection Procedures

According to Alder and Clark (2003) case studies rely on several data sources. Yin (1994) wrote that the “First Principle” of data collection is to use multiple sources of evidence. In qualitative research this evidence can take the form of interviews, observations, documents, or the use of audio-visual materials (Creswell, 2005).

Table 1 documents specifically how each data source enabled me to answer the proposed research questions. This table was applied as a map for ensuring that the use of each data collection tool led to answers for each research question.

Interviews

For the purpose of this study I employed semi-structured interviews with members from each appropriate stakeholder group: teachers, the school administrator, and outside community supporters from AGC (see Appendix B, C, and D). Adler and Clark (2003) explained the purpose of semi-structured interviews saying, “structure in an interview can limit the researcher’s ability to obtain in-depth information on any given issue. Furthermore, using a standardized format implicitly assumes that all respondents understand and interpret questions in the same way” (p. 281). Interviews are useful for researchers more interested in understanding how individuals subjectively view their world and how they make sense of their lives than in measuring variables. Semi-

Table 1

Matrix of Research Questions and Data Sources

Questions	Documents	Interviews	Observations
How does one public small school overcome historical barriers to school reform by engaging in the “systems thinking” necessary to create sustainable school reform?	Scrap Book (defined below)	Teachers, Administrators, Outside Industry Support	Conference (explained below)
How does one public small school overcome historical barriers to school reform by demonstrating the capacity to learn, self-correct, and self-improve?	Scrap Book	Teachers, Administrators, Outside Industry Support	Conference
How does remaining inside the existing system impact one small school’s ability to achieve its educational purposes?	Scrap Book	Teachers, Administrators, Outside Industry Support	Conference

structured interviews are designed ahead of time, but are modified throughout the interview process to adapt to each interviewee. I designed the interview protocols for members of each appropriate stakeholder group: teachers, the school administrator, and industry supporters from AGC. In order to create a sense of continuity between the purpose of this study and the interview process I created questions that directly corresponded to my research questions (see Table 1). Maxwell (1996) explained the reciprocal process between interview questions and research questions: “Your research questions formulate what you want to understand; your interview questions are what you want to ask people in order to gain that understanding” (p. 74).

According to Merriam (1998) and Maxwell (1996), good interview questions can be divided into six types: experience/behavior, opinion/value, feeling, knowledge, sensory, and background/demographics. A variety of interview question types (see Table 2) were used to gather information from respondents in this study.

I conducted the teacher interviews at East Ridge High School during planning periods. Cheri Dedmon, the principal, was interviewed during an off-site meeting in downtown Chattanooga at the Public Education Foundation. Rodger Tudor and Ron Tanner were interviewed together at Ron Tanner’s office. The teacher interviews consisted of about four hours of audio-tape, Cheri Dedmon one hour, and Rodger Tudor and Ron Tanner two hours.

The number of participants interviewed for this study was not preset. It depended on how long it would take me to reach the point of saturation. I had initially wanted to interview all the teachers within the Construction Academy, however, it became clear

Table 2

Interview Question Analysis

Type of interview question	Teacher interview protocol	Administrator interview protocol	Outside community supporters interview protocol
Experience/behavior	C-4, C-2	D-5, D-14	E-4, E-6, E-12
Opinion/value	C-2, C-6, C-8, C-13	D-3, D-7, D-8, D-13	E-5, E-11, E-13, E-14
Feeling	C-2, C-15, C-16	D-2, D-15, D-16	E-2, E-7, E-15
Knowledge	C-4, C-6, C-9, C-10	D-4, D-5, D-9, D-10	E-3, E-8, E-9, E-10
Sensory			
Background/demographics	C-11, C-12	D-11, D-12	E-1
Key	C- Appendix C	D- Appendix D	E- Appendix E

after four interviews that I was not receiving any new or conflicting information. I continued to interview members from each stakeholder group until I reached the point where I no longer gained new information. However, in the case of Cheri Dedmon, she was the only administrator directly involved with the Construction Academy reform efforts, and therefore I interviewed her alone for the administrator stakeholder group. I ended up interviewing four teachers, two members of the AGC and one administrator.

Observations

Observation is the process of gathering open-ended, firsthand information by observing people and places. The researcher can take on one or more roles during observations. These roles exist on a continuum of obtrusiveness into the phenomenon being studied. For example, researchers may also be participants in the events they are

observing. However, even if researchers take measures to minimize their presence in the research setting, it is understood that the mere presence of the researcher may influence the participants' behavior (Adler & Clark, 2003). The researcher may be a participant observer, a non-participant observer, or a combination of both (Creswell, 2005).

I gathered information as a participant-observer so that I could ask clarifying questions as I collected data. My observations included a conference designed to help other schools understand the process of change undertaken by the East Ridge Construction Academy. The Construction Academy at East Ridge has been identified as a model career academy school by the national AGC, the Carnegie Institute, the Chattanooga Public School District, and various local and national awards (Scrapbook, pp. 60-74). Schools from around the country come once a year to find out how to implement this type of reform into their own schools. As a participant in the conference I was able to observe in detail how East Ridge Construction Academy was formed and how it is maintained.

The schedule for the conference included speakers who were involved in the formation of the Construction Academy, a site visit to the school, classroom observations, a presentation by the Construction Academy teachers and students, and time for participants to ask questions. I recorded events, speaker comments, and questions in the form of field notes that were taken on December 12, 2005. These field notes were then transcribed along with the interviews and used in my data analysis.

Observations are useful for several reasons. They can serve as a method of multiple source data triangulation as was discussed above. Additionally, observations

can be useful when the researcher is unfamiliar with the phenomenon or wants to study rapidly changing social situations (Adler & Clark, 2003). In this case study, observations were used for each of the reasons listed above.

Documents

Merriam (1998) explained that documents are a ready-made source of data easily accessible to the researcher. She favors the use of documents for two reasons. First, the collection of documents is a non-intrusive way to gather pertinent information. They do not alter the setting as investigators do when they conduct interviews or observations. Second, Merriam stated, “Nor are documents dependent upon the whims of human beings whose cooperation is essential for collecting good data through interviews and observations” (p. 112).

Documents, or artifacts as they are sometimes called, include public records, personal documents, or physical material (Merriam, 1998). They can include minutes from meetings, letters, newspaper articles, or other types of communication prepared by or about the participants. Most of these types of data are already present when the researcher enters the field. However, Merriam argued that there is another type of document generated by the researcher once they are in the field. Research-generated documents could include journal entries prepared by participants, photographs taken by the researcher, or an activity log kept by a participant. However, in gathering any kind of document it is important to keep the research questions centrally in mind.

Fortunately, East Ridge Construction Academy and the Chattanooga AGC kept chronological and detailed documents of the reform process in a scrapbook that

documented every step. The scrapbook includes minutes from AGC planning and staff meetings, information on the school website, reflections from faculty and students, program progress, mission and vision statements, timelines, program descriptions, and lessons learned. This invaluable resource provided in-depth information on the process of reform at East Ridge. The teachers in the Construction Academy loaned the scrapbook to me to make a copy. This document became an invaluable resource that enabled me to verify what I heard in the interviews and at the conference.

Data Analysis

The data were analyzed using Merriam's (1998) constant comparative method. Throughout the reviews of the interviews, observations, and documents, codes and eventually themes were developed through an iterative process. I continually evaluated new insights in light of the previous ones. Then, in turn, I created a deeper understanding of prior perceptions of the data.

The data from all sources were entered into Ethnograph 5.0 for initial coding. Codes were based on the conceptual framework discussed in Chapter 2. Coding, according to Adler and Clark (2003), refers to the process of "associating words or labels with passages in one's field notes or transcripts" (p. 503). Since coding requires a set of rules or criteria for selection, I have provided a definition of each initial code as an appendix.

Once initial coding of the data has been completed, the second iterative process of combining codes into categories is undertaken. In this process the codes are combined into groups with similarities and whittled down into a smaller number. Finally, the third

iterative process (see Figure 3) is carried out where the categories of initial codes are eventually used for the advancement of theory.

Figure 2, developed by Anfara, Brown, and Mangione (2002), is included in order to present the reader with a clear picture of how the data categories were formed and consolidated. The first iteration makes public the initial codes used for data analysis. The second iteration demonstrates how those codes were grouped to form categories or themes. The final iteration discloses how those categories were used to develop theory or contribute to theory advancement.

Methods of Verification

I employed several practices in order to verify the authenticity and trustworthiness of my data analysis. Creswell (2005) wrote, “Triangulation is the process of corroborating evidence from different individuals, types of data, or methods of data collection in descriptions of themes in qualitative research” (p. 252).

For the purpose of answering my research questions, I utilized two types of triangulation. First, I employed multiple types of data including observations, interviews, and documents to verify data collected from the participants (see Figure 3). Second, I used information gathered from multiple stakeholder groups in order to confirm or corroborate received information from varied perspectives (see Figure 4). Furthermore, a temporal designation table is included to make transparent the stages of category development (see Table 3).

Code Mapping: Three Iterations of Analysis (Anfara, Brown, & Mangione, 2002, p. 32)

(Third Iteration: Application to Data Set)

Code Mapping for A Case Study of Successful Small School Reform:

1. How does one public small school overcome historical barriers to school reform by engaging in the “systems thinking” necessary to create sustainable school reform?
Themes: 1a, 1b, 1c, 1d, 1e
2. How does one public small school overcome historical barriers to school reform by demonstrating the capacity to learn, self-correct, and self-improve?
Themes: 2a, 2b, 2c, 2d
3. How does remaining inside the existing school system impact one small school’s ability to achieve its educational purposes?
Themes: 3a, 3b, 3c, 3d

(Second Iteration: Pattern Variables -- Components)

1a. Dynamic Process	2a. Study of Information	3a. System Ready for Change
1b. Contextualized Inquiry	2b. Building Capacity	3b. Bureaucratic Structures
1c. Power Relationships	2c. Double-loop learning	3c. School Perceptions
1d. Open System	2d. Recognizing and Reinforcing Success	3d. Appealing to the Public
1e. Initiative and Inertia		

(First Iteration: Initial Codes/Surface Content Analysis)

1a. integrated parts	2a. learning	3a. change initiative
1a. multiple causations	2a. information	3a. Carnegie grant
1a. system change	2a. retooling	3a. receptive to change
1b. organizational needs = specific non-transferable	2b. communication	3b. hierarchies
1b. particular strengths/weaknesses	2b. culture shift	3b. traditional politics
1b. part of a larger picture	2b. creating leaders	3b. alternatives to bureaucracy
1c. power structures	2c. questioning practices	3c. teacher converts
1c. decision-making	2c. making mistakes	3c. change in percept
1c. responsibilities/leadership	2c. self-correction	3c. experience success
1c. transform power	2c. sensing the future	3c. reflection
1d. permeable boundaries	2d. proactive thinking	3d. public converts
1d. interaction w/ outside environment	2d. learn from mistakes	3d. increased appreciation
1d. plugged into context	2d. plan and predict	3d. success = freedom
1d. outside support		3d. success = improved image
1e. jumping in		
1e. leap of faith		
1e. readiness		
Data: Interviews	Data: Observations	Data: Documents

Figure 2. Code mapping.

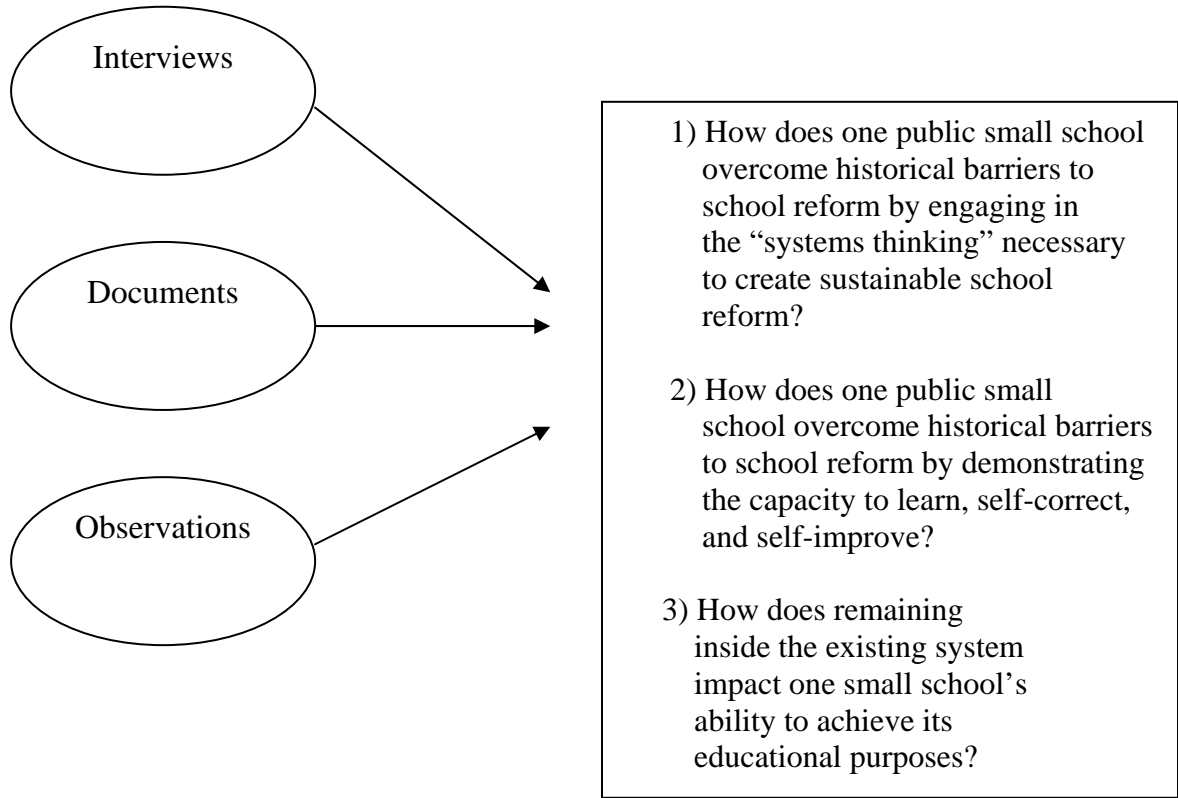


Figure 3. Triangulation using various data collection technique.

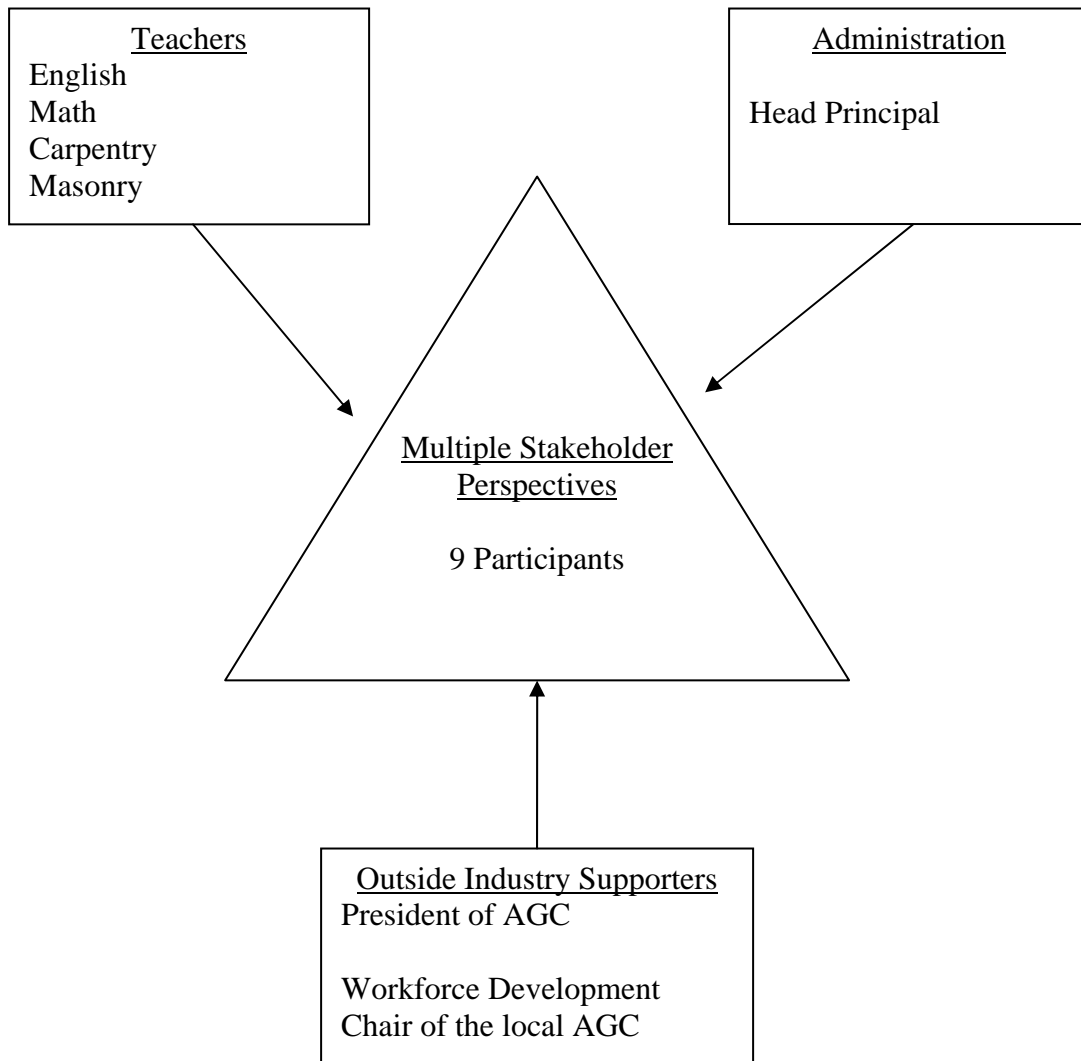


Figure 4. Use of multiple participant groups to verify information.

Table 3

Components of Categorization/Temporal Designation

Component of Categorization	Temporal Designation	Temporal Designation	Temporal Designation
Origination Where does the authority for creating categories reside?	A priori	A posteriori	Iterative
-participants			
-programs			
-investigative			
-literature	DP, CI, PR, OS, II SI, BC, DL, RR, SC, BS, SP, PP		
-interpretative			
Verification On what grounds can one justify a given category?			
-rational			
-referential		SP, PP	OS,
-external		SC, BS	II
-empirical		DP, SI	BC
-technical			
-participative		CI, PR, DL	RR
Nomination What is the source of the name used to describe a category?			
-participants			PR, SI, BC, BS
-programs			
-investigative		II	CI, RR
-literature	DL, SC	OS	DP,
-interpretive			SP, PP

Category Label Key:		
1a. Dynamic Process (DP)	2a. Study of Information (SI)	3a. System Ready for Change (SC)
1b. Contextualized Inquiry (CI)	2b. Building Capacity (BC)	3b. Bureaucratic Structures (BS)
1c. Power Relationships (PR) (SP)	2c. Double-loop Learning (DL)	3c. School Perceptions
1d. Open System (OS)	2d. Recognizing and (RR) Reinforcing Success	3d. Public Perceptions (PP)
1e Initiative and Inertia (II)		

(Constas, 1992)

Table 3 was adapted from Conastas (1992) in order to assist the qualitative researcher in documenting the process of category development. It is a two-dimensional model that accounts for components of categorization and the temporal designation in order to make public the process of category development. Making public the methods of category development increases credibility of research. This table, according to Conastas, “may be used to make explicit the configuration of actions and temporal qualities associated with category creation in a given study” (pp. 256-257).

Trustworthiness was furthered by the use of verbatim participant language and accounts reported in the analysis in order to avoid researcher interpretation. The use of an audit trail and continued investigation until reaching the point of saturation also ensures trustworthiness of the data analysis. Member checks, asking participants to verify the analysis, guarantee that there is a linkage between the analysis and realistic conditions.

Summary

An exploratory, single-case study design using qualitative data collection procedures allowed me to most accurately and deeply answer my research questions. The use of multiple data sources and members of various stakeholder groups ensured triangulation in this study. Transparency of my methods and data analysis procedures also increased trustworthiness.

CHAPTER 4

FINDINGS AND ANALYSIS

Introduction

This chapter is organized to answer my research questions: (1) How does one public small school overcome historical barriers to school reform by engaging in the “systems thinking” necessary to create sustainable school reform; (2) How does one public small school overcome historical barriers to school reform by demonstrating the capacity to learn, self-correct, and self-improve; and (3) How does remaining inside the existing school system impact one small school’s ability to achieve its educational purposes? The chapter will begin with a brief introduction to the findings resulting from this study, describe the context in which the study takes place, explain the impetus for the creation of the small school I studied, and end with a concluding discussion.

The findings are based on an analysis of three main data sources. First, interviews were conducted with the principal of East Ridge High School, four teachers in the Construction Academy, and two lead members of the local industry partnership, the Associated General Contractors of Chattanooga (AGC). Second, teachers in the Construction Academy loaned me a scrapbook that documented their history and progress. The scrapbook is a compilation of documents collected by the teachers and members of the AGC, and is used during site visits and conferences to describe the change process in detail. Third, I attended a conference hosted by the East Ridge Construction Academy and the local and national AGC that was designed to help schools that wanted to implement construction academies across the country. My observations

were documented as field notes during this conference. For a complete description of data collection methods and procedures see Chapter 3.

This chapter will disclose the findings for this study. Due to a request by the participants, all proper names will remain unchanged and no pseudonyms will be used (see Appendix F).

It is important for the reader to be aware of two things. First, this research is a case study of a *small school* reform. Even though the research questions come from the wider arena of educational reform, the results found in this study only apply to the creation of a small school within a larger school. Second, due to the nature of my research questions, my findings were very specific. They did not lend themselves to open-ended interpretations of the data collected. It is plausible that using a different conceptual framework would uncover a vast array of findings, however, this study was designed with three very tightly-woven questions as its guide.

Context

I was introduced to East Ridge High School in Chattanooga, Tennessee, as the site for my case study by the national small schools listserv. Periodically, I would notice posted articles on East Ridge High School and began to follow their progress because they were in close proximity to Knoxville, where I live. In the fall of 2004, a notice came out on the listserv that East Ridge High School and the Associated General Contractors of Chattanooga (AGC) were hosting a national conference on creating construction academies. I signed up to attend and became convinced that East Ridge was indeed the school I wanted to study.

East Ridge High School exists as a part of Hamilton County Schools, which serves the greater Chattanooga, Tennessee, area. It is a district of over 40,000 students and 81 schools. According to the Co-Intelligence Institute for Healthy Communities, Institutions, and Societies (2005), throughout the 1980s Hamilton County became one of the more troubled districts in the state, citing teacher drain to nearby, higher paying Georgia, a highly diverse student population, and a dilapidated downtown as key problems for education. However, a massive revitalization of Chattanooga undertaken during the early 1990s drew national attention and recognition. Through this process, Chattanooga revitalized its downtown, and renovated an old theater and other historic buildings, as well as a once-decaying bridge that is now the world's longest footbridge. Chattanooga now has the world's largest freshwater aquarium, riverfront walks, and greenways that generated new stores and restaurants, and led to the first U. S. Presidential Award for Sustainable Development, given to the city in 1996.

As a byproduct of this progress, Hamilton County School District was asked to participate in a training session hosted by the Carnegie Corporation for *Schools for a New Society*. They eventually became one of seven districts in the country to be awarded a \$6 million Carnegie grant to reinvent high schools. East Ridge High School was among the schools that would be redesigned.

According to principal Cheri Dedmon, whereas downtown Chattanooga is vibrant and full of growth, the community of East Ridge on the boarder of Georgia has been relatively untouched by these changes. She calls East Ridge “a self-defined working class community, with a median household income of around \$36,000 a year.”

According to the Tennessee Department of Education, East Ridge High School is comprised of 73% White, 20% African American, 4.2% Hispanic, and 2.7% Asian students (<http://www.k-12.state.tn.us/rptcrd05/school1.asp>).

Cheri Dedmon explained that when she first became the principal at East Ridge the graduation rate hovered around 50% and community members were upset about the declining reputation of their community. “There was a real sense that things had gone downhill in recent years,” she said. “People tend to live here for a long time and they remembered when things had been better.”

At first glance, East Ridge High School itself does not look like a place where vibrant reform is happening. The building is older, traditional brick, with two-stories. Air conditioning units hang out of the metal-paned windows. It looks like most high schools built in the 1950s with cracked linoleum floors and concrete block walls. According to the Tennessee Department of Education, it serves a population of 1,004 students Grades 9-12, 52.7% of whom are classified as economically disadvantaged. However, in 2005, according to the Tennessee state report card, the graduation rate at East Ridge High School was up to 90% and it was designated as an “improving” school (<http://www.k-12.state.tn.us/rptcrd05/school1.asp>).

Impetus for Creating a Small School

According to their mission, the Associated General Contractors of American (AGC) is an organization of qualified construction contractors and industry-related companies dedicated to skill, integrity, and responsibility. The association provides a “full range of services satisfying the needs and concerns of its members, thereby

improving the quality of construction and protecting the public interest” (<http://www.agc.org/page.wv?section=About+AGC&name=About+AGC>, ¶3). Rodger Tudor, president of the East Tennessee Chapter of the AGC, and Ron Tanner, Senior Vice President of C & I Construction in Chattanooga and Workforce Development Chair of the local AGC, took on the national AGC challenge of improving the construction industry by connecting with local schools.

Ron Tanner explained projected shortages within the industry, “We knew the median age of the construction employee was rising rapidly and we weren’t getting quality people to put in their places.” Steve Price, the masonry instructor in the East Ridge Construction Academy, echoed this idea saying, “I came from the construction industry. I knew that there was a big need being a foreman for a commercial contractor for years and years. Being in construction for almost 30 years, I knew the average age of a brick layer was about mid-forties, and we needed to attract a younger group.”

At a Workforce Development Task Force meeting of the East Tennessee AGC chapter on March 22, 2001, committee members brought in ideas and some preliminary research on how to forge a connection between the construction industry and schools. According to their minutes, the task force discussed the possibility of establishing a model career academy within a high school. They began to look for national examples to serve as illustrations for “best practice.” Rodger Tudor recalled:

What we found was a place in Florida, which was supposed to really be a hot spot as far as what a construction-career academy is. We asked them to send us their stuff. We asked for lesson plans and things to see what they were doing. Well, they would go do their English and math and science, then come back and build bird houses. So, we couldn’t find anything that was established like we wanted. It was our vision that we

would merge the academic and the technical on both sides, in the classroom and in the lab. After we kept hitting dead ends, I said well, 'Let's see if we can do this in Chattanooga where I can be more involved and provide help.' I went to the local AGC and got their support. My next stop was all of the training directors in Chattanooga because all the technical training we have here is unionized, with the exception of the masonry association – they do their own thing. We got all those guys together and they bought into the idea. They said they would help us in any way they could and so far they have. Then we were directed to the director of vocational education, which at that point in time was Andy Holt. He pointed us to East Ridge for several reasons. He said that Cheri Dedmon was in her second year as principal there. She was a strong leader and a go-getter. She was also instrumental in writing the Carnegie grant. They also had an established vocational education building over there with masonry and carpentry in place. So that's how we got there.

At that time the task force tentatively decided on the following definition of a construction career academy as “a small learning community or school within a school in which construction, technical, or vocational students receive construction-specific courses supplemented by academic instruction presented in an applied and practical manner” (Scrapbook, p. 30). Additionally, the task force decided that it was important to emphasize their desire to serve a diverse population of students with options “ranging from technical through professional and entrepreneurial career paths” (p. 30).

Ms Dedmon had been a principal at East Ridge for a little over a year when Ron Tanner came to her with the idea of the construction academy. She recalled:

Andy Holt, who was the Career and Technical Education Coordinator for the county, was approached by Ron Tanner from the AGC. Ron was on a national workforce development committee and he was charged with trying to find a way to connect between the high schools, the educators, and the workforce. He was specifically concerned with how the construction industry could support what was happening in the schools, and in turn the schools could produce people prepared to work in the construction industry. It was going to be a partnership. So Ron decided to do this in Chattanooga where he was based. He approached Andy Holt, about where to come make a pitch for this kind of program. Andy sent him

to East Ridge because he felt that the leadership would support the change and that there was a wide variety of vocational programs already in place there.

Ron Tanner ran into several initial problems. First, the faculty at East Ridge was not receptive to the idea of a construction academy. “They weren’t anywhere close to being able to be receptive to that kind of ‘outside the box’ idea at the time” said Cheri Dedmon. Task force minutes on October 11, 2001, state, “The school and the administration are attempting to secure the commitment of teachers” (Scrapbook, p. 12). Second, there was no existing curriculum or model that the AGC could point to in order to show teachers how the construction career academy should look.

Despite these initial barriers, by 2005 the East Ridge-ACG Construction Career Academy had received local and national praise from construction and educational entities. Teachers in the career academy have been invited to present at dozens of conferences, they have won awards, and they have now hosted three national conferences of their own. However, not all the high schools that were originally awarded the Carnegie grant have retained their funding. What makes the reform at East Ridge unique? I plan to analyze that exact question in my findings by using the theoretical framework on school reform outlined in the literature review.

Research Question 1: How did East Ridge High School Engage in Systems Thinking?

Systems Thinking

According to writers on educational change, engaging in “systems thinking” is vital to establishing and maintaining real change (Fullan, 1990; Sarason, 2000). Systems theory forces people to look beyond the propensity to attribute phenomena to a single

cause, and emphasizes subsystems and multiple causations (Owens, 1991). Systems theory transforms the analysis of organizations from a linear cause-and-effect model to contextualized investigation of interrelated parts.

Using this framework, the following five components were established to facilitate the analysis of the data on the first research question, How did East Ridge High School engage in systems thinking during the creation and sustenance of its small school-within-a-school? These components are: (1) organization as a dynamic process, (2) contextualized inquiry, (3) redefining power relationships, (4) opening the closed system, and (5) initiative and inertia. Each one of these components will be described in detail below.

Organization as a Dynamic Process: A System of Interrelated Parts

Viewing organizations as a dynamic process includes several key components. First, the system is no longer seen as a series of cause-and-effect events, but rather as an integrated system of interrelated parts. Reactions may have multiple causations, and changing one aspect of an organization may affect several others. Seeing organizations as dynamic processes also involves looking at all the stakeholders involved in the organization, considering the organization as a constantly changing or living thing, and observing how all stakeholders impact or resist change.

In order for the East Ridge Career Academy to get off the ground several key pieces had to come together, as principal Dedmon put it, “in the right place, at the right time.” Interestingly all stakeholder groups named the same vital pieces. Ron Tanner said:

We developed an outline through the national AGC that if you are looking to establish a construction-career academy these are the things that need to be in place. In a capsule, you have to have industry support, number one. You have to have that. You have to have a principal that is committed and you have to have teachers that are committed. They take time in the summertime to come in and work. It's just amazing how hard they work. You have to have the system's support to some degree, and you've got to have political and public support. That's what it takes.

Cheri Dedmon, East Ridge's principal, stated:

We brought in all the key people to make this thing work. Teachers, the industry, community members, parents, and support from the system were all key players.

The English teacher in the academy agreed:

We had to think about the superintendent, the school board, and the administration. They are all key components because they all have to agree that going into this new educational reform is vital.

In the documentation kept by East Ridge and the AGC on "Keys for a Successful Construction Academy," components listed included: parents, key faculty, community support, industry mentors, unions, school board, local politicians, students, business partners, media representation, funding, and training materials, to name a few (Scrapbook, p. 30). This framework took a wide-angle view of what it takes to create and sustain school change by listing dozens of internal and external supporting entities.

When I attended the conference hosted by East Ridge on December 15, 2006, many of the stakeholders enlisted to support the Construction Academy were present. I met the superintendent of Hamilton County Schools, the mayor of East Ridge, several local contractors who acted as mentors and co-curriculum designers, a parent of one of the construction academy students, and many of the students themselves.

The interviews and documentation collected at East Ridge Construction Academy are replete with examples of how stakeholders were not only named as collaborators, but were enlisted in the planning and implementation processes.

To get started they thought it was important that they get people in the community to buy into our program and see what it was going to be like. (Mary Jenkins, math)

The kids we found out, were buying into it because it's hands-on, it's applied learning. (Ron Tanner, AGC)

It all came together that spring when the construction industry came on board because it just clicked. (Cheri Dedmon, principal)

My own observations confirmed that this involvement increased the feeling of shared ownership that stakeholders felt for the program. For example, I sat next to the owner of a small, independent electrical company who told me how he looked forward to taking days off to come and see the progress the kids were making. "I helped the teachers write the curriculum they are using with the kids in the Construction Academy, and I love coming out to see how things are progressing." He joked with some of the students who sat at the table with us, "I'm just happy not to be at work!" (Field Notes, December 12, 2005).

Ms. Dedmon expressed her understanding of giving people ownership of the program, saying, "You have to have people involved in order to be a success and the only way to get them involved is to make them part of the process, part of the program." She further described the ownership the kids, the teachers, and the AGC took in the academy as key factors. "The commitment from AGC was powerful. They came to us. They

partnered with the kids. They talked to them and taught them how to interact with other adults besides parents and teachers.” Ron Tanner of the AGC agreed:

We can't replicate the academy. We don't have the resources to do that, but whether it is construction, medical, automotive, selling real estate, or whatever, all the components are there. If you get industry involved and you get people from that industry to sit down with the teachers, you can have a successful academy.

It was decided jointly that the only way to make the curriculum relevant to the real world of construction would be to have teachers and people from the field sit down together for one week and hash out a curriculum that met course objectives using realistic, hands-on experiences.

Mary Jenkins, the math teacher, remembered that members of the faculty all went about planning the curriculum differently.

I already knew what my curriculum was. It was mandated. I wanted to start out writing geometry and then Algebra II in a progression. I sat down with industry members and said, ‘This is what I am going to teach in this unit: right triangles. How does that apply in the work field?’ The contractors gave me examples and we proceeded to write whole scenarios for projects that could be brought into the classroom on each topic.

The English teacher, Denise Hearn, recalled:

They came to us and we tried to put all the components together. The ACG brought in individuals from outside to help write curriculum, from architects to concrete layers, to contractors, all kinds of business people came in to help write the curriculum. We all sat down together and came up with ideas of things that we could tie into the curriculum that would also draw the kids’ interest not only out there in the shops, but also in the academic classroom.

The realization that this dynamic planning process gave teachers and outside business supporters ownership and investment in the program became evident the

following summer when the AGC asked if the teachers wanted time to write more curriculum. Denise Hearn said, “We all [teachers] jumped up and said yes! And then Ron Tanner told us he had over one hundred people from the industry who all wanted to come help and he had to choose among them.”

Viewing the change process at East Ridge through the framework of organizations as dynamic processes illuminates several important issues. Stakeholder involvement, ownership of the program, and outside systems of support all came together to foster a systemic change effort.

Contextualized Inquiry: Our Town

Contextualized inquiry emphasizes the importance of approaching change as a contextually specific undertaking. Using this component of my systems thinking framework, I was able to examine whether reform efforts at East Ridge took into account the specific needs of the school, or whether they were generic changes designed to transfer to any system or organization. This aspect of the change process is important because of the pressure schools often face to conform to mandates handed down from the national, state, or local levels.

Upon analyzing the data, it became apparent that not only was the planning and implementation process for the Construction Academy dynamic, it was also grounded in the localized context of East Ridge High School and the community in which the school exists. The AGC realized the need for this contextualization early on in the process. Minutes from a task force meeting held on March 22, 2001 stated, “...career academies are structured to provide resources based on local needs and circumstances” (Scrapbook,

p. 15). Although the initial goal of the national AGC was to design a complete “neat little package” that could be handed to someone anywhere in the country to begin a construction academy, Rodger Tudor said the local AGC backed away from that idea once they got started and saw how the program needed to be tailored to the local school’s needs and the local community’s resources. He said:

It takes local involvement with the teachers, the industry, and the school system. We began to ask, ‘How do you get industry involvement?’ You don’t just go out and say, ‘I want you guys to come in and teach once a week.’ The way we got industry involvement was sitting down with those teachers at that workshop. Setting up a small academy is different for everybody.

Ron Tanner of AGC agreed, “What works in Hamilton County may not work in Birmingham, Alabama. The curriculum had to be localized.”

At the conference I attended on December 12, 2005, the superintendent of Hamilton County Schools confirmed the need for each high school to find their own solutions. He accredited the Carnegie grant with making that individualization possible.

He said:

Because our schools are so different, we knew that one model would not fix all schools. (Field Notes, December 12, 2005)

The teachers in the construction academy emphasized the importance of their specific context and localized ownership. The masonry teacher, Steve Price, said:

There have been a few schools that want to replicate this program. But you can’t tell people they have to do it. They have to want to do it. We have ownership of this program.

The English teacher, Denise Hearn, agreed:

I think that is why our program is going to be more sustainable than others. Each school population is completely different. What is good for one school may not be good for another school.

Principal Cheri Dedmon explained the process she went through to contextualize or customize information for her particular school. She described bringing in outside ideas from a conference and localizing them to East Ridge. Ms Dedmon said:

I am a person who borrows ideas from anybody. When I heard his ideas [presenter at a conference] I knew they weren't going to work exactly at East Ridge, but I knew parts of them would work in some version.

Mary Jenkins, math teacher, echoed what I heard the superintendent say at the East Ridge conference about the importance of the Carnegie grant letting each school plan their own reform. She said:

Another high school I know of has been successful in reform and they did it a different way. It was slower to come about, but I think they will end up at the same place as us eventually.

It is clear that the reform process within the Construction Academy accounted for the specific needs of the students at East Ridge High School and used local support from the surrounding area to bolster reform efforts. Whereas the initial goal of the AGC was to create a generic package that could be transferred to any school interested in starting a construction academy, this specific reform effort took on a contextual inquiry that focused on the needs and strengths of East Ridge.

Power Relationships: The Big Bad Wolf is Dead

One of the most noted barricades to true reform in school systems is that the people who are in positions to make change would have to give up their bases of power in order for change to occur (Sarason, 1990). Bureaucratic hierarchies tend to reproduce

themselves. I, therefore, wanted to closely examine the power structures within the Hamilton County School System and East Ridge High School to understand how or if those power relationships had shifted.

Early in my inquiry it became obvious early that power and control were dramatically altered on several levels during this reform. Cheri Dedmon, school principal, wrote:

Relational changes came quickly and with positive results. The Construction Academy changed the way teachers worked together among themselves and among community members. It changed the way in which our students viewed their own personal worth and that of their teachers and the adults around them. (Scrapbook, p. 41)

The altered power relationships apparent in conjunction with the Construction Academy occurred: (1) between the school and the school system, (2) between the administrator and the school, (3) between the teachers and school and district administration, (4) between the academic and technical teachers, and (5) between the faculty and the students.

First, a change in power relationships occurred between the school and the school system. The Hamilton County School System approached school change very differently via the Carnegie grant initiative. Principal Dedmon explained, “The power relationships are different because of the way the Carnegie grant was written.” Each high school decided how they would reform. They had to meet certain change objectives, but they were free to decide how to go about reaching their goals. There was no specific mandate from district administration that told East Ridge how its reform must look, or how it should accomplish its goals (See Appendix G).

The second change in power relationships occurred between the administration and the school. The partnership between East Ridge High School and the AGC altered traditional educational administrative practices. Ms Dedmon said:

Meshing our two cultures together was hard work because they are very diverse cultures, education and business. I had to negotiate how we would make decisions. It was not a very natural relationship. I didn't want to offend these people who were offering to be our partner, but I had to remain committed to our real purpose, which was education for all our kids. That push and pull was constant and sometimes we just agreed to disagree.

Cheri Dedmon explained that what became powerful for her was seeing how the AGC was able to accomplish things so quickly.

The AGC people, they wanted things done yesterday. I was used to going through bureaucracies. It took forever to realize that sometimes I would make decisions and sometimes they would. We really became a merger because it was like having two CEO's in the same company. It has been a good partnership We matched each other with time and energy.

Throughout the interviews and at the conference the principal mentioned her gratitude for learning how “business people get things done.” She said:

Now we have our own little board of directors and we figure out what is best for kids, and then we figure out how to accomplish it. It doesn't become about whose job is it? It becomes about who has the leverage to get it accomplished and what group of people can make it work for kids.

The third major shift in power occurred for the teachers. Every teacher I interviewed talked about the freedom they had to make changes from both the school and district administration and the AGC business partners. These examples are taken from teacher interviews and written reflections:

They [AGC] didn't come in and oversee us. Whatever we turned out, they took. (Mary Jenkins, math)

Business had a clear idea of what they wanted. They could have very easily come in and told us how they wanted it done, but they didn't. We are very lucky that they understood the need for us to feel ownership. (Denise Hearn, English)

Our administrator puts the ball in our court. She might come in and sit down to bring in new ideas. She'll say, 'Have y'all thought about this or that?' Sometimes someone from the outside can see something you can't see from the inside. She's good about coming out to see how things are going, but letting us do our own thing. (Steve Price, masonry)

Our administrator stays out of our hair. She lets us make the decisions. She doesn't micromanage. (Vincent White, construction)

In the spring of 2005, I had participated in a regional education conference with a group of teachers who told me that all they ever heard from their principals and district supervisors was, "raise test scores," and "teach the curriculum."

These topics were blaringly absent from the conversations I had at East Ridge. I asked the superintendent how he withstood the national accountability pressure.

He said, "It's easy. We are increasing accountability, we are just doing it in a way that makes sense" (Field Notes, December 12, 2005). I asked Ms Dedmon about test scores and she responded:

I told them [teachers] that test scores are important for test scores, but asking kids to become informed citizens was much more important. Could they go vote? Were they literate? Teachers would complain that there was so much curriculum and I would ask, 'Well, how do you as teachers let students know that some things are more important than others.' We need to spend time on things that you know as professionals are important. I trust your judgment as a professional. Then, before test time we will do what we need to and teach kids about taking tests. But if they can't think, they can't do anything.

Teachers in the Construction Academy perceived that they owned the program because they were given the space and the freedom to make decisions about how the

program was carried out every day. Palmer (1983) describes creation of space as “remove[ing] impediments to learning that we find around and within us...” (p. 71).

Cheri Dedmon created such a space for her teachers at East Ridge.

The fourth power relationship that changed throughout the creation of the Construction Academy was the relationship among teachers. At the conference I attended teachers emphasized to the participants how closely they worked as a team. They joked with each other during presentations and used words like *friendship* and *colleague* to describe their relationships (Field Notes, December 12, 2005). These relationships did not exist before the creation of the Construction Academy. Forming the Academy required teachers to take risks that they had not previously taken. Ron Tanner of AGC said:

I think that the technical instructors have to be willing to cross that line. Because before, the guys out there in the shop will tell you they never went inside the school. Now they are going in there and learning how the academics teach. They are actually in there doing joint instruction with the math and English teachers. They are improving their teaching skills by doing that.

Cheri Dedmon noticed when she first became principal at East Ridge that “the academic teachers were in one building and the professional or technical teachers were in another and their worlds did not cross too often. They came from different types of education backgrounds and practices.” However, within the academy the traditional lines of vocational and academic seemed to melt away. Teacher reflections collected during the academy’s first year demonstrate that teachers began to value and enjoy this collaboration.

Crossing that divide between academics and vocational education was not easy. It took teachers like Steve Price, masonry teacher, who were willing to try something

completely different in order to bridge those differences. He demonstrated his initial uncertainty, saying:

I wasn't sure about it, but I came up and taught the estimating for masonry in Ms. Jenkins' math class. I was a little nervous and apprehensive about coming into the math class and teaching math. I was going into her domain, but it worked really well. It surprised me. Now it just seems natural.

Denise Hearn, English teacher, described the changes that took place among the teachers because of the academy. She described an increase in collaboration and a decrease in departmentalization. Denise said:

We never did that kind of collaborating with each other before the Construction Academy, maybe within my own department, but never with anybody in the school. We never crossed curriculum. This is an embarrassing thing to say, but before the Academy I had been inside the vocational building maybe five times in fifteen years. That shows how I was totally clueless about what they were doing.

In the fall of 2003, during the second year of implementation, teachers began to purposefully plan for collaborative opportunities. The carpentry teacher, Vincent White, explained how he and the English teacher scheduled their classes together so they could combine their students for integrated instruction. He said it was "extremely valuable for the kids to see that teachers were not only committed to the classroom, but also valued what they did in the shop."

The fifth power relationship that changed occurred between the faculty and the students. The Construction Academy appears to have dramatically altered the way teachers and students interacted with each other. The Construction Academy is "a family where kids are known. Everywhere else they are just a number," said Mary Jenkins. At the conference held by East Ridge High School and the AGC to tell interested schools

how to begin career academies, Denise Hearn appealed to the audience saying, “I’ve never been involved in a program where I have seen results like I have with these students.” She continued, “We have dehumanized education. We put 1,000 kids in a building and expect them to succeed. With these kids we have a bond in common. They have people that really care about them at school” (Field Notes, December 12, 2005).

Other teachers gave the following examples:

I think being a part of The Construction Academy has sold me on small learning communities more so than traditional high schools. Our high school isn't even that big, but teachers don't know every student, nor do the students know every teacher's name. You have them for one period and you may never see them again. So kids become a number. Who watches out for them if they are a number? Who is worrying about your best interest? In our academy right now we have 80-85 students and every one of those kids is held accountable. We look at their grades. We call them in if they have a problem. If they get into trouble we talk to them. If they succeed we are there to pat them on the back. If they have trouble at home or they have financial problems, they come see us. The students will say that the construction academy is like a family to them. (Denise Hearn, English)

The first thing I noticed about being a small school within a larger school is that the kids feel like a family. They see it as an exclusive fraternity, which is good and bad. It is good because they feel special. It's bad because they sometimes feel superior. They know that somebody knows what's going on in their existence. They know that one or two of us will be on them if their grades drop. Somebody keeps up with them. You might think kids don't want that, but they like somebody being aware of them. Even if you scold them, they know it's because you care about them. It is weird how our classes within the academy are different than my other classes. We have had more real life conversations which build relationships. (Steve Price, masonry)

We had some people in the other day looking at the Construction Academy. I took them around and we walked into the English construction class. Two or three students stayed back after the rest went to lunch to work on a project. The group I was taking around asked me a question and I said, ‘Why don't we let the students answer that.’ The question was, ‘What has the construction academy meant to these students?’ One

student stood there and he looked at me and said, 'Do you want me to be honest?' I told him to be honest and he said, 'If wasn't for the construction academy I wouldn't be in school today. I came to school and I was ready to drop out because I could not understand why I was there. What I was learning did not make sense. Since I've been in the academy, when I leave school, everything I learned that day I know that I can apply for the rest of my life. I also ran into people who cared about me, showed an interest in me, and I became a person as opposed to a number. That made a difference to me.' (Mary Jenkins, math)

In a survey (Scrapbook, p. 43) given to students in the spring of 2004, at the conclusion of the academy's second year, students identified several key shifts in their power relationships with teachers. They felt they were held to a higher standard, that they got to know teachers and peers better within the academy, and that because of those relationships, they did not want to let their teachers down. Students explained that they were more likely to show respect to the teachers within the academy because they knew them better.

In her written reflection on November 7, 2003, Principal Dedmon summarized the shifts in power relationships that had occurred throughout the efforts to reform East Ridge High School. She recalled the dramatic shift in how teachers worked together and with the outside community happened over time calling these, "positive results" of the Academy implementation (Scrapbook, p. 21).

The East Ridge Construction Academy reform efforts are steeped with changes in power relationships. Changes in how decisions are made in the Construction Academy are evident. A great deal of power appears to have been handed from the top of the traditional educational hierarchical system to the bottom, and from outside the system to the inside. Bureaucratic structures of top-down management are virtually absent from the

data collected on this small school reform effort. Additionally, new ways of sharing power and making decisions were formed among teachers and administrators. Moreover, this shift in power relationships seems to have carried over to how the teachers within the construction academy interact with their students. Teaching is no longer about power or control, but about fostering and maintaining meaningful relationships. Altering these power relationships is another demonstration that East Ridge was employing systems theory.

Opening the Closed System: Tear Down the Wall

One of the key attributes of “systems thinking” is viewing the organization as an “open system” rather than a “closed” one. Open systems react and respond to their environments, they are supported by outside structures, and recognize that self-sufficiency is limiting, if not detrimental, to survival. Schools have been criticized as being some of the most closed and isolated organizations in existence (Sarason, 1990). They often appear to operate within a bubble or a vacuum, unaware of the larger system in which they exist.

The partnership between business and education at East Ridge opened up the school organization to the community in entirely new ways. It was this commitment from the outside that caused Principal Cheri Dedmon to forge ahead and begin the Construction Academy. She said, “It was very clear to me that this was going to be very different from anything else that I had seen before because there was such commitment there from the outside.”

Teachers also noted this commitment. Denise Hearn, English teacher, said she had never in all her years of teaching felt the kind of support she did from AGC. The teachers reported receiving the “necessary materials for instruction,” the “financial support,” and the “recognition for a job well done” as examples of how AGC supported their efforts. The AGC was described by Ms. Hearn as “cheerleaders who had a vision for the school and then let us implement that vision the way we thought it could work.” Written reflections by Cheri Dedmon confirm that AGC and industry members “asked over and over again, ‘What do you need,’ and ‘How can we help?’”

However, Ron Tanner and Rodger Tudor will be the first people to admit that they did not provide this support structure alone. Rodger and Ron remembered:

The one key that I think has made this a huge success is the community. Our community really embraces the Academy. I would encourage everyone to get the community into the classroom to share their life experiences. They are happy to do it. (Ron Tanner)

When we first got started we didn't go through the school system, but we did have a school board member that bought into our idea. As it started to gel and word got out, the superintendent bought into it. Rodger and I went and sat down with the county mayor and the city mayor separately and told them what we were doing, what our goals were, and they just bought into it 100%. They told us they would do whatever they could do. (Rodger Tudor)

We've been told that the key is industry and I think it is. It is the support of the unions, the risks that the contractors take on kids. I can pick the phone up and call anybody who is related to construction in this town and say, ‘We need your help.’ And I think we'd get it. It is just amazing the support we have. (Ron Tanner)

Principal Dedmon also took initiative in going outside her own organization for support. She remembered how being a female high school principal made it hard to break into the administrative club at first. She did not have the ability to “pick up the

phone and say, ‘could you answer my question about such and such.’” Those relationships took a while to build and in the meantime Ms Dedmon went outside the district and started looking for resources. She said she spent a lot of time “selling East Ridge High School to the community.”

Eventually she began to connect with those support systems that enabled change to take place within her building.

When I initially assessed what was going on in the building trying to figure out where we needed to change, the teachers weren't necessarily interested in change, but the people in the community wanted it. East Ridge Education Committee was a small foundation, but they wanted their schools to be strong. They wanted to become known in the community. They felt like their stature in the community had been diminished over the years. They really wanted somebody to help them boost the East Ridge image. I went out externally to those groups and got their support to put leverage on the staff to change.

The Carnegie grant set the stage for change, and the AGC was the initial impetus with a concrete vision of how change would look at East Ridge High School, but Ms Dedmon had to spend a lot of time and effort convincing people inside the school that change was necessary. Using outside supporters helped make that happen. She recalled her relief that despite East Ridge’s “traditional community reputation,” the school board members were “wonderful about supporting change and presenting motivating pressure on the school to change.”

The data indicate that East Ridge High School functions as an open system on many levels. The partnership with the AGC and a reliance on community supporters demonstrate the permeability of the school. Additionally, Cheri Dedmon intentionally

brought in outside information and support for the organization. Operating as an open system is, according to the literature, a key component to successful school reform.

Initiative and Inertia: Hold on to your Hats

The final component of my research question on systems thinking deals with the ability of the organization to embrace change. The organization has to have some willingness to jump in and attempt reform without knowing exactly what the end results may be. The creation of the East Ridge Construction Academy represents a leap of faith on the part of the teachers, administration, and community supporters. What they were attempting had not been done before, and they had no model on which to base their decisions. Palmer (1983) calls this leap “adventuring into the unknown” (p. 73).

Ron Tanner of the AGC described the change process in terms of “stumbling through the dark,” saying he knew AGC had the vision to be innovative and so they just kept “scratching away at it.” The teachers described the reform effort in terms of “jumping in,” and “flying by the seat of their pants.” For example, the math teacher, Mary Jenkins, said:

It was intended that we would take a year to design curriculum, outline our program, and decide how we would approach it. Things got rolling faster than we thought and we were told in April or May that we were going to start in August. With that in mind, we just flew by the seat of our pants.

Denise Hearn, the English teacher, remembered:

Once we wrote curriculum, we as teachers had to sit down and say, ‘Ok. How are we actually going to start? What does it look like to us?’ We started with that. But when we decided to do it, we just did it. You can wait around until everything is perfect. We knew it wasn't going to be perfect, but we decided, ‘Here we go!’ I think you have to just jump in.

Steve Price in Masonry concurred:

I don't think you wait until you think you're ready. It's sort of like having kids. If you wait until the time is perfect you'll never have any. I remember people throwing things out. Somebody typed this, somebody made that. We just did it.

The teachers in the Construction Academy expressed a sense of relief that the reform initiative took place so quickly. At the conference, teachers joked that they doubted whether they would have volunteered to become part of the Construction Academy if they had really examined the process ahead of time (Field Notes, October 5, 2005). In an interview, Ms. Hearn said:

I think that it was very important for us to begin quickly because being the academic teacher, I overanalyze everything. If I had had too long to think about it, I probably would have backed out. Even though we were doing things we didn't have any experience with, and it was nerve racking at times, I'm glad we jumped in. Mary and I went to a convention for academies and we were sitting there the first day saying 'Oh, my gosh. There is all this stuff we haven't done yet, stuff we should have done before we even started.' We had to play catch up, but I wouldn't do it differently. We just jumped in and worked to make sure it was a success. It didn't give us time to think, 'Man I don't know. That is a lot of work and I don't know if I want to go into this.'

The teachers within the Construction Academy attributed the impetus to reform to the principal, Cheri Dedmon. For example, the math teacher, Ms. Jenkins, told the visiting audience:

Reform has not worked at every school. It comes down to your leader and whether they are willing to relinquish that vision or push and shove to get it going. Our principal has done that (Field Notes, December 12, 2005).

Teachers recognized this thrust forward by the principal. They continually gave her credit during the conference. Ms Dedmon said:

In my mind we had the moment going, so rather than wait another year like we had talked about, I tried to finagle some time in the summer to

plan so that we could begin in the fall with the rest of the Carnegie initiatives that were to take place in our building. It seemed to make sense to start it all at once.

The Construction Academy got off the ground because the AGC, the East Ridge Administration, and the teachers went out on a limb and embraced change. They accepted the initiative and jumped in to the reform process without any assurances that the program would work. Taking a risk and grabbing onto the inertia that was sparked by the initial Carnegie grant compelled the Construction Academy into being.

Systems Thinking Concluded

The data collected on the East Ridge Construction Academy demonstrate that the reform effort embraced five main components of systems thinking. First, the organization viewed change as a dynamic process involving multiple stakeholders and stakeholder ownership. Second, those intimately involved in the reform effort realized that the changes taking place at East Ridge could not be tied up in a “neat little package” and be exported to other schools. They looked at the needs and resources within their particular community, thereby contextualizing the inquiry that led to reform. Third, several key power relationships shifted throughout the reform effort. Top-down, or outside-in, mandates that typically characterize school reform efforts were replaced by bottom-up, organic, and contextually specific solutions created by stakeholders within East Ridge High School and the surrounding community. Fourth, creating the East Ridge Construction Academy forged partnerships and enlisted resources outside the school walls and opened the system to the wider community. Finally, essential

participants in the change efforts were willing to take a risk and seize the inertia that sparked change within the Hamilton County School System.

The undertaking of the East Ridge Construction Academy seems to rise to the challenge presented by Senge (1990) and Sarason (2000) which call for school reform efforts to be informed by a systems way of thinking. Additionally, the data support the supposition that successful school change requires that the organization's boundaries be permeable and that the organization be plugged into its larger context (Fullan, 1993). By viewing the school through a systems lens, I was able to gain understanding about power structures, decision-making, and how the parts of this school reform were interrelated.

Research Question 2: How was East Ridge Able to Learn, Self-Correct, and Self-Improve?

Components of a Learning Organization

Learning organizations are characterized by several mechanisms. They must be able to scan and anticipate change(s) in the wider environment to detect significant variations. They must be able to develop an ability to question, challenge, and change operating norms and assumptions. Learning organizations allow an appropriate strategic direction and pattern of organization to emerge. They also develop designs that allow them to become skilled in the art of double-loop learning and avoid getting caught in single-loop processes. Learning organizations shun stifling cycles created by traditional management control systems and the defensive routines of organizational members (Morgan, 1997; Senge, 1990).

One of the biggest criticisms of school reform comes from Sarason (2002), who says that educational organizations have all the features of non-learning systems that do

not learn from past experiences in order to either avoid future mistakes or replicate successes. Tyack and Cuban (1995) dub this phenomenon the ahistorical nature of schools.

In order to answer my second research question and facilitate discussion of the findings in this study, characteristics of learning organizations have been broken down into four main components. They are: the study of information, capacity building, double-loop learning, and the ability to recognize and reinforce success. Each component will be discussed in detail below.

The Study of Information: Don't Know Much About History

There was certain background information that the participants in the East Ridge Construction Academy needed to understand in order for them to embrace change. Each stakeholder group had to become familiar with a whole new set of ideas about what high school education should look like and how it should operate. For example, although the AGC possessed the ultimate goal of pairing the construction industry with high school education, they had no idea how that should look. Roger Tudor said:

We looked at a lot of different things. Over the course of things we were looking at academies. The academy concept, small learning communities within a larger school, seemed to be from contractors and educators and people we were getting advice from, able to do something like we wanted. So we formed a task force to explore the possibilities of a construction-career related academy. In doing that, through resources I had available to me from the National Coalition of Academies, we cast this big net out and said, 'Let's find an existing academy.'

According to minutes taken at three task force meetings on March 22, 2001, June 21, 2001, and October 11, 2001, the AGC spent a lot of time learning about how small career academies worked (Scrapbook, pp. 1-9).

Additionally, principal Dedmon invested a great deal of time educating the faculty on processes of collaboration and change. She set the stage for working in teams by creating critical friendship circles, and encouraged teachers to think about how learning could look differently by providing the opportunity for teachers to visit other schools.

She said:

It was a long journey from where I began, because this faculty did not know what I was talking about at the beginning. We would study case studies, go visit other schools, and the teachers kept saying, 'I don't want to talk about another classroom, I want to talk about my classroom.' I kept trying to get them to see that unless we know where are going, if we don't have a picture in our minds, we won't know when we get there. What does a best practice classroom look like? What does an effective classroom look like? When they did the visits to other schools it was really helpful. We did about eight school visits that spring and the teachers came back understanding that the climate and the relationship with kids was important. They wanted that for our kids.

Cheri Dedmon also engaged in retooling activities in order to prepare for the changes ahead. She attended conferences, read books, and called on former colleagues to help her. She remembered:

When I got into the principalship I actually stepped back and said, 'I don't know enough for this position.' I had been successful as a teacher-leader and as an assistant principal, and I knew could pretend to know enough, but I didn't want to do that. When you are leading small groups in change and when your looking at changing a whole school, that is totally different.

I started looking for resources. There was a conference by Richard DuFour and I started studying some of his work. That was great for me. I knew the research, I knew the outcomes I wanted to achieve, I just didn't know what steps you needed to take to get there. He was very specific in his planning and gave us specific strategies.

Then I looked at Richard Elmore who is from Harvard who does work with the education department. I took what I knew about best practices of teachers and started aligning it with what I was learning about best practice of principal leadership.

When I did my work with the Coalition of Essential Schools at Brown University, I worked with some great people like Ted Sizer. What I learned was how to facilitate, to step back and let people figure out what they needed to do. That taught me how important it was to collaborate; to define the beliefs that drive what you do; to not just focus on curriculum, but on philosophy.

I had a knowledge base of change. I knew about best practices of teachers. I had to be able to use that to model what I was asking teachers to do. I didn't ask teachers to do anything I hadn't demonstrated to them.

Finally, the teachers had to look outside their current base of knowledge and expand what they knew about how to educate students. Denise Hearn, English teacher, said:

We asked the business partners, 'What do we need to teach these students that they are not coming to you with?' They told us communication skills and problem solving skills were missing. They said, 'We can teach them the skills of the trade, but they need to come to us with communication and problem solving abilities.' We decided that those needs would drive our curriculum. Kids need to know how to fill out a resume. They need to know how to meet and greet people. How do you shake hands? How do you dress? How do you answer questions using correct English? How do you write memos instead of flowery essays? How do you become the problem solver and attack a job? They get these experiences in the academy. All of a sudden, those things made our students leaders. We had observers come into the building and our kids would walk up to them, shake hands, look them in the face, and say, 'Can I help you?'

The teachers also began to attend National Career Academy conferences, visit other academies, and present their own experiences. They worked in constant collaboration with the AGC and each other to expand what they knew about best practice within the Construction Academy (Scrapbook, 2005).

The AGC, Principal Dedmon, and the teachers within the Construction Academy learned a great deal of new information about teaching, learning, and best practices. This

new information led to fresh insights about the educational enterprise. For example, Ron Tanner of AGC said:

The challenges are that the teachers are trained in a traditional process. They teach like they were taught. Those standards that teachers are being taught in the university today are 1929 standards. So at some point in time we've got to realize that it's good that you know how to multiply, add, subtract, divide, and square root, but today in the construction industry it's different.

Our teachers have told us they used to have kids come up to them all the time and ask, 'Where am I ever going to use this?' Now, they see directly why the skills are important. In the plans the contractors have, they tell you precisely what you should do and the sequence of events you have to follow. Those students have better technical writing skills than the average individual that is coming into freshman year in college. They are able to display their wares in writing. They read technical writing and understand it. Fifty years ago, if you did a \$50 million dollar project, you might have had a portfolio of 200 sheets of paper. Today you have a file cabinet full. Those communication skills have to be strong. And those Academy students at East Ridge High School are able to communicate in that process.

Ms Dedmon said:

There are smarter ways to deal with accountability than teaching the test all the time. We focus on making our kids into problem solvers and team workers. We focus on literacy and communication. What we kept hearing the workforce say was that they wanted the same things that colleges wanted. They didn't want anything different and we had been preparing kids for years to do either trade or college. We were setting the kids up to fail in the workforce without understanding the skills they needed to be successful there. We were well intentioned, but we weren't helping vocational kids at all. What we do now is good for all kids.

The teachers within the Construction Academy especially came away from the process with new insights into their teaching strategies and new understanding of how kids best learn. Vincent White, the construction teacher, said, "By me going into the academic classroom and explaining something and taking the students to the shop and showing them, they just seem to retain that." Ms. Hearn, the English teacher, said, "I like

it because I've learned so much. I didn't know squat about construction. But I think that this is really a family experience for kids. They know they will be watched over.” Chris Cooper, the Computer-Aided Drawing teacher wrote in a reflection, “The students in the academy will tell you that the academic courses mean more to them when they see the application of their studies in the carpentry or masonry classes” (Scrapbook, p. 39).

The main stakeholders in the Construction Academy engaged in practices that expanded their knowledge base about teaching, learning, leading, and working as a small learning community. They were all aware at some level that the skills and information they possessed prior to the adoption of the Construction Academy were insufficient. Due to their willingness to engage in “retooling” and new knowledge acquisition, each stakeholder group gained fresh understandings about the educational enterprise.

Building Capacity: Learning to Lead

Nurturing leadership within an organization is a central characteristic of systems that function as learning organizations. Lambert (2003) defines teacher-leaders as "those whose dreams of making a difference have either been kept alive or have been reawakened by engaging with colleagues and working within a professional culture" (p. 33).

Building leadership capacity among the participants in the East Ridge Construction Academy illuminates a critical component of how the system became a true learning organization. The faculty at East Ridge made a significant transformation in the culture of how they approached education. They went from a traditional, isolated practice to a collaborative, dynamic one. Ms. Dedmon describes this transformation:

Ron [president of AGC] came to talk to the staff twice. The first time in the fall it didn't go anywhere because it was such a different idea that people didn't have anything to compare it with or build on. The teacher response was not very good. When he came back in the spring, we had had time to talk some about how we were going to use the Carnegie grant. We had been in discussion with the superintendent who kept asking questions about vocational education.

Teachers need a roadmap of where they are going. They need to be able to question what we are doing and decide whether to hold onto practices or choose new ones. But it is just like the classroom, when you start to see those light bulbs go off in the teachers, it told me we were ready to go. I just needed one or two to say they were ready. I started talking using a common language with the leadership team and others about how we were talking about changing.

We weren't talking about just structural changes. We began to talk about changing belief systems. We did that through professional development.

As principal, Cheri Dedmon had to escort her faculty on a journey from operating as a traditional high school structure to embracing a completely new way of doing things. This change depended on the teachers accepting teaching and learning as a very different enterprise than they had formerly undertaken. Even though these efforts were difficult they eventually bore fruit as teachers assumed leadership roles within the school. She said:

It takes a lot to get a school to change. Inside the school I was busy building leadership capacity, training those teachers, identifying those leaders, and that was taking all my time. As teachers set higher benchmarks for themselves, you need less and less of that external pressure. When I first got there the expectation were as low as you could get them. I had to do a lot of behind the scenes work my first two years.

I had a lot of mediocre teachers that weren't awful, but weren't great. Then when I tried to hire, we didn't have a strong reputation, so the applicants were limited. There was a lot of turn over. Evaluations were difficult. I kept saying, 'No, that is not good enough for our kids.' Sometimes conversations were difficult in trying to be honest with people about their performance, but you have to do it for the kids' sake.

I had to be able to sit back and listen without taking anything personally. You can't react to anything personally because it is people

reacting to change, not to you, but to moving out of their comfort zones. You have to have thick skin. People resist change and you have to be able to take the heat.

Eventually what happened was that I taught the leadership team and the leadership team became facilitators to the rest of the staff. Teachers have to be able to make choices, but I was very clear about this is where we are going and this is why we are doing it ... I told the leadership team that they were ready to graduate. They have grown and grown.

Teachers credited Ms. Dedmon with pushing them out of their comfort zones and into uncharted territory. For example, Ms. Jenkins, the math teacher, said:

East Ridge was probably not quite ready for reform at that time and we had a lot of obstacles and people digging their heels in saying, 'We didn't do it that way before and I don't think it is working now.'

Ms Dedmon was successful according to teachers in bringing change to East Ridge. The English teacher, Ms. Hearn, said:

She has actually brought a lot of change. Some principals in the district did not initiate the changes that should have gone on with the Carnegie grant and their funds have been cut.

There was a transformation in the faculty at East Ridge regarding their willingness and readiness to accept and embrace change. The principal spent a lot of time behind the scenes creating a culture of teacher-leaders who were capable of collaborating during reform efforts. Building leadership capacity among the faculty appears to have been a vital step in creating a learning community proficient in orchestrating change.

Double-loop Learning: Breaking the Organizational Thermostat

One of the most fundamental practices that characterize learning organizations is engaging in what Argyris and Schon (1974) called "double-loop learning." Double-loop

learning is difficult for organizations to accomplish because it involves questioning basic paradigms of understanding, breaking out of defensive routines perpetuated by uncertainty, and questioning operational norms. According to Morgan (1997), simple cybernetic systems are like house thermostats. They learn by being able to sense and correct deviations from predetermined norms, but they cannot question the appropriateness of what they are doing. More complex systems can detect and correct errors, self-question, and self-organize.

The reform efforts in creating and sustaining the East Ridge Construction Academy are replete with examples of how the key players engaged in double-loop learning, which is discussed below. Teachers, industry supporters, and the administration were able to do three things: (1) question practices and learn from their mistakes; (2) correct mistakes midstream; and (3) plan for future action based on reflection.

In his writings on how educational organizations can successfully engage in reform, Fullan (1990, 1995) emphasizes that organizations should encourage members to question routine practices and frame mistakes as acceptable and inevitable parts of change. If individuals engaging in reform know that they will not be penalized for making mistakes or questioning the status quo, they are more willing to take risks that might lead to real change. The interviews and written reflections collected were full of examples of how the stakeholders involved in forming the Construction Academy questioned their practices and realized mistakes. For example Cheri Dedmon, the principal, demonstrates how deeply she reflected on her own leadership decisions, saying:

Another decision that am not sure if it was the right decision or not was that I mandated that all the staff would participate in critical friends groups that met once a month during planning periods. I had enough staff that were trained to be coaches that they would facilitate the discussion about what was happening in the classrooms. It connected what they were doing with what kids were learning. The first year I was really unsure about the groups. It did accomplish bringing teachers together that hadn't worked together. But most of the time it was more socializing, going to lunch together, wearing tee-shirts that identified them together, and I always wondered, are we ever going to get to the real stuff.

I struggled with whether I was spending too much time outside the school, but I had to build up that support for what was happening inside the school. I never thought principals were such PR people.

We've done a lot quickly. I am always worried about how much change your school or your faculty can sustain. Some changes were only on the surface, but we did a lot very quickly. I've gotten feedback on both ends of the spectrum on the rate of our change, and I'm still not sure what the answer is. I knew I had been wanting to change high schools for the past fifteen years, so it was really a dream of mine to be able to stand back and say we have the kind of school that is the best place for kids to come. This school makes sense and it is designed and managed in support of kids, not in support of adults. But, I'm still not sure if there were times I pushed too hard and too fast.

The teachers also engaged in self-questioning. Construction teacher, Vincent

White, said:

Like anything, when you start something new I guess you wonder, 'How is this going to go?'

Mr. Price, masonry teacher, also voiced his initial questions about the Academy:

When I came here I was in the mindset of apprentice school. You do things a certain way, so when you start something new and interact and coordinate things with new people, you wonder how that's going to work. Like coming into the academic classroom you don't know how that's going to work, and you don't know how the kids are going to receive it.

After engaging in reflective and questioning practices, the stakeholders in the Construction Academy engaged in an ongoing series of self-correction. Ron Tanner of the AGC shook his head, saying:

We are never done, we just keep tweaking away to make it better.

The math teacher, Ms. Hearn, said:

I am still not satisfied with my stuff. I haven't done the same thing for more than one semester. I am always trying to find something better.

Construction teacher, Vincent White, concurred:

We evolve as we go along.

However, the process of collaboration and ongoing dialog appears to be in place to make the changes necessary to keep the Construction Academy on the right path. For example:

We sit down and talk and say, 'This part right here isn't working. We need to change how we deal with our attendance policy.' We change things all the time. (Steve Price, masonry)

Scheduling is a nightmare. We still haven't figured that out. Because we started with 11th and 12th graders, some are on different levels in math and you can't keep them within an Academy class. We tell people you might want to start from the bottom up and build your program that way and add on classes. We still haven't really decided which we think is the right way to do it. (Mary Jenkins, math)

You just have to jump in. You may have to change things in the first few weeks, but I think that's the only way to do it. (Vincent White, carpentry)

I think that every time we ran into something, we just got together and said, 'Ok, we've got to do this or that.' We just kept changing things until they started to work. (Steve Price, masonry)

I think that the fact that we are changing throughout the district helped. We don't have many regrets because if something didn't work, we just did something different. We went to the National Career Academy Conference. It was four intense days listening to how people had started these things and we realized how much we hadn't done. We had not sat down and written our vision or philosophy or mission statement. We didn't have applications for students. We came back and said, 'We are on the right path, but there are a lot of things we have not done correctly. There are things we need to learn and things we need to shore up. We discovered we had done so many things backwards or hadn't done them at all.' (Denise Hearn, English)

According to the interviews, the teachers within the Construction Academy appear to be comfortable evaluating progress and changing plans to improve practice. There was no evidence of “getting in trouble for messing up” or having to stick to predetermined, rigid goals. Instead, the implementation of the Construction Academy appears very fluid, flexible, and elastic. Ms Dedmon called the creation of the Academy “a constantly evolving effort.”

The inevitability of change to the existing program is also written into the Construction Academy documents. For example, in the document entitled, *School and Career Plan of Study*, it states, “As we progress, the curriculum outline will be adjusted and refined” (Scrapbook, p. 46). There are also examples of how the Construction Academy invited outside critiques and questions that would help them articulate and refine their practices. On November 3, 2003, East Ridge High School hosted a Community Educational Forum in which concerned citizens could, “find out about the program, ask questions of students, teachers, and administrators, and voice concerns and opinions” (Scrapbook, p. 30). Another document records a curriculum planning session where industry experts visited East Ridge and offered advice on how to “tweak current programs” (Scrapbook, p. 29).

Members of the Construction Academy are engaged in constant retooling efforts to help sustain and improve the implemented reforms. Denise Hearn, English teacher, summarized the evaluation, adjustment process, saying:

Through the Carnegie grant we have to do surveys and continually evaluate how we have spent our money. We give our students surveys to tell us what is working and what is not working. We meet with each other

as teachers to talk about what we need to improve constantly. We go to conventions and professional developments to present. We learn every time we present by sitting down with other people and hearing their ideas. We have hosted four national open houses at East Ridge through the AGC. We have had superintendents, teachers, business people come in and look at our academy. They always leave us with information that we use to build on. I think we are always evaluating ourselves in that respect.

Additionally, members of the Academy were aware of their greatest challenges and are able to predict future dilemmas they are likely to face. Ms. Hearn, English teacher, said:

Success makes you want to grow, but when you grow you might lose what made you successful to begin with.

Ms. Jenkins, math teacher, elaborated:

We are so small and we need to grow. We are having growing pains because we are trying to bring in new programs. In three years we have added three new teachers. With that growth it is hard for all those teachers to get together due to scheduling. We also added more students. We need to be sure that we don't get too large or grow so fast that we become numbers. I think that would make the academy fail. Once you become too large, then you just become another community school as opposed to a family where the students know that you are looking out for their best interests. A common planning time for teachers is crucial.

There are two things that we don't have in place here. I have become the leader of the construction academy by default because of my age, I guess. I think that initially you need to appoint someone to be the team leader and provide them with time to plan. We haven't had that and a lot of times we fly by the seat of our pants because there wasn't enough time for anyone to plan. We haven't gotten our parents involved as much as we should due to time constraints. And I think they need to be more involved.

This ability to predict future areas of concern is an important component of double-loop learning.

Evidence of double-loop learning was prominent in the data collected from the East Ridge Construction Academy. The evidence suggests that double-loop learning

produced what Sarason (1990) calls for when he attributed successful reform to a school's ability to learn from mistakes and foresee future problems, the presence of supportive networks and involvement of all constituencies, and the ability to find creative ways to overcome barriers. East Ridge appears to be engaging in exactly these practices.

Recognizing and Reinforcing Success: Compliments and Kudos

Not only do learning organizations recognize and correct mistakes, but they also identify and reward successful efforts. Sarason's (1990) critique that school organizations are unable to learn from and then spread success calls into question how schools respond to successful change efforts. I, therefore, wanted to analyze how the key players in the East Ridge Construction Academy engage in these processes.

In documents provided by the Construction Academy (Scrapbook, p. 14), it is clear that evaluation of the program was important to its industry supporters. In minutes from a planning meeting that took place on January 10, 2002, the record states, "We need to establish an evaluative process in order to substantiate the results of the program" (p. 14). In my observations at the conference held by the Academy and the AGC, presenters made the process of evaluation clear. They collected pre- and postdata on student grades, attendance, and enrollment. They conducted student surveys and interviews about their experiences in the program. Teacher, administrator, and industry supporter reflections were also collected (Field Notes, December 12, 2005).

Through this evaluative process, members of the Construction Academy were able to identify strengths of their program. Some of these strengths includes increased student and teacher satisfaction with the school, increased collaboration among teachers,

increased graduation rates, and decreased absentee rates (Scrapbook, pp.14-16). Other noted achievements were an improved public perception of the construction industry and increased respect for teachers by members of the community (Scrapbook, p. 35).

Not only were stakeholder members of the Construction Academy able to identify their successes, they received recognition and rewards for their efforts, which encouraged them to continue these efforts. John Heffner, Executive Director of the National AGC, wrote a letter saying:

Such tremendous growth has not come by accident. While we realize that the Chattanooga construction industry has provided resources, support, and encouragement, enhancing the performance of the students begins when the classroom door closes. We are all cognizant that the teaching staff and administration of East Ridge High School have been dedicated to ensuring the success of the Academy students. Their commitment, enthusiasm, and genuine concern for their students are obvious and are major contributors to the success of the program. (Scrapbook, p. 45)

Accolades also came from school board members (Scrapbook, p. 42), Congressman Zach Wamp, Senator David Fowler, Superintendent Jesse Register, and East Ridge Mayor Fred Pruett (Scrapbook, p. 39). The Construction Academy and its stakeholders began to win local and national awards, including: 2003 AGC Public Relations Award, 2003 Co-Chairman of the Year Award for Mr. Ron Tanner, 2003 Chairman of the Year Award for Mr. Rodger Tudor, 2003 Workforce Development Committee of the Year Award of Excellence for East Ridge High School, 2004 National Career Academy Coalition's Henk Koenig Award, Top Award for the Nation's Outstanding Career Academy for East Ridge High School, and Construction Users Round Table Honorable Mention for East Ridge High School (Scrapbook, p. 69).

As the East Ridge Construction Academy began to earn recognition, additional grant money began to follow the initial Carnegie grant (Scrapbook, p. 71). Ms Dedmon was surprised to learn that the Academy actually qualified for more money because of the grants they had already received. She said, “I learned that success breeds success and money follows money.”

Industry supporters, teachers within the Career Academy, and the administration at East Ridge began to receive requests to present their experiences across the country. Between August 2002 and December 2004 they presented at 19 different venues (Scrapbook, pp. 71-72). Several of these invitations included: presenting at the National Career Cluster Convention; presenting at the Coalition for Essential Schools forum; Principal and AGC member presenting to the Public Educational Foundation; and teachers, principal, and AGC members presenting in Florida to the Workforce Development Committee. Eventually, members of the Academy began to host their own national conference on *How to Begin a Construction Academy*, which is now held annually.

Industry supporters from the AGC deliberately orchestrated a media campaign to spread the word about the successes occurring at the East Ridge Construction Academy (Scrapbook, p. 71). Dozens of local and national newspaper articles and TV newscasts began to cover the story of the school (Scrapbook, Appendices). Ron Tanner described the process of recognition:

The superintendent saw it in results. Graduation, math scores, and English scores went up so much that he has now mandated that every high school have academies. Once it got off the ground and started working, the support from the school system and political sides were there.

When people started to see the success of the academy, they started talking about it through the system. As it went forward, Redbank High School started their medical academy and people started looking at what it was doing for the kids. Last October the director of vocational education in Hamilton Count reported that people in Nashville are watching very closely what we are doing. Reform is in the air statewide. It is in the sights of some people, but they just don't know what to do.

Reaction to the recognition and awards was powerful in the data. Teachers in particular were unaccustomed to receiving any external acknowledgement for their efforts with students. They said:

This is the first thing I've ever been a part of that has gotten any major accolades. People want to know about it. That has been kind of fun to be a part of something that is getting recognized. (Denise Hearn, English)

The Academy, students and teachers, received a lot of recognition because we jumped out of the mold and did something completely different. We worked very hard for it and we've gotten a lot of support and monetary rewards. (Mary Jenkins, math)

The unexpected parts were first, how much work we would have to put in, but second, how much reward we got from the students. That reward made us want to keep putting in the effort. I think that's one thing we had, people who were giving 100% to get it going. Everybody was willing to give, if it took school staff or extra effort on your own to get it done, then that's what we did. We would meet early before school because of the limited times to meet, or we might meet after school. But we kept doing, planning, and changing. (Steve Price, masonry)

The recognition that small school reform efforts at East Ridge received encouraged members of the Construction Academy to continue improving. The effort was touted as unique and surprising. Principal Dedmon said:

East Ridge is not the kind of schools that people expected much out of. They expected things to happen at other schools within the county. All of a sudden we were doing what wasn't expected of us. We broke that norm. We were just an average school with average kids and we were exceeding our expectations. We enjoyed proving people wrong. We enjoyed surprising people. We like to say, 'We did it and we weren't supposed to.'

Leaders in the Construction Academy appear to have recognized the value of reward and carried this practice out with the students in the Academy as well. They hosted pizza parties, award celebrations, and bought the students collared shirts to wear (Scrapbook, pp. 30-31). Students, like the teachers in the Academy, thrived on this recognition. Chris Cooper, computer-aided drawing teacher, wrote, “The students presented to state representatives. By all accounts they stole the show. They were confident, competent, and articulate in their planned and impromptu presentations” (Scrapbook, p. 39).

The rewards and recognition received for their efforts in initiating and carrying out the Construction Academy appear to have played a major role as a motivator to its members. This component of learning organizations is an essential piece. Not only do organizations that learn have to be able to recognize and correct mistakes, they must be able to identify and spread success. Rewarding successful efforts is one means of multiplying and extending successful reform.

Concluding Learning Organizations

In this section I have broken down my second research question on how the East Ridge Construction Academy functioned as a learning organization into four main components: the study of information, capacity building, double-loop learning, the ability to recognize and reinforcing success. Each of these components enabled us to examine more closely the inner-workings of the small school reform efforts undertaken to create and sustain the Construction Academy.

The study of information illuminated the process of how members of the reform effort had to continually retool and add information they had not previously possessed in order to understand and embrace the change process. Capacity building went beyond what information members needed to know and highlighted how they needed to learn to function in order to support and sustain change. Capacity building dealt with a shift in organizational culture from teachers as direction-takers, to teachers as leaders. Double-loop learning emphasized the importance of questioning old practices, and recognizing and learning from mistakes. Double-loop learning enables organizations to make constant adjustments in order to foster improvement within the system. Finally, recognizing and reinforcing success pointed out the significance of identifying and encouraging efforts that triumph within a reform in order to spread and continue those efforts.

Research Question 3: How was East Ridge Able to Reform While Remaining Part of the Hamilton County School System?

Issues of Reforming from Within an Existing System

Sarason (2000) was reticent about successful reform occurring within the existing, bureaucratic setting of public education. He described the current system as an obstacle to innovation, saying, “A school has to depart from the system if it is to achieve its purposes” (p. 194). The large, bureaucratic system of public education appears to hinder the spread of reforms that do exist. When Sarason (1990) called schools “intractable to reform” he meant that “the failure of educational reform derives from a most superficial conception of how complicated settings are organized: their structure, their dynamics, their power relationships, and their underlying values and axioms” (pp. 4-5). He

emphasized power relationships in school systems as one of the most entrenched barriers to school reform.

However, the East Ridge Construction Academy did conduct a successful small school reform within the existing public school system. In order to examine this phenomenon, I want address this issue in four topics: (1) the state of the existing school district, (2) bureaucratic structures within the school system, (3) impacting school perceptions, and (4) appealing to the public for support.

State of the School District: A System Ready for Change

In order to understand how the small school reform at East Ridge High School took place, we have to look at Hamilton County School District as an overall system. Hamilton County was, perhaps, more receptive to ideas of change than other school systems because of its involvement in the Carnegie grant initiative, which enabled all high schools within the district to reform. Ms Dedmon said, “Carnegie provided us with funding for half a day each month, and another couple each semester, to work together as a staff on professional development. We needed that time and money to learn about school change.”

According to *Carnegie News* (Carnegie Corporation, 2006):

The reform plans vary enormously from place to place, but the districts have common problems and, by participating in the initiative, share some strategies. Reform efforts focus on 85 comprehensive high schools in the seven cities, but plans also include improvements in a score of urban vocational and alternative high schools. Throughout each school district, the vast and impersonal high schools are being reconfigured as small learning communities that foster academic growth and caring relationships and, in many instances, tailor learning to student interests in a particular issue, academic subject or career...Strategies to raise students' own expectations will include holding all students to high standards; improving

support and communications systems; giving students more responsibility for their education and school affairs; and mobilizing each community's business, cultural, educational, religious and recreational resources in the cause of youth development. (¶ 4)

The Carnegie grant provided opportunities to learn about options for reform, but gave each school the freedom to choose how that reform would look. Ms Dedmon continued, "Having the funds to get people into settings where they had never been, where the academics were in place and the relationships were strong, was important. A lot of the schools were urban and very different from ours, but the teachers began to form a vision."

Teachers also credited the Carnegie grant initiative with creating an atmosphere accepting of change. For example:

We got started because the district received the Carnegie Foundation grant that gave money for every high school to go through reform. There were several key people who helped us look at small learning communities who worked on that grant. (Denise Hearn, English)

When I came to work here they just found out that they received money from the Carnegie grant that would allow them to make changes. It is a grant written solely for implementing new styles of learning and small learning communities. It cannot be used for supplies. So that allowed our principal to send teachers to different schools to look at schools that were changing and to get a grasp of where we wanted to go as a high school. This grant was written by Hamilton County, but each high school was able to implement the changes and make the changes they wanted to make. (Mary Jenkins, math)

The Carnegie Foundation's initiative, *Schools for a New Society* (see Appendix G), is guided by four strategic assumptions that appear to have been essential to the reform efforts undertaken by East Ridge High School. First, school and community representatives "must jointly redesign their outmoded comprehensive high school"

(Scrapbook, p. 15). Second, “Obsolete factory-model high schools must be transformed into learning communities...that can create a caring culture of learning” (p. 15). Third, “the challenges presented by high schools are systemic and require district-wide leadership and reform” (p. 15). Fourth, “Schools cannot succeed alone. School districts must raise community expectations and help recruit community partners” (p. 16).

Members of the Construction Academy felt like the Hamilton County School District was “committed to high school reform” (Scrapbook, p. 16). Based on the strategic assumptions of the Carnegie grant, it appears that not only was the school district committed to supporting change, but that it recognized and understood the systemic nature of change and outside support required for true reform.

Bureaucratic Structures: Circumventing the Chain of Command

Although there is evidence that Hamilton County School System encouraged and was receptive to change, the nature of a hierarchical school system is not always conducive to change efforts. It appears that East Ridge discovered unique ways to circumvent the system when it would have slowed down reform. Ms Dedmon explained, “What became powerful for me was that I no longer had to always fight through the bureaucracy of the school system to get things done. I could get the AGC to accomplish things quickly.”

Ms Dedmon’s experience working with the business community transformed her understanding of how to get change accomplished. She began to recognize the importance of outside pressure, support, and reputation.

The construction unions in town produced much more pressure on the system to change than I could ever think about on my own. They worked

their network. That is what I like about the business industry. If there is a problem or a glitch anywhere in their group they all pull together, they look at it, they identify the problem, and they solve it. They don't go through the political things we have to go through all the time in education to take care of it. We let things fester until they become a huge problem. No one wants to own problems in education, and nobody wants to fix it. Their way of solving problems was very different than my way, but it has been very powerful.

The construction industry worked similarly, it produced leverage from outside the school system to push on the district bureaucracy. We did good work and got a good reputation, so it became harder and harder for the district to say no to us.

Now we have our own little board of directors and we figure out what is best for kids and then we figure out how to accomplish it. It doesn't become about whose job is it? It becomes about who has the leverage to accomplish the job and what group of people can make it work for kids.

Ms Dedmon also protected her teachers from district and state mandates that often impede reform. The math teacher, Ms. Jenkins, said:

I am not directed by her to be on this page at this time or follow this sequence. It has allowed me to get out of that mandated cycle which has made it much easier to change the way I teach.

It appears that the measure of successful teaching and learning occurred within the Construction Academy, rather than being based on outside measures. The English teacher, Ms. Hearn, said:

I am worried about test scores, but I have to prepare students to go out into the real world. Testing is not the real world.

Circumventing bureaucratic structures and operations that invariably stifle school reform efforts is an essential component to the success of change efforts. Although it may be true that most successful school reforms occur under some form of sanctions from the regular regulations and controls of the system (Meier, 2000), the efforts at East Ridge suggest that individual schools may be able to create the pressure and successful

reputation needed to circumvent these traditional controls while remaining inside the system.

Impacting School Perceptions: Convincing the Choir

One of the main reasons for the successful reform within the system was a shift in perceptions among the East Ridge High School faculty. Teachers directly involved in the reform efforts and those who witnessed the changes firsthand appear to have experienced a series of epiphanies about teaching and learning, the construction industry, and small learning communities. These shifts in perspective were important in building a support base for the Construction Academy. The stakeholders in the program and members of the East Ridge High School community became believers in, and therefore advocates for, the Construction Academy.

Teachers within the Construction Academy described initial hesitance from the rest of the faculty. Teachers were “resistant” to change, and “hesitant to accept non-traditional methods.” The masonry teacher, Steve Price, said, “The biggest barrier was often dealing with other teachers who weren't ready for reform.” However, as the successes within the Academy became apparent, faculty within the larger high school “began to come around.” Teachers described the initial perceptions of other teachers in the following interview excerpts:

Other teachers looked at us like it was a strange thing we were doing. Some of them said it wouldn't fly. They thought we would water down our curriculum just to meet the construction standards. I'm sure some of them still feel that way because you have a traditional mode of teaching, lecturing, and handing out work that the students turn in. (Mary Jenkins, math)

I get questioned all the time. ‘Don't you think kids need a tradition education?’ I tell them, ‘No. If I can teach them to read a contract critically, then they know a whole lot more than they would learn from Shakespeare.’ If they can communicate well enough to get a job, then that is much more beneficial than being able to conjugate verbs. I talk to professors at the university that say they want kids that can read, can communicate in writing, and think critically. I think that we can do that through the content of construction. Even though we aren't reading traditional literature, we are giving kids the skills they need to go on to higher education if they want to and not be left out. That took a big shift in my mind. (Denise Hearn, English)

During the interviews I conducted, teachers and the principal began to describe a shift in other teachers' perceptions about the Construction Academy. Some of the successes began to become apparent and cause support to swell throughout the building.

I do think that some teachers were jealous. They feel like we get special treatment. But there are so many benefits to the Academy that people are starting to appreciate what we do. (Mary Jenkins, math)

What made teachers buy into the Academy is seeing a change in the kids. The whole school began to get the credit for the Construction Academy's success. People began to think of East Ridge High School as a whole differently. It became a success for the entire faculty. (Cheri Dedmon, principal)

The other teachers started looking at us and asking, ‘What is different about the Construction Academy?’ Some teachers are hesitant to embrace us because it is scary. There is not written curriculum. You have to beg, borrow, and steal ideas and spend a lot of time working. You have to be a very dedicated teacher to like this program. Once we got started though, a lot of teachers saw the changes in the students that were occurring. They realized that the kids were doing better, were coming to school. They started saying, ‘Maybe we could incorporate more alternative assessments, or more projects, or more hands-on activities.’ (Denise Hearn, English)

I'd say we are partially accepted in the school. We aren't all the way there, but I don't know if you can ever have 100% support doing something like this. There is some resentment. We have as an Academy, students and teachers, received a lot of recognition because we jumped out of the mold and did something completely different. (Mary Jenkins, math)

We just ignore skeptics and keep going. There will always be something that goes wrong or people who don't understand. They know something good is going on or they wouldn't be addressing it. (Steve Price, masonry)

I came in later than these other teachers and haven't met too many skeptics. I think the proof is in the pudding. (Vincent White, carpentry)

The gradual acceptance gained by the Construction Academy required teachers to entertain new ideas about “good teaching” and question traditional modes of content delivery. Stakeholders in the Construction Academy did not simply make surface-level changes in curriculum delivery, they rewrote the curriculum with a different fundamental understanding about what kind of experiences cause students to learn. In order for teachers to embrace the Construction Academy, they ultimately had to reject some of their current practices and belief systems about the purpose of education.

Appealing to the Public: A Formidable Reputation

In addition to convincing stakeholders within the school that the Construction Academy was a worthy program, the impact the results had on public perception of the Academy and education in general were tremendous. At the conference hosted by the AGC and East Ridge High School in October 2004, speaker after speaker from the community attested to how their perception of what schools do for students had changed based on their experiences with the Construction Academy. An architect who helped write curriculum with the teacher said, “I really underestimated what teachers were up against in high schools.” Another participant said, “We couldn't believe the classrooms didn't even have decent computers” (Field Notes, December 12, 2005).

The change in perceptions that took place because of the Construction Academy fell into three main categories. First, outside community supporters began to see the

value of what happens in public schools. Second, there is evidence in the data that because of the program, people began to change their perceptions about the value of the construction industry. Third, as the program began to build a successful reputation with the public, they “earned” freedoms that they had not previously possessed.

The first shift in perspective occurred when outside community members began to see the value of what teachers were doing within the public high school. Many of the community supporters at the conference were former “education bashers.” “I used to think we wasted so much money on schools,” said a member from the AGC. “But it amazed me what little those teachers had to work with and how dedicated they were to those kids” (Field Notes, December 12, 2005).

Public perception about the program at East Ridge High School did not change accidentally. Both the principal and members of the AGC said they “worked hard to build up those perceptions outside the building” (Field Notes, December 12, 2005). The teachers recalled:

I think it helped the business perspective to experience education. I remember the very first training when the business people were working with us one woman said, ‘Are all teachers are like you all? They really care about the students?’ She said, ‘We just thought they were just a bunch of lazy people that just get a pay check.’ So they have a little bit better understanding that we are trying to do something good for our students once they come into our buildings. (Ms. Hearn, English)

I don't know that creating the curriculum was as important as the fact that this was the first time that the businessmen came into our building. They said, ‘I cannot believe how dedicated you as teachers are and how hard you all have to work in the job that you are doing.’ They thought it was the typical nine month job where you go in at eight and get done at three. They didn't realize the amount of time and effort the teachers put in and how dedicated they were. (Ms. Jenkins, math)

The changed perspectives within the wider community about what goes on in schools appears to have increased support for the Construction Academy and public education in general. Roger Tudor of the AGC said:

Much more than I've ever imagined, we need people, parents, grandparents, and community members to go through their local schools and do a visual check. Look in the libraries and see the depletion of the school books. It's terrible. The community, the citizens have to make a stand and pay for it. The only way you're going to pay for it is through taxes. And that's our system. We chose that system. We' got to address those things.

Ms Dedmon described a pivotal moment in the creation of the Construction Academy at a workforce development meeting where the teachers met with members of the national AGC. It was at the meeting where the reciprocal nature of respect became realized. She wrote,

As we sat around the table and heard time after time from this group of experienced leaders in the construction industry, we were amazed at their interest, knowledge of real-world application of academic core content to construction, and the excitement to be able to share their expertise to a group of very hungry instructors. The panel of experts praised the work of the teachers and their accomplishments with their students over such a short period of time. Our teachers returned to Chattanooga floating on clouds of hope and confidence. (Scrapbook, p. 41)

Working outside the school to build up public support and bringing the community into the school were two key efforts that had a positive impact on the Construction Academy.

According to the data, these changes in perspective were reciprocally beneficial to the school and to the local construction industry. Throughout the interview process and my observations at the conference, members of the AGC and the technical teachers expressed frustration at public perception toward professions in construction. For example:

There is the huge misconception that, and I have to blame the school system on this, some kids are automatically destined for college education and maybe the underachievers are the ones who would be better off in the field. That is not the case at all. A skilled carpenter probably has more schooling than a doctor and just as much knowledge, but a different type knowledge. They go to school for four years once they go into the apprenticeship, then it's 15-20 years before they become a master carpenter, so actually they are in school 20-25 years. They are always involved in learning something new. (Steve Price, masonry)

People out in the suburbs think that if you go into the construction industry you'll shovel dirt. They think that they are only accustomed to one type of footwear and that is boots. We are not about that. Just to do the ceiling tiles in this room right here there was a machine that is laser guided. We've got to make sure that we've got people who can do those things. People have to know that you need an immense amount of technical writing skill, you've got to have communication skills, you've got work with your coworkers through communication. You can't be adversarial. Those are the disciplines. (Rodger Tudor, AGC)

Members of the AGC and technical teachers described how technical education had been a dumping ground for students who were known as failures in academics. They spent a lot of time describing how much skill and professionalism was needed to succeed in the construction industry, and how ill-prepared the youth were who were shoved into “tech ed.”

We want to see better skilled people come into the industry to help improve the way the profession is perceived in our cities, states, and nation. We've got to get the parents to understand the real level of professionalism required in the construction industry. The leaders of our cities and our counties are actively searching for ways to get at-risk low achieving students into our industry. I don't mean to be disappointing, but I'm not interested in them. I am not interested in those individuals who are at-risk with no desire to get into this industry. I am interested in bright and talented young people.

We are interested in developing a product that we can march across the graduation stage of East Ridge High School so that we can push out that less-skilled individual who may have been working in this firm for twenty years and improve it with that skills that we just produced. I told leaders of our city last week, ‘If an at-risk kid wants to get into this

program I will help them in any way I can, but this is not for kids who don't want to do the work.' I said to them, 'There is going to be an airplane pilot shortage soon with all the strikes going on. Let's take at risk people and within a nine month process teach them to fly airplanes and see if you feel safe when you get in the air.' The construction industry builds buildings that you are walking around in hoping that there are some safety issues that these people have accounted for. You don't want some building collapsing on top of you. Those are the things that are at stake. So the perception of the industry is a challenge. (Roger Tudor, AGC)

The Construction Academy does seem to have impacted the public's perception of the construction industry in a positive way, while at the same time, serving what Roger Tudor called "at-risk" students successfully. Although the Academy serves a wide range of students from those labeled as having special education needs to those who are bound for college, the entire population of academy students appears to have benefited, therefore improving the perception people have about the industry. The following examples were found in the data:

The Construction Academy has changed his whole life for the better. (Tina Price, mother of Construction Academy graduate, Scrapbook, p. 17)

Even if the kid doesn't go into our industry, they've seen us for what we are. We are starting to get some more information out there to kids about the industry. The kids who goes to college for four years comes out with debt. The kid who goes through the apprenticeship program has made \$100 thousand in those four years and probably has a house. He probably has an eight year jump on the other kid. I'm not saying kids don't need to go to college, but not every kid needs to go to college to be successful. It has been eye opening to everyone involved. The teachers had no idea what we did, and we didn't know what they did. (Roger Tudor, AGC)

This academy has changed our image. I hired a guy last year and somebody at the school got a letter from his girlfriend's mother saying that since he went through the Academy and went to work for us he has totally changed for the good. I've got a book over here sent to me by a grandfather of one of the kids in which he put together stuff from the very first meeting we had. I've gotten thank you notes from parents,

grandparents, and aunts. So we are starting to change our image. (Ron Tanner, AGC)

We, as school board members must adjust the way we do business in regards to vocational/career education. We must see that the world has changed, whether we like it or not, and create a school system that gives students what they need for their future, not for our past. (Debbie Colburn, School Board Member, Scrapbook, p. 42)

The third area impacted by an improved reputation was the relationship East Ridge had with the Hamilton County School District. The data suggest that as the Construction Academy developed a positive reputation for itself, the district loosened traditional restraints. Principal Dedmon said, "There are a lot of things you can do once you build up a reputation as a success. It gives you a lot of freedom." Ron Tanner also described the reinforcing nature of establishing successful status as an organization:

As it started to gel, word got out and the superintendent bought into the program. Rodger and I went and sat down with the county mayor and the city mayor separately and told them what we were doing, what our goals were, and they just bought into it 100%. They told us they would do whatever they could do. And since that time the success of the program has reinforced that support.

The Mayor of East Ridge expanded:

Thanks for sharing a real success story about education and industry coming together to help kids. This academy prepares kids for their futures, but in the meantime generates a new approach to learning that works. Kids will tell you that the math they were taking didn't register. This academy approach works because it shows kids how they can apply what they learn in school to the real world. It is an approach you can replicate over and over again. I cannot say enough about the private sector in this community and how they embraced the idea and make it a true partnership. This is something we are very proud of in this community. In a day when you hear bashing of education, this is a great success story. (Field Notes, December 12, 2005)

Ms Dedmon describes how the Construction Academy's unique approach to leadership and earned success contributed to increased freedom from traditional school system hierarchies. She said:

This [reform] is different. The resources were provided by AGC, and the political and community support is there. When Ron comes in the building teachers come running to find him. Sometimes Ron makes the decisions, sometimes I do, but we don't go through the bureaucracy anymore. The change has got to be systemic. How many mayors could come in and talk about what goes on in your classrooms? (Field Notes, December 12, 2005)

Based on the data analysis, it is clear that the success the Construction Academy experienced led to publicity, which in turn, resulted in changing perspectives about public education, the construction industry, and the nature of how to accomplish change within a school system. Success bred freedom from traditional bureaucratic restraints, increased public respect for East Ridge High School and the Chattanooga construction industry, and perpetuated further support for the program.

Concluding Reform within an Existing System

In many of the writings on small school reforms, some degree of autonomy from the existing system's constraints and requirements is recommended (Clinchy, 2000; Meier, 1996). Many successful small schools exist as charter schools or operate under "pilot school" status in order to receive this autonomy and receive sanctions from district or state requirements. The East Ridge Construction Academy was not formally exempt from district requirements or policies; however, its members achieved their own autonomy through other means.

The Construction Academy was, perhaps, given more leeway than most school reform efforts because of the manner in which the Carnegie grant was structured to

enable each high school to choose and implement the reform of their choice. The system in which East Ridge existed was ready for reform that deviated from traditional practices because of the work on this grant. Additionally, the Construction Academy garnered enough support from the community, local government, and internal stakeholders that they were able to pressure the school system into accepting their efforts. Finally, the success encountered within the Construction Academy forged a reputation that the larger district was willing to respect. This successful reputé bred freedom from typical bureaucratic constraints within public education.

Conclusion of Findings

The data collected for this study were analyzed based on a theoretical framework of specific educational reform literature (see Chapter 2). The goal of this study was to look at one particular successful small school reform effort in order to understand the process more deeply. The chapter sought to answer my research questions: (1) How does one public small school overcome historical barriers to school reform by engaging in the “systems thinking” necessary to create sustainable school reform; (2) How does one public small school overcome historical barriers to school reform by demonstrating the capacity to learn, self-correct, and self-improve; and (3) How does remaining inside the existing school system impact one small school’s ability to achieve its educational purposes?

In order to facilitate discussion of the findings, each question was broken down into more specific components that, according to the literature, comprise the broader research question topics. The data collected from interviews, observations, and

documents were analyzed according to codes that further defined each component. For example, the research question on learning organizations was broken down into four components: the study of information, capacity building, double-loop learning, and recognizing and reinforcing success. Each component was further defined by key words that comprise their meaning. For example, double-loop learning was defined as: questioning current practices and realities, demonstration of self-correction, the ability to make and learn from mistakes, and engaging in the practice of self-reflection. As I read through the transcripts of the interviews, observations, and documents I coded any information I came across according to this system.

Findings on Systems Thinking

The findings related to the first research question on how East Ridge engaged in systems thinking was divided into five components: organization as a dynamic process, contextualized inquiry, power relationships, school as an open system, and initiative and inertia. The theme of systems thinking enabled me to closely examine how East Ridge engaged in practices and behaviors that represent interrelated systems and permeable boundaries. By viewing the school through a systems lens, I was able to gain understanding about power structures, decision-making, and how the parts of this school reform were interrelated

The findings on the topic of systems thinking revealed that the small school reform effort at East Ridge High School was, indeed, a dynamic process involving multiple stakeholders, shared ownership, and distributive leadership. Power relationships were altered on many levels including the district, the school, and the community. The

creation of the Construction Academy opened East Ridge High School to the wider community and brought the community into the school to forge potent partnerships and systems of support. Fundamentally, the entire reform effort was framed around the contextually specific needs of the student population present at East Ridge. These needs were met with “home grown,” locally spawned solutions. This section of the findings finally suggests that the key stakeholders involved in the change process were willing to take a “leap of faith” by committing to an effort of which they had no experience and assurances.

Findings on Learning Organizations

Findings related to the second research question on how East Ridge behaved like a learning organization were divided into four parts: the study of information; building capacity, double-loop learning, and recognizing and reinforcing success. This theme of my framework focused the study on issues of how East Ridge demonstrated the capacity to learn, self-correct, predict future problems, and create workable innovations. It also allowed me to look at structures that encourage and support, or hinder learning behaviors within the school.

Findings surrounding the topic of learning organizations revealed that stakeholders involved in creating and sustaining the Construction Academy engaged in serious study and retooling in order to gain the information they needed to make this reform work. Every member of the reform effort from the principal, to the teachers, to members of the AGC sought new knowledge on how to create and operate an educational program that would truly be beneficial to students. The principal, especially, was well

versed in the literature and research on how to effect change within schools and spent a great deal of time building leadership capacity among her teachers.

This section of the findings also exposed processes of how members of the small school reform effort took risks, made mistakes, collected data, and changed courses of action over and over. Teachers in particular expressed a freedom to try new things, evaluate their worth, and make future decisions based on actual experiences.

Collaborative and proactive thinking pervade the data on this topic; blame and the inability to self-correct are absent. The reform at East Ridge High School embodied almost every facet of how a learning organization should function which is presented in the literature review.

Findings on Change as Part of the Existing System

Findings on how the reform efforts at East Ridge were impacted by remaining within a larger, existing system were divided into four components: a system ready for reform, restructuring bureaucratic hierarchies, changing school-people perceptions, and appealing to the public. Because the literature suggests that true reform only happens by departing from the existing system, this theme in my framework enabled me to look for information about how remaining part of an existing setting impacted East Ridge's ability to fulfill its vision and program goals.

Findings on the topic of reforming while remaining a part of a larger, existing system reveal some interesting results. First, Hamilton County School District and its administration was probably more receptive to individually led school reform than most districts because of its involvement with the Carnegie grant. This grant's guidelines state

that each high school should evaluate their individual reform needs and develop and implement their own reform solutions. Second, the nature of the Construction Academy as a partnership between East Ridge High School and the Chattanooga construction industry circumvented much of the existing bureaucratic hierarchy existing within the school system. Finally, the success the Construction Academy experienced fostered a network of support that the larger district was compelled to respect. This respected status earned the school even more freedom from system-wide constraints or requirements, which enabled them to fulfill their mission.

In Closing

Examining the creation and implementation of the triumphant East Ridge Construction Academy illuminated many vital practices and understandings surrounding successful school change. Although the efforts at East Ridge cannot be used as a blueprint for meaningful educational change, these findings can lead us to several important conclusions about school reform. These conclusions will be discussed in the following chapter.

CHAPTER 5

CONCLUDING DISCUSSION

Implications

When I ask myself why I think the creation of the Construction Academy at East Ridge High School was such a successful reform, the first answer I come up with is, “They did a lot of things right.” After having reviewed a large body of theory and research on school reform, I can conclude that the stakeholders involved in forming and sustaining the Construction Academy engaged many of the practices encouraged by school reform writers and researchers (e.g., Darling-Hammond, 1997; Deal & Peterson, 1993; Fullan, 1993; Sergiovanni, 1990). Additionally, by using the highly critical evaluation of school reform efforts by Sarason (1971, 1972, 1990, 1998, 2000, 2002) as my theoretical framework, I was able to evaluate this particular small school reform effort according to stringent criteria.

Due to the nature of my research questions, I came away with very specific answers about the inner-workings of a small school reform. I was not testing Sarason’s work to see if it could be supported or refuted by the data I collected, I was merely using it as a lens through which to view the detailed process of a small school in the making. This case study contributes to the knowledge base about small school reform efforts by seeking what Meier (in Clinchy, 2000) calls “a solution to the systemic by looking at the particular” (p. 184). Meier says:

A good school is filled with particulars...it is these that lie at their heart, that explain their surprising successes...Maybe what these ‘special’ schools demonstrate is that every school must have the power and the

responsibility to select and design its own particulars...That may be the 'silver bullet.' (p. 184)

By examining the particulars at the East Ridge Construction Academy we are able to assert certain conclusions about creating and sustaining a successful small school.

It is important to note that although the data analyzed for this case study may eventually contribute to education and reform theory, more immediately the conclusions contribute to a practical philosophy that constitutes a way of knowing, valuing, and performing—in essence, *practicing educational reform in concrete situations*. Aristotle called this type of practical wisdom *phronesis* (Aristotle, 350 BC/1999), emphasizing the virtuous response not in an idealized or absolute sense, but in a situated, concrete, existential context. When I began this study I wanted to know *how* a successful reform was undertaken. Aristotle is particularly helpful, I think, in identifying and specifying a particular type of deliberative, contextualized, praxis-oriented, goodness-producing wisdom that sounds very much like a suitable goal for educational reform. This knowledge (*phronesis*) arises in and guides action in concrete situations.

The big “lessons learned” from this study take the form of practical wisdom. They conclude the statement, “If I were to start my own small school here is what I know to be true...” These conclusions are discussed in detail below.

Background Knowledge

One of the first things we can conclude from the study of how East Ridge High School created and implemented a small learning community is that there is a prerequisite of background knowledge required by all direct stakeholders in order to understand and embrace this kind of systemic, fundamental change. There are certain

tenets, discussed in the literature review (see Chapter 2), that make small schools successful. Without knowledge of how and why these principles work, the reform may not be successful.

The main stakeholders in the Construction Academy all went about their education on small learning communities differently. Members of the AGC worked with an outside education consultant who advocated small career academies. Ms Dedmon, the principal at East Ridge, had done previous work with the *Coalition of Essential Schools*, which asserts many of the same views embraced by small school reformers. She took her own education a step further and learned how to create these understandings among her faculty by reading, attending outside conferences, and calling on external support networks. The teachers within the Construction Academy participated in professional development and attended conferences that taught them how to operate a small learning academy.

Ms Dedmon, in particular, did a lot of behind the scenes work to prepare her faculty to embrace a small school within the larger high school. The reform effort did not begin with the institution of the Construction Academy, but two years before when Cheri Dedmon began cultivating a culture of collaboration and innovation among the faculty at East Ridge. She knew the literature on school reform and sought out experiences throughout her career to enhance and expand upon this knowledge. Her previous work with the *Coalition of Essential Schools* and her ongoing actions to seek out information on change agency prepared her for the task of creating an environment receptive to transformation.

Each stakeholder group engaged in practices that expanded their knowledge base about successful school change. In other words, the founders of the Construction Academy did not accidentally stumble upon a successful reform effort. They did their homework, retooled, and learned a new language about education and change.

Change is Messy

The second conclusion we can draw from the experiences within the East Ridge Construction Academy is that change is messy. Although the stakeholders involved in creating this small school did take the time to learn necessary information about how and why to begin a small career academy, they did not do so in a linear fashion. They admittedly learned along the way. Recall the teacher interviews that described the surprise teachers felt when they attended the National Career Academy convention, “We discovered we had done so many things backwards or hadn’t done them at all” (Chapter 4, p. 104).

There was no prewritten vision or mission statement guiding this reform effort. The stakeholders never sat down before embracing the idea and wrote out a long-term action plan with specified objectives. They had no checklists, benchmarks, or assessment criteria when they embarked on this journey. The process was much more organic than I would have assumed. What the stakeholders did possess was a sense of freedom to innovate, make mistakes, and find the best practice along the way. They did a lot of sitting down together, brainstorming, and replacing ideas that didn’t seem to work. They were constantly, and are reportedly still, looking for ways to improve their practice.

“Tweaking” was a word used by almost every interviewee from members of the AGC, to the principal, to the teachers.

Schorr (1997), in describing effective social programs, wrote:

Those responsible for the programs have no illusion that they can implement the perfect model program—at once or ever. They evolve in response to changing needs...and feedback from both front-line staff and participants...learning from their successes and failures, and finding new and better ways to achieve their goals. (pp.8-9)

Stacey (1992) calls productive change the constant “search for understanding, knowing there is no ultimate answer” (p. 282).

This method of approaching change flies in the face of many popular business leadership and management models available today, which advocate starting with a centrally shared vision and mission statement, and then engaging in strategic planning to meet stated goals (e.g., Boleman & Deal, 1997; Kounzes & Posner, 1995). On the contrary, Fullan (1993) wrote that vision and strategic planning need to come later for two reasons. First, you need experience in the trenches before you can form a plausible vision. Second, creating a shared vision takes time and interaction among stakeholders. You cannot create these experiences ahead of time. He concludes, “Vision emerges from, more than it proceeds, action” (p. 28).

Along these same lines, there was no fear of making or admitting mistakes. Instead, the members of the Construction Academy were interested in finding ongoing solutions. The stakeholders within the Construction Academy were able to identify their weaknesses and areas that needed to be addressed. They were consistent in identifying these struggles: scheduling students in Academy classes, finding common planning time,

and a lack of parent involvement. Stakeholders did not appear to shirk away from mentioning these flaws. Levine (2002) wrote, “Innovative schools are often compared to some nonexistent ideal, rather than to existing models that have well-documented flaws” (p. 141). Stakeholders within the Construction Academy admit, document, and constantly remediate their flaws.

Homegrown Solutions

The third conclusion we can make about the successful reform efforts at East Ridge focuses on how the organization cultivated its own solutions to meet the needs of their specific context. School reform has traditionally swung between top-down reforms such as state-mandated curriculum and teaching standards to bottom-up efforts such as site-based management. Most recently a massive effort to standardize education and promote accountability has become “entrenched in the ideological and political language of educational policy” (McNeil, 2000, p. xxviii). According to McNeil, legitimating accountability as the governing principle in public schools ultimately shifts decision-making away from the public and places it in the hands of state and, more recently, national governmental entities. She concludes that one of the most devastating effects of the accountability movement is “the silencing of two voices most important in understanding the real effects of standardization: the teachers and the children” (p. xxii).

In order for the East Ridge Construction Academy to take root and begin to grow, its founding members chose to essentially ignore all national and state accountability agendas. The stakeholders in the academy astutely distinguished between increasing standards of teaching and learning, and adopting standardized educational practices.

There are examples within every stakeholder group involved in the Construction Academy demonstrating their commitment to high standards, but not to standardization.

The teachers within the Construction Academy did not use district textbooks, instead they compiled real-life learning experiences that met educational objectives. There was no evidence of “teaching to the test,” instead teachers devoted time to what they thought students should be able to do in order to succeed in the workplace or in higher education. Prior to test time, they spent some time teaching students how to take tests and how the requirements of test-taking may differ from the requirements of everyday life, but the test did not drive instruction. Teachers retained control over what they taught and how they taught. They determined scheduling, evaluation, improvements, and programming. In many schools today, teachers do not have power over any one of these features within their schools.

Additionally, the administration within the school led in a way that is atypical of leaders focused on accountability. The principal created a space for change to occur and then stepped back and let it happen. According to the teachers within the academy, the principal did not micromanage and basically let teachers make their own decisions. According to her own statements, Ms Dedmon expended massive energy developing leadership capacity among the teachers. According to Rebores (2001), distributive, or participatory, leadership is the most effective way to develop ownership in a school. Cultivating shared ownership requires “active participation in making decisions about the values, norms, expectations, sanctions, and symbolic activities of a school” (p. 148).

Rather than centralizing control within the school, Cheri Dedmon very deliberately diffused leadership, decision-making, and ownership.

The school district administration also behaved contradictorily to the tight controls advocated by the accountability movement. The Hamilton County administration embraced a site-based management style of reform and returned many decision-making roles to the individual schools. School administrators were given the freedom to engage their faculties in organic processes of reform as long as the reform efforts were based on the fundamental principles of the Carnegie grant (see Appendix G).

Finally, the supporting members of the AGC took on an empowering and supportive role, rather than a dictatorial managerial one. They became partners who literally sat down at the table with the school professionals and co-created a meaningful curriculum and program. They also offered East Ridge a way to circumvent the traditional bureaucratic decision-making structure by bringing in outside resources, building community support, and offering solutions that evaded the traditional chains of command.

The following table (Table 4) compares the reform efforts at East Ridge to those of schools strongly engaged in standardization and accountability measures. The reform efforts within the East Ridge Construction Academy were bottom-up and contextually specific. In essence, these labors represent the antithesis to accountability movement efforts that emphasize searching for one-size-fits-all solutions from outside the local educational system.

Table 4

East Ridge Reform Efforts Compared with Standardization Movement Reform Efforts

	East Ridge Construction Academy Reform Efforts	Standardization and Accountability Movement Reform Efforts
Teaching	<ol style="list-style-type: none">1. Teachers meet state standards by compiling meaningful learning experiences from a variety of sources2. Focus on teaching useful skills, not on tested material	<ol style="list-style-type: none">1. Mandated teaching standards2. Uniform textbooks3. Scripted teaching4. Teach to the test
Administration	<ol style="list-style-type: none">1. Practices distributive leadership2. Encourages teacher collaboration and innovation3. Encourages high standards for every student	<ol style="list-style-type: none">1. Tightly controls curriculum and teaching methods2. Emphasizes test scores and evaluations3. Encourages standardized teaching
District	<ol style="list-style-type: none">1. Loose control over individual schools2. Each school designs its own particular reform	<ol style="list-style-type: none">1. Tight control over individual schools2. Every school reforms according to a prescribed format
External Support	<ol style="list-style-type: none">1. Collaborate with teachers to form program2. Allow school to determine material and support needs	<ol style="list-style-type: none">1. Dictate how schools shall implement program2. Provide school with prescribed materials and support

This program emphasized local stakeholders and contextually specific needs, and met those challenges with homegrown solutions cultivated by those people most directly involved in carrying out the program.

Win-Win Relationships

According to Covey (1997), win-win relationships seek the interests of all involved parties. In this case study, the participants did exactly that, however their initial interests were very different; almost incompatible. The interests of the construction industry were self-serving. I remember being shocked at the bluntness with which Ron Tanner told me during an interview:

The leaders of our cities and our counties are actively searching for ways to get at-risk, low-achieving students into our industry. I don't mean to be disappointing, but I'm not interested in them. I am not interested in those individuals who are at-risk with no desire to get into this industry. We are interested in developing a product that we can march across the graduation stage of East Ridge high school so that we can push out that less-skilled individual who may have been working in this firm for twenty years and improve it with that skill set that we just produced.

All of my prejudices about why business should not be in charge of education immediately surfaced.

However, as Cheri Dedmon, the principal, said, she had to work hard to keep the focus of the academy on creating a place and a program where all kids could be successful. The balance seems to have been reached. In reality, the academy does serve a high percentage of at-risk students, although many of them are also college-bound. More important, it serves them successfully, and by the students' own accounts, may be the only reason they have been successful in school (Scrapbook, p. 54).

Roger Tudor expressed his surprise at learning that one of the best students in the Construction Academy had learning disabilities. He said:

I had one girl sit there and tell me she was making a 71 on math and now she's an A student in math. I didn't know she had a learning disability because she never showed it in the Academy. She was always right in the middle of stuff. We've had several kids say that if it weren't for the academy they wouldn't be in school.

In essence, industry and education are simultaneously meeting their goals. The construction industry is getting exactly what Ron Tanner wants, qualified workers. And public education is engaging in a program where all kids can succeed. Additionally, neither organization could have produced these results alone. They needed to form a partnership based on a careful balance of control and influence; or as Ms Dedmon put it, "a merger with two CEOs."

Ethic of Community

The final conclusion of this case study pinpoints the uniqueness of *small school* reform efforts as opposed to other types of educational reform agendas. As discussed in the literature review, small schools themselves are not a panacea for the myriad of challenges facing public education. They are a vehicle for more effectively confronting and overcoming those challenges. Small schools are based on the notion that teaching and learning are relational, that collaboration and dialog are key elements of healthy learning environments, and that those in the trenches of the educational endeavor should be the same people who make decisions about how to best approach, evaluate, and reform it.

Ms Dedmon summed up the research on small schools when she said:

Small school academies are structures. There is nothing magical about the structures. The purpose of small academies is to help build relationships.

People want to look at what we do and replicate the structure. You can't do that because there are so many things beyond the structure that have to happen to make a success.

The reform efforts at East Ridge forged relationships that had not previously existed. These relationships included a partnership between the construction industry and education, the wider community and the school, academic teachers and technical teachers, students and faculty, and students with other students. These relationships are the foundation upon which all other efforts reside. They are so important because relationships imply care, and care is a much different ethic to work from than simple organizational management. Palmer (1983) calls this specific type of care hospitality. He says, "Hospitality means receiving each other, our struggles, our newborn ideas, it means creating an ethos in which the community of truth can form, the pain of truth's transformations be borne" (pp. 73-74).

The ethic of care demonstrated by the stakeholders in the Construction Academy is not to be confused with "feel-good" sentimentality. Gordon, Benner, and Noddings (1996) write:

Caring is often confused with an intent or emotional attribute that exists in particular human beings absent of the skills necessary to put it into practice. But we argue that caring practices involve skill, education, and community and social resources...we define caring not as a psychological state or innate attribute but as a set of relational practices that foster mutual recognition and realization, growth, development, protection, empowerment, and human community, culture, and possibility." (pp.xii-xviii)

Skill, education, and community and social resources were required of the reform efforts within the Construction Academy. However, these tools were enhanced and cultivated by the small size and relational nature of the program.

I further assert that this case study uncovered not only an ethic of care, but an ethic of community. Furman's call to ground the practice of educational administration in an "ethic of community" in her 2002 UCEA Presidential Address beautifully reflects the values demonstrated by stakeholders in the Construction Academy. Furman's "ethic of community" forms at the point in which a four-part framework for ethics in education meets the ethic of justice, ethic of care, ethic of critique, and ethic of the profession. She says:

The only way to achieve our vision of schooling is *to commit to work together on important problems*, even with those who are different from us; *to commit to communicate and engage in dialog*; *to commit to share our stories and respect the views and values of others*; in other words, to commit to the processes associated with democratic community in schools. (Furman, 2003, p. 4)

Stakeholders in the Construction Academy participated in exactly the processes associated with democratic communities Furman is talking about. They engaged in a dialog with people who were very different from themselves, grappled with tough educational and programming dilemmas, and learned to value each other in the process.

Furman (2003) says, "I think that 'ethic of community' is a vehicle or concept that can synthesize much of the current work on social justice, democratic community, learning for all children, and so on" (p. 4). She concludes:

It seems to me that the "ethic of community" is the *foundation*, the *pre-requisite* to all other leadership practices that serve the moral purposes of schooling. In other words, the commitment to the processes of community needs to be internalized by educators...In sum, I think that to achieve some of the moral purposes we are talking about so much in education—social justice, democratic community, learning for all children—that the practice of community comes first. (p. 4)

If an “ethic of community” is the foundation or pre-requisite to meaningful educational leadership, it must also be fundamental to consequential educational reform. As it is defined by Furman (2003), the Construction Academy could be touted as a living example of how an ethic of community is reified in the practical field of education.

So What Have We Learned?

The phronesis, or practical wisdom, we can take away from delving into the details of how the East Ridge Construction Academy was formed and is sustained highlights for us some vital understandings about meaningful small school reform. First, there is a body of change knowledge that stakeholders must become familiar with in order to successfully transform educational practices and delivery models. Second, the process of change is more cyclical than linear. There is no end point, but rather a constant cycle of practice, evaluation, and revamping. Third, meaningful educational solutions should be cultivated by the very people who (1) have unique requirements that need to be addressed (i.e., community members, school faculty, and students), and (2) will actually implement the solutions. School reform must be contextually specific. Fourth, the experience at East Ridge demonstrates how incompatible goals (business and education, in this case) can produce very well-matched results. Finding ways to make school reform mutually beneficial to all stakeholders may entice unlikely partners. Finally, if schools are based on teaching and learning, and teaching and learning are relational processes, then it is reasonable to conclude that small school size facilitates the essential formation of community that fosters these practices. It is only within this “ethic of community” that practices of dialog, collaboration, and democratic schooling can exist.

Questions Left Unanswered: Areas for Future Research

Throughout the analysis of this study, I continued to run into several troubling questions regarding the Hamilton County School District, the individuals involved in the Construction Academy, and the nature of success and growth of a small school. These questions were never resolved, so I offer them as inconclusive questions that require further examination.

District Context

First, if it weren't for the Carnegie grant, could the creation of the Construction Academy have happened at East Ridge? The Carnegie grant set the stage for high school reform within Hamilton County Schools. Not only did it prepare the district to accept change, it specified that these change efforts should be chosen and orchestrated by individual high schools. This grant is highly prestigious and nationally recognized, and its funding is based on adherence to key tenets that made the Construction Academy possible.

I have to wonder if barriers from the district would have impeded or made impossible the creation of the Construction Academy without the Carnegie grant. First, the grant provided money Principal Dedmon used on professional development in order to educate her faculty about the possibilities of change. Second, it provided time for faculties to meet for half a day each month, which did not previously exist. Third, the grant established a site-based management reform system that placed decision-making powers within the individual schools. In essence, the grant mandated freedom; top-down tenets encouraged bottom-up reforms.

I would be curious to read a case study about a successful small school within a public school system that had not been involved with a large-scale national initiative. How do other small schools find funding for professional development? How do they escape constrictions from the district enabling them to create meaningful change in practice and delivery? How do they circumvent the accountability movement in order to focus on evocative and useful teaching and learning? Exactly what factor did the Carnegie grant play in the success of the Construction Academy at East Ridge? Could the school have created a success without the grant? Further study is required of these questions to more adequately answer my third research question: How does remaining inside the existing school system impact one small school's ability to achieve its educational purposes?

The Individual Difference

The second question I continue to grapple with is: How much of the success of the Construction Academy depended on the specific individuals involved in the reform effort? When I interviewed the principal and the teachers, I kept thinking, "These people are stars." They stated out loud what is written in the research about change, students' needs, and teaching and learning. Cheri Dedmon had studied with nationally known gurus of educational change at Brown University's Leadership Institute. She knew her stuff. Additionally, Ron Tanner and Roger Tudor were two very determined people with extremely far-reaching connections.

I am left with several questions about the importance of the individual players in school reform. How much does the success of a small school depend on the strength of its

leader(s)? Can the leadership qualities paramount for success be cultivated if they do not already exist? If they can, how are they fostered, nurtured, and matured? And could a group of ordinary people with average experiences become as dynamic as this group under the right circumstances?

Success Breeds Growth; Growth isn't Small

The third, most nagging question remains: If success breeds growth and expansion, how do you preserve the smallness that facilitated the success to begin with? The East Ridge Construction Academy is currently facing this exact dilemma. They have proven that they can exceed expectations and have grown in student size every year. Now teachers and the AGC are interested in adding science, social studies, and foreign language as Academy classes. Scheduling is already difficult, and teachers wonder how they will manage to coordinate more classes, more teachers, and more students. The math teacher, Ms. Jenkins, summarized these issues in an interview, saying:

We are having growing pains because we are trying to bring in new programs. In three years we have added three new teachers. With that growth it is hard for all those teachers to get together to do scheduling. We also added more students. We need to be sure that we don't get too large or grow so fast that we become numbers. I think that would make the academy fail. Once you become too large, then you just become another community school as opposed to a family where the students know that you are looking out for their best interests. A common planning time for teachers is crucial. Success makes you want to grow, but when you grow you might lose what made you successful to begin with.

I have not come across very many case studies about how small schools deal with the particular issues of growth and expansion. A multi-case study that looked at how small schools mature over time would fill in an essential gap in the literature about how to maintain success once it is underway.

So What do We Still Need to Know?

This case study leaves several important issues unexplored. First, the district in which this case study was conducted is atypical in the sense that Hamilton County Schools is involved in one of the most progressive, prestigious national grants. Exploring how much the district context enabled the success of the Construction Academy is important if you wanted to try and produce a similar success in another context. Second, several of the key individuals involved in this case study were exceptional individuals with significant and appropriate background experience for school reform. Establishing how to cultivate these characteristics in a group that does not necessarily possess them is also important in reproducing a similar success. Third, an area that needs to be considered for all small schools is how they handle growth and change. Examining how to remain true to the canons that encourage meaningful teaching and learning communities while expanding could be the difference between watching small schools become a passing educational fad versus becoming an entrenched living alternative to the comprehensive high school with a rich and established history. I recommend these topics as areas in need of further study.

Conclusion

I began my work on small school reform more than 4 years ago, very far away from where I have ended up. It started when I was teaching a special education class at an alternative school in Jackson, Mississippi, where the injustices of a massive educational system enraged me to the point I felt compelled to return and work on my doctoral degree in order to learn how to address the problems I encountered. I did not know about small

schools then. I began my search with the notion that something was very wrong with education, something was extremely unjust, and the system was irreparably broken for students who did not fit a particular mold.

When I began to scan journals and internet sources for answers I was interested in one thing: schools that worked for *all* children. I read through cases with a highly critical eye, looking for any reason schools might claim successes that weren't really there. Did they exclude special needs students? Were they located in affluent communities? Did they receive funds over and above the typical public school?

Along my journey I encountered a host of scholars who reaffirmed my frustration with public education while at the same time remaining committed to values such as democratic schooling, social justice, and equality. Deborah Meier, Linda Darling-Hammond, Mike and Susan Klonsky, William Ayers, and Ted Sizer, to name a few, empowered me to break from the notion that if you attack public schools as ineffective entities, you are a right-wing conservative interested in privatizing education. These were the founders of what I would come to know as the "small schools movement."

I had worked in the reality of poor, inner-city public schools and knew they were not worth defending. It was then that I encountered the work of Seymour Sarason who made me smile with his rantings advocating that we just blow up the whole system and start over. He is known as the toughest educational reform critic in the business, and so I wanted to use his criteria to evaluate success. I believed that if a reform effort could pass the "Sarason test," as I dubbed it, I had really found something of lasting value. I therefore created a conceptual framework for evaluating a particular small school reform

based on a compilation of his writings. This framework birthed the research questions for this study: (1) How does one public small school overcome historical barriers to school reform by engaging in the “systems thinking” necessary to create sustainable school reform; (2) How does one public small school overcome historical barriers to school reform by demonstrating the capacity to learn, self-correct, and self-improve; and (3) How does remaining inside the existing school system impact one small school’s ability to achieve its educational purposes?

As I have stated before, I had read enough and visited enough small schools to determine that they were a successful mode of significant school reform that produced what I was looking for. What I wanted to know when I began this study was *how* they were established and maintained. I wanted to examine the processes, the details, the inner-workings of small school reform.

Employing interviews of all major stakeholders, observations of a conference hosted by the school, and documents collected by the members of the Construction Academy in a scrapbook, I compiled data pertinent to my three research questions. Using a system of coding derived from my framework, I analyzed the data and synthesized it for discussion of the findings using the qualitative research program, Ethnograph 5.0.

The findings related to the first research question on how East Ridge engaged in systems thinking was divided into five components: organization as a dynamic process, contextualized inquiry, power relationships, school as an open system, and initiative and inertia. The theme of systems thinking focused on practices and behaviors that represent connected systems and porous boundaries. This systems lens provided understanding

about power structures, decision-making, and how the parts of this school reform were interrelated

Findings related to the second research question on how East Ridge behaved like a learning organization was divided into four parts: the study of information, capacity building, double-loop learning, and recognizing and reinforcing success. This theme of my framework highlighted issues of how East Ridge demonstrated the capacity to learn, self-correct, predict future problems, and create workable innovations. It also allowed me to look at structures that encourage and support, or hinder learning behaviors within the school.

Findings on how the reform efforts at East Ridge were impacted by remaining within a larger, existing system were divided into four components: a system ready for reform, restructuring bureaucratic hierarchies, changing school-people perceptions, and appealing to the public. This theme in my framework enabled me to seek out information about how remaining part of an existing setting impacted East Ridge's ability to fulfill its vision and stated purpose.

These findings resulted in several aspects of practical wisdom (phronesis) about small school reform. First, there is a body of change knowledge that stakeholders must become familiar with in order to successfully transform educational practices and delivery models. Second, the process of change is more cyclical than linear. There is no end point, but rather a constant cycle of practice, evaluation, and revamping. Third, school reform must be contextually specific. Fourth, finding ways to make school reform mutually beneficial to all stakeholders may establish unlikely, but beneficial partnerships.

Finally, schools must create an “ethic of community” that encourages practices of dialog, collaboration, and democratic schooling in order for meaningful transformation to exist.

While I gained considerable insight into the development and progression of establishing and sustaining a small school, there were several areas of examination that warrant further study. First, how did the Carnegie grant initiative at the district level impact the success of the Construction Academy? Second, how important are the specific leaders to successful reform? And third, how can small schools withstand growth and change without losing the attributes that made them triumphs to being with?

I would like to end with a quote that ignited my interest in small schools at the beginning of my journey. Meier (2002) in her book, *The Power of Their Ideas*, recounts her journey as founder of the first small school in the current small schools movement in East Harlem saying:

My own experiences over the past three decades have reinforced my optimism regarding the possibilities of making dramatic changes in the ways schools operate, changes that can transform the lives of children. All kids are indeed capable of generating powerful ideas; they can rise to the occasion...And it turns out that public schools, in new and different forms, are the best vehicle for nourishing the extraordinary untapped capacities of all our children. The question is not, Is it possible to educate all children well? But rather, Do we want to do it badly enough? (p. 4)

The East Ridge Construction Academy and its supporting community and industry wanted to do it badly enough. They took a leap of faith about the possibilities of a failing school to meaningfully educate all students, and the ability of regular community professionals and teachers to come up with an extraordinary vehicle for delivering public education.

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APPENDICES

Appendix A

Small School Research from the Bank Street Report

Legend									
+ Positive Correlation									
- Negative Correlation									
	Extracurricular Activities	Violence/Disorder	Dropout Rates	Student Attendance	Student Attachment to School	Professional Climate	Teacher Efficacy/ Satisfaction	Equity in Student Achievement	Student Aggregate Achievement
Lee and Smith (1996)								+	+
Lee, Smith, and Croniger (1995)								+	+
Oxley (1995)	+				+	+	+		
American Legislative Exchange Council (1994)								+	+
Fine (1994)				+			+		
Holland and Andre (1994)	+								
Lee and Smith (1994)					+			+	+
Zane (1994)		-			+		+		
Bryk, Lee, and Holland (1993)								+	
Arnold and Kaufman (1992)								+	
Franklin and Crone (1992)		-	-	+					+
Haller (1992)		-							
Public Education Association (1992)		-							+
Page (1991)		-							

+ Positive Correlation - Negative Correlation	Extracurricular Activities	Violence/Disorder	Dropout Rates	Student Attendance	Student Attachment to School	Professional Climate	Teacher Efficacy/Satisfaction	Equity in Student Achievement	Student Aggregate Achievement
Fowler and Walberg (1991)			-						+
Larson (1991)						+	+		
Lee, Dedrick, and Smith (1991)							-		
Oxley (1990)	+	-	-		+				
Roweton and Bare (1990)			-						
Felter (1989)			-						
Lee and Byrk (1989)								+	
Toenjes (1989)			-						
Bryk and Driscoll (1988)		-	-	+		+	+		+
Friedkin and Necochea (1988)								+	+
Pittman and Houghwout (1987)	+	-	-			+			
Crain and Strauss (1986)								+	+
Rutter (1986)							-		
Gottfredson (1985) Survey	+	-			+	+	+		
Gottfredson (1985) Case Study	+						+		
Lindsay (1984)	+								
Foley and McConaughy (1982)				+	+	+			

Appendix B

Teacher Interview Protocol

Grand Tour Question:

1. Tell me what it's like being a teacher at this school.

Learning Organization:

2. What old ways of thinking did you have to challenge in order to make the changes you made?
3. What systems do you have in place to ensure that you continue to refine your programming?
4. How do you obtain feedback on the school's progress?
5. Give me an example of something you had to rethink once the school got started.
6. What were some of the lessons you learned as teachers while planning and implementing the small school?
7. How would you do things differently if you were starting over?

Systems Thinking:

8. How do you think this school has been able to approach education in a new way?
9. What aspects of the educational system did you have to take into account in order to make these changes?
10. Tell me about some of the factors that made this change possible?
11. What support did you receive from outside of the school to enable this change?
12. What were some of the barriers to change?

Change as Part of the Existing System:

13. How has remaining in the public school system impacted your ability to meet the goals of this school?
14. What factors do school reformers need to take into account when creating a new school inside a traditional school?
15. How did you see power relationships change through this process of change?
16. How have you been able to justify what you do in this school to skeptics?

Appendix C

Administrator Interview Protocol

Grand Tour Question:

1. Tell me what it's like being a principal at this school.

Learning Organization:

2. What old ways of thinking did you have to challenge in order to make the changes you made?
3. What systems do you have in place to ensure that you continue to refine your programming?
4. How do you obtain feedback on the school's progress?
5. Give me an example of something you had to rethink once the school got started.
6. What were some of the lessons you learned as an administrator while planning and implementing the small school?
7. How would you do things differently if you were starting over?

Systems Thinking:

8. How do you think this school has been able to approach education in a new way?
9. What aspects of the educational system did you have to take into account in order to make these changes?
10. Tell me about some of the factors that made this change possible?
11. What support did you receive from outside of the school to enable this change?
12. What were some of the barriers to change?

Change as Part of the Existing System:

13. How has remaining in the public school system impacted your ability to meet the goals of this school?
14. What factors do school reformers need to take into account when creating a new school inside a traditional school?
15. How did you see power relationships change through this process of implementation?
16. How have you been able to justify what you do in this school to skeptics?

Appendix D

Outside Supporter Interview Protocol

Grand Tour Question:

1. How did you become involved with this school?

Learning Organization:

2. What old ways of thinking did you have to confront in your field in order to support this school?
3. How do you obtain feedback on the school's progress?
4. Give me an example of something you had to rethink once the school got started.
5. What were some of the lessons you learned as an outsider coming into the school?
6. How would you do things differently if you were starting over?

Systems Thinking:

7. How do you think this school has been able to approach education in a new way?
8. What aspects of the educational system did you have to take into account in order to make these changes?
9. Tell me about some of the factors that made this change possible?
10. What support did you provide to the school to enable this change?
11. What were some of the barriers to change?
12. Describe some of the unexpected outcomes of this partnership.

Change as Part of the Existing System:

13. How has remaining in the public school system impacted the ability of the school to meet its purposes?
14. How did you see power relationships change through this process of implementation?
15. How have you been able to justify what you do in this school to skeptics?

Appendix E

Request for Use of Authentic Names in Study

Wednesday, April 06, 2005 07:57 AM

From: Dedmon Cheri <dedmon_cheri@HCDE.ORG> Add to Address Book

To: aramp

Subject: RE: East Ridge Study

Status: Urgent New

Yes, I think use of the names would be good

-----Original Message-----

From: aramp [aramp@utk.edu] Sent: Tuesday, April 05, 2005 11:02 AM
To: Dedmon Cheri
Subject: East Ridge Study

Hey Cheri,

I passed the proposal defense and am sending my paperwork to receive permission from the review board. Then I will be able to come down there and work with you all - finally! Since I am doing my study from the perspective that your school is a success and that my purpose is to find out how it became that way, do you want to remain anonymous or do you want me to use the name of the school, teachers, principal, etc.? I have to write it up the way you want to present it, but I thought it might be more useful to you if we used your names. Either way is fine with me, just let me know. Alison Buehler

Appendix F

Carnegie Grant Tenets

1) School and community representatives, including students, teachers, school officials and leaders in higher education, politics, unions, business and civic organizations, must jointly redesign their outmoded comprehensive high schools.

2) Obsolete factory-model high schools must be transformed into learning communities that help all children reach high standards; one approach is to create small schools, or schools within schools, that can create a caring culture of learning.

3) The challenges presented by high schools are systemic and require district-wide leadership and reform.

4) Schools cannot succeed alone. To raise expectations for students and provide the means for them to succeed, school districts must raise community expectations for students and recruit community partners who will share public and private resources in a coordinated effort to help all young people develop into healthy, well-educated, productive citizens.

(Carnegie Corporation, 2006, ¶1-4)

VITA

Alison Buehler was born in Nashville, Tennessee. She completed her undergraduate studies in Special Education at the University of Southern Mississippi in Hattiesburg and her Masters in Special Education at the University of Arizona in Tucson. She is currently finishing her Doctoral Program in Educational Administration and Policy Studies at the University of Tennessee, Knoxville and plans to return to Mississippi where her family resides.