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# Leadership Team Actions That Manifest Collective Autonomy and Their Impact on Student Growth and Curriculum

Brian Keith Wegley  
*Loyola University Chicago*

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LOYOLA UNIVERSITY CHICAGO

LEADERSHIP TEAM ACTIONS THAT MANIFEST COLLECTIVE AUTONOMY  
AND THEIR IMPACT ON STUDENT GROWTH AND CURRICULUM

A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL OF EDUCATION  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF EDUCATION

PROGRAM IN ADMINISTRATION AND SUPERVISION

BY

BRIAN K. WEGLEY

CHICAGO, ILLINOIS

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Thank you also to Glenbrook South High School and Northfield Township High School District 225 for supporting the continuation of my education. Special thanks to my own administrative team for their continued growth that challenges me and shapes my thinking and practice daily. I am blessed to be part of such an incredible organization.

## DEDICATION

This dissertation is dedicated to my mother and to my wife. First, my mother, Marilyn, started her adult journey as a young mother of two. She juggled bills as she struggled to make ends meet, and she worked hard throughout her life to consistently improve herself and provide for our family. She taught me the meaning of love and the value of hard work. These two elements never wavered in her beliefs. Thank you mom; your love has meant more to me than words can say and I would never have the internal drive to help others nor the dedication to love as deeply without your example and consistent influence in my life.

My dear wife Kathy has had the single largest impact in my life. When I met this beautiful, intelligent and remarkable young lady at Augustana College during her 18<sup>th</sup> year, I knew from the beginning that she was something special. From Kathy I learned the value of education. She increased my self-worth and gave me the most precious gifts of my life--these, of course, were my two incredible children, Corine and Rob. Without Kathy I would never have had the confidence and desire to continually learn and lead. Although I often fall short of the demonstrated devotion she deserves, I cherish this incredible lady and will forever. Kathy, I cannot thank you enough for your patience and

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## LIST OF ABBREVIATIONS

ACT – American College Testing

AP – Advanced Placement

CCSSO – The Council of Chief State School Officers

ELL – English Language Learners

EPAS<sup>TM</sup> – ACT’s Educational Planning and Assessment System

ESEA – Elementary and Secondary Education Act

NAEP – National Assessment of Educational Progress

NCES – National Center for Educational Statistics

NCLB – No Child Left Behind

NGA Center – National Governors Association Center for Best Practices

PLC – Professional Learning Community

PSAE – The Prairie State Achievement Exam



## ABSTRACT

To be successful in the age of accountability, principals and all school leaders need to continue to build their capacity to lead meaningful, systemic and sustainable student improvement efforts that incorporate the required areas of reading and mathematics. A review of the educational literature revealed several studies that identified the limitations of America's current school accountability movement and described the narrowing of curriculum as a negative side effect of No Child Left Behind.

Educational research on leadership included a multitude of studies and leadership models for implementing change; this study focused on ideas contained within Zmuda, Kuklis and Kline's (2004) *Transforming Schools*. Zmuda, Kuklis and Kline defined this "buy in" as collective autonomy, in which all members of the leadership team "are active participants in the continuous improvement journey because they believe that what is being asked of them is collectively challenging, possible, and worthy of the attempt" (p. 20).

This study examined actions taken by three Chicagoland leadership teams during their improvement journey from as early as 2001 through 2011. Each school's context adjusted value-added scores were calculated. In addition, the average number of core and elective courses taken by students was analyzed. Each school's value-added scores and curricular narrowing were then compared to each leadership team's collective autonomy.

Principals took actions that increased their leadership team's collective autonomy over the decade studied. They created their vision and improvement goals in a relatively unilateral manner and then expanded participation as action steps were defined and implemented. Although it was impossible to directly attribute school actions as the causes for growth, many increases in value-added scores followed predictable patterns with respect to the school's collective autonomy changes. In addition, no relationship between collective autonomy and curricular narrowing was found. In fact, the elective classes taken by students at all three schools did not show a significant drop and schools in this study were able to improve student performance in accordance with NCLB goals without narrowing their curriculum.

## CHAPTER I

### INTRODUCTION

#### **Purpose of the Study**

This study will explore the actions that three different Chicagoland high school leadership teams have taken to meet the required student improvement efforts mandated by No Child Left Behind (NCLB). A profile of actions taken along with the degree that each has developed and manifested collective autonomy will be created. Changes in student growth in English, mathematics, reading and science, along with other quality indicators such as graduation rate, college bound rate, etc., will be analyzed and compared to each team's achieved level of collective autonomy. Finally, the average number of core and elective courses taken by students will be analyzed and compared to examine how each school's student curricular choices relate to the team's collective autonomy from as early as 2001 through 2010. Core classes will be defined as those within English, foreign language, social studies, mathematics and science. Elective classes will include art, drama, music, business and the applied arts.

#### **Significance of the Study**

To be successful, principals and all school leaders need to continue to build their capacity to lead meaningful, systemic and sustainable student improvement efforts that incorporate the required areas of reading and mathematics. In the age of accountability, schools are charged with ensuring the academic achievement of every student. The

history of the Elementary and Secondary Education Act (now known as No Child Left Behind) is well documented and has served as the foundation for the current accountability movement. A review of the educational literature revealed several studies that identified the limitations of the current school accountability movement across America and describe the narrowing of the curriculum as a negative side effect of NCLB.

School accountability efforts that incorporate student performance in mathematics and reading are likely to continue. In fact, current reauthorization efforts name the principal of a given high school as the individual to be replaced if a school fails to turn around. In a *Blueprint for Reform*, the Department of Education (2010) identified the following four strategies for turning around troubled schools:

- **Transformation model:** Replace the principal, strengthen staffing, implement a research-based instructional program, provide extended learning time, and implement new governance and flexibility.
- **Turnaround model:** Replace the principal and rehire no more than 50 percent of the school staff, implement a research-based instructional program, provide extended learning time, and implement new governance structure.
- **Restart model:** Convert or close and reopen the school under the management of an effective charter operator, charter management organization, or education management organization.
- **School closure model:** Close the school and enroll students who attended it in other, higher-performing schools in the district. (p. 12)

The literature is clear that successful reform requires “buy in” from the entire team (Cowley & Meehan, 2002; Fullan, 2005; Goddard, 2001; Sergiovanni, 1992; Newmann & Wehlage, 1995; Zmuda, Kuklis & Kline, 2004). Educational research on leadership includes a multitude of studies and leadership models for implementing change; this study will focus on ideas contained within Zmuda, Kuklis and Kline’s (2004) *Transforming Schools*. Zmuda, Kuklis and Kline define this “buy in” as collective autonomy, in which all members of the leadership team “are active participants in the continuous improvement journey because they believe that what is being asked of them is collectively challenging, possible, and worthy of the attempt” (p. 20). Of particular interest is whether schools that employ actions that engender collective autonomy realize more student growth and less narrowing of the curriculum.

Although there are challenges and limitations embedded within current educational accountability mandates, the Elementary and Secondary Education Act (ESEA) of 1965, from which NCLB was born, contains lofty goals that are worthy, meaningful and achievable. Educational leaders need to embrace and demand attainment of President Lyndon B. Johnson Great Society movement that was the genesis of ESEA. He called us to collectively ensure that “every young mind is set free to scan the farthest reaches of thought and imagination” (American Rhetoric, 2001). Educators need to accept the responsibility for closing the gap by educating each and every student to the by broadly applying educational research regarding the impact of sound teaching and quality curriculum on learning. If educators do not answer this call, then who will?

Principals need to define systemic goals that incorporate student improvement in mathematics and reading performance, and they need to consistently make sure these goals are understood by all and focused on by everyone across the organization. This requires leaders to inspire their leadership teams to believe goals are achievable and important. Another way of saying this is that principals need to build the collective autonomy of their goals incorporating the important skill development of students within mathematics and reading. Simultaneously, principals and other instructional leaders need to intentionally protect the valuable elective programs that have enhanced American high schools for decades.

This study aims to inform the importance of a school leadership team's collective autonomy as mandated reform and improvement efforts are undertaken. Specifically, this study will correlate the collective autonomy indicators with student growth achieved and with changes in curricular choices by students within three Chicagoland schools through time.

### **Research Questions**

1. How have the leadership teams for three Chicagoland high schools introduced and implemented school improvement efforts mandated by NCLB?
2. To what degree have three Chicagoland high school's leadership teams achieved collective autonomy for their school improvement efforts mandated by NCLB?

3. How has EXPLORE to ACT student growth and other student quality indicators changed in three Chicagoland high schools from as early as the class of 2001 to the class of 2011?
4. How have students' core and elective course choices changed in three Chicagoland high schools from as early as 2001 to 2011?
5. How does a leadership team's collective autonomy relate to student growth and curricular narrowing?

CHAPTER II  
REVIEW OF LITERATURE

**Part I – Leadership for Collective Autonomy**

Under the current reality of educational accountability, educational leaders, particularly principals, are under pressure to continually improve student achievement in reading and mathematics, while narrowing the achievement gap between various subgroups that has been present for decades in the United States. This study aims to evaluate the degree to which a leadership team’s collective autonomy impacts student growth and preservation of the comprehensive high school. The literature is clear that successful reform requires “buy in” from the entire team. Included in a multitude of models, Zmuda, Kuklis and Kline’s (2004) definition of this “buy in” as collective autonomy, in which all members of the leadership team “are active participants in the continuous improvement journey because they believe that what is being asked of them is collectively challenging, possible, and worthy of the attempt” (p. 20). In accordance with the No Child Left Behind Act (NCLB) mandates, educational leaders must truly believe in their ability and responsibility to improve mathematics and reading achievement levels for all students while narrowing the achievement gap that has existed in the United States between different socioeconomic and ethnic groups.

This study will explore the actions that three different leadership teams in high schools in the Chicagoland area have taken to meet the required student improvement



efforts mandated by No Child Left Behind (NCLB). A profile of actions taken along with the degree they have developed and manifest collective autonomy will be created. Changes in student growth in reading and mathematics and other quality indicators such as graduation rate, college bound rate, etc. will also be analyzed and compared to each team's level of collective autonomy. Finally, the curricular choices of students throughout their four years of high school will be compared to the degree of collective autonomy realized by each leadership team for students within three Chicagoland high schools from as early as 2001 through 2011.

In the age of accountability, schools are charged with ensuring the academic achievement of every student. The history of the Elementary and Secondary Education Act (now referred to as NCLB) is well documented and has served as the foundation for the current accountability movement. In the foreseeable future, successful school improvement efforts will require a focus on reading and mathematics achievement, while narrowing the achievement gap between all subgroups will remain an essential goal for school leaders. To be successful, school leaders, particularly principals, need to continue to build their capacity to lead meaningful, systemic and sustainable student improvement efforts. There are also several studies that document the narrowing of the curriculum as one negative side effect of NCLB.

These important efforts will likely remain a staple of public education for decades to come. In fact, current efforts name the principal of a given high school as the individual to be replaced if a school fails to turn around. In a *Blueprint for Reform*, the

Department of Education (2010) identified the following four strategies to turn around troubled schools:

- **Transformation model:** Replace the principal, strengthen staffing, implement a research-based instructional program, provide extended learning time, and implement new governance and flexibility.
- **Turnaround model:** Replace the principal and rehire no more than 50 percent of the school staff, implement a research-based instructional program, provide extended learning time, and implement new governance structure.
- **Restart model:** Convert or close and reopen the school under the management of an effective charter operator, charter management organization, or education management organization.
- **School closure model:** Close the school and enroll students who attended it in other, higher-performing schools in the district. (p. 12)

Educational research on leadership includes a multitude of models, and there are many outstanding leadership models for implementing change. Of particular interest to this researcher is whether schools that utilize actions that engender the collective autonomy identified by Zmuda, Kuklis and Kline (2004) in *Transforming Schools* realize more student growth and less narrowing of the curriculum. According to Zmuda, Kuklis and Kline (2004) successful transformation of schools involves six steps of continuous improvement:

1. Identifying and clarifying the core beliefs that define the school's culture.

2. Create a shared vision by explicitly defining what these core beliefs look like in practice.
3. Collect accurate, detailed data and use analysis of the data to define where the school is now and to determine the gaps between the current reality and the shared vision.
4. Identify the innovation(s) that will most likely close the gaps between the current reality and the shared vision.
5. Develop and implement an action plan that supports teachers through a change process and integrates the innovation within each classroom and throughout the school.
6. Embrace collective autonomy [as] the only way to close the gaps between the current reality and the shared vision, and embrace collective accountability in establishing responsibility for closing the gap. (pp. 18-19)

Zmuda, Kuklis and Kline (2004) define the level of collective autonomy of a leadership as the degree to which all members of the leadership team “are active participants in the continuous improvement journey because they believe that what is being asked of them is collectively challenging, possible, and worthy of the attempt” (p. 20). The collective autonomy that leads to “our collective responsibility” for success has also been cited by numerous studies as a cornerstone of successful school improvement efforts. In fact, several researchers interested in leadership and school reform emphasize the importance of collective efficacy of the leadership team. Each study approaches the

issue from a slightly different perspective that informs this essential component to successful school improvement.

Cowley and Meehan (2002) concluded that for schools to close the achievement gap, "...attention must also be given to fostering and sustaining a school climate where teachers are committed to continual learning and improvement" that develop "shared goals for learning and effective teaching" (p. 18). Sergiovanni (1992) suggests that for leaders to create successful, meaningful change, "leadership behavior must once again be joined with substance, and management process must once again be joined with purpose" (pp. 5-6). Sergiovanni claims that when the heart of leadership, which is related to "what a person believes, values, dreams about, and is committed to" is joined with the head of leadership, which incorporates the "theories of practice," then the hand of leadership will be understood and can take root (p. 7). Sergiovanni asserts that "what we believe in, and what we feel obligated to do because of moral commitment, gets done" (p. 27). In essence, this is what is meant by building professional authority, which Sergiovanni claims is the long-term work that results from moving "moral authority – the authority of felt obligations and duties derived from widely shared professional and community values, ideas and ideals – to center stage" (p. 42).

Newmann and Wehlage (1995) studied improvement efforts and concluded that the most successful schools "found a way to channel staff and student efforts toward a clear, commonly shared purpose for student learning; they created opportunities for teachers to collaborate and help one another achieve the purpose; and teachers in these schools took collective – not just individual – responsibility for student learning" (p. 10).

Fullan (2005) approaches the collective responsibility prerequisite to meaningful improvement from the perspective of building capacity, which “involves developing the collective ability--dispositions, skills, knowledge, motivation, and resources--to act together to bring about positive change” (p. 4). Fullan further defined moral purpose that “must transcend the individual to become an organization and system quality in which collectives are committed to three aspects of moral purpose: (1) raising the bar and closing the gap of student learning; (2) treating people with demanding respect (moral purpose is supportive, responsive, and demanding, depending on the circumstances); and (3) altering the social environment (e.g., other schools and districts) for the better” (p. 15).

Newmann and Wehlage (1995) reflected on the myriad of restructuring efforts that have occurred through the last few decades. They noted that the “quality of education for children depends ultimately not on specific techniques, practices or structures, but on more basic human and social resources in a school, especially on the commitment and competence (the will and skill) of educators and on the students’ efforts to learn” (p. 7). More significantly, Goddard (2001) concluded that “collective efficacy was significantly and positively related to between-school differences in student achievement in both mathematics and reading” (p. 473).

Synthesizing the elements that appear in numerous models generates the following indicators of collective autonomy. The following will be utilized for this study:

1. The levels to which student improvement efforts target the No Child Left Behind (NCLB) focus areas of reading and mathematics,

2. The degree of collective understanding of the NCLB goals and the plans for attaining them,
3. The amount of collective and individual efficacy for goal achievement,
4. The importance placed on the NCLB goals and efforts, and
5. The existence of a systemic plan for implementing and measuring success of identified NCLB goals.

As will be reinforced throughout the remainder of this literature search, educational accountability has been called for through the decades and will not likely end in the foreseeable future. Principals and educational leaders are required to lead improvement efforts that are appropriate for our country's best and worst schools. To be successful, educational leaders need to intentionally engendering collective efficacy across the school's leadership team as they work to improve student achievement in reading and mathematics while narrowing the achievement gap.

## **Part II – The History of Educational Accountability**

### **No Child Left Behind – NCLB**

To understand the charge placed on educational leaders, it is important to consider the current accountability system operating in the United States today, as well as the history of how accountability became such a significant focus within the American educational system. In 2001, bipartisan support for the No Child Left Behind Act was realized at the federal level of the United States Government. In fact, Hess and Petrilli (2008) documented that the United States Senate supported the law with a vote of 87-10 and the House of Representatives provided overwhelming support with a vote of 381-41

(p. 3). Ravitch (2010) further quantified the bipartisan support sharing that “Senate Democrats voted 43-6 in its favor, and House Democrats endorsed it 198-6. Senate Republicans voted affirmatively 44-3, as did House Republicans by 183-33” (p. 94). On January 8, 2002, with roughly 90% of both the House and Senate behind him, President George W. Bush signed NCLB into law at Hamilton High School in Hamilton, Ohio. Surrounded by bipartisan supporters that included Democratic Representative George Miller of California, Democratic U.S. Senator Edward Kennedy of Massachusetts, Secretary of Education Rod Paige, Republican Representative John Boehner of Ohio, and Republican Senator Judd Gregg of New Hampshire, President Bush (2002) claimed that “today begins a new era, a new time in public education in our country. As of this hour, America's schools will be on a new path of reform, and a new path of results” (p. 1). President Bush (2002) also proposed that “the new role of the federal government is to set high standards, provide resources, hold people accountable, and liberate school districts to meet the standards” (p. 1).

The U.S. Department of Education (2004) identifies four pillars of NCLB. The four pillars include the following:

**Stronger Accountability for Results**

Under *No Child Left Behind*, states are working to close the achievement gap and make sure all students, including those who are disadvantaged, achieve academic proficiency. Annual state and school district report cards inform parents and communities about state and school progress. Schools that do not make progress must provide supplemental services, such as free tutoring or after-school assistance; take corrective actions; and, if still not making adequate yearly progress after five years, make dramatic changes to the way the school is run.

**More Freedom for States and Communities**

Under *No Child Left Behind*, states and school districts have unprecedented flexibility in how they use federal education funds. For example, it is possible for most school districts to transfer up to 50 percent of the federal formula grant funds they receive under the Improving Teacher Quality State Grants, Educational Technology, Innovative Programs, and Safe and Drug-Free Schools programs to any one of these programs, or to their Title I program, without separate approval. This allows districts to use funds for their particular needs, such as hiring new teachers, increasing teacher pay, and improving teacher training and professional development.

**Proven Education Methods**

*No Child Left Behind* puts emphasis on determining which educational programs and practices have been proven effective through rigorous scientific research. Federal funding is targeted to support these programs and teaching methods that work to improve student learning and achievement. In reading, for example, *No Child Left Behind* supports scientifically based instruction programs in the early grades under the Reading First program and in preschool under the Early Reading First program.

**More Choices for Parents**

Parents of children in low-performing schools have new options under *No Child Left Behind*. In schools that do not meet state standards for at least two consecutive years, parents may transfer their children to a better-performing public school, including a public charter school, within their district. The district must provide transportation, using Title I funds if necessary. Students from low-income families in schools that fail to meet state standards for at least three years are eligible to receive supplemental educational services, including tutoring, after-school services, and summer school. Also, students who attend a persistently dangerous school or are the victim of a violent crime while in their school have the option to attend a safe school within their district.

Of the four pillars, this study will focus on “stronger accountability” in NCLB’s target areas of reading and mathematics. States are required to assess students each year in grades 3 through 8 and one time between grades 10 and 12 in each of these areas, and the law requires students to demonstrate Adequate Yearly Progress (AYP) toward 100%



proficiency by the 2013-2014 school year (U.S. Department of Education, 2005). In addition, assessments must be aligned with the state's content standards, and school progress must be shared annually.

NCLB has the noble goal of ensuring competence of all students in reading and mathematics by 2014 and seeks to “narrow the gap” between different student groups. These include the gaps historically observed between groups of students who traditionally achieve at lower levels than their white middle-income and high-income counterparts. These groups have included low-income students, Black, American Indian and Hispanic students.

### **ESEA and Rationale for Closing the Gap**

Of course the goals embedded within NCLB are not new areas targeted by the federal government. NCLB was the 2001 reauthorization of the Elementary and Secondary Education Act (ESEA) that was born from *The Great Society* movement announced by President Lyndon B. Johnson in 1964. The ESEA provided federal school funding through targeted Title grants aiming to increase achievement levels of many students who are traditionally underserved by education. To appreciate the intent of this movement, consider a speech given by President Lyndon B. Johnson at the University of Michigan's 1964 Graduation Ceremony. President Lyndon B. Johnson (1964) shared that we would begin to build the “Great Society in our cities, in our countryside and in our classrooms” (American Rhetoric, 2001). President Johnson asked, “Will you join in the battle to give every citizen an escape from the crushing weight of poverty?” and argued, “Our society will not be great until every young mind is set free to scan the farthest

reaches of thought and imagination....Poverty must not be a bar to learning, and learning must offer an escape from poverty” (American Rhetoric, 2001). Cross (2004) concluded that as a former teacher, President Johnson “was a passionate believer in equity and in the power of education to help pull people out of poverty, having himself been raised in a poor family and having succeeded in life, he felt, largely because he had received an education – one that had been entirely in public schools” (p. 27).

Hannah (2010) noted the significance of ESEA and its level of funding, “In the two years following the passage of ESEA, the U.S. Office of Education's annual budget for some 27,000 school districts jumped from \$1.5 billion to \$4 billion, marking the federal government's definitive entry into public education.” This involvement continues today and the federal influence in education continues to grow. Hannah (2010) also reinforced the federal beliefs in educational inertia that motivated the ESEA as she reflected on the words of Harold Howe II, who addressed the Alabama State Advisory Committee’s Civil Rights Commission in 1966 and said, “The failure of the schools arises from their determination to cling to a position--a position clearly prohibited under the Constitution of the United States--that threatens the opportunities of children to receive the best possible education.” This rhetoric illuminates a consistent federal belief that it is necessary to ensure all schools set high standards for achievement for every student. The recognition of the need for external influence to cause change in organizations like education is not a new insight. The Cardinal Principles of Secondary Education (1918) recognized the inertia inherent within secondary education when they asserted, “Secondary education, however, like any other established agency of society, is

conservative and tends to resist modification. Failure to make adjustments when the need arises leads to the necessity for extensive reorganization at irregular intervals” (p. 1).

From its inception under President Johnson and through its six reauthorizations under President Nixon, President Carter, President Reagan, President George H. Bush, President Clinton and President George W. Bush, the accountability of schools that has created such controversy with NCLB has been a continual issue embedded in the evolution of ESEA. There has been a consistent call at the federal level to measure student performance and hold schools accountable for high standards to be achieved by every child. According to Keppel (1972), during the bill’s consideration, Senator Robert F. Kennedy advocated changing the bill due to its lack of evaluation, as he said, “we really ought to have some evaluation in there, and some measurement as to whether any good is happening” (p. 10). McLaughlin (1975) noted “Senator Robert Kennedy saw evaluation as a means of political accountability, giving parents the information, and through that, the power to be certain that programs were effective” (p. vii). Cross (2004) reflected that “the failure to be clear and specific about evaluating Title I would remain a major issue for decades and Robert Kennedy’s words would come back to influence his younger brother, Edward, in the year 2001” (p. 29).

Beyond a consistent call for evaluation of educational effectiveness, the issue has taken many forms throughout the decades influenced by the ESEA. President Reagan’s secretary of education, Terrell Bell, created a National Commission on Excellence in Education. Bell (1988) shared that the rationale for creating this commission was based

on his belief that “[e]ducators had to be shaken out of their complacency” (p. 115).

This commission, of course, created and released *A Nation at Risk*, a report that increased the call for educational accountability exponentially. Swept up in the call for improvement of schools were the governors across the nation as they collaborated in an educational summit with President George H. W. Bush in 1989 to create national educational goals, which Cross (2004) pointed out changed the educational focus at the federal level from “inputs – books, student-teacher ratio, dollars – to outcomes: What is the educational system producing? At what cost? How well prepared are those who graduate?” (p. 98). Thus, the effort for systemic reform, endorsed by the National Governors Association (NGA), had begun to take shape. Cross (2004) shared that this effort “was based on the sound observation that the nation would not achieve significant advances in student performance unless the system aligned curriculum, with standards, assessments, teacher training, and resource allocation” (p. 101). Bill Clinton, the Governor of Arkansas at the time, was an instrumental leader in the creation of the national goals. By the time he became president, Bill Clinton began calling for state testing. Hanna (2010) pointed out that a big step toward our current accountability system was established by the Clinton administration, which employed Goals 2000 to strengthen standards-based reform. NCLB followed in 2001, and now, ESEA authorization is upon us again. Forecasting the next reauthorization of ESEA, President Obama shared the following: “...we look forward to working with you to strengthen the incentives for States that choose to work together voluntarily to establish and adopt common standards

and high-quality assessments aligned with the first 21st century's skills and knowledge” (U.S. Department of Education, April 7, 2010).

The political rhetoric calling for accountability has been consistent through time, and it is not likely to change significantly in the near future. Ravitch (2010) reflected that through the history of ESEA, it has been “assumed that reporting test scores to the public would be an effective lever for school reform” (p. 110). There have been advocates who point out the positive outcomes of the current accountability movement. Perlstein (2007) considered the testing in American schools and concluded “that without the pressure surrounding tests, many schools would have continued to neglect their lower students” (p. 40). In studying the impact NCLB has had on six schools, Haycock (2006) shared that she gets an earful about NCLB, but that she also hears “the law is having an enormously positive effect” because “there are no more invisible kids” (p. 38).

The call for accountability for American education has been consistent for decades and a reduction of school accountability that includes student testing is not forecast in the foreseeable future. The challenge for educational leaders will continue to be to improve achievement for all students demonstrated by improvement in test scores through meaningful learning within high quality educational systems that continually advance. This will require integrating educational testing within meaningful improvement efforts that have the collective autonomy of the leadership team. It also requires a deep understanding of testing strengths and limitations along with common pitfalls that have become consequences of the current accountability movement. One such pitfall has been the focus on test preparation and the increased focus on reading within language arts and

mathematics at the expense of other educational opportunities for students. Ravitch (2010) summarizes the difficulty:

Schools that expect nothing more of their students than mastery of basic skills will not produce graduates who are ready for college or the modern workplace. Nor will they send forth men and women prepared to design new technologies, achieve scientific breakthroughs, or accomplish feats of engineering skill. Nor will their graduates be prepared to appreciate and add to our society's cultural achievements or to understand and strengthen its democratic heritage. Without a comprehensive liberal arts education, our students will not be prepared for the responsibilities of citizenship in a democracy, nor will they be equipped to make decisions based on knowledge, thoughtful debate and reason. (p. 226)

Her rhetoric is consistent with the call across this country for high quality education for all students to ensure that each remains viable in our increasingly connected and competitive globally society. As principals lead educational improvements within their schools, this curriculum narrowing is worthy of examination in order to maintain the comprehensive nature of American high school.

### **Part III – Comprehensive High Schools – Historical Perspective**

The subjects and opportunities contained within the comprehensive high schools found across the United States for decades has been carefully reviewed by three studies through the years. The first was completed by the *Committee of Ten*, chaired by then Harvard University President Charles W. Eliot, which was established in 1892. The second was the *Cardinal Principals of Secondary Education*, which was conducted by the Commission on the Reorganization of Secondary Education, appointed by the National Education Association in 1918. The final study of the comprehensive nature of

our educational system, *The American High School Today*, was authored by James B. Conant in 1959.

### **Committee of Ten**

The Committee of Ten (1893) created coordinated recommendations for nine areas including “1. Latin; 2. Greek; 3. English; 4. Other Modern Languages; 5. Mathematics; 6. Physics, Astronomy, and Chemistry; 7. Natural History (Biology, including Botany, Zoology, and Physiology); 8. History, Civil Government, and Political Economy; 9. Geography (Physical Geography, Geology, and Meteorology)” (p. 5). As for the elective subjects, the committee reflected:

The omission of music, drawing, and elocution from the programmes offered by the Committee was not intended to imply that these subjects ought to receive no systematic attention. It was merely thought best to leave it to local school authorities to determine, without suggestions from the Committee, how these subjects should be introduced into the programmes in addition to the subjects reported on by the Conferences. (Report of the Committee of Ten, p. 48)

Therefore, the omission of elective subjects did not indicate that there was no expectation for their inclusion. In fact, the expectation existed as did the belief in flexibility for local communities to select the most applicable elective opportunities for their students.

Consistency was also called for by The Committee of Ten as they unanimously declared “that every subject which is taught at all in a secondary school should be taught in the same way and to the same extent to every pupil so long as he pursues it, no matter what the probable destination of the pupil may be, or at what point his education is to cease” (p. 17). The Committee of Ten also declared that the “wisest teacher, or the most

observant parent, can hardly predict with confidence a boy's gift for a subject which he has never touched" (p. 47).

To maintain opportunities for students to choose an educational path that aligns with their passions, the challenge will be for educators to manage change effectively and create positive outcomes for students within the comprehensive high school experience that has defined the American educational experience for decades. In addition, schools need to prepare ALL students for the rigors of a career or college as they maintain the philosophy of educational and elective choice for students. There is evidence that in the landscape of high stakes testing, maintaining the comprehensive high school has begun to be a serious challenge for our schools.

### **The Cardinal Principal of Secondary Education**

The *Cardinal Principal of Secondary Education* (1918) began their advocacy for comprehensive high schools by recognizing that the "dominant phases of life are closely interrelated and call for a degree of intelligence and efficiency on the part of every citizen that can't be secured through elementary education alone, or even through secondary education unless the scope of that education is broadened" (p. 1). The *Cardinal Principal of Secondary Education* (1918) proposed education as follows:

Education in the United States should be guided by a clear conception of the meaning of democracy. It is the ideal of democracy that the individual and society may find fulfillment each in the other. Democracy sanctions neither the exploitation of the individual by society, nor the disregard of the interests of society by the individual. More explicitly—The purpose of democracy is so to organize society that each member may develop his personality primarily through activities designed for the well-being of his fellow members and of society as a whole.



This ideal demands that human activities be placed upon a high level of efficiency; that to this efficiency be added an appreciation of the significance of these activities and loyalty to the best ideals involved; and that the individual choose that vocation and those forms of social service in which his personality may develop and become most effective. For the achievement of these ends democracy must place chief reliance upon education.

Consequently, education in a democracy, both within and without the school, should develop in each individual the knowledge, interests, ideals, habits, and powers whereby he will find his place and use that place to shape both himself and society toward ever nobler ends. (p. 4)

The *Cardinal Principal of Secondary Education* summarized that “the comprehensive high school can make differentiated education of greater value to the individual and to society, for such value depends largely upon the extent to which the individual pursues the curriculum best suited to his needs” (p. 19).

### **The American High School Today**

With similar rhetoric, Conant (1959), in *The American High School Today*, advocated for comprehensive high schools across America. In the foreword, John W. Gardner, president of the Carnegie Corporation, reflected on the comprehensive high school as being “responsible for educating the boy who will be an atomic scientist and the girl who will marry at eighteen; the prospective captain of a ship and the future captain of industry” (p. ix and x). In addition, schools are also called to level the playing field. Conant summarized that during “the nineteenth century equality became, above all, equality of opportunity – an equal start in a competitive struggle” (p. 5). The goal of the comprehensive high schools was holistically defined by Conant as being able to “provide education for all the youth living in a town, city, or district” (p. 7).

Conant (1959) identified three main objectives of a comprehensive high school:

[F]irst, to provide a general education for all the future citizens; second, to provide good elective programs for those who wish to use their acquired skills immediately on graduation; third, to provide satisfactory programs for those whose vocations will depend on their subsequent education in college or university. (p. 17)

This offers clear evidence of the call for high schools that prepare citizens for life and work with the inclusion of a strong elective program. Conant also applauded high schools organized with a “sufficient amount of periods in a day,” because programs “included as many as four years of art, music, and other electives” (p. 27). Conant concludes that a comprehensive high school should include a “meaningful sequence of courses in the elective programs” and a meaningful “sequence of courses leading to the development of marketable skills” (p. 45).

### **Challenges to Maintain the Comprehensive High School – Narrowing the Curriculum**

The comprehensive educational experience has been a staple of American education for decades. Unlike many countries, a fundamental belief in comprehensive educational choice and opportunity is at the core of the American educational system. This is seen in the fact that the goal of public education in the United States is for students to graduate high school and be able to attend college or enter the work force in virtually every field. However, two primary goals of comprehensive high schools are currently experiencing tension, the elective programs that support student exploration and the academic sequence that develops current and marketable skills, which through NCLB include reading and mathematics skills at an acceptable level. Several studies

demonstrate the academic benefits of the engagement that accompanies strong elective programs within schools. In one study involving over 25,000 students, Cantrell (1998) concluded that “academic grades, standardized test scores, measured reading levels and attitudes concerning commitment to community were all higher for students maintaining high levels of activity in music, chorus, drama and the visual arts” (p. 8).

Benefiting from student engagement that empowers students with the ability to explore their passions has required the establishment of comprehensive K-12 schools throughout the United States that include core academic subjects along with applied and fine arts. One reported side effect of the implementation of NCLB has been the narrowing of this comprehensive curriculum in many schools. According to von Zastrow and Janc (2004) 25% of all principals surveyed and 36% of principals from high minority schools reported decreases in instructional time for the arts (p. 10). In addition, van Zastrow and Janc cited similar decreases in foreign language and social studies and summarized that “[t]ruly high expectations can’t begin and end with mathematics, science, and reading” (p. 11). The impact of curricular narrowing is summarized by van Zastrow and Janc:

Even while schools undertake crucial interventions designed to improve some students’ literacy and mathematics skills, they must maintain a long-term vision of what constitutes educational excellence, one that both incorporates and moves well beyond literacy and numeracy....further learning builds upon the academic foundation established by English, math, science, history, government, geography, languages, and the arts. As soon as we sacrifice one or more of these subjects to budgetary constraints, or to simple apathy, we limit students’ opportunities after graduation. In a society founded on equality, such sacrifices are unconscionable. (p. 12)

Therefore, they argue that comprehensive high schools not only enrich the lives of students, but offer increased opportunities after high school.

Several others have joined in sounding the alarm against the reduction of the valued comprehensive nature of American schools. The Center for Education Policy also found that “[a]bout 62% of districts reported that they have increased time for English language arts (ELA) and/or math in elementary schools since school year 2001-02 (the year NCLB was enacted), and more than 20% reported increasing time for these subjects in middle school since then. Among districts that reported increasing time for ELA and math, the average increase in minutes per week since 2001-02 was substantial, amounting to a 47% increase in ELA, a 37% increase in math, and a 43% increase across the two subjects combined” (p. 1). In a related study, the Center on Education Policy (2007) also found that “44% of districts reported that since 2001-02, they have decreased the time in elementary schools devoted to subjects and activities other than ELA and math (social studies, science, art and music, physical education, lunch, and recess)” (p. 8). The Center on Education Policy also noted that these numbers inflate for districts with schools identified as not making AYP in which “51% of districts with at least one identified school reported decreasing time in social studies, and 43% reported that they have decreased time in science; these proportions compare with just 31% and 23%, respectively, of districts with no identified schools” (p. 8). The Center’s report continued, “About 24% of districts reported that their middle schools have increased instructional time in English language arts since 2001-02; the comparable figure for math was 20% of districts. Twenty-six percent of districts reported that they have increased the number of

semesters of math coursework students must take to graduate” (p. 11). This fear was echoed by Jennings and Renter (2006) as they wrote, “To find additional time for reading and math, the two subjects that are required to be tested under NCLB and that matter for accountability purposes, 71% of districts are reducing time spent on other subjects in elementary schools — at least to some degree. The subject most affected is social studies, while physical education is least affected, in addition, 60% of districts require a specific amount of time for reading in elementary schools: 97% of high-poverty districts have this requirement, compared to 55%-59% of districts with lower levels of poverty” (p. 5). These perceptions create concern that the comprehensive nature of American schools is waning.

Of course, ensuring proficiency in reading and mathematics for all students has tremendous merit. These skills are gateways into numerous careers and self-sufficiency. However, if accomplished without proactively integrating this increased focus on skills into existing curricula, it can result in a significant narrowing of the curriculum, which negatively impacts the comprehensive curriculum embraced by the United States for decades. van Zastro and Janc (2004) shared one strategy for maintaining a school’s electives, “some are incorporating reading and mathematics into other classes, from social studies to the arts” (p. 13). This strategy does not require an elective class to be replaced by a skill development class like reading. In the schools included in this study, several have integrated the mathematics and reading skills into all core curricular areas. Therefore, growth in English, mathematics, reading and science will be examined. In terms of curricular narrowing, this study will analyze core credits of English, foreign

language, social studies, mathematics and science. It will also analyze the electives of art, drama, music, business and the applied arts.

As America continues to call for educational accountability that ensures proficiency in reading and mathematics for all students, understand of the challenges in measuring student achievement need to be understood and systems need to be created that are as fair as possible. Recognizing these challenges will increase the usefulness of these efforts and will ultimately expand the horizon of testing to look beyond just mathematics and reading proficiency and will guide improvement efforts by more completely reflecting the success of American schools.

#### **Part IV – Measuring Student Achievement**

##### **The Challenge of Measurement**

The long sought measurement of student achievement by the federal government has taken root. The current endeavor mandated by NCLB, has many shortcomings beyond the narrowing of the curriculum reflected upon earlier. Another problem is that currently the “measurement” of success revolves around standardized tests, which do not provide a complete, nor always accurate picture of student achievement. Ravitch (2010) summarized this issue:

The problem with using tests to make important decisions about people’s lives is that standardized tests are not precise instruments. Unfortunately, most elected officials do not realize this, nor does the general public. The public thinks tests have scientific validity, like that of a thermometer or barometer, and that they are objective, not tainted by fallible human judgment. But test scores are not comparable to standard weights and measures; they do not have the precision of a doctor’s scale or a yardstick. Tests vary in their quality, and even the best tests may sometimes be error prone, because of human mistakes or technical foul-ups. (p. 152)

Ravitch further remarked that elected officials “assumed the tests were good enough to do what they were supposed to do-measure student performance” while few, “realized that the quality of the tests was crucial” (p. 95).

Beyond the problem of constructing valid and reliable tests that are administered with fidelity, other challenges have emerged across America’s current accountability system. The fact is that each state has created its own standards and assessments, which have changed over time. In addition, there are drastic differences in difficulty and achievement expectations built into the testing mechanisms across different states. As a result, “measuring” school improvement over time across states or within a given state requires a more consistent instrument than those provided by state developed assessments. One such evaluation system is the National Assessment of Educational Progress (NAEP). NAEP was the brainchild of Francis Keppel, the first Health, Education and Welfare secretary under President Johnson. Cross (2004) noted that “Keppel saw it as a way to determine what the investment in ESEA had produced in the way of learning” (p. 34).

The National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education provides congressional authorization for NAEP. The website for The Nation’s Report Card<sup>TM</sup> shared that NAEP assessments have included reading, mathematics and other subjects since 1969 (NAEP). NAEP collects and reports student performance information over time, at national and state levels, and offers researchers a more consistent tool for comparing student performance in reading and mathematics across states and as a nation over time.

Due to the wide variety of testing realities across the country, even when trying to focus on NCLB's target areas of reading and mathematics, there have been a myriad of studies that conclude various levels of "success" as a result of NCLB. Many of these are drastically inflated as compared to the more consistent NAEP results. Allington (2006) concluded that several states "have set reading standards that nearly nine out of 10 students meet the state standards, whereas fewer than two out of 10 meet the NAEP standard(s)" (p. 8). Kober, Chudowsky and Chudowsky (2010) pointed out that "NAEP and state results contradicted each other more often in reading than in math" (p. 1). Several additional studies have confirmed this issue. Ravitch (2010) shared several concrete examples of this problem:

The starkest display of score inflation is the contrast between the state-reported test scores, which have been steadily (and sometimes sharply) rising since the passage of NCLB, and the scores registered by the states on NAEP, the federal assessment program.... Texas, for example, reported in 2007 that 85.1 percent of its students in grades four through eight were proficient readers, but on the NAEP tests, only 28.6 percent were. Tennessee claimed that 90 percent of its students were proficient readers, but NAEP reported that 26.2 percent were. Similarly, Nebraska told the public that 90.5 percent of students in these grades were proficient, but NAEP said the number was 34.8 percent. (p. 161)

These inconsistencies cited call the rigor of state developed tests into question.

It is not surprising that conflicting assertions regarding the impact of the law have materialized. In contrast to Ravitch's claims, former Secretary of Education, Margaret Spellings (2010) shared her belief in the positive impact of NCLB in *US News & World Report* with this statement: "Achievement is up across the board, especially for those too often 'left behind': poor, minority, and special education students. In reading, 9-year-olds



made more progress in the last nine years than in the previous 28 years combined.” Referencing NAEP scores, Kober, Chudowsky and Chudowsky (2010) also noted increased student performance across the board as they claimed, “African American, Asian, Latino, Native American, and white students, as well as low-income students, boys, and girls, made gains in reading and math in two thirds or more of the states with sufficient data. For each subgroup, states with gains on state tests outnumbered states with declines or flat trends in both reading and math and at grades 4, 8, and high school” (p. 1).

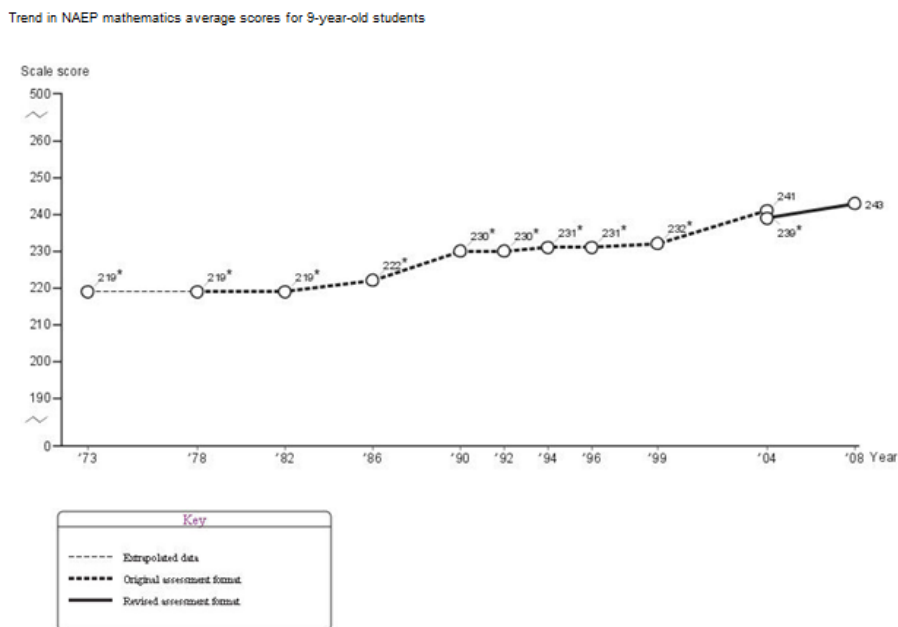
Although the NAEP tests provide more reliable gauges for systemic school improvement, results also generate conflicting interpretations among researchers. This often results from the fact that even if improvement is shown on the NAEP test, researchers interpret the results incorporating comparisons beyond simple “improvement.” For example, Kober, Chudowsky and Chudowsky (2010) pointed out that when considering NAEP results, “(w)hen gaps widened, it was often because both subgroups made gains, but the higher-achieving group improved more rapidly than the lower-achieving one. For gaps to narrow, the lower-achieving group must improve at a greater rate than the higher-achieving one” (p. 1). Therefore, even in a situation where significant gains were realized across the board, a researcher could conclude that schools are not closing the achievement gap.

### **Conflicting Interpretations**

The conflicting assertions regarding the impact of NCLB can be seen in many studies, even when referring to the same set of data provided by NAEP. For example, Braun, Chapman and Vezzu (2010) used NAEP results to claim that “achievement gaps are substantial and the introduction of federally mandated high stakes test-based accountability through No Child Left Behind has had a very modest impact on the rates of improvement for Black students and on the pace of reductions in the achievement gaps between Black students and White students” (p. 1). Yet another study zeroed in on similar NAEP data for pre- and post-NCLB results for states that had begun similar efforts in the 1990s and those that had begun after NCLB went into effect. When analyzing results in this way, Dee and Jacob (2010) reported “large and statistically significant increases in the math achievement of 4<sup>th</sup> graders and that these gains were concentrated among African American and Hispanic students and among students who were eligible for subsidized lunch” (p. 56).

To get accurate pictures of systemic school improvement, it is important to look at results first hand across time. Only then can the filters of others be removed. These filters often create incomplete media sound bites that all too often end up defining our improvement as a nation in a biased and incomplete fashion. Studying longitudinal NAEP results directly is illuminating as one studies historical data and reads NAEP’s conclusions. In addition to results shared in Appendix A, which includes a comprehensive set of the latest NAEP results, achievement levels from NAEP testing

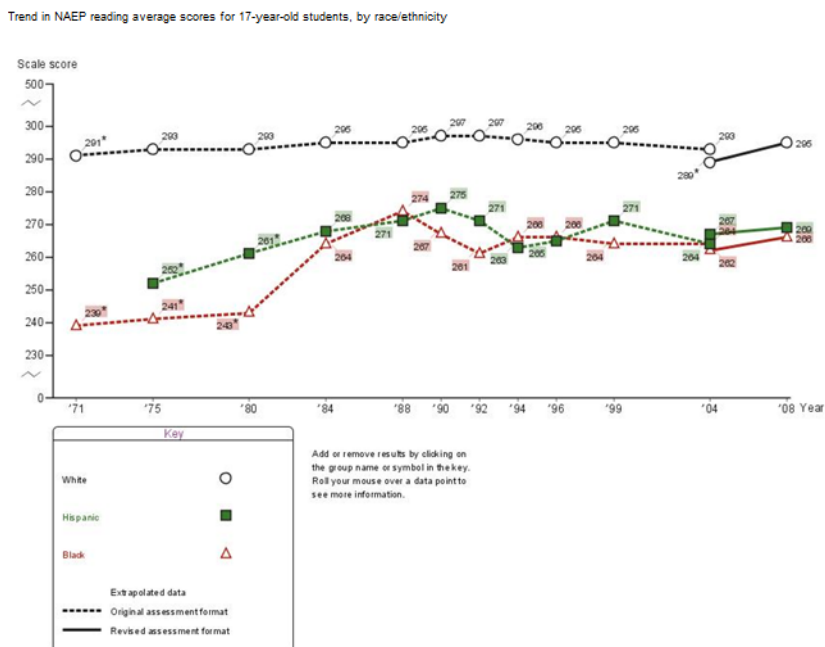
show that for the latest administration, 9-year olds earned their highest scores in mathematics since measurement began. “At age 9, the average score in mathematics in 2008 was 4 points higher than in 2004 and 24 points higher than in 1973.”



*Note:* From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card." *NAEP - Nation's Report Card Home*. National Assessment of Educational Progress. Retrieved March 1, 2011 from [http://nationsreportcard.gov/ltt\\_2008/ltt0002.asp?subtab\\_id=Tab\\_1&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltt_2008/ltt0002.asp?subtab_id=Tab_1&tab_id=tab1#chart)

*Figure 1.* Trend in NAEP Data Mathematics Average Scores for 9-Year-Old Students

Summarizing the trend data for 17-year-old students shows that White, Black and Hispanic students have realized higher scores as compared to initial results in the 1970s. In addition, the gap between these groups has significantly narrowed (NAEP).



*Note:* From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card." NAEP - *Nation's Report Card Home*. National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0009.asp?subtab\\_id=Tab\\_3&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltt_2008/ltt0009.asp?subtab_id=Tab_3&tab_id=tab1#chart)

*Figure 2.* Trend in NAEP Reading Scores for 17-Year-Old Students by Race/Ethnicity

Considering Figure 2, results show significant movement toward ESEA's call to "narrow the gap." Considering NAEP results offers a more consistent way to judge student achievement and progress at the national and state level, but NAEP results do not provide data at the school or student level.

To gauge school level success, it will be important to utilize data that, like NAEP, are more consistently measured and deemed valid and reliable over time. To accomplish this comparison of high schools in the suburban Chicagoland area, the best measure of student success on reading and mathematics is the growth shown within a vertically aligned series of tests provided by the American College Testing's ACT. This test, like the NAEP, offers a more consistent measure of performance over time and can be

analyzed at the school level. Although it alone does not measure every aspect of school quality we value, it does provide meaningful data for considering the improvement for nearly every student and school across Illinois, including the Chicago area. Cordigan (2006) pointed out that in 2001 “the Illinois State Board of Education began providing the ACT to all Illinois juniors as part of the *Prairie State Achievement Examination* (PSAE)” (p. 2). Therefore, virtually 100% of Illinois students have taken the ACT and, as will be discussed below, the results of this test combined with another aligned test from ACT can be utilized to generate value-added data for given students and schools. This concept of value-added models will be utilized by this researcher to assess success levels of leadership teams at three Chicagoland high schools. Below is a summary of current methods of “measuring” student achievement. Each will be considered, and the reasons for the utilization of a value-added model in this study will be shared.

## **Part V – Models of Accountability**

### **Status Model**

Consideration will first be given to the two general accountability systems currently utilized by NCLB, status and growth. The most prevalent accountability model utilized by states to satisfy the requirements of NCLB is the *status model*, which is an accountability model that assigns success for students and schools according to a single year’s assessment (Goldschmidt & Choi, 2007, p. 2). For example, Illinois high school juniors are assessed through the PSAE each April through the combination of scores from the ACT and the Workkeys. Each student is assigned a score and is labeled as *exceeding standards*, *meeting standards*, *below standard* or *academic warning* based upon this

single assessment. For this reason, many argue that the status model is inherently unfair. In a study for ACT, Allen, Bassiri and Nobel (2009) concluded that “high-poverty and high-racial/ethnic minority schools would be more likely to be sanctioned under a status system if mean entering achievement level is not accounted for” (pp. 19-20). Of course, under NCLB there is no accounting for these student characteristics, which significantly correlate with student achievement levels within the status model. A strong correlation of student performance on standardized tests and socioeconomic and minority factors have been cited in many studies (Allen, Bassiri, & Noble, 2009; Goldschmidt & Choi, 2007; Wainer, 2004). These studies support the argument that the current NCLB *status model* accountability system holds schools accountable for factors that are outside their control.

Goldschmidt and Choi (2007) contend that regardless of the ultimate purpose of NCLB’s accountability system, “all audiences share the common assumption that accountability results are accurate and that valid inferences and good decisions can be made based on those results” (p. 2). However, according to Scherer (2006), “the education assessment system now used can’t be considered valid under ordinary standards of program evaluation because it does not do what it is supposed to do: sort effective schools from ineffective ones” (p. 7). Goldschmidt and Choi (2007) identify four key questions that status models fall short in their ability to answer, “To what extent is previous student performance influencing current performance? What student background factors are influencing achievement? How does current performance relate to

achieving the 100% proficiency target? How accurate is this model in identifying schools in need of improvement?” (p. 4).

### **Growth Model**

Due to the inherent problems with status models, other accountability models are being considered. A common call for improving NCLB has been to utilize a *growth model* for determining Adequate Yearly Progress (AYP). Goldschmidt and Choi (2007) define a growth model as one in which student and school performance is based on “2 or more years of assessment results,” presumably looking at the growth of each student from one point in time to the next (p. 2). This alternate model for accountability incorporates ongoing assessment that can demonstrate the amount of growth students have achieved in any given year. Former Secretary Margaret Spellings (2010) expressed agreement with the need to focus on growth as she identified lessons learned from NCLB in a *US News and World Report* article she authored as she shared, “Now that we have annual assessment in all 50 states, we can use systems that give schools and teachers credit for an individual student's year-over-year improvement, rather than looking at absolute scores.”

Realization of a growth model at the federal level officially began in 2005 when Spellings (2005), announced a growth model pilot for “no more than 10 high-quality growth models.” While allowing this pilot, she and the federal government have stood fast to the principal that any growth model implemented would require **all** students reaching proficiency by 2014. Dunn and Allen (2009) studied growth models currently in use as a result of the Department of Education’s growth pilot. Dunn and Allen shared that

to meet the needs of NCLB a growth model, which still holds schools accountable for 100% proficiency by 2014, must be a multitier system that “is specifically designed to hold schools accountable for the proficiency of all students and the growth of nonproficient students toward proficiency” (p. 39). Jennings and Corcoran (2009) pointed out that “The growth model pilot doesn’t permit true growth or value-added models because they conflict with NCLB’s goal of 100% proficiency” (p. 637). Under this model, students must demonstrate a growth rate that, if continued annually, would lead to full proficiency by 2014 regardless of initial proficiency level and independent of student demographics. Goldschmidt and Choi (2007) agreed with limits on growth models currently allowed under NCLB as they summarized that they are “essentially the same as the current status systems, and thus eliminates virtually all of the benefits from investing in a growth model” (p. 8).

### **Value-Added Model**

A promising model to consider replacing currently inadequate systems for AYP is the *value-added model*. This system is inherently more reasonable for schools that may empower students to make outstanding growth, despite falling short of the “standard.” Allen, Bassiri and Nobel (2009) agreed by noting that because current “models do not account for students’ entering academic proficiency or contextual factors such as student and school-level poverty level, policymakers have expressed interest in value-added models as a means to measure school and teacher effectiveness for high-stakes (i.e., as the basis for rewards or sanctions) and low-stakes (i.e., to improve practice or identify 36 teachers’ and schools’ strengths and weaknesses) accountability” (pp. 35-36).



These *valued-added* models are differentiated within the literature as being models that predict student performance based upon previous attainment levels of students with similar demographics. Amrein-Beardsley (2008) defined value-added models as “methods of analyzing gains, growth in scores, or the amount of knowledge added from year to year as students progress through school” (p. 65). Amrein-Beardsley correctly point out that “schools may be categorized as below average at the end of the year, yet they may have learned more during that time than the students to whom they are compared” (p. 65). For that reason, Jennings and Corcoran (2009) advocate for growth models which predict results and then zero in on schools and teachers and deem them to have a “high value added” if they demonstrate “achievement that is higher than predicted” (p. 636).

As the Obama administration tackles yet another reauthorization of ESEA, many scholars and educators are calling to change accountability focus away from the status model currently utilized by most states to satisfy NCLB. Jennings and Corcoran (2009) summarize the issue well, “Unlike NCLB’s accountability model, which focuses on performance on a single test, growth models require repeated measures of performance for the same students over time” (p. 636). It is likely that Jennings and Corcoran are referring to a value-added model as defined in this paper as opposed to an NCLB growth model that still requires 100% proficiency by 2014. This type of accountability can, when defined appropriately, address one of the major flaws in NCLB; passing rates do not address the fact that students enter schools with very different backgrounds and knowledge. Jennings and Corcoran claim “the average poor child in the United States

arrives at kindergarten reading at lower levels than 72% of nonpoor children” (p. 637). They go on to point out that by current proficiency measures, “Two equally effective schools — one serving an advantaged population, the other serving a disadvantaged population — get very different appraisals” (p. 637). For this reason, Allan, Bassiri and Nobel (2009) conclude that “high-poverty and high racial/ethnic minority schools would be more likely to be sanctioned under a status system if the mean entering student achievement level is not accounted for” (p. 19 -20).

## **Part VI – Student Performance at the School Level in Illinois**

### **ACT’s EPAS™ System**

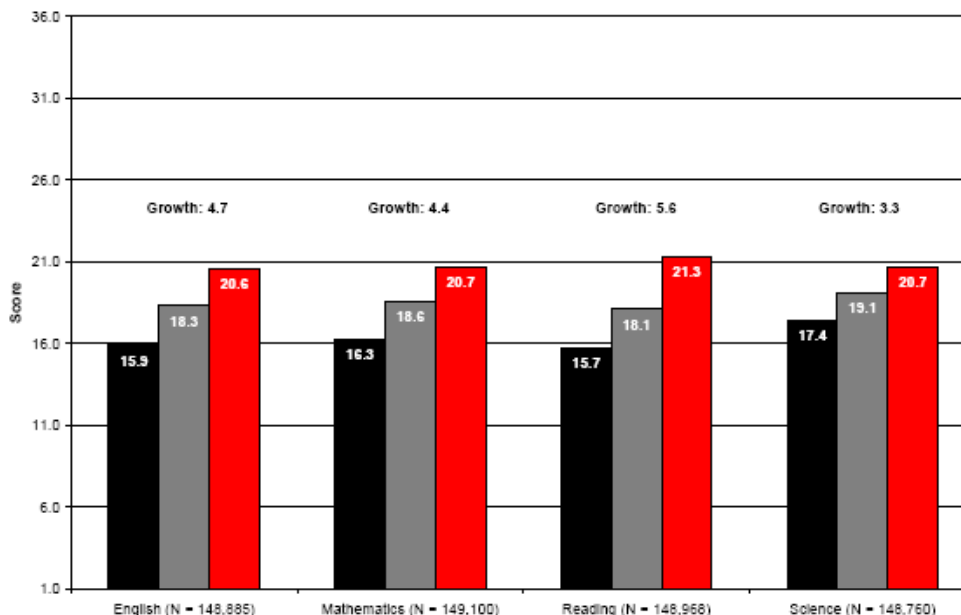
As previously mentioned, because the state of Illinois incorporates the ACT into its NCLB accountability test, virtually 100% of all Illinois students take the ACT. In addition, many Chicagoland schools also administer ACT’s EXPLORE test to students during their 8<sup>th</sup> or 9<sup>th</sup> grade years along with ACT’s PLAN test in 10<sup>th</sup> grade. This system is officially titled ACT’s Educational Planning and Assessment System (EPAS™). According to the Illinois’ 2010 task force charged with recommending growth options to the state superintendent, The Growth Model Working Group (2011) concluded that “One promising option is that many schools and districts across the state are using EPAS” (p. 8). Therefore, in Illinois, it makes sense to leverage the ACT, the EXPLORE test and/or the PLAN test when studying student performance and growth. Data from these longitudinal assessments can be leveraged to compare the value-added to student growth by different schools.

Dr. Steven Cordigan has analyzed data from Illinois' High School District 214 for a number of years and advocates strongly for using ACT's EPAS™ to measure student growth. The EPAS™ system utilizes student scores on ACT's EXPLORE, PLAN and ACT tests. According to Allen, Bassiri and Nobel (2009) "EPAS assessment results are reported on a single score scale designed to inform students, parents, teachers, counselors, administrators, and policymakers about students' strengths and weaknesses" (p. 2). The ACT is taken on a voluntary basis by most college-bound students in the Midwest. According to Camacho and Cook (2007) "The ACT core assessment system, which includes the EXPLORE, PLAN, and ACT assessments, are based on standards, administered in a specifically stated format, and are objectively scored and interpreted" (p. 2). In fact, all three assessments align with ACT's *College Readiness Standards*, which are scaffolded standards that target skills students need for college or career success in English, Reading, Mathematics, Science and Writing (Comaco & Cook, 2007). Although the EXPLORE test has a maximum of 25 and the ACT has a maximum score of 36, the scale scores for each represent similar knowledge and skill levels. Therefore, a student who earns an 18 on the EXPLORE test in reading demonstrates similar mastery of the *College Readiness Standards* in reading as a student who scores an 18 on the ACT. The consistent scale and testing makes the EPAS™ system one that offers many of the same advantages as the NAEP in that there is reliability in testing over time. However, the EPAS™ system is even more valuable for high schools because, unlike the NAEP test, test results can be used for a given student and individual school.

## ACT's EPAS™ Improvement Models

Because of this design, a student's "growth" can be measured by exploring the gain they achieve on the ACT as compared to the EXPLORE test and/or the PLAN test. Therefore, EPAS™ can be utilized to generate a value-added calculation for a given school.

ACT studied and published average growth rates in a 2009 study. Results are shown in the graph below:



*Note:* From "How Much Growth toward College Readiness is Reasonable to Expect in High School? *Issues in College Readiness*". ACT. Retrieved March 9, 2011, from [www.act.org/research/policymakers/pdf/ReasonableGrowth.pdf](http://www.act.org/research/policymakers/pdf/ReasonableGrowth.pdf), p. 2. Copyright 2009 by ACT. Printed with permission of the author.

*Figure 3.* Average Growth in Achievement between Eighth and Twelfth Grades

These values were generated with 2004 student data that incorporated the results of 1,019 high school cohorts and roughly 150,000 students nationwide who completed the three assessments and showed that, on average, English growth from EXPLORE to

the ACT was 4.7 points, mathematics growth was 4.4 points, reading was 5.6 points and science was 3.3 points. To determine the value-added by a given school, statistical comparisons to the growth levels achieved on average need to be defined.

There are several different models that can be supported utilizing EPAS™ for this cause. Allen, Bassiri and Nobel (2009) summarized the types of growth and value-added accountability models and reviewed aspects of each. The models considered are in Table 1 and a discussion of each follows with a recommendation for the model of focus for this study.

### **ACT's EPAS™ Growth Model**

EPAS™ can be used with the Wright/Sanders/Rivers Growth Model (WSR-Growth) or with the Vertical Projections Growth model (VP-Growth). After significant analysis, Allen, Bassiri and Nobel (2009) concluded that “the growth measures generated from WSR-growth scores are more reliable than the growth measures based on VP-growth scores” (p. 32). They further concluded that “Because both growth measures appear to be influenced by prior mean academic achievement, high-poverty and high-minority schools that have lower entering achievement levels are more likely to be sanctioned under a growth system that does not adjust for students’ entering achievement level” (p. 34).

Table 1

*Advanced Organization of Growth and Value-Added Accountability Models*

Type of Model	EPAS Subtype	EPAS Example	Abbreviation
Growth	11/12 <sup>th</sup> grade projected status based on Wright-Sanders River (WSR) model	Proportion projected to meet ACT College Readiness Benchmarks	WSR-growth
	11/12 <sup>th</sup> grade projected status based on vertical projection of 8 <sup>th</sup> and 10 <sup>th</sup> grade scores	Proportion projected to meet ACT College Readiness Benchmarks	VP-growth
Value-Added	School effect on ACT scores	Number of ACT score points attributed to a school, above or below what can be attributed to schools on average	ACT-VAM
	School effect on EPAS growth trajectory	Number of ACT score points attributed to a school, above or below what can be attributed to schools serving similar students, on average	ACT-CAVAM
	School effect on EPAS growth trajectory	Amount of students' level of growth attributed to a school, above or below what can be attributed to schools on average	EPAS-VAM
	Context-adjusted school effect on EPAS growth trajectory	Amount of students' level of growth attributed to schools serving similar students, on average	EPAS-CAVAM

*Note:* From "Statistical Properties of Accountability Measures Based on ACT's Educational Planning and Assessment System," by J. Allen, D. Bassiri, & J. Noble, 2009. Retrieved March 15, 2011, from [http://www.act.org/research/researchers/reports/pdf/ACT\\_RR2009-1.pdf](http://www.act.org/research/researchers/reports/pdf/ACT_RR2009-1.pdf), p. 7. Copyright 2009 by ACT. Printed with permission of the author.

### **ACT's EPAS<sup>TM</sup> Value-Added Models**

To address the problems associated with growth models, two specific EPAS<sup>TM</sup> value-added methods for measuring growth were identified. One utilized a hierarchical linear model designed to identify the “points attributable to a school, above and beyond what can be attributed for the average school” (p. 38). The second method identified by Allen, Bassiri and Nobel (2009) was “adjusted for student level factors such as family income and race/ethnicity, and school-contextual factors such as poverty level and proportion of racial/ethnic minority students in the school” (pp. 37-38). They also provided evidence that the amount of student growth from EXPLORE to ACT is positively correlated to the initial EXPLORE achieved by students, which means that a student’s expected growth is expected to be larger for higher initial EXPLORE scores (p. 43).

Using a value-added model offers challenges for achieving NCLB’s goals of rewarding and sanctioning schools. Allen, Bassiri and Nobel (2009) pointed out that “most school effects can’t usually be distinguished from ‘average’ with certainty, the most common scenario for a high-stakes decision based on value-added measures is that no action (rewarding or sanctioning) should be taken” (p. 47). They continue, “this problem is not unique to EPAS-based value-added measures, but reflects the reality that most school effects are not significantly different from the ‘average’ school effect” (p. 47). However, many researchers point out that value-added systems track rates at which students are growing as opposed to simply measuring if they have made “proficiency.” Allen, Bassiri and Nobel share that the “fundamental purpose of value-added models is to

isolate and estimate the effects of teachers, schools, and/or academic programs” (p. 35). Allen, Bassiri and Nobel summarized that “status, improvement, and growth (projection) models do not account for students’ entering academic proficiency or contextual factors such as student and school-level poverty level, policymakers have expressed interest in valued-added models as a means to measure school and teacher effectiveness” (p. 35). Value added models directly incorporate factors such as poverty level into growth predictions.

One such model has been established by researchers at ACT. This model is called the context adjusted value-added model, which uses school demographic information, individual and collective EXPLORE scores and other relevant factors to predict ACT scores and therefore expected growth figures for individual students and schools. These predicted values can then be compared to actual growth achieved for schools to determine a “value-added” figure for each. Figure 4 below incorporates the parameters in Table 2 to employ ACT’s context adjusted value-added model.

$$ACT_{score} = \beta_0 + \sum_{p=1}^4 \beta_p X_p + \sum_{r=1}^5 \theta_r S_r + tE_1 + \tau + \varepsilon$$

*Note:* From “Statistical Properties of Accountability Measures Based on ACT’s Educational Planning and Assessment System,” by J. Allen, D. Bassiri, & J. Noble, 2009. Retrieved March 15, 2011, from [http://www.act.org/research/researchers/reports/pdf/ACT\\_RR2009-1.pdf](http://www.act.org/research/researchers/reports/pdf/ACT_RR2009-1.pdf), p. 38. Modified on October 12, 2012 due to personal communication with Dr. Dina Bassiri from ACT. Copyright 2009 by ACT. Adapted with permission of the author.

*Figure 4.* Value-Added Model for Deriving Context-Adjusted Estimated School Effects on ACT Scores



Table 2

*Parameters Estimates for Context-Adjusted School Effect on ACT Scores Based on 2006-2010 Cohorts*

Parameter	Corresponding mean / predictor	Subject area			
		English	Mathematics	Reading	Science
$\beta_0$	Overall intercept	-4.641	0.471	-0.814	2.390
$\beta_1$	EXPLORE English	0.621	0.169	0.409	0.178
$\beta_2$	EXPLORE Mathematics	0.302	0.713	0.188	0.430
$\beta_3$	EXPLORE Reading	0.303	0.070	0.506	0.171
$\beta_4$	EXPLORE Science	0.264	0.332	0.330	0.392
$S_1$	School size*	0.178	0.163	0.147	0.118
$S_2$	Proportion tested	0.168	0.241	0.063	0.140
$S_3$	Poverty level	-1.863	-2.865	-1.654	-2.013
$S_4$	Proportion minority	0.080	0.381	-0.671	-0.174
$S_5$	School prior achievement level	-0.128	-0.155	-0.162	-0.107
$B_1$	EXPLORE to ACT time span	0.077	0.044	0.039	0.034

*Note:* \* Number of students, in hundreds. Results are estimated based on sample of 374, 651 students and 1,341 high schools. From Personal communication with Dr. Dina Bassiri with ACT on July 11, 2011. Copyright 2009 by ACT. Adapted with permission of the author.

The parameters in Table 2 combine with various student and school data in Figure 3 to predict the ACT score of a given student or school when given EXPLORE scores. The initial English, mathematics, reading and science EXPLORE scores respectively are covariate values  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$ .  $\theta_1$  through  $\theta_5$  represent school specific data and demographics. Time, in months, between the EXPLORE and ACT is denoted by  $\tau$ . For this study, the residual error,  $\varepsilon$ , will be assumed to be zero for all schools included within the study.

Once the predicted ACT score is calculated for a given school, it will be compared to the actual ACT scores. The predicted ACT score will be subtracted from the actual ACT scores for each student. A value-added score will be calculated for each

student and the average value-added score will be determined for each school. In effect, this process will compare the value-added of each school to that of the estimated school effects on EPAS growth trajectories calculated by ACT for 374,651 students from 1,341 high school cohorts for a cohort of students from 2006 through 2010. The scores for each high school will also be compared to each other.

Table 3

*Distribution of Estimated School Effects on EPAS Growth Trajectories from 2002 through 2006*

Subject	Estimate of school effect on EPAS growth trajectories					
	Min	P <sub>25</sub>	Med	P <sub>75</sub>	Max	SD
English	-0.67	-0.15	0.00	0.15	0.66	0.23
Mathematics	-0.65	-0.14	0.01	0.13	0.64	0.20
Reading	-0.47	-0.10	0.00	0.09	0.55	0.15
Science	-0.43	-0.09	0.00	0.08	0.42	0.13

*Note:* From “Statistical Properties of Accountability Measures Based on ACT’s Educational Planning and Assessment System,” by J. Allen, D. Bassiri, & J. Noble, 2009. Retrieved March 15, 2011, from [http://www.act.org/research/researchers/reports/pdf/ACT\\_RR2009-1.pdf](http://www.act.org/research/researchers/reports/pdf/ACT_RR2009-1.pdf), p. 44. Copyright 2009 by ACT. Adapted with permission of the author.

In general, Allen, Bassiri and Nobel (2009) contend that “[t]he 25<sup>th</sup> and the 75<sup>th</sup> percentiles of the estimated school effects can give us a rule of thumb of what constitutes a ‘good’ score for a high school cohort and what constitutes a ‘poor’ score” (p. 39). These values can be used to qualify the value-added achieved by each school. The data shared in Table 3 represents models utilizing a cohort of students from 2002 through 2006.

Table 4

*Distributions of Estimated School Effects on EPAS Growth Trajectories from 2006 - 2010: Derived from Estimated School Mean Residual Scores*

Subject	Estimate of School Effect on EPAS Growth Trajectories					
	Min	P <sub>25</sub>	Med	P <sub>75</sub>	Max	SD
English	-2.73	-0.56	-0.04	0.53	3.12	0.86
Mathematics	-2.34	-0.57	-0.03	0.50	3.68	0.84
Reading	-2.70	-0.53	-0.03	0.49	2.79	0.79
Science	-2.55	-0.45	-0.01	0.45	2.54	0.67

*Note:* Estimated based on 1, 341 high schools. From Personal communication with Dr. Dina Bassiri with ACT on July 15, 2011.

Bassiri (2011) shared “using the results from this table, you can apply the same ideas suggested in the 2009 report” (Personal communication on July 15, 2011). It is interesting to note that the maximum and minimum growths realized in the 2006 through 2010 cohort are significantly higher than those found in the 2002 through 2006 cohort.

Goldschmidt and Choi (2007) point out that “Placing high stakes onto a single indicator to evaluate school quality means that other important indicators, such as high school graduation or percentage of Advanced Placement courses passed by students, are left out” (p. 9). Ravitch (2010) advocates for a more holistic approach; a “good accountability system must include professional judgment, not simply a test score, and other measures of students’ achievement, such as grades, teachers’ evaluations, student work, attendance, and graduation rates” (p. 163). Value-added models utilizing EXPLORE and ACT scores will be leveraged for this study. In addition, to create a more complete picture of school quality, other school quality factors such as graduation rate,

college attendance rates and dropout rates will be compared over the last several years. In addition, the average number of core academic courses (English, foreign language, mathematics, science, and social studies) and the average number of elective courses (art, drama, music, business and the applied arts) will be calculated for as many graduating classes from 2001 until 2011 as possible to determine the degree of “narrowing of the curriculum” that has occurred at the three Chicagoland high schools to be studied.

### **Part VII – The Future of Accountability**

Understanding the history of ESEA and the longstanding federal call for accountability, it is clear that high stakes assessments that focus on reading and mathematics will be embedded into public education within the United States for years to come. This fact was reinforced by President Barack Obama through the Department of Education (2010) when he shared “we must reform our schools to accelerate student achievement, close achievement gaps, inspire our children to excel, and turn around those schools that for too many young Americans aren’t providing them with the education they need to succeed in college and a career” (p. 2). This rhetoric reflects current work of the Obama administration, which under the educational leadership of Arnie Duncan, is beginning to tackle the reauthorization of NCLB, which will mark the ESEA’s seventh reauthorization over the past 46 years.

As this important work continues, educational leaders need to position America’s schools for success within this continued accountability movement. In its recently released *Blueprint for Reform*, the Department of Education (2010) included Barack Obama’s commitment to growth as they shared, “Instead of a single snapshot, we will

recognize progress and growth” (p. 2). At this time, it is unclear whether the federal evolution of this law will credit schools for their value-added or if, as with NCLB, the restrictions of 100% proficiency by a given date will be incorporated, but there is solid evidence that a transition toward student growth or value-added models will be realized.

In addition, in 2009 the Department of Education established “Race to the Top,” a four billion dollar grant program awarded to state school systems. Like the four pillars of NCLB, “Race to the Top” consists of four key points. First, it supports the adoption of standards and assessments that prepare students to succeed in college, the workplace and the global economy. Second, it creates a data management system that measures student growth and success. Third, it recognizes the importance of effective teachers and principals. Recruiting, developing, rewarding and retaining successful educational staff is a cornerstone of the program. The fourth initiative consists of working to improve the lowest-achieving schools. “Race to the Top” continues to rely upon standardized testing and state standards and is in many regards a continuation of the Bush administration’s philosophy (U.S. Department of Education, 2010, September 2).

In fact, to have access to the Race to the Top funds, states must sign on with the Common Core State Standards, which are collaboratively created national standards that have created a consistent framework for college and workforce preparation. According to the Common Core State Standards Initiative website (2010), “The Common Core State Standards Initiative is a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO).” Including Illinois, 42 states have recently adopted the

Common Core Standards and have signed on to the national test being developed.

Therefore, a majority of public schools across the United States will be held accountable to this common set of standards. To be successful, principals and all school leaders need to continue to build their capacity to lead meaningful, systemic and sustainable student improvement efforts that incorporate the required areas of reading and mathematics and the new common standards.

## CHAPTER III

### METHODOLOGY

#### **Research Questions**

1. How have the leadership teams for three Chicagoland high schools introduced and implemented school improvement efforts mandated by NCLB?
2. To what degree have three Chicagoland high school's leadership teams achieved collective autonomy for their school improvement efforts mandated by NCLB?
3. How has EXPLORE to ACT student growth and other student quality indicators changed in three Chicagoland high schools from as early as the class of 2001 to the class of 2011?
4. How have students' core and elective course choices changed in three Chicagoland high schools from as early as 2001 to 2011?
5. How does a leadership team's collective autonomy relate to student growth and curricular narrowing?

#### **Study Focus**

This study will employ mixed methods research that will include qualitative and quantitative methods. It will include interviews of the leadership teams for three Chicagoland schools and will explore and compare the actions taken by the three leadership teams to meet the required student improvement efforts mandated by No Child

Left Behind (NCLB). A profile of actions taken along with the level of collective autonomy achieved will be created and compared with EPAS™ Context Adjusted Value-Added Model for English, mathematics, reading and science achievement, graduation rates, dropout rates and college bound rates from as early as 2001 through 2010. Because of the fact that many of the core initiatives for reading and mathematics are incorporated across all core areas, all achievement available by the sub-tests in English, mathematics, reading and science will be evaluated. In addition, the number of core and elective credits taken by students as early as 2001 through 2011 for the three Chicagoland schools will be compared to each leadership team's actions and level of collective autonomy achieved.

### **Participating School Rationale**

Three schools will be chosen because of their differing achievement levels, AYP status and wide range of school improvement efforts related to the NCLB target improvement areas of reading and mathematics. Each school has signed an agreement to cooperate with the study. Of the three Chicagoland schools to be studied, two schools (School A and School B) will be within one large suburban high school district. School A initiated a focused school improvement effort several years ago that was designed by that school's leadership team and incorporated the target areas of NCLB. After School A experienced significant success improving their ACT scores, the district office required these improvement efforts from each school in the district. As a result, these improvement efforts were mandated for each school in the district including School B. Before these goals were mandated, School B initiated efforts focusing on the *College Readiness Standards* and AP participation and success due to the positive results that



were generated by School A. School C is a high performing school that continued to make AYP through all years analyzed, has not developed a systemic school improvement effort and has not responded to the requirements of NCLB directly. All schools also vary significantly demographically with School B being the most diverse and School C being the least diverse. Information on each school follows:

Table 5

*School Information for 2010*

	School A	School B	School C
Total Enrollment	1924	1853	1705
Juniors Enrollment	454	445	431
Demographic Information (%)			
White	78.6	43.1	93.2
Black	1.6	2.7	0.5
Hispanic	10.1	44.3	2.8
Asian	7	6.2	2.1
Native American	0.2	0.1	0
Multiracial	2.5	3.7	1.4
Low Income	10.4	32.2	1.1

*Note:* From "Illinois Interactive Report Card," Northern Illinois University, 2011. Compiled on July 11, 2011, from <http://iirc.niu.edu>

### **Leadership Team Qualitative Exploration**

The principal and leadership team's collective autonomy will be explored and documented. Zmuda, Kuklis and Kline (2004) define the level of collective autonomy by the degree to which members of the leadership team "are active participants in the continuous improvement journey because they believe that what is being asked of them is collectively challenging, possible, and worthy of the attempt" (p. 20). Synthesis of the

elements that appear in numerous models generate the following indicators of collective autonomy that will be utilized in this study:

1. The levels to which student improvement efforts target the No Child Left Behind (NCLB) focus areas of reading and mathematics.

Table 6

*2010 Comparison School Quality Data*

	School A	School B	School C
<b>NCLB/PSAE Data</b>			
	Year 1 - Academic Early Warning	Year 4 - Academic Watch Status	Has always made AYP
AYP Status			
Reading Exceeds (%)	21	11	35
Reading Meets (%)	56	43	56
Reading Below (%)	21	36	8
Reading Warning (%)	3	10	1
Math Exceeds (%)	21	18	36
Math Meets (%)	56	51	55
Math Below (%)	21	27	8
Math Warning (%)	3	5	1
<b>Other Quality Indicators (%)</b>			
Attendance Rate	95.2	94.4	94.5
College Bound Rate	93.4	93.0	93.0
Graduation Rate	97.3	93.2	99.5
Dropout Rate	0.4	4.1	0.1
<b>ACT Achievement</b>			
Composite ACT	24.6	21.6	26.3
English ACT	25.5	20.8	27.1
Math ACT	24.1	22.8	26.3
Reading ACT	24.4	21.1	26.0
Science ACT	23.9	21.2	25.4

*Note:* From "Illinois Interactive Report Card," Northern Illinois University, 2011. Compiled on July 11, 2011, from <http://iirc.niu.edu>

2. The degree of collective understanding of the NCLB goals and the plans for attaining them.
3. The amount of collective and individual efficacy for goal achievement.
4. The importance placed on the NCLB goals and efforts.
5. The existence of a systemic plan for implementing and measuring success of identified NCLB goals.

Therefore, the extent to which each school's improvement efforts address the indicators of collective autonomy and target the NCLB focus areas of reading and mathematics will be explored and documented.

Interviews will begin with the principal of each school to learn, in general terms, about school improvement goals and specific actions each school has taken. Additionally, the specific members of each school's administrative team who share responsibility for implementing their school improvement efforts will be identified. Once individuals have been identified, each responsible member of the leadership team will be interviewed to determine the degree of collective autonomy achieved across the school's leadership team. Specific questions for these taped interviews will be developed and placed in Appendix C. Each interview will be audio taped and transcribed and a member check will be performed with each interviewee to confirm the accuracy of the interview. The verification email for interviews can be found in Appendix D.

To the degree possible, each factor of collective autonomy will be probed during the interviews with the principal along with other leaders identified by the principal as being in charge of curricular and co-curricular school improvement efforts. School

leaders identified by the principal as leading curricular and co-curricular efforts will be interviewed and categorized with complete, partial, minimal or none with regards to their personal level of collective efficacy. These categories have been determined by examining the factors of collective autonomy above. In many instances identified leaders had not been in their position for the entire examined time span analyzed from 2001 through 2011. If no substantive information was discernible about a leader during a given year, they were identified as “Not available” (NA).

Therefore, for the purpose of this study, the degree of collective autonomy will be classified by evaluating each leader in each of the attributes contained within the rubric shown in Table 7.

Table 7

*Collective Autonomy Rubric*

	Complete	Partial	Minimal	None
Goals	Relate to & support goals of NCLB.	Relate to NLCB.	Related to NCLB.	Goals are not related to NCLB or are not in any way systemic.
Range	Systemic for all students.	For targeted groups or systemic, but	Targets limited groups, and	
Efficacy	Leader believes goals will succeed.	Leader demonstrated partial belief in success.	Leader does not believe efforts will be successful, or	
Personal Beliefs	High importance & align with personal mission.	Efforts not in full alignment with leader's beliefs.	Efforts are not aligned with the leader's personal beliefs.	

Through the interview process and review of interview transcripts, the degree of collective autonomy of each leadership team will be determined. Collective autonomy conclusions gleaned from completed interviews will be completed before data analysis begins to avoid any bias that could impact the researcher's conclusions.

### **Value-Added Analysis**

In order to correlate each leadership team's level of collective autonomy achieved with student growth, a quantitative study of each school's value-added and summary of other important quality indicators will be performed. Allen, Bassiri and Nobel (2009) summarized that "status, improvement, and growth (projection) models do not account for students' entering academic proficiency or contextual factors such as student and school-level poverty level, policymakers have expressed interest in valued-added models as a means to measure school and teacher effectiveness" (p. 35). Therefore, a model that incorporates specific contextual factors will be utilized.

Specifically, the Value-Added Model for Deriving Context-Adjusted Estimated School Effects on ACT Scores will be utilized to determine the extent to which each school has met the "expected" growth targets predicted by the following equation in Figure 4 generated by ACT.

$$ACT_{score} = \beta_0 + \sum_{p=1}^4 \beta_p X_p + \sum_{r=1}^8 \theta_r S_r + tB_1 + \tau + \varepsilon$$

*Note:* From “Statistical Properties of Accountability Measures Based on ACT’s Educational Planning and Assessment System,” by J. Allen, D. Bassiri, & J. Noble, 2009. Retrieved March 15, 2011, from [http://www.act.org/research/researchers/reports/pdf/ACT\\_RR2009-1.pdf](http://www.act.org/research/researchers/reports/pdf/ACT_RR2009-1.pdf), p. 38. Modified on October 12, 2012 due to personal communication with Dr. Dina Bassiri from ACT. Copyright 2009 by ACT. Adapted with permission of the author.

*Figure 4.* Value-Added Model for Deriving Context-Adjusted Estimated School Effects on ACT Scores

The parameters in Table 2 combine with various student and school data in Figure 4 to predict the ACT score of a given student or school when given EXPLORE scores. The initial English, mathematics, reading and science EXPLORE scores respectively are covariate values  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$ .  $\theta_1$  through  $\theta_7$  represent school specific data and demographics. Time, in months, between the EXPLORE and ACT is denoted by  $\tau$ . For this study, the residual error,  $\varepsilon$ , will be assumed to be zero for all schools included within the study and the school’s value-added parameter is denoted by  $\tau$  in Figure 4. This value-added model incorporates context-adjusted growth figures for 374,651 students from 1,341 high schools.

Although EXPLORE and actual ACT scores and demographic information will be requested from each of the three schools for every year between 2001 and 2011, it may become necessary to narrow the focus due to each school’s ability to generate and share data. At a minimum, EXPLORE and actual ACT scores will be gathered for each junior student from the three Chicagoland schools during select years informed by their individual improvement efforts. In addition, the demographic information will be

Table 2

*Parameters Estimates for Context-Adjusted School Effect on ACT Scores Based on 2006-2010 Cohorts*

Parameter	Corresponding mean / predictor	Subject area			
		English	Mathematics	Reading	Science
$\beta_0$	Overall intercept	-4.641	0.471	-0.814	2.390
$\beta_1$	EXPLORE English	0.621	0.169	0.409	0.178
$\beta_2$	EXPLORE Mathematics	0.302	0.713	0.188	0.430
$\beta_3$	EXPLORE Reading	0.303	0.070	0.506	0.171
$\beta_4$	EXPLORE Science	0.264	0.332	0.330	0.392
$S_1$	School size*	0.178	0.163	0.147	0.118
$S_2$	Proportion tested	0.168	0.241	0.063	0.140
$S_3$	Poverty level	-1.863	-2.865	-1.654	-2.013
$S_4$	Proportion minority	0.080	0.381	-0.671	-0.174
$S_5$	School prior achievement level	-0.128	-0.155	-0.162	-0.107
$B_1$	EXPLORE to ACT time span	0.077	0.044	0.039	0.034

*Note:* \* Number of students, in hundreds. Results are estimated based on sample of 374, 651 students and 1,341 high schools. From Personal communication with Dr. Dina Bassiri with ACT on July 11, 2011. Copyright 2009 by ACT. Adapted with permission of the author.

gathered for each of the three schools for years that will be analyzed. Figure 4 will be utilized to generate predicted ACT scores for each student identified. Once the predicted ACT score is calculated for each student within a given school, the student's EXPLORE score will be subtracted from the predicted ACT score to create each student's expected EXPLORE to ACT growth. The EXPLORE score will also be subtracted from student's actual ACT score to generate each student's actual EXPLORE to ACT growth. For each student, the expected EXPLORE to ACT growth will be subtracted from the actual EXPLORE to ACT growth to determine the given school's value-added for each student.

The value-added figures will then be averaged for all students within the school to determine the average value-added score for each school during each year analyzed.

Table 4

*Distributions of Estimated School Effects on ACT Scores from 2006 - 2010: Derived from Estimated School Mean Residual Scores*

Subject	Estimate of School Effect on EPAS Growth Trajectories					
	Min	P <sub>25</sub>	Med	P <sub>75</sub>	Max	SD
English	-2.73	-0.56	-0.04	0.53	3.12	0.86
Mathematics	-2.34	-0.57	-0.03	0.50	3.68	0.84
Reading	-2.70	-0.53	-0.03	0.49	2.79	0.79
Science	-2.55	-0.45	-0.01	0.45	2.54	0.67

*Note:* Estimated based on 1, 341 high schools. From Personal communication with Dr. Dina Bassiri with ACT on July 15, 2011.

Table 4 contains value-added EXPLORE to ACT data that were generated by ACT for a cohort 374, 651 students from 1, 341 high schools that spanned from 2006 through 2010. In general, Allen, Bassiri and Nobel (2009) contend that “[t]he 25<sup>th</sup> and the 75<sup>th</sup> percentiles of the estimated school effects can give us a rule of thumb of what constitutes a ‘good’ score for a high school cohort and what constitutes a ‘poor’ score” (p. 39). The original conceptual EXPLORE to ACT value-added model was published by ACT for a cohort of students from 2002 through 2006. Bassiri, one of the primary ACT researchers on the study, encouraged use of ACT’s cohort data that included students 2006 through 2010 and emphasized that “using the results from this table, you can apply the same ideas suggested in the 2009 report” (Personal communication on July 15, 2011). The level of collective autonomy achieved by each leadership team will be compared to



the achieved value-added figures generated by employing the data that incorporates ACT's 2006 through 2010 cohort.

Although the impact on each school's value-added is of primary interest, the inclusion of additional achievement indicators is essential. Ravitch (2010) advocates for a more holistic approach; a "good accountability system must include professional judgment, not simply a test score, and other measures of students' achievement, such as grades, teachers' evaluations, student work, attendance, and graduation rates" (p. 163).

### **Additional Quality Indicators**

For each school, additional quality indicators across time will be sought and utilized to examine and help document the school's progress on NCLB related goals and correlate these with the level of collective autonomy achieved by each school. Specific additional data will include:

- Graduation Rate
- College Bound Percentage
- Drop Out Rate

Finally, the average number of core academic courses (English, foreign language, mathematics, science, and social studies) and the average number of elective courses (art, drama, music, business and the applied arts) will be calculated for students enrolled from as early as 2001 until 2011 to determine the degree of "narrowing of the curriculum" that has occurred at each of the three Chicagoland high schools. Schools will provide de-identified enrollment information that includes racial and low-income status from as early as 2001 and 2011. This course enrollment information will be utilized to determine the

average number of core and non-core courses taken by each student along with the overall percentage of core and elective courses for each given year. This core and non-core course enrollment data from as early as 2001 through 2011 will then be compared to determine the degree to which the school's curriculum has narrowed.

Value-added figures and other important quality indicators will be summarized along with the degree of curricular narrowing observed. Each will then be correlated to each leadership team's level of collective autonomy achieved.

### **Interview Instrument Focus Areas**

The following items were included in the interview instrument for principals and administrators involved in school improvement efforts:

- Student improvement efforts targeting the NCLB focus areas of reading and mathematics,
- The collective understanding of those goals and the plans for attaining them,
- Efficacy in the ability of the leadership team individually and collectively to achieve defined goals,
- Belief in the importance of these efforts, and
- A systemic plan for the implementation and measurement of success on identified goals.

### **Data Analysis**

Interviews will be summarized and used to define the collective autonomy of each leadership team. In addition, average EXPLORE scores, the ACT from Illinois' high school Prairie State Achievement Exam (PSAE ACT) scores will be summarized for each year beginning as early as 2001 until 2011. Actual growth from EXPLORE to the PSAE ACT will be calculated for each year. Demographic data for each school will be incorporated into the Context Adjusted Value-Added Model equation shown in Equation 1 along with the parameters provided in Table 2. With this equation, each student's predicted ACT score will be generated and used to predict each student's predicted growth by subtracting the given student's EXPLORE score from the student's predicted ACT score. The student's predicted growth can then be subtracted from the student's actual growth to generate a value-added score for each student. These can all then be averaged to generate the average predicted ACT, growth and value-added scores for a given school (Allan, Bassiri & Nobel, 2009, p. 38). The schools included in this study have integrated the mathematics and reading skills into all core curricular areas. Therefore, growth in the English, mathematics, reading and science sub-tests will be examined.

For each sub-test a one-way ANOVA will be run on the EXPLORE scores across the years analyzed to determine if the mean scores have changed significantly over the years. This same test will be run on each school's sub-test mean value-added scores over the years analyzed to see if significant change has occurred.

In terms of curricular narrowing, this study will analyze core credits of English, foreign language, social studies, mathematics and science. It will also analyze the electives of art, drama, music, business and the applied arts. Course selection data will be provided for each school identified by a “fake” ID number for each student enrolled. Each course selections will be identified as “core” or “elective” for each student taking class at the given school during each year of data provided. These selections will exclude PE and Health and the number of core and elective courses per student will be determined. Data will be aggregated by student ID number to determine the number of core and elective courses taken by each student enrolled. The average number of core and elective courses per students will then be determined for each given year along with the percentage of the student schedule the core and elective selections represent. Finally, a one-way ANOVA will be performed on the means of each year to determine if significant change has occurred to the mean core and mean elective selections of each year.

CHAPTER IV  
REPORT OF THE FINDINGS

**Introduction**

The literature was clear. Successful reform requires “buy in” from those leading the charge (Cowley & Meehan, 2002; Fullan, 2005; Newmann & Wehlage, 1995; Sergiovanni, 1992; Zmuda, Kuklis & Kline, 2004). Educational research on leadership includes a multitude of studies and leadership models for implementing change; this study will focus on ideas contained within Zmuda, Kuklis and Kline’s (2004), *Transforming Schools*. Zmuda, Kuklis and Kline defined this “buy in” as collective autonomy, in which all members of the leadership team “are active participants in the continuous improvement journey because they believe that what is being asked of them is collectively challenging, possible, and worthy of the attempt” (p. 20).

According to Zmuda, Kuklis and Kline (2004) successful transformation of schools involves six steps of continuous improvement:

1. Identifying and clarifying the core beliefs that define the school’s culture.
2. Create a shared vision by explicitly defining what these core beliefs look like in practice.
3. Collect accurate, detailed data and use analysis of the data to define where the school is now and to determine the gaps between the current reality and the shared vision.

4. Identify the innovation(s) that will most likely close the gaps between the current reality and the shared vision.
5. Develop and implement an action plan that supports teachers through a change process and integrates the innovation within each classroom and throughout the school.
6. Embrace collective autonomy and the only way to close the gaps between the current reality and the shared vision, and embrace collective accountability in establishing responsibility for closing the gap. (pp. 18-19)

This study explored the school improvement actions taken by three different Chicagoland high school leadership teams over the past decade. Of particular interest was whether schools that employed actions that engender collective autonomy realize more academic growth and less narrowing of their curriculum. Specifically, this study aimed to inform improvement efforts that align with state and federal mandates. Improvement mandates similar to those contained within No Child Left Behind (NCLB) will likely continue and, to be successful, principals and other educational leaders need to be able integrate these requirements into meaningful curricular improvement efforts with significant buy in from those leading these efforts. Interviews began with principals to gain their insights into school improvement efforts from as early as 2001 until 2011. In addition, principals were asked to identify other individuals in their school who were charged with implementing curricular and co-curricular school improvement efforts. Interviews were then conducted with each available individually involved in leading those efforts. Indicators of collective autonomy were explored. For this study, collective autonomy was defined by the following factors:

1. The levels to which student improvement efforts target the No Child Left Behind (NCLB) focus areas of reading and mathematics.
2. The degree of collective understanding of the NCLB goals and the plans for attaining them. (*Note*: This can only be achieved if improvement goals target NCLB.)
3. The amount of collective and individual efficacy for goal achievement.
4. The importance placed on the NCLB goals and efforts.
5. The existence of a systemic plan for implementing and measuring success of identified NCLB goals.

To the degree possible, each factor of collective autonomy was probed during the interviews with the principal along with other leaders identified by the principal as being in charge of curricular and co-curricular school improvement efforts. School leaders identified by the principal as leading curricular and co-curricular efforts were interviewed and categorized with complete, partial, minimal or none with regards to their personal level of collective efficacy. These categories were determined by examining the factors of collective autonomy above. The rubric in Table 7 was utilized to categorize each leader. In many instances identified leaders had not been in their position for the entire examined time span analyzed from 2001 through 2011. If no substantive information was discernible about a leader during a given year, they were identified as “Not available” (*NA*).

Therefore, for the purpose of this study, the degree of collective autonomy was categorized as follows:

Complete – The systemic curricular or co-curricular area(s) under the leader’s domain had goals and improvement efforts that directly supported those targeted by

NCLB. These goals were clearly understood by the leader; the leader believed success would result; and the leader believed the goals were important in that they aligned with his or her personal mission of education.

Partial – The systemic curricular or co-curricular area(s) under the leader’s domain had goals and improvement efforts that were related to NCLB, but the leader may not have fully believed efforts would be successful and/or the efforts were not consistent with the personal beliefs of the leader. In addition, the goals and efforts may have only focused on targeted groups.

Minimal – The curricular or co-curricular area(s) under the leader’s domain had goals and improvement efforts that were either not systemic or only partially addressed the targets of NCLB. The leader did not believe efforts could be successful, and/or were not aligned with the leader’s personal mission.

None – Improvement efforts did not address the targets of NCLB, or were not part of any systemic or targeted effort for improvement.

Through the interview process and review of interview transcripts, the degree of collective autonomy of each leadership team was determined. Once the degree that each leadership team developed and manifested collective autonomy was determined, changes in student growth from the EXPLORE to the Illinois Prairie State Exam (PSAE) ACT was found for each sub-test, which included English, mathematics, reading and science. To further quantify the impact of school improvement efforts, the value-added figures in English, mathematics, reading and science along with other quality indicators such as graduation rate, dropout rate and college bound rate were analyzed and compared to each leader’s and team’s achieved level of



collective autonomy through time. EXPLORE and PSAE ACT scores were provided for School A and School B for the Class of 2002 through the Class of 2011. These same scores were only provided for the Class of 2008 through the Class of 2011 for School C. Due to a lack of EXPLORE and PSAE ACT data for School C, overall senior reported ACT scores for each given class were included from 2002 through 2011. Although these scores were less valuable than growth and value-added figures, they helped quantify the achievement story of each school through time. Finally, the curricular choices of students throughout their four years of high school was compared to the degree of achieved collective autonomy regarding NCLB efforts by each leadership team from as early as 2001 through 2011 to assess the relationship between the collective autonomy of each leadership team to the degree of curricular narrowing that had occurred. Course registration data were much more difficult to obtain and analysis from the 2006-2007 school year through 2010-2011 school year was the maximum available for School A and School B. Course registration data for School C were available for the 2001-2002 school year, the 2009-2010 school year and the 2010-2011 school year. The analysis was performed and summarized for each of the following research questions.

### **Research Questions**

1. How have the leadership teams for three Chicagoland high schools introduced and implemented school improvement efforts mandated by NCLB?
2. To what degree have three Chicagoland high school's leadership teams achieved collective autonomy for their school improvement efforts mandated by NCLB?

3. How has EXPLORE to ACT student growth and other student quality indicators changed in three Chicagoland high schools from as early as the class of 2001 to the class of 2011?
4. How have students' core and elective course choices changed in three Chicagoland high schools from as early as 2001 to 2011?
5. How does a leadership team's collective autonomy relate to student growth and curricular narrowing?

### **Findings for Each Chicagoland School**

#### **School A Findings**

School A was a Chicagoland high school for which EXPLORE to PS&E ACT growth data were available from 2001 through 2011. During this time School A experienced minor fluctuations within its enrollment which was 1,918 during the 2001-2002 school year and 2,056 in the 2010-2011 school year. Although the school's population remained relatively consistent across the analyzed time span, its poverty level grew from 4.7% to 11.1% and its minority population grew from 8.8% to 13.4%. Improvement efforts that address the goals of NCLB actually began in this school in 1999 and have evolved. However, School A's focus has remained relatively consistent through the time span analyzed from 2001 through 2011.

#### **The Conception of a Different Curricular Vision for School A**

In the early 1990s, before the English instructional leader in School A had become the instructional leader of his department, he established a testing business and through his work to understand the ACT he recognized that the ACT focused on a valuable set of skills. At the time

these skills were codified as ACT's *Standards of Transition*. The English instructional leader reflected on the development of his own understanding:

I learned a lot about the ACT and was not particularly pro or anti-testing. I knew the politics in education and all myths and all the narrative lines, but I was surprised as I got to know the ACT much better that it was a test that was actually very useful compared to things like *Warriner's Grammar and Composition*, which an English teacher would use to teach something like usage and mechanics and rhetorical structures, etc. and this test was actually a very good test in terms of fostering the kind of meta-cognitive skills, to inquire, to have good reading skills. I could go on and on about science and mathematics as I learned a lot structurally about the test. (A2, personal communication, November 29, 2011)

Once he saw the value of the skills tested on the ACT, School A's English instructional leader began applying what he found to be valuable skills contained within the *Standards of Transition* to work he was doing with low readers in his classes. After infusing these skills into his curriculum for these low readers, he saw significant gains beyond those being realized by his test prep business. He summarized his results:

I began to try them on as ways to teach usage mechanics and rhetorical structures with very, very low level struggling writers. I found that they were incredibly useful, more useful than approaches that use grammar. I began to use them with good results and because of the test prep business also seeing their increases which were typically from 11 [on the EXPLORE test] to 20 [on the ACT], which are very high increases for these kids are pretty impressive compared to what I was seeing with the test-prep business. (A2, personal communication, November 29, 2011)

As he learned more about these *Standards of Transition*, which are now the *College Readiness Standards*, and witnessed the benefits of intentionally integrating the skill development contained within those standards, this leader began to formulate a vision of a system that placed the standards on the ACT as "a skill spine that informed the curriculum in all the core areas" (A2, personal communication, November 29, 2011). He summarized:

The skill spine provided by the *College Readiness Standards* would drive the inclusion of those standards, of those kinds of skills in a very purposeful curriculum that would have a dual effect of increasing test scores and actually increasing performance of things like writing, science labs, use of mathematics and, of course, critical reading. This was something I was absolutely certain about from my knowledge of the ACT. (A2, personal communication, November 29, 2011)

This led to a systemic vision of curriculum formulated by the English instructional leader that included reorganizing core curriculum across the school away from many independent semester courses and toward courses with aligned scope and sequence that intentionally infused the *College Readiness Standards* skill development. He also envisioned improvement efforts that were horizontally supported to connect several key core departments cooperating on skill development.

The English instructional leader became one of the driving forces behind his vision for these significant restructuring and improvement efforts. He reinforced the need for systemic efforts as he reflected that School A, like many high schools across the United States, was not structured to systemically improve student performance. He summarized his view of his high school and many American high schools:

You have a system, or a non-system that is American high school where everything is determined atomistically at the level of the teacher in the classroom, which of course tremendously disadvantages any mojo you can get as a staff in collectively and purposely improving student achievement. (A2, personal communication, November 29, 2011)

This leader asserted that improving student achievement of all students requires coordinated systemic efforts. He recognized that the total autonomy that often permeates American high schools works such against systemic efforts. This leader shared:

We were like most high schools. It was a shopping mall high school....American high schools were incoherent masses of courses that were delivered very differently depending upon who taught them. This produces random effects that can have no effect on student achievement. (A2, personal communication, November 29, 2011)

The shift in this English instructional leader's vision for organizing high school curriculum began a journey that would fundamentally change their improvement efforts within his school and eventually across his district.

### **The Beginning of School A's Systemic Change**

Student performance accountability has been called for since ESEA's inception in 1964 and was realized to the greatest degree in its history as NCLB became the latest reauthorization of ESEA in 2001. School A's current improvement efforts began in 1999 after the district's superintendent at the time requested that the school's principal "tweak" things to place greater emphasis on test scores. In this multi-school district, the superintendent concluded that the school was underperforming and he knew "universal testing" was on the horizon. According to the English instructional leader at School A during the conception of these improvement efforts, "Universal testing was coming to pass and motivated the superintendent, who was not a test hog. We needed to do something in light of universal achievement to bump our achievement" (A2, personal communication, November 29, 2011). The school was one that had traditionally underperformed in comparison with other high schools in the district on national tests and Advanced Placement (AP) participation and performance. The English instructional leader shared, "The reality is that we were just slightly under where we should be on the ACT. We were probably well below where we would be expected to be on AP" (A2, personal communication, November 29, 2011).

As School A's principal at the time carried the superintendent's charge to "tweak" things to improve scores to her leadership team, the English instructional leader listened intently and had developed a vision that he believed would impact student scores due to his significant experience incorporating skill focus in his own classrooms that were informed by his work preparing students outside of school for the ACT. He went to the principal after the meeting and, in his first year as the new English instructional leader at School A, he shared his vision and how he felt School A could systemically address the goals in a much deeper level. Of course, the principal at the time took a few days to absorb this vision and reflect on its potential for students. According to the English instructional leader, "She called me back in a couple days later and said 'All right, we are going to do it.' I said, 'What are we going to do?' She said, 'The whole thing or as much of it as we can realistically do'" (A2, personal communication, November 29, 2011).

What had started as a discussion to "tweak" their system to increase focus on test scores, shifted into a transformational discussion that began with the principal and the English instructional leader focused on the systemic curricular and instructional concepts he had envisioned. The superintendent's call for improvement also included increased AP participation and success. This broadened the discussion to create a coordinated, sequential curricular improvement initiative with a focus on increasing student skills and opening up opportunities for students to take AP courses and included a broad discussion on principles that were to guide their efforts through time. Although the principal at the time who has since retired was not available for an interview, all indications are that this principal adopted the vision and spent the summer working with the leadership team to formulate a coherent set of principles to guide curricular development along with a plan for change.

These principles were defined by the principal and the English instructional leader.

According to the English leader,

[School A] today has seven instructional principles....The principles are not...changed at all. They are the same as the ones shown in 1999 as the 12 macro-principles. Some of the combination has been the alignment, but the point I am making is that theoretically this is exactly the same as it was in 1999, with the exception of the consolidation of some of the principles. (A2, personal communication, November 29, 2011)

These principals have guided School A's efforts over time and his assertion of their consistency can be seen by comparing the original principles to those guiding efforts today. The original 12 macro-principles established in 1999 were:

1. Rigorous common core course of studies for all students,
2. Vertically aligned curriculum,
3. Horizontally aligned curriculum,
4. Diagonally aligned curriculum,
5. Content (common matrix leading to Advanced Placement),
6. Interdisciplinary,
7. Skills (common matrix from ACT's *Standards for Transition*),
8. Critical thinking,
9. Collaborative staff,
10. Accountable staff,
11. Civic purpose (emphasizing debate and civic awareness),
12. Community of learners (forums, academic events and focus). (A2, personal communication, February 11, 2012)

These evolved into seven curricular principles that still guide improvement efforts at School A.

The seven principles since 2007 have included:

1. All students will take a rigorous course of studies, structured around a common core curriculum.
2. The student will be at the center of instructional design, framed by alignment principles.
3. Curriculum must be content-based and interdisciplinary, both contemporary and historical in scope, and referenced to standards as objects for analysis and critique.
4. Skill development will be given cross-curricular emphasis and will be aligned to accountability measures (EPAS<sup>TM</sup>, course assignments, departmental summative assessments, etc.).
5. Students' critical thinking skills will be developed through deliberate teaching of conflict interpretations and exploration of controversy.
6. A design-based and purposefully structured instructional model will depend upon the collaboration of faculty and staff as they work in their professional learning communities.
7. A high school is a learning community. (A1, personal communication, February 6, 2012)

Other leaders in the building knew the principles and referred to them as the guiding forces in their curricular change efforts. One leader who arrived in 2008 shared, "My understanding from arriving here mid-stream from everyone involved, both proponents and opponents, is that a set of principles were established that drove a reconfiguration of curricular structure here....[T]he set of principles that defines this curriculum...is for real. It is present and understood by the leaders in the building. It is definitely something that the teachers are aware of" (A3, personal communication, November 29, 2011). Another leader pointed out that these principles went beyond the ACT scores and growth:



[W]e have narrowed them down to 7 curricular principles. Only a few of them relate to ACT, if you will, and growth. They are really just a system of doing school. Interdisciplinary, critical thinking, not being afraid to look at ideas and philosophies...not being afraid to go after controversial things...to go after those things purposefully...to have that ability to talk about them and present different sides. (A6, personal communication, November 29, 2011)

School A's principles have remained constant over the decade studied. Interviews indicated that coherent goals were established around School A's principles that were understood by all of School A's leaders.

### **Coordinated Systemic Efforts Defined by Educational Leaders**

School A began systemic efforts in mathematics and reading aligned to the *College Readiness Standards* even before NCLB became the law of the land during ESEA's reauthorization in 2001. These efforts strongly align with the goal areas of NCLB and, in fact, were motivated by the superintendent who knew universal testing that was on the horizon and recognized School A was underperforming. The principles developed informed, directed and focused School A's efforts and they captured much of the English instructional leader's vision. They were not defined by gaining input across the entire school. They were developed in large part by the principal and English instructional leader with input from the rest of the leadership team. The English instructional leader recognized that this coordinated effort led by their principal and imposed across the school was not the norm. He shared, "Our structure believes in spontaneous combustion, which of course can't happen. It is another one of these myths that paralyzes us. It is constantly kowtowed to" (A2, personal communication, November 29, 2011). In essence, School A stopped waiting for the "spontaneous combustion," which referred to the miraculous generation of goals from the ground up, and a few leaders simply used their insights to develop the school's improvement goals. Their developed goals included "radically improved

ACT scores” and “radically improved AP scores with an exponential increase in participation and kids taking the test” and were truly a leap of faith for the leadership team and principal in 1999 (A2, personal communication, November 29, 2011).

### **Foreseeable Resistance**

Improvement efforts began with foreseeable resistance that their leadership team discussed openly as they remained on their improvement path. One leader summarized causes for this resistance as a loss of true autonomy and the concept that all standardized tests are all equally bad. He shared:

Who would not want to preserve a job in which you determined every single thing that you did. OK. I worked in that. I think I was a good teacher in that system and there were many of them. The problem was that their effects were random. There effects were in no way coalesced to be able to purposefully affect student achievement. (A2, personal communication, November 29, 2011)

Another leader summarized resistance well:

[C]ertainly...it wasn't easy at times. You had teachers who had curriculum for 25 years and...they were going to do what they wanted with the door shut. (A4, personal communication, November 29, 2011)

These leaders understood resistance, but recognized the need for change to improve student achievement. The English instructional leader shared that growth was realized more broadly, “once we got leadership in place that was able to work with the personnel problems” (Personal communication, November 29, 2011). The personnel problems to which he referred included resistance as teachers closed their doors after simply paying lip service to the school’s goals.

The English leader stressed that although improvement efforts began in English, the school’s improvement efforts were always designed to be an all-school effort. In fact he shared, “The model is a structural one and is not one that recommends or advances a ‘lock-step’ or

‘scripted’ curriculum. Much of the model's strength comes from its reliance on the work of individuals, but this work must be within the structures ... that purposeful structures would lead to greater teacher creativity within a defined context” (A2, personal communication, February 12, 2012).

### **School A Collective Autonomy**

For School A, the current principal along with six additional identified leaders in charge of curricular and co-curricular improvement efforts were interviewed. Four of these leaders have been at School A during the entire time span analyzed from 2001 through 2011. Two out of those four were in their leadership role the entire time, one started his co-curricular support in 2003 and the other became the Physical Education instructional leader in 2004 and transitioned into the associate principal of curriculum role in 2008. Three instructional leaders joined the school mid-stream. In 2005 a new principal replaced the principal who began School A’s improvement efforts, one began leading math and science in 2008, and the other took over in social science and foreign language in 2007. Interviews of leaders were summarized through time and evaluated against the attributes contained within the collective autonomy rubric found in Table 7 to determine the collective autonomy of each leadership team member along with the team as a whole.

The principal and English leader were coded with *complete* collective autonomy due to the fact that they led the efforts and literally generated the school’s twelve macro-principles that drove their improvement efforts. Within English, courses were realigned freshman year in 2000-2001 school year, sophomore year during the 2001-2002 school year and junior year in the 2002-2003 school year. Therefore, the first class to experience the redesigned curriculum with the

“skill spine” of the *College Readiness Standards* was the class of 2004, who took their PSAT ACT in April of 2003.

The principal did her best to generate consensus from her leadership team over the summer of 1999, but their efforts began with various degrees of fidelity within other departments. According to the English instructional leader:

It had an effect on all other departments, most especially social studies. I don't want to just call it interdisciplinary. It is actually what I prefer to call horizontal alignment with a heavy emphasis on vertical alignment from year to year to year and from level to level to level, but horizontally across courses reinforcing skills, combining content and enhancing critical thinking by giving multiple instantiations, etc. So the entire English department restructured from semesterized courses to yearlong courses that were common to all students regardless of what level they were at.... The same thing happened in social studies. We went from random courses that could be taken at any time in the four years to one, two, three. (A2, personal communication, November 29, 2011)

The English instructional leader fully implemented his curricular design. Although the plan included the same level of implementation across all departments, efforts varied.

The current associate principal of curriculum and instruction was a teacher at the time efforts began and was the PE and Health instructional leader from 2004 through 2008. He shared that as he became the instructional leader the school was paying attention to the English scores and, “there was a huge jump in that particular level....we started working on reading focus across all departments” (Personal communication A4, November 29, 2011). With this information, this leader's collective autonomy was identified as *complete* from 2004 on. His influence grew over time when he moved from department leader to associate principal. He shared that his efforts have revolved around building professional learning communities to “break down the walls and teach with the door open” (A4, personal communication, November

29, 2011). He also shared that the school's common language around reading was clearly in place by 2008.

The current social studies instructional leader who joined School A in 2007 shared that even though courses were theoretically realigned along with the English courses and that the work did create the sought after three yearlong course sequence, the skill infusion was largely “lip service to keep other leaders off the back of ours” (A3, personal communication, November 29, 2011). Since he has arrived in 2007, there has been a sincere effort to “get these skills worked into existing curriculum for the purpose of students mastering both content and skills” (A3, personal communication, November 29, 2011). This leader identified the main focus of reading skill development as being, “more than just reading exercises, these are thinking skill exercises” (A3, personal communication, November 29, 2011). His efforts initially focused on freshman, his work generated focus across the department on reading as many of these teachers taught in other grade level courses. The department integrating reading each year due to the intentional efforts of the instructional leader along with the dissemination of these efforts across the department. His efforts, which he shared aligned with his personal mission of education, began in 2007 and he focused on infusing skills within his own freshman team. Because of teachers participating on multiple instructional teams across many grade levels, reading has become much more systemically infused across all courses since the 2007 arrival of the new social studies instructional leader. That regular level team of freshman realized better growth than the AP level teachers for freshman. He realized significantly better growth than his colleagues and shared with them, “I am not a better teacher than either of you” as he illuminated the significant growth difference seen in his lower level students using this skills approach as

compared to the AP students taught by these two teachers (A3, personal communication, November 29, 2011). These two teachers then began truly infusing skills instruction into their curriculum. Their AP students have consistently generated more growth than their peers since that change. In the 2008-2009 school year he worked with a new sophomore team to build in the *College Readiness Standards*. He then focused on the sophomore AP World curriculum in the 2009-2010 school year. Therefore, the social study instructional leader position was coded as *partial* for the previous leader until 2007 when the new leader came in and was identified as *complete*.

The mathematics and science instructional leader began with the school in 2008. Although I did not interview the leader that preceded him for this research, the current leader shared his belief that his predecessor had “done some incredible foundational work...to build off of ...to keep growing us,” and that the previous leader had tightened up the system in math and science within the last three to four years before he arrived (A6, personal communication, November 29, 2011). The math department’s journey included switching to an integrated math program for freshman in the 2004 – 2005 school year. Any impact from this change would be seen in the Class of 2008, which would have taken the PSAE ACT in 2007 after being the first class to complete the integrated sequence. The leader shared that the *College Readiness Standards* have not been incorporated to the extent desired and that the department has again shifted its curriculum to more of a district created curriculum built around the skills identified by *the College Readiness Standards*. He shared that this newly designed curricular approach began in the 2010-2011 school year, which was the last year represented in this study. In science, the leader shared that the work has been harder. The department’s initial efforts culminated in the

2007-2008 school year when the Class of 2009 had every student complete the three year sequence of biology, chemistry and physics by their junior year. This leader shared that another breakthrough occurred when his teachers began measuring the skills from the *College Readiness Standards*. He shared, “They are finding out that kids are really struggling with those skills. The buy in is coming as we find out kids can’t do what I assumed they could.... We are seeing how much kids struggle with these and we are then re-teaching” (A6, personal communication, November 29, 2011). Because of the information gleaned from this leader, the science and math leader’s collective autonomy was identified as “unknown” before 2003 and *complete* from that year forward.

The instructional leader of the career and technical education electives was also interviewed. This individual was the leader of these departments throughout the entire analyzed time span. In his reflections of coordinated reading efforts that support the school’s goals, he shared, “We have been doing it for at least five years.... Now it is engrained. We certainly have discussions about it during institute days and late arrivals, but it is just ingrained. The cultural shift happened. It did. I mean I was here seventeen years ago and it is very different now” (A5, personal communication, November 29, 2011). Due to his story, he was identified as *complete* in the 2007-2008 school year and as *partial* before that time.

Interviews also included the assistant principal for student activities. He has been in the position since the 2003-2004 school year and he shared his personal transition when he was asked about the alignment of the school’s improvement efforts with his personal mission. He shared:

If you would have asked me ten years ago or even eight years ago, I would have said “no.” I was probably one of the holdouts, but as I have seen the whole change in the curriculum and how it fits together and benefits kids...it is not teaching to the test. You know, I was one of those people early on that said, “If we’re going to teach the ACT skills, of course they are going to do better.” I am seeing more kids being able to analyze and synthesize a lot of information and do a lot of things that are not test driven...to see kids who have never had the opportunity to get into an honors or AP class to not only have that opportunity, but to do well and excel in those classes. I think that is pretty exciting. I have bought in because as I have seen this grow, it is not teaching to the test, it is giving our kids skills to be able to perform in the future and do well and be successful. (A7, personal communication, November 29, 2011)

The assistant principal’s reflections and current actions reinforced his support of School A’s initiatives. Five years ago, his office began working to implement a system to give students help who are receiving Ds and Fs. Based upon his responses, his collective autonomy was *minimal* until he began to internalize the benefits in the 2005-2006 school year at which time he was *partial*. From the time his efforts began helping the cause in the 2007-2008 school year, his collective autonomy reached *complete*.

### **Collective Autonomy and Improvement Efforts**

The principal and English instructional leader truly took the leap of faith and shared collective autonomy at the beginning of these efforts. Improvement efforts then followed and began in two core departments with the creation of a coordinated freshman curriculum in the 2000-2001 school year, the sophomore curriculum in 2001-2002 school year and junior curriculum in the 2002-2003 school year. As planned, the focus was on creating coherence and infusing the *College Readiness Standards*. In describing the coherence efforts, the English instructional leader shared that they included, “what I prefer to call horizontal alignment with a heavy emphasis on vertical alignment from year to year to year and from level to level to level,



but horizontally across courses reinforcing skills, combining content and enhancing critical thinking by giving multiple instantiations, etc.” (A2, personal communication, November 29, 2011).

After these results led to sharp gains in 2003 for the Class of 2004 as seen in School A’s data, other departments took note of the success of this department. The success fueled others to increase their focus on the school’s goals. Even though not all leaders or departments completely embraced the initiatives after these results in 2003, the leadership of School A consistently shared their EXPLORE to PSAT ACT growth and continued to reinforce the need for curricular changes that increased rigor for all and focused on providing skill based instruction was the cause of improvement and benefited the students of the school.

As a new principal joined the school from the outside during the 2005-2006 school year she became a supporter of the principles and the school’s initiatives. She shared that one of her first tasks was to “increase the buy in by replacing administrators who did not” (A1, personal communication, November 3, 2011). The team in place during the 2011-2012 school year, with a few new administrators added has been in place since the 2008-2009 school year. Interviews with each demonstrated an incredibly high degree of collective autonomy since 2007. New staff members that shared belief with the principles were sought and hired, and in one case an administrator revealed that a counselor revealed that she did not believe in these efforts as they were “making the kids think they are smarter than they really are.” The principal continued, “She is no longer with us” (A1, personal communication, November 5, 2011).

In addition, the superintendent of the district set three district goals in 2007 that have remained in place. The goals included increasing student growth within the *College Readiness*

*Standards* as measured from EXPLORE to the PSAT ACT, increasing Advanced Placement (AP) participation and success, and decreasing the amount of Ds and Fs across the district.

Although various degrees of support were realized by the leadership team beginning in 1999, the leadership team universally shared collective autonomy by the 2008-2009 school year. The English instructional leader summarized the collective beliefs that developed and drove School A's efforts:

You have to be a fool to think that ACT scores is what your goal is. You have to equally be a fool to think that you can't increase performance measurably by doing something. If you look at the principles you will see critical thinking, forums that create common experiences. This is more what the kid feels, but good professionals who run schools should realize that we have a responsibility to this community and kids. We need to ensure they walk away with something that has cash value. I would want that for my kids and you would want that for your kids. By the same token the secret is that you can't just focus on scores and increase scores. The way you increase scores substantially is to create a culture of common instructional practice. (A2, personal communication, November 29, 2011)

The leadership team bought into and remained committed to these coherence and technical competence principles and grew to agree on the value of the ACT and realized that not all tests are equally bad. They believed in the ability of the ACT, as a skill based test, to inform skill attainment. They also consistently worked to gain buy in. If needed, this was accomplished by replacing ineffective leaders with leaders who believed in efforts and set clear expectations within their given department for focus on the defined goals.

The following interviews were considered and the abbreviations of each were included in

Table 8:

P - Principal

C - Career and Technical Education Instructional Leader

E - English Instructional Leader

M - Mathematics Instructional Leader

PE – Physical Education Instructional Leader

SA – Assistant Principal of Student Activities

SS – Social Studies Instructional Leader

When considering the stories of each of the seven leaders interviewed, the story of School A's collective autonomy within departments and across the school was summarized below.

Table 8

*School A Leadership Team Members' Collective Autonomy*

School Year	Complete	Partial	Minimal	None	No Information
2001-2002	P, E	SS, C			M, SA, PE
2002-2003	P, E	SS, C			M, SA, PE
2003-2004	P, E, PE, M	SS, C	SA		
2004-2005	P, E, PE, M	SS, C	SA		
2005-2006	P, E, PE, M	SS, C, SA			
2006-2007	P, E, PE, M	SS, C, SA			
2007-2008	P, E, PE, M, SS, C, SA				
2008-2009	P, E, PE, M, SS, C, SA				
2009-2010	P, E, PE, M, SS, C, SA				
2010-2011	P, E, PE, M, SS, C, SA				

This information was summarized numerically below in Table 9.

Table 9

*School A Leadership Team Members' Collective Autonomy Summary*

School Year	Complete	Partial	Minimal	None	No Information
2001-2002	2	2	0	0	3
2002-2003	2	2	0	0	3
2003-2004	4	2	1	0	0
2004-2005	4	2	1	0	0
2005-2006	4	3	0	0	0
2006-2007	4	3	0	0	0
2007-2008	7	0	0	0	0
2008-2009	7	0	0	0	0
2009-2010	7	0	0	0	0
2010-2011	7	0	0	0	0

These results were viewed graphically as shown below:

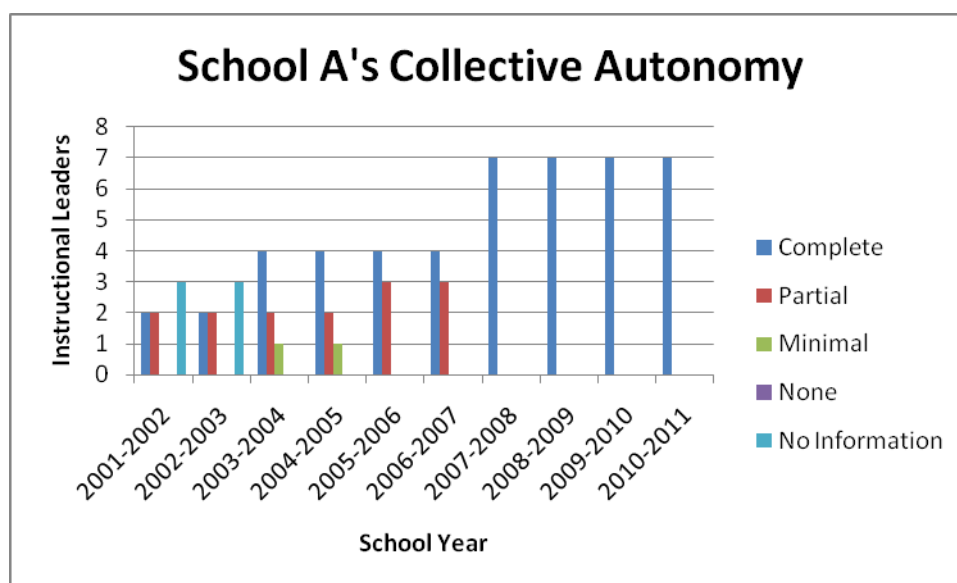


Figure 5. School A's Collective Autonomy of Instructional Leaders vs. School Year

The principal and English department led identified improvement efforts in 1999. These efforts involved the restructuring of the English curriculum to a three year, coordinated

curriculum that infused the *College Readiness Standards* in English and reading.

Simultaneously, the social studies department began restructuring efforts but demonstrated partial belief in the defined efforts until the 2007-2008 school year, when a new chair joined the school and wholeheartedly supported these efforts and helped lead deep restructuring efforts. By the 2003-2004 school year the science and math department leader demonstrated collective autonomy, and by the 2006-2007 school year, the science department and math departments had restructured to include a three year sequence that embedded the *College Readiness Standards*. In the 2005-2006 school year, the assistant principal of student activities fully bought into their efforts and by the 2008-2009 school year all leaders demonstrated collective autonomy. By the 2008-2009 school year, this collective autonomy included the associate principal of curriculum, who began during this year. In terms of collective autonomy, the leadership team reported high degrees of agreement on all areas measured for this collective responsibility by the 2008-2009 school year. This leadership team's efforts address NCLB related improvement efforts. There were clear plans shared by each leader and there was a perpetual hunt for the "next improvement" they and their teachers continually worked to further the school's goals. These goals included "pushing the rigor and expanding the enrollment base" (A1, personal communication, November 3, 2011), and were aligned with the district goals that have remained consistent since the 2007-2008 school year.

What began as a concept in the mind of one key leader has expanded as this leader's value for coherent, skill based instruction has taken root across their entire leadership team. Every leader identified these consistently understood efforts as aligning with their personal beliefs and shared conviction the importance they hold for students. Leaders also shared common

discussion points in regards to their collective efforts. One leader said, “We have more scholarships, more AP Scholars, more kids going to college” (A1, personal communication, November 3, 2011). Also discussed was the importance of creating curriculum that allowed for common discussion points across departments to enable integrated curriculum. They universally discuss their curricular goals of moving students up to the highest level possible, opening doors for students with increased test scores, increasing scholarship money available to their graduates and shared consistent belief in the value of their coherence and skill development. The social studies instructional leader reflected on conversations with students who have now scored higher on their ACT than predicted. He said students can now explore schools that would have previously been out of reach for them. He shared that he now can say, “by the way, because you got a 24, where do you want to go to school” (A3, personal communication, November 29, 2011). The math and science instructional leader shared, “To me the ACT score means opportunity. If we go up a 0.5 in growth [as a school], that means a lot of kids who could not go to ISU who [can]...[A] lot of kids who could not go to college who [can]. Let’s look at that as individual faces. Let’s look at the money saved for parents.... My personal mission is to open up as many doors for students and I think that is exactly what we are doing” (A6, personal communication, November 29, 2011).

### **School A Student Achievement Data**

Cordigan (2006) pointed out that in 2001 “the Illinois State Board of Education began providing the ACT to all Illinois juniors as part of the *Prairie State Achievement Examination* (PSAE)” (p. 2). Therefore, the PSAE ACT has been a significant tool to measure NCLB compliance in Illinois high schools. The EXPLORE test was given to incoming students at the

end of November and the PSAE ACT was administered to juniors annually at the end of April. This study utilized student scores on the EXPLORE test given as an 8<sup>th</sup> grade high school placement test for School A and the PSAE ACT. Growth from EXPLORE to the PSAE ACT was also an internal improvement model used by School A. Table 10 and Table 11 summarized School A's EXPLORE and PSAE ACT data for each graduating class from 2002 through 2011, which was the maximum span of reports available for the school.

Table 10

*School A Average EXPLORE Scores*

Class	Average EXPLORE English	Average EXPLORE Math	Average EXPLORE Reading	Average EXPLORE Science
2002	16.7	17.4	16.1	17.8
2003	16.8	17.4	16.2	17.9
2004	17.1	17.4	16.5	18.4
2005	16.4	17.0	15.9	17.9
2006	16.3	16.8	15.8	17.6
2007	16.5	17.4	16.3	17.7
2008	16.4	17.2	16.0	17.7
2009	16.5	17.5	16.2	17.6
2010	16.7	17.3	16.1	17.7
2011	16.5	17.6	16.0	17.8

To determine if incoming student EXPLORE achievement, which was a relevant factor when predicting student performance on the ACT, changed through the years analyzed, a one-way ANOVA was run for School A on each EXPLORE subtest taken by students through the years. There were only two incoming EXPLORE scores that were significantly different than others. The first was the mean for the mean EXPLORE mathematics score for the Class of 2006 (mean = 16.8), which was significantly less than the mean EXPLORE mathematics score for the Class of 2011 (mean = 17.6). The second included the mean EXPLORE science score for the

Class of 2004 (mean = 18.4), which was significantly higher than many other science scores. No other means were significantly different from one another. This test provided sound evidence that the incoming EXPLORE scores of freshman did not significantly change through the years included in this study.

School A's incoming EXPLORE scores remained relatively constant for the classes of 2002 through 2011. However, the PSAE ACT scores of each class rose significantly.

Table 11

*School A Average PSAE ACT Scores*

Class	Average PSAE ACT English	Average PSAE ACT Math	Average PSAE ACT Reading	Average PSAE ACT Science
2002	22.4	23.3	22.3	22.3
2003	22.8	23.1	22.5	22.5
2004	24.1	23.0	23.4	23.0
2005	24.0	23.2	22.4	22.7
2006	24.0	22.9	23.1	22.3
2007	24.5	23.5	23.6	22.8
2008	24.6	23.4	23.1	22.8
2009	25.2	23.4	23.9	23.8
2010	24.9	23.6	24.2	23.4
2011	25.3	24.1	24.1	23.6

In general, School A realized the greatest PSAE ACT achievement in English, followed by reading, mathematics and science. In considering a school's impact on student achievement, seeing an increase in the overall PSAE ACT does not show success alone if student abilities of incoming students were not considered. To quantify changes in student achievement along with the curricular impact of a given school, one measure employed in Illinois high schools was ACT's Educational Planning and Assessment System (EPAS<sup>TM</sup>) which included considering the growth achieved from EXPLORE to the PSAE ACT in each sub-test as shown below. It was



important to note that School A has been a school that systemically measured student performance through this growth system. These growth calculations were utilized by the school to assess school improvement efforts that address the NCLB goal areas of reading, mathematics and science, and the school regularly examined growth for English as well. Although this school examined the growth for the school as a whole and for sub-groups contained within the school, this study exclusively focused on the school as a whole.

Table 12

*School A Actual Growth*

Class	Actual EXPLORE to PSAE ACT English Growth	Actual EXPLORE to PSAE ACT Math Growth	Actual EXPLORE to PSAE ACT Reading Growth	Actual EXPLORE to PSAE ACT Science Growth
2002	5.7	6.0	6.2	4.5
2003	6.0	5.7	6.2	4.6
2004	7.0	5.6	7.0	4.6
2005	7.6	6.1	6.5	4.9
2006	7.7	6.1	7.4	4.7
2007	8.0	6.1	7.4	5.1
2008	8.2	6.2	7.1	5.1
2009	8.7	5.9	7.6	6.2
2010	8.3	6.3	8.1	5.8
2011	8.8	6.5	8.1	5.8

From 2002 to 2011, student growth increased most significantly in English followed by reading, then science and finally, remained steady in mathematics. School A's administration of the PSAE ACT in April of each class's junior year created the following important demographic data that were utilized for ACT's context adjusted value-added calculation.

ACT's Context Adjusted Value-Added Model was employed and utilized the EXPLORE scores of each student, the time in months between the EXPLORE test and the administered

ACT, and key demographic information for the school. The following data were needed to complete these calculations:

Table 13

*School A Demographic Data*

School Year	School Size*	Proportion Tested (%)	Poverty Level (%)	Proportion Minority (%)	EXPLORE to ACT Time Span (Months)
2001-2002	4.83	87.4	4.7	8.8	41
2002-2003	4.80	84.2	4.7	9.6	41
2003-2004	4.86	85.8	6.5	10.2	41
2004-2005	4.81	91.0	5.2	8.9	41
2005-2006	4.73	93.0	5.1	9.2	41
2006-2007	4.89	95.0	4.7	9.6	41
2007-2008	4.89	98.2	8.2	9.6	41
2008-2009	4.80	94.3	6.0	10.4	41
2009-2010	4.75	95.2	8.1	10.6	41
2010-2011	4.81	84.7	11.1	13.4	41

*Note:* \*Number of junior students, in hundreds.

This value-added calculation included demographic information of each school and predicted expected growth for School A. Utilizing Figure 3 for ACT's Context Adjusted Value-Added Model, along with the parameters from Table 2, each student's and then each class's context adjusted expected ACT scores and expected EXPLORE to ACT growth were generated for each sub-test. Ultimately, comparing ACT's predicted ACT results and EXPLORE to ACT growth to the school's actual growth determined if a given school exceeded scores achieved by other similar schools.

ACT's predicted ACT and growth figures were significantly lower than School A's actual achievement. School A's actual EXPLORE to ACT growth as compared to its predicted growth generated the following value-added scores for the classes of 2002 through 2011. It was

important to note that Table 4 shared ACT’s positive “value-added” thresholds for English, mathematics, reading and science of 0.53, 0.50, 0.49 and 0.45 respectively. These represented the 75<sup>th</sup> percentile of high school results from 1,341 high schools which test more than half their student body. In addition, the model observed maximum value-added figures of 3.12, 3.68, 2.79 and 2.54 for English, mathematics, reading and science respectively.

Table 14

*School A Context Adjusted Expected ACT Results*

Class	Expected ACT English	Expected ACT Math	Expected ACT Reading	Expected ACT Science
2002	21.7	21.9	22.2	22.1
2003	21.8	22.0	22.4	22.2
2004	22.1	22.2	22.7	22.3
2005	21.4	21.7	22.0	21.9
2006	21.1	21.4	21.8	21.6
2007	21.6	21.9	22.2	22.1
2008	21.3	21.6	21.9	21.8
2009	21.5	21.8	22.1	22.0
2010	21.5	21.7	22.1	21.9
2011	21.5	21.9	22.0	22.0

Table 15

*School A Context Adjusted Expected Growth*

Class	Expected ACT English Growth	Expected ACT Math Growth	Expected ACT Reading Growth	Expected ACT Science Growth
2002	5.0	4.5	6.1	4.3
2003	5.0	4.6	6.1	4.2
2004	5.0	4.8	6.2	4.0
2005	5.0	4.7	6.1	4.0
2006	4.8	4.6	6.0	4.1
2007	5.1	4.5	5.9	4.4
2008	4.9	4.5	5.9	4.1
2009	5.0	4.4	5.8	4.4
2010	4.8	4.4	5.9	4.2
2011	5.0	4.2	6.0	4.2

Table 16

*School A Context Adjusted Value-Added*

Class	Value-Added ACT English	Value-Added ACT Math	Value-Added ACT Reading	Value-Added ACT Science
2002	0.72	1.43	0.05	0.20
2003	0.96	1.08	0.10	0.32
2004	2.03	0.82	0.75	0.63
2005	2.66	1.48	0.40	0.87
2006	2.82	1.48	1.38	0.67
2007	2.91	1.62	1.48	0.76
2008	3.27	1.77	1.14	0.97
2009	3.71	1.53	1.80	1.78
2010	3.40	1.87	2.14	1.53
2011	3.85	2.27	2.08	1.64

Viewing these results graphically visually represented change over time:

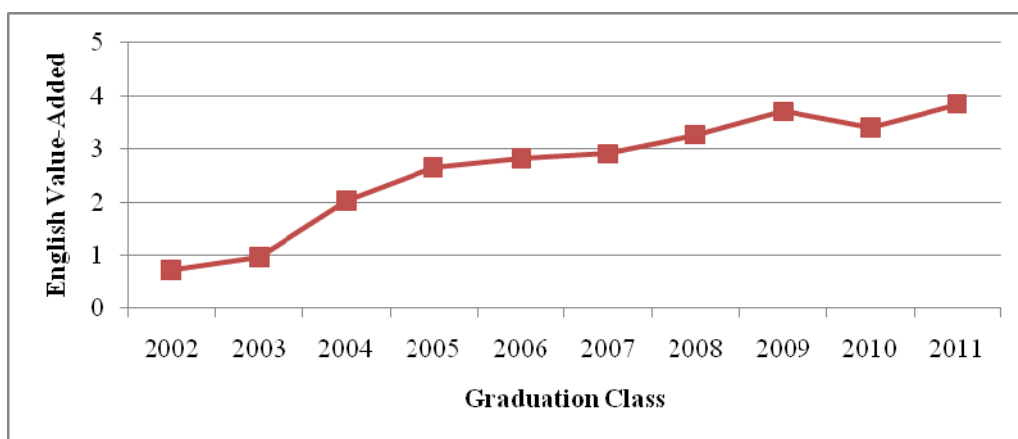


Figure 6. School A English Value-Added vs. Graduation Class

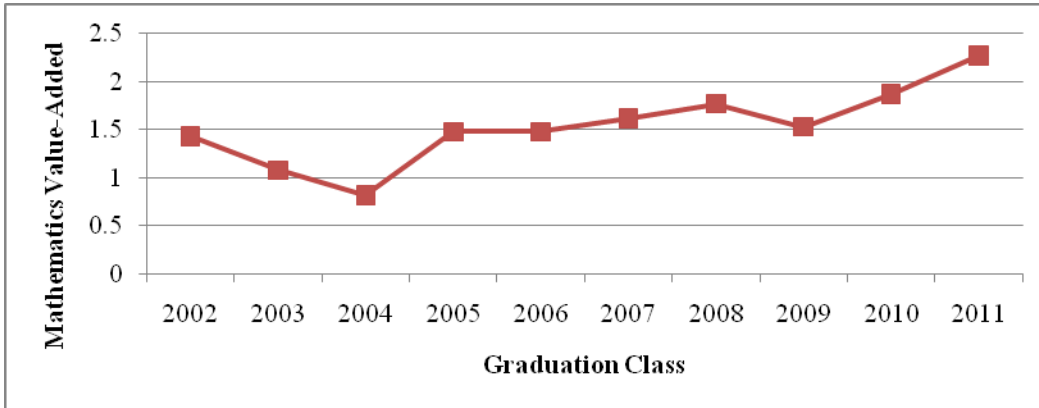


Figure 7. School A Mathematics Value-Added vs. Graduation Class

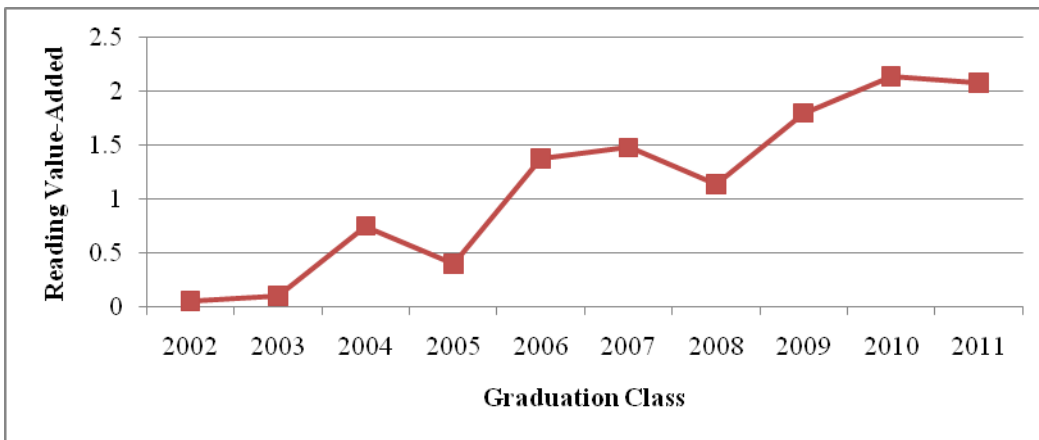


Figure 8. School A Reading Value-Added vs. Graduation Class

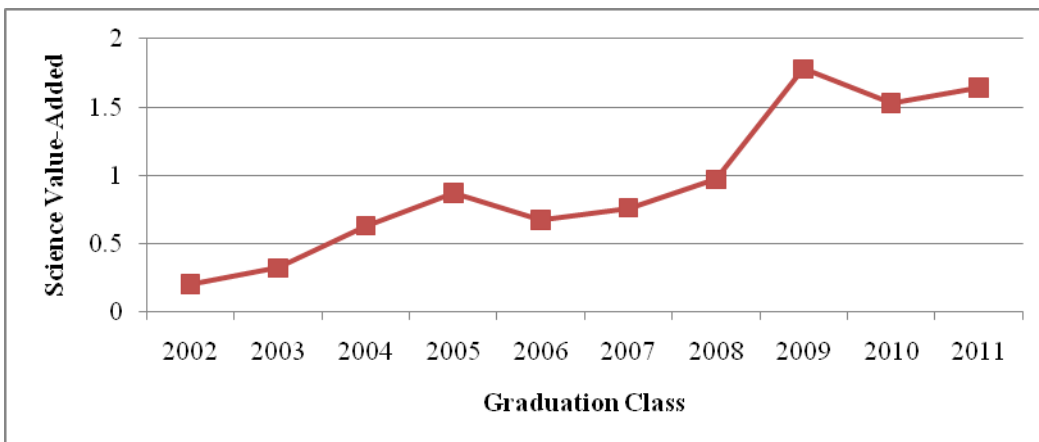


Figure 9. School A Science Value-Added vs. Graduation Class

To examine if School A's value-added scores significantly changed over time, a one-way ANOVA was run on the value-added scores within each sub-test taken by students through the years. The Levine test was significant in mathematics, which created some caution with the results. With this in mind, there was a significant difference among the means for School A's value-added scores in English across years ( $F(9,4143) = 41.95, p = 0.000$ ), and a significant linear trend across years ( $F(1, 4143) = 338.32, p = 0.000$ ). The mean value-added English score for the Class of 2002 (mean = 0.72) was not significantly different than the mean value-added English score for the Class of 2003 (mean = 0.96). However, both were significantly lower than the mean value-added scores of each subsequent year beginning with the Class of 2004 (mean = 2.03). In addition, the value-added English score for the Class of 2004 was significantly lower than the value-added English scores for the Class of 2006 (mean = 2.82), the Class of 2007 (mean = 2.91), the Class of 2008 (mean = 3.27), the Class of 2009 (mean = 3.73), the Class of 2010 (mean = 3.41) and the Class of 2011 (mean = 3.85). The mean value-added English scores for the Class of 2009 (mean = 3.71) and the Class of 2011 (mean = 3.85) were also significantly higher than the mean value-added English scores for the Class of 2005 (mean = 2.66), the Class of 2006 (mean = 2.82), the Class of 2007 (mean = 2.91) and the Class of 2008 (mean = 3.27). The mean value-added English scores for the Class of 2009 (mean = 3.71), the Class of 2010 (mean = 3.40) and the Class of 2011 (mean = 3.85) were not statistically different.

There was a significant difference among the means for School A's value-added scores in mathematics across years ( $F(9,4143) = 6.33, p = 0.000$ ), and a significant linear trend across years ( $F(1, 4143) = 35.935, p = 0.000$ ). The mean value-added mathematics scores fluctuated through the years. As a result, there were a few instances of scores significantly falling and then

rising again. However, there was one class for which the achieved mean value-added mathematics score was significantly higher than many other years. The mean value-added mathematics score for the Class of 2011 (mean = 2.27) was significantly higher than the mean value-added mathematics scores for the Class of 2002 (mean = 1.43), the Class of 2003 (mean = 1.08), the Class of 2004 (mean = 0.82), the Class of 2005 (mean = 1.48), the Class of 2006 (mean = 1.48) and the Class of 2009 (mean = 1.53).

There was a significant difference among the means for School A's value-added scores in reading across years ( $F(9,4143) = 16.08, p = 0.000$ ), and a significant linear trend across years ( $F(1, 4143) = 129.25, p = 0.000$ ). The mean value-added reading scores showed a consistent upward trend through the years with dips for the Class of 2005 and the Class of 2008 along the way. The mean value-added reading scores for the Class of 2002 (mean = 0.05) and the Class of 2003 (mean = 0.10) were significantly lower than the mean value-added reading scores for the Class of 2006 (mean = 1.38) and each class thereafter including the Class of 2007 (mean = 1.48), the Class of 2008 (mean = 1.14), the Class of 2009 (mean = 1.83), the Class of 2010 (mean = 2.15) and the Class of 2011 (mean = 2.08). The mean value-added reading score for the Class of 2004 (mean = 0.75) was significantly lower than the mean value-added reading scores for the Class of 2009 (mean = 1.80), the Class of 2010 (mean = 2.14) and the Class of 2011 (mean = 2.08). The mean value-added reading score for the Class of 2005 (mean = 0.40) was significantly lower than the mean value-added reading scores for the Class of 2006 (mean = 1.38), the Class of 2007 (mean = 1.48), the Class of 2009 (mean = 1.80), the Class of 2010 (mean = 2.14) and the Class of 2011 (mean = 2.08). The mean value-added reading scores from the Class of 2006 (mean = 1.38) on were not significantly different, with the exception of the mean value-added

reading score for the Class of 2008 (mean = 1.14), which was significantly lower than the value-added reading scores for the Class of 2010 (mean = 2.14) and the Class of 2011 (mean = 2.08).

There was a significant difference among the means for School A's value-added scores in science across years ( $F(9,4143) = 12.36, p = 0.000$ ), and a significant linear trend across years ( $F(1, 4143) = 93.87, p = 0.000$ ). The mean value-added science scores trended upward across the years analyzed. However, the mean value-added science scores for the Class of 2002 (mean = 0.20), the mean value-added science scores for the Class of 2003 (mean = 0.32), the Class of 2004 (mean = 0.63), the Class of 2005 (mean = 0.87), the Class of 2006 (mean = 0.67), the Class of 2007 (mean = 0.76), and the Class of 2008 (mean = 0.97) were not significantly different. The Class of 2003 through 2007 were significantly different than the mean value-added science scores for the Class of 2009 (mean = 1.78), the Class of 2010 (mean = 1.53) and the Class of 2011 (mean = 0.64). The Class of 2008 (mean = 0.97) was significantly lower than only the Class of 2009 (mean = 1.78). The classes of 2009 through 2011 had no significant difference in their mean value-added science scores.

### **School A Other Student Achievement Data**

The Average ACT scores for each graduating class were shared annually with the community and with prospective colleges. For School A, the following data represented average ACT sub-test scores for each of the graduating classes from 2002 through 2011. It was important to note that these scores represented the average of the last ACT test seniors took in each given class.



Table 17

*School A Average ACT Scores for Each Identified Class*

Class	Average ACT English	Average ACT Math	Average ACT Reading	Average ACT Science
2002	21.9	22.7	22.0	21.7
2003	22.5	23.0	22.3	22.0
2004	24.5	23.7	23.9	23.2
2005	23.8	23.1	22.8	22.8
2006	24.6	23.5	23.7	23.1
2007	24.9	24.0	23.5	23.6
2008	25.1	23.8	23.7	23.3
2009	26.2	24.0	24.5	24.3
2010	25.5	24.1	24.4	23.9
2011	26.1	24.7	24.8	24.6

*Note:* From various Internet sources and personal communication with School A.

Another expected observation was that these important scores have increased for School A as the school's PSAE ACT scores increased over the last decade.

In addition, the data in Table 18 were often viewed by the public and considered by school officials when evaluating the success of a given school. These data were also included to provide a more holistic picture of school improvement efforts for each school.

### **School A's Growth Results Summary**

The study of School A's collective autonomy across its instructional leaders illuminated how this resistance was met and addressed to keep School A on a path of skill based curricular alignment that evolved, but remained focused for over a decade. The school's growth data illuminated significantly increased growth that mirrored the collective autonomy of individual instructional leaders and of the system as a whole.

Table 18

*School A Other Quality Indicators for Each Identified Class*

Class	Graduation Rate (%)	Drop Out Rate (%)	District Reported 4-Year College Bound Rate (%)	District Reported 2-Year College Bound Rate (%)	District Reported Overall College Bound Rate (%)	School Reported College Bound Rate (%)
2002	87.6	1.7	48.3	33.2	81.5	92
2003	89.8	4.1	50.6	33.7	84.3	92
2004	92.2	0.9	54.6	32.7	87.4	94
2005	89.2	1	54.9	34.8	89.7	94
2006	93.2	1.3	54.9	32.7	87.7	98.2
2007	96.3	0.4	54.2	31.7	85.9	94.8
2008	95.2	0.6	49.7	33.6	83.3	91.7
2009	93.5	0.3	NA	NA	NA	94.7
2010	97.3	0.4	NA	NA	NA	93.4
2011	95.4	1.0	NA	NA	NA	NA

*Note:* From "Illinois Interactive Report Card," Northern Illinois University, 2011. Compiled on January 2, 2011, from <http://iirc.niu.edu>. From <http://iirc.niu.edu/> and personal communication with School A.

Comparing the collective autonomy and improvement story of English provided evidence of this relationship. This leader was coded with *complete* collective autonomy along with the principal from the beginning of the school's current improvement journey that began in 1999. This leader's complete buy in led to the restructuring of the English curriculum that began with the Class of 2004 when they were freshman. This class, like others studied at School A, took the EXPLORE test during their 8<sup>th</sup> grade year. By the time this class took the PSAT ACT their junior year, they had completed the redesigned English curriculum and were the first class to do so. As noted in the performed one-way ANOVA, this class demonstrated significantly greater scores than the previous two classes studied. This was ultimately reflected in their context adjusted value-added score that increased to 2.03 from the previous class's score of 0.96. The

Class of 2005 was the second cohort to complete this sequence, which in its second cycle realized another significantly greater context adjusted value-added score of 2.66, which was also significantly higher than the scores realized by the Class of 2002 and the Class of 2003. The Class of 2006 continued the climb in English scores with a context adjusted value-added score of 2.82, which was significantly higher than the scores for the classes of 2002, 2003 and 2004. The next significant jump occurred in English for the Class of 2009, which took the PSAE ACT in 2008. This happened to be the year the district's superintendent defined and implemented district wide goals that included the growth efforts related to the *College Readiness Standards*, which were initiated by School A. This also happened to be the year that School A's collective autonomy was *complete* for all leaders interviewed. Although the context adjusted value-added scores increased significantly over the decade studied, the significant jump in scores noted in English for the Class of 2009 was also evident in the areas of reading and science.

Considering the first significant increase in context adjusted value-added scores that were realized for the Class of 2004, there were many other important data points to review. After the April 2003 PSAE ACT administration to the Class of 2004, the English growth predictably improved from 6.0 to 7.0 and reading growth increased from 6.2 to 7.0. The same year, mathematics growth dropped from 5.7 to 5.6 and science growth remained constant at 4.6. English and reading registered the largest gains from EXPLORE to PSAE ACT. This was particularly impressive when one considers that the context adjusted predicted EXPLORE to ACT growth for English remained at 5.0, reading increased only slightly from 6.1 to 6.2, math increased from 4.6 to 4.8 and science decreased from 4.2 to 4.0. Therefore, School A's context adjusted value-added figures for English increased from 0.96 to 2.03, reading increased from

0.10 to 0.75, science increased from 0.32 to 0.63 while math dropped slightly from 1.08 to 0.82. ACT's Context Adjusted Value-Added Model identifies a school as a *positive value-added school* if it exceeds the 75<sup>th</sup> percentile value-added benchmark. It was important to note that utilizing ACT's Context Adjusted Value-Added Model, the value-added achievement of School A exceeded the 75<sup>th</sup> percentile value-added designation in each area for the first time for the Class of 2004. It has been classified as a *positive value-added school* ever since. As important, when comparing School A's Class of 2002 and the Class of 2004, the graduation rate increased from 87.6% to 92.2%, the college bound rate increased from 81.5% to 87.4%, and the dropout rate decreased from 1.7% to 0.9%.

When considering this school's improvement journey from 2001 until 2011, growth as measured in English from EXPLORE to the PSAE ACT increased from 5.7 to 8.8, with a context adjusted value-added increase from 0.72 to 3.85. For English, the school began this journey exceeding the context-adjusted value-added benchmark of 0.53, the 75<sup>th</sup> percentile of school value-added scores according to analysis conducted by ACT. However, after the curricular changes during this nine year span, this school increased its value-added score by 435% and exceeded the maximum value-added score reported by ACT of 3.12.

In mathematics, growth as measured from EXPLORE to the PSAE ACT from 2002 through 2011 increased from 6.0 to 6.5. This increase was also reflected in the context adjusted value-added scores, which increased from 1.43 to 2.27. This school's mathematics context adjusted value-added score remained well above the 75<sup>th</sup> percentile value-added (0.50) threshold identified by ACT. For mathematics, the Class of 2011 was the first class to achieve a context adjusted value-added score that was significantly greater than most other years. It was interesting

to note that mathematics had aligned to a skill based curriculum for many years prior to the school's focus on the *College Readiness Standards*. The Class of 2011 was the first to experience a redesigned mathematics curriculum created by district teachers, which was aligned with the skills of the *College Readiness Standards*.

In reading, from the Class of 2002 through the Class of 2011, growth as measured from EXPLORE to the PSAE ACT increased from 6.2 to 8.1. In addition, the context adjusted value-added scores increased from 0.05 to 2.08. School A moved from not meeting ACT's 75<sup>th</sup> percentile value-added (0.49) threshold to approaching ACT's maximum observed value. Reading had realized only one other significant increase in scores, which occurred for the Class of 2006, which trailed the English department's increases and, according to School A's English instructional leader, was a result of the social studies department increasing efforts after they saw the gains realized by the English department at the end of the 2002-2003 school year. In School A, the social studies leader and department were charged with systemic focus on the improvement of reading skills. Also important to note was that the collective autonomy of the social studies instructional leader increased to *complete* when a new instructional leader joined the school in 2008. The class of 2009 was the first to take the PSAE ACT after his first year.

In science, growth as measured from EXPLORE to the PSAE ACT increased from 4.5 to 5.8, with a context adjusted value-added increase 0.20 to 1.64. Again, School A progressed from being a school that did not meet ACT's 75<sup>th</sup> percentile value-added threshold (0.45) to one that consistently exceeded the threshold. Although science scores increased over time, the first significant increase as shown by the completed one-way ANOVA test was for the Class of 2009, which followed the same pattern in English and reading and took the PSAE ACT during the first

year after the superintendent set district level goals consistent with those from School A. In addition, School A's the Class of 2009 was the first cohort to complete the revised science curriculum that required all students to take biology, chemistry and physics. As one would predict, the value added score significantly increased for the Class of 2009 and every following year of this study.

Considering that School A's poverty level increased from 4.7% in 2002 to 11.1% in 2011, along with the fact that the school's minority population increased from 8.8% to 13.4%, the context adjusted expected ACT Scores actually decreased in all subtests over the time span tested. Over this same time span, School A's reported ACT scores for seniors went up from 22.2 to 25.1 which mirrored and exceeded their PSAE ACT scores increases.

### **School A Core Academics and Elective Course Analysis**

Curricular narrowing was also examined. Data for School A were available for the classes of 2006 through 2011. School A changed its curriculum significantly in the last decade. In 1999 School A began focusing on coordinating curriculum through an aligned sequence of courses in the core. This led to a decrease in the core elective offerings, to allow for a more coordinated curriculum that infused ACT's *College Readiness Standards* and aligned with skills and content that also had the goal of increasing AP participation. In addition, the district picked up this focus and added the goal of reducing Ds and Fs across the district in the 2007-2008 school year. This significant curricular work symbiotically occurred as the leadership team's collective autonomy raised from a high degree in 2006-07 to, as far as could be determined, collective autonomy that included every leadership team member interviewed from 2007-2008 school year until the 2010-2011 school year. Because of the all-school nature of School A's

improvement efforts, all core areas and elective departments played a significant role in infusing the *College Readiness Standards*. The following data summarized student enrollment in core classes that included courses taken in English, foreign language, social studies, mathematics and science. In addition, student enrollment in elective classes included courses taken in art, drama, music, business and applied technology.

Table 19

*School A Core Academics and Elective Courses*

	School Year				
	2006-07	2007-08	2008-09	2009-10	2010-11
Core/Student	4.49	4.48	4.50	4.59	4.60
Elective/Student	1.14	1.19	1.12	1.10	1.14
Core %	79.8%	79.0%	80.1%	80.7%	80.1%
Elective %	20.2%	21.0%	19.9%	19.3%	19.9%

*Note:* Core courses include courses in English, foreign language, social studies, mathematics and science. Elective courses include courses taken in art, drama, music, business and applied technology.

To examine changes in course enrollments in core and elective classes over time, a one-way ANOVA was run on core and elective classes taken by students through the years. The Levine test was significant, which created some caution with the results. With this in mind, there was a significant difference among the means for the core academic courses taken across years ( $F(4,9854) = 6.69, p = 0.000$ ), and a significant linear trend across years ( $F(1, 9854) = 6.57, p=0.000$ ). The mean core credits per student for the 2006-2007 school year (mean = 4.49), 2007-2008 school year (mean = 4.48), and 2008-2009 school year (mean = 4.50) were significantly lower than the core credits per student for both the 2009-2010 school year (mean = 4.59), and the

2010-2011 school year (mean = 4.60). No other means were significantly different from one another.

In addition, there was a significant difference among the means for the elective academic courses taken across years ( $F(4,9989) = 4.04, p = 0.003$ ), and a significant linear trend across years ( $F(1, 9989) = 3.61, p=0.006$ ). The mean elective credits taken by students in the 2006-2007 school year (mean = 1.14) was not significantly different than the mean elective credits taken by students in any subsequent year. However, the mean elective credits taken by students in the 2007-2008 school year (mean = 1.19) was significantly higher than the elective credits taken by students in the 2008-2009 school year (mean = 1.12) and in the 2009-2010 school year (mean = 1.10). No other means were significantly different from one another.

Viewing of core and elective credits taken by School A students graphically visually represented change over time:

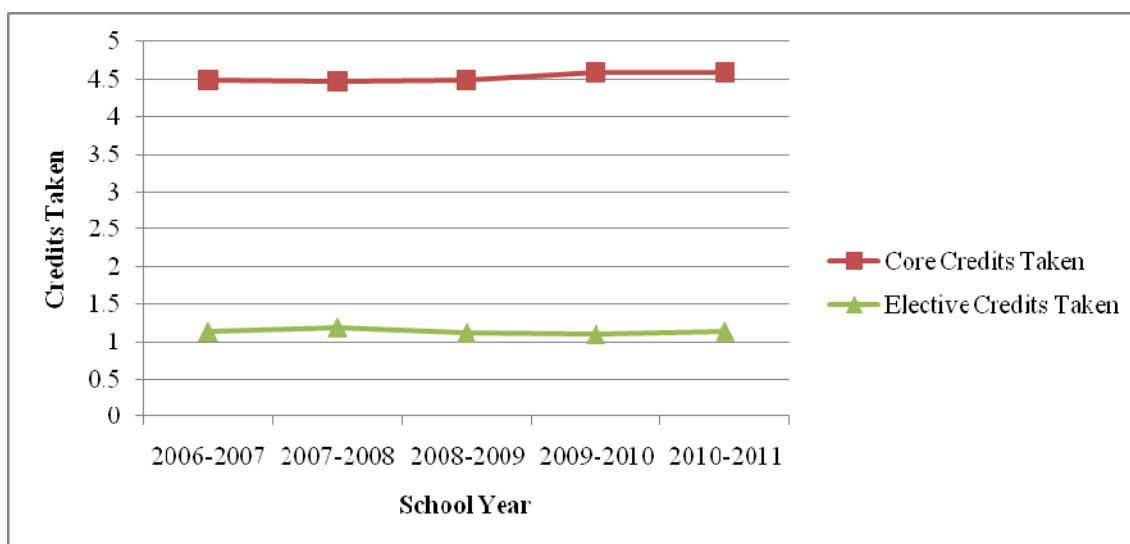


Figure 10. School A Core and Elective Credits Taken vs. School Year



From 2006 through 2011 the core courses taken by students increased slightly from 4.49 core credits per student to 4.60 core credits per student. The elective courses taken by students began at 1.14 in the 2006-2007 school year and ended at the same figure in the 2010-2011 school year, which represented a slight drop in the percentage of students scheduled from 20.2% to 19.9% due to the slight rise in core classes taken by students from the 2006-2007 school year to the 2010-2011 school year. The increase in the 2007-2008 school year to 1.19 ended up significantly higher than the figures in the 2008-2009 school year and 2009-2010 school year.

### **School A Summary**

Interviews with each member of School A's leadership team, now more than a decade into their improvement efforts, clearly suggested that the principles formulated in 1999 and revised through time were much more than rhetoric. These principals became the force behind the actions of the leadership team. When asked about their efforts, all of these team members referred to consistently shared goals and outcomes that were aligned to the school's principles. Although many members shared examples of times when they and their departments were not "on board" in previous years, it was clear that in subsequent years the school's leaders have become deeply invested in the school's improvement efforts. As a result, School A's leadership team demonstrated belief that the skills being infused through their curriculum were much more than "test prep" for some mandate. As one leader from School A shared, "I don't believe it is teaching to the test, I believe it is really teaching good discriminatory skills which happens to support the test" (A1, personal communication, November 3, 2011). In sharing their individual and collective responsibility for the school's goals, the leaders spoke of increased critical thinking, common vocabulary used by teachers, students who were moved up levels, valued

integration, improved college choice opportunities for students, and increased scholarship money that helped students achieve their goals as a result of their collective efforts.

School A, in this researcher's opinion, achieved collective autonomy throughout their leadership team by the 2007-2008 school year. This school's principles, which guided their curricular and co-curricular improvement efforts, also clearly aligned with the goals of NCLB. These were clearly understood by the principal and the English instructional leader even before the 2001-2002 school year, were embraced by another chair by the 2003-2004 school year, and were supported system wide by the 2007-2008 school year. These efforts were systemic, believed to be worthy and valuable, and the leadership team conveyed a consistently high degree of belief in School A's ability to succeed. The efforts also aligned with all leaders' personal missions and there was no talk in shifting to other goals. In fact, continuous questioning by leaders was seen for improving student growth and AP access to even greater levels.

### **School B Findings**

School B was a Chicagoland high school in the same district as School A. As with School A, EXPLORE and PSAT ACT growth data were available from 2001 through 2011. During this time span the average school in Illinois' low income population grew from 37.5% in the 2001-2002 school year to 48.1% in the 2010-2011 school year while the minority population increased from 37.0% to 41.3%. In a similar fashion, School B experienced significant changes in its demographics. From the 2001-2002 school year through the 2010-2011 school year, School B's low income population grew from 17.4% to 32.2% while its minority population increased from 30.5% to 47.0%.

There were several changes in School B's leadership team from 2001 through 2011. All seven leaders interviewed helped inform School B's improvement efforts from 2007 through 2011. Of the seven instructional leaders interviewed, five were members of School B's leadership team at during the 2011-2012 school year in which this study was completed.

School B's school improvement journey from 2001 through 2011 was one that needed to be examined in two distinct phases. The first phrase included the leadership team in place from before 2001 until 2007. This leadership team instituted a 4x4 block schedule in which students took a maximum of four classes for one semester and, in that semester class, completed what was traditionally a year's worth of curriculum. This leadership team also began efforts associated with embedding the *College Readiness Standards* and improving AP participation and student success that began in earnest in 2003. The school's improvement efforts underway from 2001 through 2007 were formulated by summarizing feedback from three interviews: one current leadership team member who was a teacher at School B from 2004 through 2007, a second who served at the school since before 2001 until she left the school in 2007, and finally with a current leadership member who had been in the school for over twenty years and who served as an instructional leader at School B since 2003.

The second phase occurred after a new principal began in 2007. School B's improvement journey was firmly in the grip of a leadership team that has been largely in place from 2007 through 2011. The story of School B's improvement efforts since 2008 was shared by each of the five individuals remaining at School B. He focused the school's efforts around the theme of science, technology, engineering and mathematics (STEM) and put in place several new leadership team members. In addition, the superintendent of the district set three district goals in

the beginning of the 2007-2008 school year that have remained in place through 2011. The goals included increasing student growth within *the College Readiness Standards* as measured from EXPLORE to the PSAT ACT, increasing Advanced Placement (AP) participation and success, and decreasing the amount of Ds and Fs throughout the district.

### **Phase I of School B's Improvement Efforts and Collective Autonomy: 2001 through 2007**

During the first phase of School B's improvement efforts from 2001 through 2007, efforts began with a focus on increasing skills and increasing student achievement. This led School B to purposely focusing on integrating ACT's *College Readiness Standards* beginning in 2003. During that year, School B also began a focus on increasing AP participation and success. The associate principal of curriculum shared that the district was far from focused at that time. She reflected, "At that point in time...the district...was not driving it, because the district at the time was, 'Let's innovate, let's be creative'....and figure out what the needs are in your building and what you need to do to address those needs....everybody's out there experimenting" (B7, personal communication, February 14, 2012). She described that the outcome was a lack of true curricular focus with no expectation of being a system encouraging learning from one another, saying, "We were the home of a million [core] electives....And also there was an attitude of, you know: 'That might be great for your school, but it's not going to work for ours'" (B7, personal communication, February 14, 2012). Without the district focus, the importance of having building leaders with consistent goals increased. However, the top two leaders at the time were, by all indications, not in agreement. One instructional leader supported this description of the top two leaders at School B as he said: "I would say the best way to describe the leadership team was dysfunctional. The principal and associate principal were almost never on the same page. So the

division heads lived this sort of schizophrenic life...because they would often give, like, opposite directions” (B6, personal communication, December 14, 2011).

Although the principal and associate principal for curriculum were not completely aligned, they shared urgency for increasing student achievement even before they adopted the *College Readiness Standards* skills focus in 2003. The associate principal for curriculum during this phase was instrumental in leading School B’s improvement efforts. She shared that predictions indicated that School B’s diversity and low-income would increase. She also shared her perspective: “[A] group of our kids were coming in with very low EXPLORE scores in math and we needed to accelerate their progress. That was Part A. Part B was we did not have enough kids from our perspective in those honors and AP math classes. We needed to increase the number of kids in those classes and improve success” (B7, personal communication, February 14, 2012).

In 2003, School B witnessed the impact of School A’s skill and curricular alignment efforts. In fact, School A’s Class of 2004 achieved a significant increase in growth in English and reading, which was documented and shared with School B at the end of the 2002-2003 school year. This success was evident in Table 12 which documents School A’s EXPLORE to PSAT ACT increase in growth in English from 6.0 to 7.0 along with an increase in growth in reading from 6.2 to 7.2. After the success in English and reading, School A’s efforts would continue and broaden to the all-school effort they envisioned. The current associate principal for curriculum, who was an English teacher the year after this work began across the school, shared that School B began to implement the *College Readiness Standards* in a way similar to School A during 2003. She continued: “That started actually at [School A] probably three or four years

prior, so 2000, maybe even in '99. And [School A] started aligning everything, in terms of reading and writing, to the ACT *College Readiness Standards*. . . . [School B], I really will tell you, was one of the first to jump on board” (B2, personal communication, November 15, 2011).

The 2003 start date was reinforced by the math and science instructional leader who began her leadership role in 2003. She shared, “When I took over this position, one of the big things we did was we went through and, in math specifically, we went through all the *College Readiness Standards*” (B5, personal communication, December 8, 2011).

As this work was beginning, there was also focus on Professional Learning Communities (PLCs) and poverty training. The associate principal of curriculum, who taught English from 2004 through 2007 at School B, shared:

Curricularly, at the time of being hired, the shift from content-based instruction to skills instruction was starting. And [another individual] who’s the principal at [another district school] now was the associate principal of instruction in this role at the time and she started putting into place Professional Learning Communities as we know them, working on training the staff development team that existed then, and really tried to get training in place for smart goal-setting at that time and Ruby Payne actually, poverty training, and I actually went through a lot of that training. (B2, personal communication, November 15, 2011)

She also gave indicated that the initiatives being implemented at School B came with some resistance as she shared:

And I think the challenge is for any school, and it was here too, and it has been over the last six years, is a number of things. One is not making it contrived but making it meaningful, trying to really tie it to content, and making it connect to content rather than it just being isolated test prep, and having real deliberate and thoughtful buy in by the staff and students and not, you know, just doing to do, really at the end of the day. (B2, personal communication, November 15, 2011)

As School B began its skills focus, resistance was driven by a lack of coherent understanding of the school’s efforts. One example of School B’s *College Readiness Standards*

efforts not connecting for some of the teachers was after the poverty training. The then English teacher continued:

[W]e came back and tried to tie that to why we're delivering so deliberately, in terms of scope and sequence of how we can do that based on what the *College Readiness Standards* tell us. I'm not sure they're connecting. Quite honestly, the connection wasn't there for the staff. (B2, personal communication, November 15, 2011)

As School B began moving toward a more skill based curriculum in 2003, many instructional leaders charged with the work also struggled. In one case, the associate principal for curriculum in place in 2003 shared that the English instructional leader had to move her teachers "into this curriculum that is going to focus on non-fiction" and get rid of a "the 9,000 [core] electives." She shared that this English instructional leader did not fully embrace these changes and shared "I think that was a real struggle for her....I think her heart was torn at times. This was as difficult transformation for her as it was for her staff, and so to lead that was really... challenging" (B7, personal communication, February 14, 2012). She continued by sharing that the result was confusion for teachers. She shared that, "On the one hand you had an increased move from certain members of the department to this whole, you know, this *College Readiness Standard* business, this ACT, [and there were others who got the message] this is going to go by the wayside" (B7, personal communication, February 14, 2012).

Even without full support, progress was made toward defined goals. One clear example was within English where the leader in place when these efforts began was reported to have personal conflict without unified support across the department. Regardless, their efforts resulted in decreasing the number of core electives as they infused the *College Readiness Standards* into their curriculum. The associate principal at the time elaborated, "...we felt we could never

clearly articulate the *College Readiness Standards* by, you know, ninth-grade, tenth-grade, eleventh-grade level if we [tried to accomplish this within all]...of these darn electives that were out there” (B7, personal communication, February 14, 2012). School B created a coordinated path in English that was similar to that created in School A. The multitude of English electives was dramatically reduced.

Another example of results included School B’s mathematics teachers. They embraced this focus on the *College Readiness Standards*. They recognized the need for increased skill focus and welcomed *College Readiness Standards* alignment and increased AP participation and success with enthusiasm. According to the department’s instructional leader who has held that position since 2003: “[W]hen I took over this position, one of the big things that we did was we went through and in math specifically, we went through all the *College Readiness Standards*. We aligned...(and) we looked to see where we were covering everything.” She also added, “We were looking at ways to increase the opportunities for students in AP” (B5, personal communication, December 8, 2011). When asked when the math department adopted the skill based focus, she replied, “In math I think that we’ve always been very skill based. But the *College Readiness Standards* in math are...they are what we teach. I mean that’s the curriculum....My math teachers are very attuned to test scores and they genuinely want, and [I] can say this to a teacher; they genuinely want our kids to be able to do as well as they can wherever they are going to go” (B5, personal communication, December 8, 2011).

There had also been significant support for this department to increase student success within these skills several years before the 2001 beginning of this study. Since the time when School B adopted the 4x4 schedule, students who were behind in mathematics were “double



blocked” and received twice the instructional time as other areas. Within the 4x4 block, most students took math one of the two semesters. In this model, students who were behind took math courses during both semesters. The mathematics instructional leader shared, “...what we ended up doing was we doubled the time for our lower level average kids their junior year.” Referring to her teachers, she also shared, “They rewrote the curriculum for Intermediate Algebra and put in...a lot of test prep. They also put in...a lot of review” (B5, personal communication, December 8, 2011). As a result of this department’s consistent focus, the collective autonomy for the mathematics instructional leader was defined as *complete* from 2003 through 2007. Before 2003, it was identified as *NA*.

When focusing in on science, which was led by the same leader as mathematics, a different story emerged. She shared: “[S]cience is much tougher. It just is, because it being...science reasoning and in order to teach reasoning, which...is very questionable. How exactly does that happen, and are any of us trained in that? No” (B5, personal communication, December 8, 2011). She also shared her belief that science was an area in which it was more difficult to show growth as she claimed, “Well science is harder because science is more difficult in terms of showing achievement on test scores...[T]he same attention wasn’t really paid to science because we weren’t being assessed on science, to be perfectly...honest” (B5, personal communication, December 8, 2011). As a result of the leader’s reflections through time, the leader was identified as *minimal* in science from 2003 through 2007.

The next instructional leader studied in the school was that of career and technical education. This individual also led physical education and has held this position since 2005. He spent one year with the previous administration and reflected on his beginning years, “Certainly,

there was a school-wide initiatives to improve the curriculum, but there wasn't a big....call for change or anything like that" (B3, personal communication, December 8, 2011). Because the leader of this area from 2002 through 2005 was not interviewed and no direct observations were available, these areas was identified as *NA* before 2005 and was identified as *minimal* between 2005 and 2007.

### **Phase II of School B's Improvement Efforts and Collective Autonomy: 2007 through 2011**

The second phase of School B's improvement efforts began in 2007 when the current principal was named. In prior years, School B was embedded in a district that embraced innovation and individual school identity. As the new principal was put in place in School B during the 2007-2008 school year, the district made a strategic and significant change before the school year began. The superintendent formed three district goals that have been in place since the 2007-2008 school year. These goals included EXPLORE to PSAT ACT growth, and more participation in Advanced Placement classes, both of which were already in place to varying degrees in School B. In addition, the entire district was given the charge of reducing the number of Ds and Fs in each school. According to the former School B associate principal of curriculum who became a principal in another district school the previous year, she shared that with new principals in place across the district in the 2007-2008 school year, including the one for School B, the superintendent called a summit of the principals to unveil his new philosophy. This new philosophy included reframing the job of administrators as principals were no longer viewed as a principal of a given school, but instead as 'a principal in the district...you were a principal of all schools; you need to look at problem solving in that way'" (B7, personal communication, February 14, 2012). In fact, the former associate principal went one step further when she

reflected that one could not be an instructional leader within the district without being, "...on board with the skills....you either came on board with the skills or you were terminated from your position" (B7, personal communication, February 14, 2012).

The current principal embraced these district wide goals and shared the importance of these:

That was at the superintendent level. A collaborative process at that level. We sold it to the district at a big district wide meeting. We wanted consistent, measurable goals. There certainly was initial push back. But what that did is really focused things. Every counselor and teacher... "How do we reduce Ds and Fs?" There are only three and that is it. Nothing else. That is probably the most important thing the superintendent did. (B1, personal communication, November 3, 2011)

This district level focus reinforced School B's efforts. This fact was recognized and appreciated by the new principal as he worked to lead the school's improvement efforts. He also shared that School B had developed 37 efforts aligned with these district goals and that he strongly supported these goals.

School B's current improvement efforts began in 2007 with a new principal generating a focus for the school based upon its strengths and upon its community. The current principal shared:

I tried to identify what the strengths of the school were. [School B] has always had its strengths in technology and math and some history I had learned is that we had the first modular lab in the area and I would look in and Moodle was just starting out and we had more teachers using Moodle. So we had this natural strength in technology, meaning people who were open to doing it and trying to be cutting edge. At the same time, our math performance was very strong. It was just solid. Our math teachers were some of the strongest in the building. And so I needed some hook, something to help rebrand the school to itself and the community. To reintroduce it based upon its strengths. And, that's how I came to the concept of a STEM focused school. I want you to know I actually did that at my very first administrative team meeting at this school. It was the first thing I

said – we are going to be a math, science school. (B1, personal communication, November 3, 2011)

In 2007 the current principal molded his school's efforts around their strengths and also utilized demographic and enrollment projections in the formulation of his vision. He summarized:

I saw the writing on the wall and I knew our demographics were changing. Our student enrollment was projected to drop by hundreds of students. Every time I lose 20 students I lose a teacher. So that is a significant impact. So my challenges were a declining enrollment, an increase in the number of at-risk students to now we have about 48% of our incoming students are at-risk. (B1, personal communication, November 3, 2011)

These changing demographics only fueled the need for a coordinated, skill based focus. He also noted that he did not complete an inclusive process of defining the school's vision by committee as he reflected:

I want you to know I never took a single survey. I never asked anybody if they wanted this to be a STEM school. Never, because they would have said "no." I knew that is where we needed to go. So, I am not one of these guys who leads by committee. I need to frame a future for us and I need to be thinking five to ten years out and I need to create a vision, but then I do need to allow everyone who works around me to work to fill that space, because they are going to do more than I ever imagined or expected. (B1, personal communication, November 3, 2011)

School B's principal set focused goals in an informed, but unilateral fashion.

The principal also reflected on the fact that having the STEM focus was not enough. He continually needed to create the reason for change:

I looked at all the projections and knew where we were going and why. I had to sell it. I showed them all data, I showed them the enrollment projections and I created a reason for change. If there is no reason to change, then why would you change? (B1, personal communication, November 3, 2011)

He stressed that in a different community, the focus would have been different:

It is a combination of the strength of the school you are in and the community you live in. We have a strong manufacturing base in this community. It has the third largest concentration of manufacturers in the country. It was all a fit and each school has its own world. If I went to [another district high school], that doesn't mean that is what I would do there. You look at the school. What are the strengths of the school? What does the community have to offer? What are the pieces I need to make this a top national model for what this school and community is. Then I sold that to my team and teachers repeatedly. (B1, personal communication, November 3, 2011)

His vision would have been different in another community, but in this community, his vision was set.

When the principal of School B completed his vision, he worked to implement that vision. He shared, "I certainly expected it to be successful, but this has certainly been a leap of faith at times (B1, personal communication, November 3, 2011). He kept the focus of the skill based curriculum alignment with the *College Readiness Standards* skills, but analyzed the school's strengths to "brand" the school. He defined the school as a Science, Technology, Engineering and Math (STEM) school.

These concepts along with the concept of making school relevant for students drove the formulation of School B's new vision and actions. It was also the rhetoric that was continuously shared with his team:

My goal is and what we have developed is really about a dozen different programs of study where a student can go through a sequence of courses that lead beyond high school and includes opportunities to earn industry certifications, college credit and also has external experiences that are real-world experiences.... Now the reason that this connects to school improvement as a whole and to reading and math is that now you have got kids where high school is relevant to them and engaging to them and we help them discover what future they want. I know if a kid can identify a career of interest by the time they graduate high school, they are 80% more likely to finish within six years. I want to use that as a carrot and incentive to say, OK if you are really interested in a health career than take this health career course of study and all these electives and stuff and you can

get your healthcare certification in CNA and EMR. What that has done is its made high school to them feel like it is not just a place you stop to get out of so you can start your life, but that your life begins now. (B1, personal communication, November 3, 2011)

He sold his vision and worked with his team as he continuously reinforced the need for change.

During these efforts his focus remained on his team, which was evident in his shared philosophy:

My philosophy was a little different than what would have been conventional wisdom back then, or even now I suppose. We always say things like “students are first.” I work off a different philosophy with the same end game in mind. I really focus on the adults in the building and staff. If I make them my primary concern, they will make students their primary concern. (B1, personal communication, November 3, 2011)

The new principal followed his belief that his role was to support his leadership team and he kept focused on that as he continued to “sell” his vision and broaden it with the input of his team. He also shared a firm belief that once he set the vision, he trusted and expected his team to “fill in the space” to realize the goals. He shared: “So I empower them. I don’t micromanage...I get [the goals] kicked off, make sure we get the money and know where we are going. Then I hand it off. They grow it and they make it better” (B1, personal communication, November 3, 2011).

He also continued to share that he had every confidence in his school and community:

When I came in my view was certainly that we need to be a national model school based upon the challenges that we have. If we can’t be successful, then nobody can in this space. We have the resources to be successful so there is no excuse for us. If we can’t do it, it can’t be done and I know that is not the case. (B1, personal communication, November 3, 2011)

One leader shared that the new principal faced challenges and overcame them by remaining on his path. He observed:

[The principal] was a private sector guy. He gets the fact that you're going to have resistance; with any change you're going to have resistance. Fine Arts, you know. What does this mean for English? Do we matter? And so the fact that he came out and he wasn't wishy-washy. This is what we're doing....I would be lying to you if I said there wasn't resistance and resentment out of English [asking] how do we fit that? But they've come around to realize we're still a comprehensive high school, we're just giving kids opportunities. (B3, personal communication, December 8, 2011)

He expected resistance and persevered with the established goals. Other statements illuminated the progress made by the new principal's efforts. The current associate principal of curriculum summarized the challenges that faced School B during the changes involved in the implementation of the *College Readiness Standards* skills. She shared:

That's a challenge. And moving from content to skill as a primary focus, not a secondary focus, is really the reverse of what most people think is purposeful. And I've been...for lack of a better terminology...selling it like I own it, you know, for four or five years now and I think a lot of people have come so far in our District and in this building especially. (B2, personal communication, November 15, 2011)

School B continued the *College Readiness Standards* skill focus and has focused them around the principal's STEM initiative. One of many examples of this continued work included the new principal's reflection on a document that codifies School B's efforts that included EPAS™, which incorporated the system measuring student growth from EXPLORE to the PSAE ACT. He shared that School B had, "37 targets for each goal. The only one not on here is EPAS, because it is embedded in each goal" (B1, personal communication, November 3, 2011). Another example included their participation in a 2008 district initiative in which the entire district implemented a critical thinking focus that was designed to further and deepen skill development. These efforts were led by the associate principal of curriculum who described this work's evolution:

So that was...we started all of those conversations in 2008 and '09, so at the end of 2008, the beginning of 2009, and then actually it all came to fruition. So we trained the entire district English department two years ago on how to start writing and creating all this material. (B2, personal communication, November 15, 2011)

The goals were set unilaterally, but leaders and teachers were empowered to bring those goals to life. This multiplied both the understanding of and the strength of efforts.

In addition to the many strategies used to bring the school's goals to life, the new principal also made needed changes. Because of openings, the new principal was able to hire both associate principals on his team. This was captured in one instructional leader's reflections. She said the new principal made significant changes within one department that was not supporting the goals as he "released...five teachers and released one division head, and now has...a totally new...department" (B7, personal communication, February 14, 2012).

The new principal realized that even his science and math instructional leader was not on board initially. He shared, "the first time I shared that we were going to be a math and science school, she did not respond positively" (B1, personal communication, November 3, 2011). The science instructional leader reinforced his observation as she reflected on the initial discussion about School B becoming a STEM school. She shared, "...[the principal] had come in and we were going to be a STEM school and everyone was like 'well what the heck does that mean?'" (B5, personal communication, December 8, 2011). As she continued to reflect, she shared that she was initially skeptical about the STEM initiative. However, the science department's efforts since 2009 have resonated with the STEM initiative. She stated, "...what we had come up with was basically that in science we really want the kids to be learning 21<sup>st</sup> century skills, which we're defining as that they're working with technology, that they are able to communicate, that



they are seeing some common language, having some common, some common growth experiences” (B5, personal communication, December 8, 2011). She continued: “...we sat down and said ‘okay, let’s look at the *College Readiness Standards*. Let’s talk about how do you address these in biology? How do you address these in physical science? How do you address these in chemistry? How do you address these in physics?’ and we kind of talked about it and found a lot of commonalities” (B5, personal communication, December 8, 2011). Furthermore, the science instructional leader shared that the department engaged in this work as they have filled in the gaps. She shared: “[W]hat I try to do is give the overall picture, the overall idea, the overall charge of what we want to accomplish and then say ‘now what can be your role in this? What can be your role in this and then support them in that and try and figure out how we can best do that’” (B5, personal communication, December 8, 2011). Consequently, the department aligned its curriculum and required all students to take biology, chemistry and physics beginning with the 2009-2010 school year. The instructional leader shared the reason for this change: “They’ve done this at [School A]. [School A] has had some success with that and so we had decided that we were going to do that.” She also shared that she and her teachers studied the data: “[W]e looked at the growth and they showed from EXPLORE to ACT and we found across all...of our schools...that there was a 2 to 3 point differential between kids who had gone into chemistry and kids who had not” (B5, personal communication, December 8, 2011). The science instructional leader’s collective autonomy was defined as *minimal* through 2009 and was coded as *complete* from 2009 through 2011 due to her shift to systemic curricular efforts focused on the *College Readiness Standards* within her department.

The mathematics department's efforts continued in earnest during Phase II. One of many examples included the mathematics instructional leader bringing in a company to provide item analysis for the EXPLORE and PLAN test during the 2009-2010 school year at the school. This action increased their awareness of specific areas that needed increased attention. One example shared was the need for increased focus on *probability and statistics*. During the 2011-2012 school year, the mathematics department was invested in a district-wide effort to create curriculum that addressed the *College Readiness Standards*. The instructional leader shared actions that led to success in the program: "[I]t's a good program because what it really is doing is having all the teachers in the school district...working together to develop really good materials that address the *College Readiness Standards* and that address the kind of help we need here" (B5, personal communication, December 8, 2011). As a result of the department and the instructional leader's continued focus on effectively incorporating the *College Readiness Standards* and the fact that these efforts aligned with the leader's personal beliefs about mathematics, the math department side of leadership was coded as *complete* from 2007 through 2011 as well as from 2003 through 2007, as discussed previously.

The instructional leader of career and technical education along with physical education has been in place since 2005. After one year with the previous leadership team, he reinforced that the new principal called for the school to be a STEM school and began aligning efforts to that end. In his department, this was a significant focus as it affected many of his teachers and offerings. He shared support from the beginning and shared, "So my charge at the time was to analyze all of our programs and determine what we could do to offer kids certifications or dual credit or something that significantly improved, enhances their changes postsecondary." In

reference to the results, he shared, “engineering grew significantly” (B3, personal communication, December 8, 2011). His department’s efforts also included helping secure certificate programs for autos, nursing and college accounting programs that resulted in internships and integrated CAD/Geometry courses. His efforts also included strengthening their Professional Learning Communities when he began. Concerning the changes, he shared: “[I]n addition to looking at certifications, infusing WorkKeys...[and] ACT like reading passages with distractors and things like that. We infuse them into our info processing, our business classes....[and]certainly our engineering classes...do perimeter and area,...something that students traditionally get wrong in the WorkKey area” (B3, personal communication, December 8, 2011). He continued, “So whenever it fit, we made sure we did it. And I made them do it pre and posttest just so they’d have data to show how successful you are” (B3, personal communication, December 8, 2011). Their efforts also included reading as exemplified in 2006-2007 when “a liaison from the English department that is kind of, that’s our point person and we actually look at student work and she kind of helped walk us through it and then there was more of a comfort level” (B3, personal communication, December 8, 2011). Because of his consistent focus and support, this leader was identified as *complete* from 2007 through 2011. As previously discussed, he was identified as *minimal* from 2005 through 2007.

### **School B Collective Autonomy Summary**

This was a challenging picture to create because of the leadership changes that had occurred at the school. Since 2003 only one individual remained in the same leadership position. Interviews began with the principal who was in place at School B from the 2007-2008 school year through 2010-2011 school year. Interviews also included three associate principals for

curriculum. One was in place from before the 2001-2002 school year through 2006-2007 school year; a second was the social studies, foreign language and ELL instructional leader during the 2006-2007 school year and then served as the associate principal of curriculum from the 2007-2008 school year through the 2010-2011 school year; and a third taught English at School B from the 2004-2005 school year through the 2006-2007 school year, left and then returned as the associate principal in the 2011-2012 school year. The current English instructional leader has been in place since the 2010-2011 school year, the mathematics and science instructional leader started in the 2003-2004 school year, the career and technical education and physical education instructional leader began in the 2005-2006 school year.

Interviews were utilized to determine the collective autonomy of each instructional leader. The principal was defined to have *complete* collective autonomy since the 2003-2004 school year, when the school's *College Readiness Standards* and AP focus began. Prior to the 2003-2004 school year, the position was coded as *NA*. The associate principal of curriculum was defined as *partial* before the *College Readiness Standards* focus began across the entire school in the 2003-2004 school year and *complete* through the rest of the time span. The English instructional leader was identified as *NA* before the 2004-2005 school year and *partial* from the 2004-2005 school year through the 2010-2011 school year. The leader for career and technical education and physical education was defined as *NA* prior to the 2005-2006 school year, *partial* from the 2005-2006 school year through the 2006-2007 school year and *complete* from 2007-2008 school year through the 2010-2011 school year. Finally, the collective autonomy of the mathematics and science instructional leader was treated independently because the different levels of collective autonomy demonstrated within the two departments. Within mathematics she

was determined to be *complete* from the 2003-2004 school year through the 2010-2011 school year and as *NA* before the 2003-2004 school year. Within science she was classified as *NA* prior to the 2003-2004 school year, *minimal* from the 2003-2004 school year through the 2008-2009 school year, and *complete* for the 2009-2010 school year and the 2010-2011 school year.

The following interviews were considered and the abbreviations of each were included in

Table 20:

P – Principal

AP – Associate Principal of Curriculum

C – Career and Technical Education Instructional Leader

E – English Instructional Leader

M – Mathematics Instructional Leader

S – Science Instructional Leader

Table 20

*School B Leadership Team Members' Collective Autonomy*

School Year	Complete	Partial	Minimal	None	No Information
2001-2002		AP			P, E, C, M, S
2002-2003		AP			P, E, C, M, S
2003-2004	P, AP, M		S		E, C
2004-2005	P, AP, M	E	S		C
2005-2006	P, AP, M	E, C	S		
2006-2007	P, AP, M	E, C	S		
2007-2008	P, AP, M, C	E	S		
2008-2009	P, AP, M, C	E	S		
2009-2010	P, AP, M, C, S	E			
2010-2011	P, AP, M, C, S	E			

These were summarized numerically below:

Table 21

*School B Leadership Team Members' Collective Autonomy Summary*

School Year	Complete	Partial	Minimal	None	No Information
2001-2002	0	1	0	0	5
2002-2003	0	1	0	0	5
2003-2004	3	0	1	0	2
2004-2005	3	1	1	0	1
2005-2006	3	2	1	0	0
2006-2007	3	2	1	0	0
2007-2008	4	1	1	0	0
2008-2009	4	1	1	0	0
2009-2010	5	1	0	0	0
2010-2011	5	1	0	0	0

The results were viewed graphically as shown below:

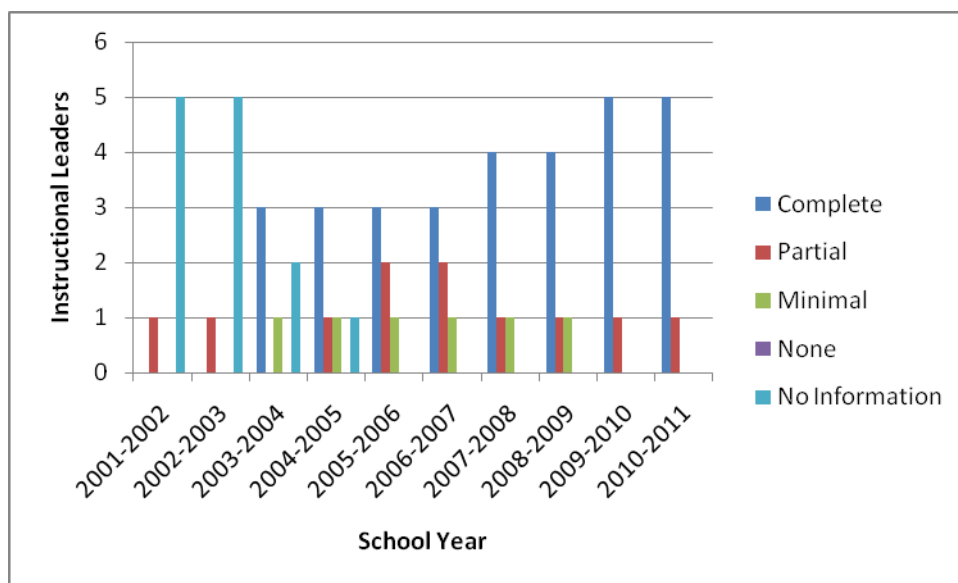


Figure 11. School B's Collective Autonomy of Instructional Leaders vs. School Year

School B began systemic efforts related to NCLB through the *College Readiness Standards* skills beginning in the 2003-2004 school year. At that time, collective autonomy formed around their common efforts. Three instructional leaders were identified as achieving *complete* collective autonomy beginning in the 2003-2004 school year. The mathematics instructional leader and her teachers embraced the focus on the *College Readiness Standards*, and the two building leaders began efforts surrounding these skill standards in 2003. However, these two were described as being on “different pages,” which created some dysfunction within these efforts.

School B's collective autonomy remained relatively stagnant until the 2007-2008 school year when a new principal began to lead the school. With a new principal in 2007 leading, these efforts became more focused as the school zeroed in on newly created district improvement goals

that included the infusion of the *College Readiness Standards*, increased AP participation and the reduction of Ds and Fs. During the same time, School B's principal launched a focus on STEM initiatives and career paths to be integrated into their curriculum. He had the opportunity to hire his two associate principals and soon after replaced the instructional leader in English and increased collective autonomy across his team. As a result, the collective autonomy in the beginning of the 2007-2008 school year included a majority of School B's leadership team as 4 of the 6 instructional leaders were identified with *complete* collective autonomy. This increased and included all but one department's leader from the 2009-2010 school year through the 2010-2011 school year.

All leaders at School B identified the district goals when asked about current improvement efforts and all shared a desire to "open doors" for student's future with their focus on skills. One leader shared: "We want to make the opportunities....[W]e want them to have their choice of what school to go to." She also asserted, "If they're not going to school at all and they're going into the work world, we want them to have a kind of a leg up, to have some kind of a marketable skill" (B5, personal communication, December 8, 2011).

### **School B Student Achievement Data**

This study utilized student scores on the EXPLORE test given as an 8<sup>th</sup> grade high school placement test and the PSAE ACT, which was a significant tool used to measure NCLB compliance in Illinois throughout the years of this study. The EXPLORE test was given to incoming students at the end of November and the PSAE ACT was administered to juniors annually at the end of April. Table 22 and Table 23 summarized School B's EXPLORE and PSAE ACT performance for each graduating class from 2002 through 2011, which was the



maximum span available for the school. It was important to note that School B utilized EXPLORE information for placement purposes and utilized it along with the PSAE ACT to systemically measure growth scores for English, mathematics, reading and science. Although this school examined growth for the school as a whole and for sub-groups contained within the school, this analysis exclusively focused on the school as a whole.

Table 22

*School B Average EXPLORE Scores*

Class	Average EXPLORE 4English	Average EXPLORE Math	Average EXPLORE Reading	Average EXPLORE Science
2002	15.5	16.0	15.0	16.8
2003	15.2	16.1	14.7	17.0
2004	15.1	15.9	14.6	16.8
2005	15.3	15.7	14.7	17.1
2006	15.2	15.6	14.9	16.9
2007	15.0	16.4	14.9	16.8
2008	14.9	16.3	14.8	16.9
2009	15.1	16.2	14.8	17.1
2010	14.9	16.4	15.0	17.2
2011	15.3	17.2	15.2	17.2

To determine if incoming student EXPLORE achievement, which was a relevant factor when predicting student performance on the ACT, changed through the years analyzed, a one-way ANOVA was run for School B on each EXPLORE subtest taken by students through the years. There was only one incoming EXPLORE score that was significantly different than others. The first was the mean for the mean EXPLORE mathematics score for 2011 (mean = 17.2), which was significantly higher than the mean EXPLORE mathematics scores for most other years included in this study. This test provided sound evidence that the incoming

EXPLORE scores of freshman did not significantly change through the years included in this study.

School B's incoming EXPLORE scores remained relatively consistent for the classes of 2002 through 2011. However, the PSAE ACT scores rose in each sub-test.

Table 23

*School B Average PSAE ACT Scores*

Class	Average PSAE ACT English	Average PSAE ACT Math	Average PSAE ACT Reading	Average PSAE ACT Science
2002	19.9	21.6	20.7	20.7
2003	20.4	21.5	20.9	20.8
2004	19.6	20.9	20.0	20.4
2005	20.5	21.2	20.3	20.9
2006	20.7	21.4	21.0	20.9
2007	20.7	21.6	21.1	20.9
2008	20.9	22.6	21.1	21.2
2009	21.1	23.0	20.9	21.0
2010	20.5	22.9	21.5	21.2
2011	21.8	23.8	21.3	21.4

In general, the greatest PSAE ACT achievement was in mathematics, with achievement improvements that were a bit lower and similar in reading, English and science. In considering the school's impact on student achievement, an increase in the overall PSAE ACT did not show success alone, without student abilities of incoming students being considered. To quantify changes in student achievement along with the curricular impact of a given school, one measure employed in Illinois high schools was ACT's Educational Planning and Assessment System (EPAS<sup>TM</sup>) which included considering the growth achieved from EXPLORE to the PSAE ACT in each sub-test as shown below. School B was a school that has systemically measured its student growth using this system even prior to this study.

Table 24

*School B Actual Growth*

Class	Actual EXPLORE to PSAE ACT English Growth	Actual EXPLORE to PSAE ACT Math Growth	Actual EXPLORE to PSAE ACT Reading Growth	Actual EXPLORE to PSAE ACT Science Growth
2002	4.4	5.6	5.6	3.9
2003	5.2	5.3	6.3	3.7
2004	4.5	4.9	5.4	3.4
2005	5.2	5.5	5.7	3.8
2006	5.5	5.8	6.1	4.1
2007	5.7	5.3	6.2	4.1
2008	6.0	6.3	6.2	4.3
2009	5.9	6.8	6.1	3.9
2010	5.6	6.5	6.5	4.0
2011	6.5	6.6	6.1	4.2

For the classes of 2002 through 2011, student growth from EXPLORE to the PSAE ACT increased the greatest amount in English, followed closely by reading, and math. School B's science growth remained relatively constant.

ACT's Context Adjusted Value-Added Model employed the EXPLORE scores of each student, the time in months between the EXPLORE test and key demographic information for the school to predict a given student and school's expected ACT scores. This was particularly illuminating for School B as its demographics changed considerably from the 2001-2002 school year through the 2010-2011 school year. The following data summarized needed information to complete these calculations:

Table 25

*School B Demographic Data*

School Year	School Size*	Proportion Tested (%)	Poverty Level (%)	Proportion Minority (%)	EXPLORE to ACT Time Span (Months)
2001-2002	4.6	84.5	17.4	30.5	41
2002-2003	4.5	84.9	20.3	31.2	41
2003-2004	4.6	82.5	20.1	32.3	41
2004-2005	4.8	88.1	23.6	33.0	41
2005-2006	4.9	90.2	24.2	34.3	41
2006-2007	4.9	92.9	19.4	37.4	41
2007-2008	4.9	96.1	30.5	39.3	41
2008-2009	4.8	85.2	26.8	42.9	41
2009-2010	4.7	80.5	26.3	46.0	41
2010-2011	4.6	80.6	32.2	47.0	41

Note: \*Number of students, in hundreds.

Utilizing Equation 1 for ACT's Context Adjusted Value-Added Model along with the parameters from Table 2, each student's and then each class's context adjusted expected ACT scores and expected EXPLORE to ACT growth were generated for each sub-test.

Table 26

*School B Context Adjusted Expected ACT Results*

Class	Expected ACT English	Expected ACT Math	Expected ACT Reading	Expected ACT Science
2002	19.8	20.2	20.4	20.5
2003	19.6	20.3	20.2	20.4
2004	19.4	20.1	20.0	20.3
2005	19.5	20.0	20.2	20.3
2006	19.4	19.8	20.0	20.1
2007	19.7	20.4	20.2	20.5
2008	19.4	20.0	19.9	20.2
2009	19.6	20.2	20.1	20.3
2010	19.6	20.3	20.1	20.5
2011	20.0	20.6	20.4	20.8

Table 27

*School B Context Adjusted Expected Growth*

Class	Expected ACT English Growth	Expected ACT Math Growth	Expected ACT Reading Growth	Expected ACT Science Growth
2002	4.3	4.3	5.4	3.7
2003	4.4	4.1	5.6	3.5
2004	4.4	4.1	5.4	3.4
2005	4.2	4.3	5.5	3.1
2006	4.2	4.2	5.2	3.3
2007	4.6	4.0	5.3	3.7
2008	4.5	3.7	5.1	3.4
2009	4.4	4.0	5.3	3.3
2010	4.7	3.9	5.1	3.3
2011	4.7	3.5	5.2	3.6

ACT's context adjusted predicted ACT and growth figures were significantly lower than School B's actual results. School B's actual EXPLORE to ACT growth as compared to its predicted growth generated the following value-added scores for the classes of 2002 through 2011.

Table 28

*School B Context Adjusted Value-Added*

Class	Value-Added ACT English	Value-Added ACT Math	Value-Added ACT Reading	Value-Added ACT Science
2002	0.07	1.35	0.24	0.16
2003	0.75	1.20	0.72	0.27
2004	0.17	0.82	-0.02	0.01
2005	0.97	1.21	0.19	0.65
2006	1.29	1.61	0.97	0.77
2007	1.04	1.27	0.93	0.41
2008	1.55	2.57	1.15	0.93
2009	1.53	2.86	0.80	0.65
2010	0.86	2.56	1.42	0.76
2011	1.85	3.13	0.91	0.60

Viewing these results graphically visually represented change over time:

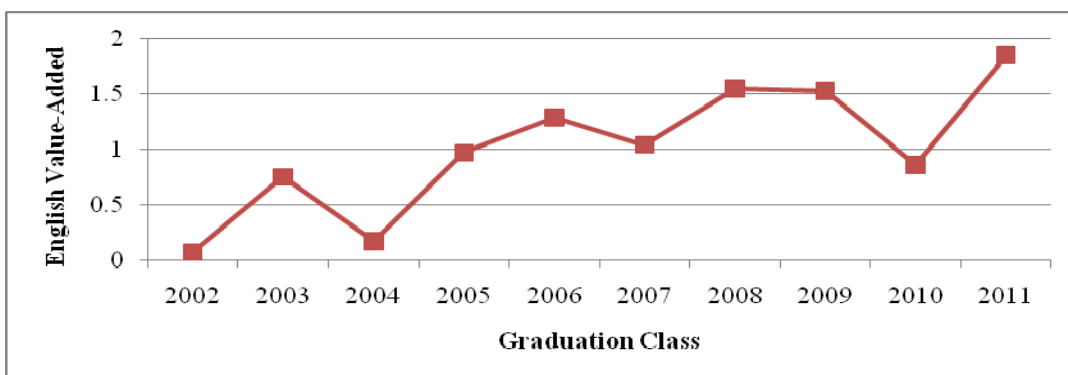


Figure 12. School B English Value-Added vs. Graduation Class

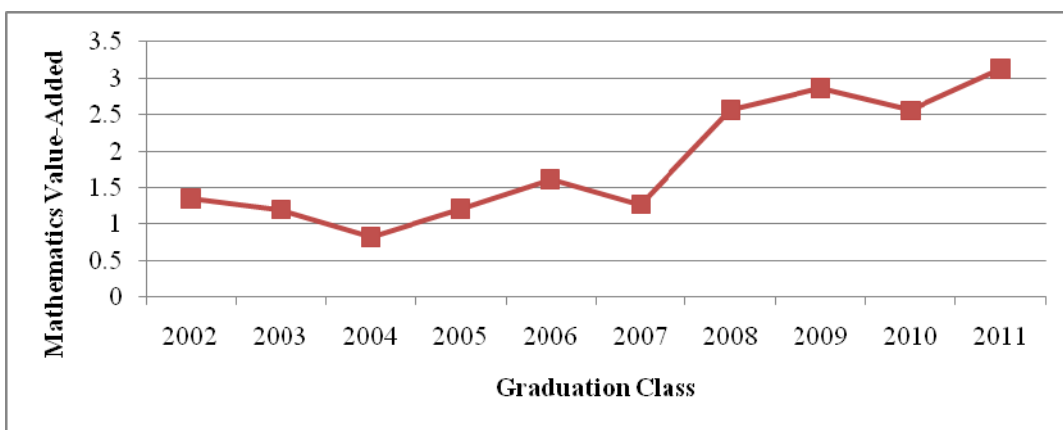


Figure 13. School B Mathematics Value-Added vs. Graduation Class



Figure 14. School B Reading Value-Added vs. Graduation Class

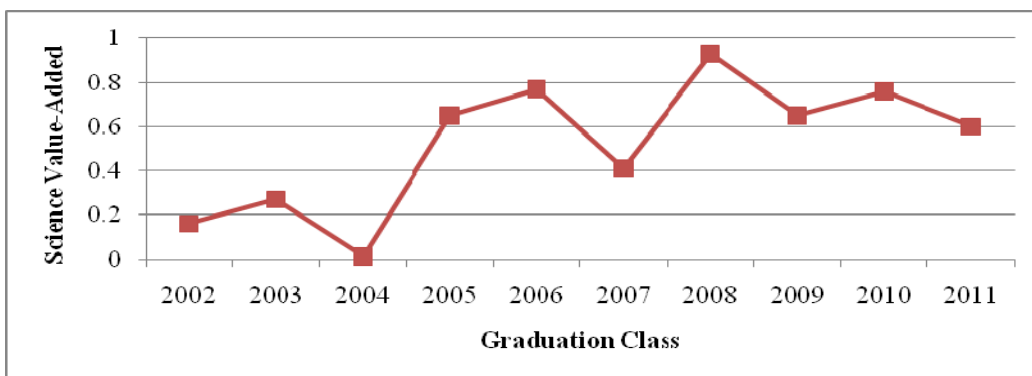


Figure 15. School B Science Value-Added vs. Graduation Class

To examine if School B's context adjusted value-added scores significantly changed over time, a one-way ANOVA was run on the value-added within each sub-test taken by students through the years. The Levine test was not significant in mathematics and reading. However, the Levine test was significant in English and science, which created some caution with the results. With this in mind, there was a significant difference among the means for School B's value-added scores in English across years ( $F(9,3540) = 10.7, p = 0.000$ ), and a significant linear trend across years ( $F(1, 3540) = 60.66, p = 0.000$ ). The mean value-added English scores for the Class of 2002 (mean = 0.07), the Class of 2003 (mean = 0.75) and the Class of 2004 (mean = 0.17) were not significantly different. In addition, the mean value-added English score for the Class of 2002 (mean = 0.07) was significantly lower than the mean value-added scores of each subsequent year beginning with the Class of 2005 (mean = 0.98) including the Class of 2006 (mean = 1.29), the Class of 2007 (mean = 1.05), the Class of 2008 (mean = 1.56), the Class of 2009 (mean = 1.54), the Class of 2010 (mean = 0.87) and the Class of 2011 (mean = 1.86). The mean value-added English scores beyond the Class of 2003 (mean = 0.75) fluctuated with a general upward trend that showed various significant increases and decreases that were not

sustained. However, the mean value-added English score for the Class of 2011 (mean = 1.85) was significantly higher than every year studied with the exception of the mean value-added English scores for the Class of 2008 (mean = 1.55).

There was a significant difference among the means for School B's value-added scores in mathematics across years ( $F(9, 3540) = 24.00, p = 0.000$ ), and a significant linear trend across years ( $F(1, 3540) = 161.17, p=0.000$ ). There was no significant difference in the mean value-added mathematics scores for the Class of 2002 (mean = 1.35), the Class of 2003 (mean = 1.20), the Class of 2004 (mean = 0.82), the Class of 2005 (mean = 1.21), the Class of 2006 (mean = 1.61) and the Class of 2007 (mean = 1.27). However, each of these years was significantly lower than the mean value-added mathematics scores for the Class of 2008 (mean = 2.57), the Class of 2009 (mean = 2.86), the Class of 2010 (mean = 2.56) and the Class of 2011 (mean = 3.13). In addition, the mean value-added mathematics scores for the classes of 2008 through 2011 were not significantly different.

There was a significant difference among the means for School B's value-added scores in reading across years ( $F(9, 3540) = 5.47, p = 0.000$ ), and a significant linear trend across years ( $F(1, 3540) = 16.08, p=0.000$ ). The mean value-added reading scores fluctuated for the classes of 2002 through 2005. The mean value-added reading scores for the Class of 2002 (mean = 0.24), the Class of 2004 (mean = -0.02) and the Class of 2005 (mean = 0.19) were all significantly lower than the mean value-added reading score for the Class of 2008 (mean = 1.15). In addition, after increasing significantly for the Class of 2008, no significant difference was registered between the mean value-added reading scores for the Class of 2008 (mean = 1.15), the Class of 2009 (mean = 0.80), the Class of 2010 (mean = 1.42) and the Class of 2011 (mean = 0.91).



There was a significant difference among the means for School B's value-added scores in science across years ( $F(9, 3540) = 3.24, p = 0.001$ ), and a significant linear trend across years ( $F(1, 3540) = 13.58, p=0.000$ ). The mean value-added science score for the Class of 2004 (mean = 0.01) was significantly lower than the mean value-added science scores for the Class of 2006 (mean = 0.77), the Class of 2008 (mean = 0.93) and the Class of 2010 (mean = 0.76). The mean value-added science score for the Class of 2002 (mean = 0.16) was only significantly different than the mean value-added science score for the Class of 2008 (mean = 0.93).

### **School B Other Student Achievement Data**

The Average ACT scores for each graduating class were shared annually with the community and with prospective colleges. For School B, the following data represented average ACT sub-test scores for each of the graduating classes from 2002 through 2011. It was important to note that these scores represented the average of the last ACT test seniors took in each given class.

Table 29

#### *School B Average ACT Scores for Each Identified Class*

Class	Average ACT English	Average ACT Math	Average ACT Reading	Average ACT Science
2002	20.3	21.8	21.0	21.0
2003	20.2	21.4	20.7	20.7
2004	20.0	21.3	20.1	20.5
2005	20.7	21.4	20.5	20.9
2006	21.1	21.6	21.0	21.0
2007	21.1	22.1	21.2	21.6
2008	21.7	23.0	21.7	21.4
2009	21.3	23.1	21.0	21.3
2010	20.8	22.8	21.2	21.2
2011	22.0	23.6	21.4	21.6

*Note:* From various Internet sources and personal communication with School B.

In addition, the following data were often viewed by the public and considered by school officials when evaluating the success of a given school. These data were also included to provide a more holistic picture of school improvement efforts for each school.

Table 30

*School B Other Quality Indicators for Each Identified Class*

Class	Graduation Rate (%)	Drop Out Rate (%)	District Reported 4-Year College Bound Rate (%)	District Reported 2-Year College Bound Rate (%)	District Reported Total College Bound Rate (%)	School Reported College Bound Rate (%)
2002	89.2	4.1	44.6	34.2	78.8	92
2003	90.1	1.1	39.2	35.9	75.2	89
2004	89.7	2.1	36.4	39.1	75.5	92
2005	88.1	2.3	38.1	32.4	70.6	95
2006	87.4	2.0	38.0	31.8	69.8	93
2007	89.2	2.2	39.4	36.3	75.4	90
2008	93.7	2.3	40.8	30.2	71.0	93
2009	93.5	1.9	NA	NA	NA	96
2010	93.2	1.0	NA	NA	NA	93
2011	91.4	1.7	NA	NA	NA	94

*Note:* From "Illinois Interactive Report Card," Northern Illinois University, 2011. Compiled on January 2, 2011, from <http://iirc.niu.edu>. From <http://iirc.niu.edu/> and personal communication with School B.

**School B's Growth Results Summary**

When considering this school's analyzed improvement journey from 2001 until 2011, growth as measured in English from the EXPLORE to the PSAE ACT increased from 4.4 to 6.5, with a context adjusted value-added increase from 0.07 to 1.85, which was School B's maximum. For English, the school exceeded 0.53, the 75<sup>th</sup> percentile of school value-added scores according to analysis conducted by ACT. School B moved from being one that did not meet ACT's positive value-added threshold to one that consistently met it since 2005.

In mathematics, growth as measured from EXPLORE to the PSAE ACT increased from 5.6 to 6.6, with a context adjusted value-added increase from 1.35 to 3.13, which was also School B's maximum. This school's mathematics context adjusted value-added score remained well above the 75<sup>th</sup> percentile (0.50) of value-added scores identified by ACT.

In reading, growth as measured from EXPLORE to ACT increased from 5.6 to 6.1, with a context adjusted value-added increase from 0.24 to 0.91, and a maximum of 1.42 for the Class of 2010. School B moved from not meeting ACT's 75<sup>th</sup> percentile (0.49) value-added score to one that consistently hit that mark since 2006.

In science, growth as measured from EXPLORE to ACT increased from 3.9 to 4.2, with a context adjusted value-added increase 0.16 to 0.60, and a maximum of 0.93 for the Class of 2008. Again, School B progressed from being a school that did not meet ACT's 75<sup>th</sup> percentile (0.45) of value-added scores to one that was consistently above the mark since 2005.

Considering that School B's poverty level increased from 17.4% in 2002 to 32.2% in 2011 along with the fact that the school's minority population increased from 30.5% to 47.0%, the context adjusted expected ACT scores remained relatively flat. Over this same time span, School B's reported ACT scores for seniors went up from 21.0 to 22.2 which mirrored, but barely exceeded their PSAE ACT scores which went up from 20.7 average composite to a 22.1 average composite as a school.

### **School B Core Academic and Elective Course Analysis**

Curricular narrowing was also examined. Data for School B were available from 2006 through 2011. School B changed its curriculum significantly in the last decade. First, School B doubled up on math courses for low-performing students before 2001 when it implemented the

4x4 block schedule. Second, the school followed actions taken by School A to significantly reducing the number of core electives in English and social studies beginning in the 2003-2004 school year after School A demonstrated a significant growth increase. Because of the all-school nature of School B's improvement efforts, all core areas played a significant role in infusing the *College Readiness Standards*. The following data summarized student enrollment in core classes that included courses taken in English, foreign language, social studies, mathematics and science. In addition, student enrollment in elective classes included courses taken in art, drama, music, business and applied technology.

Table 31

*School B Core Academics and Elective Courses*

	School Year				
	2006-07	2007-08	2008-09	2009-10	2010-11
Core/Student	4.45	4.45	4.50	4.58	4.39
Elective/Student	1.30	1.23	1.25	1.35	1.36
Core %	77.3%	78.2%	78.2%	77.2%	76.3%
Elective %	22.7%	21.7%	21.8%	22.8%	23.7%

*Note:* Core courses include courses in English, foreign language, social studies, mathematics and science. Elective courses include courses taken in art, drama, music, business and applied technology.

To examine changes in course enrollments in core and elective classes over time, a one-way ANOVA was run on core and elective classes taken by students through the years. The Levine test was significant, which created some caution with the results. With this in mind, there was a significant difference among the means for the core academic courses taken across years ( $F(4,9572) = 14.49, p = 0.000$ ), and a significant linear trend across years ( $F(1, 9572) = 4.74, p=0.001$ ). The mean core credits taken for the 2009-2010 school year (mean = 4.58) was

significantly higher than the mean core credits taken during the 2006-2007 school year (mean = 4.45), the 2007-2008 school year (mean = 4.45), and 2010-2011 school year (mean = 4.39). No other means were significantly different from one another.

In addition, there was a significant difference among the means for the elective academic courses taken across years ( $F(4,9327) = 3.18, p = 0.013$ ), and a significant linear trend across years ( $F(1, 9327) = 6.23, p=0.000$ ). The mean elective credits taken by students in the 2006-2007 school year (mean = 1.30) was not significantly different than the mean elective credits taken by students in any subsequent year. However, the mean elective credits taken by students in the 2007-2008 school year (mean = 1.24) and the 2008-2009 school year (mean = 1.25) were significantly lower than the elective credits taken by students in both the 2009-2010 school year (mean = 1.35), and the 2010-2011 school year (mean = 1.36). No other means were significantly different from one another.

Viewing of core and elective credits taken by School B students graphically visually represented change over time:

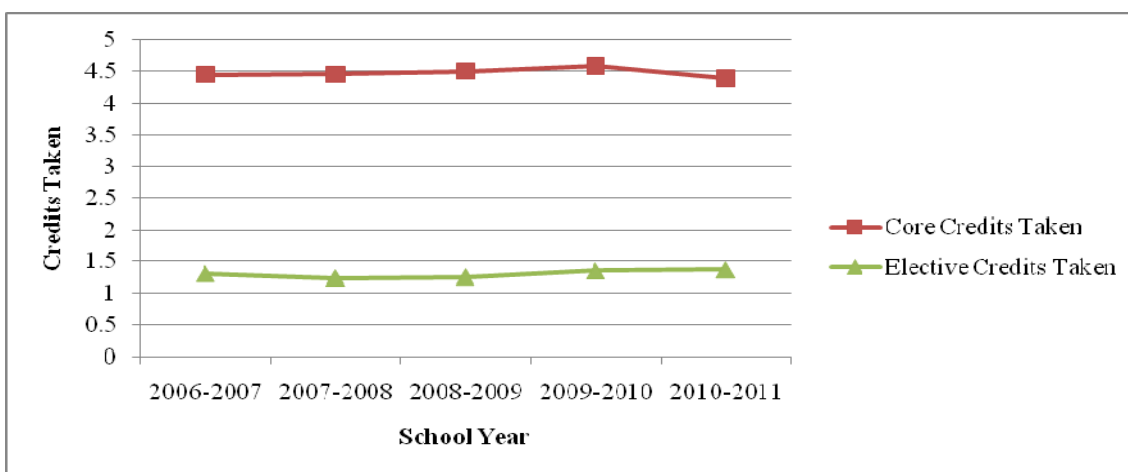


Figure 16. School B Core and Elective Credits Taken vs. School Year

From 2006 through 2011, the core courses taken by students significantly increased in the 2009-2010 school year as shown by the one-way ANOVA run on the data. However, it then dropped again in the 2010-2011 school year and remained relatively consistent across the entire time span analyzed. The elective courses taken by students began at 1.30 in the 2006-2007 school year, dropped slightly during the next two years and returned to levels that were slightly higher than in the 2006-2007 school year. No overall significant change was maintained in School B's elective credits taken. In fact, the percentage of a student's schedule with electives increased from 22.7% during the 2006-2007 school year to 23.7% during the 2010-2011 school year.

### **School B Summary**

Following School B's improvement efforts over time showed a steady increase in the collective autonomy of its leaders. School B has achieved collective autonomy throughout their leadership team with the exception of one leader who was coded with *partial* collective autonomy. School B's efforts included the systemic inclusion of the *College Readiness Standards* skills, infusion of note taking strategies and inquiry that are all framed within a school-wide STEM focus since the 2007-2008 school year. School B's efforts clearly aligned with the goals of NCLB. Student growth from EXPLORE to the PSAT ACT increased for each sub-test with no detectable narrowing of the school's curriculum. The principal and almost all leaders shared a belief in the importance of and efficacy for success for their efforts. Finally, there was no talk in shifting to other goals.

### **School C Findings**

School C was a high performing Chicagoland high school. In fact, this high school made AYP each and every year between 2001 and 2011. During this time span the school's enrollment increased from 1,490 students during the 2001-2002 school year to 1,718 students during the 2010-2011 school year. School B's poverty level remained relatively constant with a slight change from 1.0% to 1.1% and the minority population has increased modestly from 1.9% to 3.3% during the same time span. The district collected EXPLORE and PSAE ACT data for over a decade, but could only share these data files for the classes of 2008 through 2011. Courses students enrolled in were provided for the 2001-2002 school year, the 2009-2010 school year, and the 2010-2011 school year. Due to the lack of growth data available, ACT achievement of each graduating class between 2002 and 2011 were also included.

### **School C History of Autonomy**

Interviews began with the principal, who has been in this position at School C since the 2010-2011 school year. The principal identified 14 individuals who were involved in curricular and co-curricular school improvement efforts and 12 were interviewed for their insights into the school's improvement efforts over time. Of the 12 leaders interviewed, seven were at School C before the first year of EXPLORE and PSAE ACT data were provided by the district for the Class of 2008. These leaders included the math, science, social studies, special education instructional leaders, a dean, an assistant principal of student services and the student activities director. Five interviewed leaders joined School C after 2008 including the new principal, the foreign language instructional leader, the English instructional leader, and the fine and applied arts instructional leader. Of these individuals, the principal began in 2010 and the fine and

applied arts instructional leader had been with School C even before this study began and then became the instructional leader during the last two years of the study. The foreign language and English instructional leaders began during the 2011-2012 school year, which was beyond the scope of this study. However, all provided insights into School C's curricular and co-curricular improvement efforts that were largely autonomous before the new principal arrived in 2010.

The principal shared her understanding of School C's historical improvement efforts: "Much of the focus has been on relationships...21 years ago.... [School C] used to be a lot more edgy high school from what I have been told; a lot of trash in the halls, foul language, disrespectful relationships between teachers and students.... I think because so much less energy is [now] spent dealing with behaviors and discipline, it allows a lot more time for teachers and students to partner specifically on academic issues" (C1, personal communication, November 9, 2011). The principal responsible for this focus left a legacy that the current principal identified as "much clearer... than those that followed." She shared that this lack of clarity was in large part due to the fact that "in the last ten years I am the fifth principal," and that this frequent change has led to staff members questioning, "Well who's going to be here next? We don't really have to pay attention" (C1, personal communication, November 9, 2011).

The current principal also reflected on the curricular culture that has historically been one of autonomy throughout the school. She shared: "The sense of teacher autonomy in terms of being able to teach what they want and assess how they want is prevalent. It was the expectation and the value of the organization" (C1, personal communication, November 9, 2011). She continued, "I think it is interesting that this school doesn't actually have a school improvement plan....[With] this being the first year we haven't made [AYP], there hasn't been the expectation



that we follow that practice, because we are [School C]” (C1, personal communication, November 9, 2011).

One telling interview involved the fine arts and applied arts instructional leader who shared significant work underway during the past couple of years, but when asked about for specific efforts underway in her department in the years preceding the last couple, she replied, “No, nothing” (C9, personal communication, December 13, 2011). The special education instructional leader interviewed also had specific actions being implemented during the last two years, but when asked for years before that shared, “That’s harder!” She continued, “I think this high school and probably the district in general is a place that autonomy is highly, highly, highly valued” (C2, personal communication, December 13, 2011). Another leader shared, “We are like a private school that is publicly funded” (C3, personal communication, December 13, 2011). One interviewed dean who was in the special education department from 2004 through 2008 reinforced this reality when asked to reflect on curricular efforts through his time in the department. He simply replied, “Nothing off the top of my head, unfortunately” (C10, personal communication, December 13, 2011).

The science chair reinforced this theme of autonomy as she pointed out: “For a long time [School C] was, I think, content to be status quo. Our test scores were very good. Our kids come prepared. We have a very involved parent community and we didn’t use data very much.... We were fortunate in that we were not on the AYP watch list until this year” (C4, personal communication, December 13, 2011). The foreign language instructional leader reinforced the situation at School C as she shared, “I think what was lacking was there was no alignment to any kind of professional standards or....data collection.” She also identified that many individuals at

School C felt their autonomy drives their success as she shared, “I think they think that’s why they’re thriving” (C11, personal communication, December 15, 2011). This was reinforced by the fact that School C could only provide data for the class of 2008 through 2011. Although this was a result of data that became inaccessible due to the change of a student information system, it was also clear that this school did very little data analysis utilizing the growth data provided by students through the EXPLORE and PSAT ACT. School C’s students took these assessments before the time span of this study, but no analysis even in aggregate could be provided before the Class of 2008 as reflected below in School C’s data section.

The English instructional leader was new to the position and School C in the 2011-2012 school year and, as discussed below, the school’s current work includes identifying common targets for five courses across the school. Although work on common targets began before she arrived, she observed, “My department does nothing in common. So I’m working with several teachers who very strongly believe in autonomy and I’ve had teachers say to me: ‘Well in my curriculum, I do this’” (C12, personal communication, January 5, 2011).

Although most departments had not worked systemically, the social studies department independently integrated a skill based initiative throughout all of its courses that began in 2001. Even this chair shared that systemic efforts were not occurring as he reflected on the school’s success, “I don’t know that we were systematically examining many things....[W]e would consistently score in the top five in the state and honestly, we did nothing to prepare for it other than just teach our regular classes” (C5, personal communication, December 13, 2011). He noted that there was only one course contained within his department, US History, that every student took and he reflected: “Because the department is so varied in the course offerings....we

determined that there really was not going to be a common body of content. So we really focused from a skill perspective” (C5, personal communication, December 13, 2011). This department spent two years developing a skills rubric that began in 2001, but it was not shared across the school in other departments. The department’s skill work included reading, note taking and writing targets. He shared: “I think we have really narrowed our focus over the years. For example, we have focused on analytical writing to explain and defend your position using supportive evidence. I know that is a big focus with our social science classes, but also some of our social science offerings; for example, psychology, sociology and others” (C5, personal communication, December 13, 2011). Even with this skills rubric and focus in place, the instructional leader admitted, “Honestly, our tradition as a school, at least in my department, particularly in US History, is where everybody does their own things... a premium [is placed] on autonomy and independence” (C5, personal communication, December 13, 2011).

### **School C District Goal Response**

School C continued on a clear path of autonomy and lack of school-wide systemic efforts, even in the face of a district-wide goal. The district identified an initiative termed *Excellence and Equity* that focused on narrowing the gap between minority students who were being observed to have achievement levels that followed national trends. The assistant principal of student services shared that the district had a diversity committee that morphed into the *Excellence and Equity* initiative. She shared: “An outside consultant came in. The administration now has a director of diversity person that is a new position” (C4, personal communication, December 13, 2011). This initiative did raise awareness across the school that students of color did not perform as well as their counterparts, who were not only performing as well as their peers

across the country, but well above them. The assistant principal of student services continued, “we did start to disaggregate data by race, realizing that oh my gosh, we are a top tier school, but our students of color follow the national predictability” (C4, personal communication, December 13, 2011).

Some action was requested from departments, with minimal results. The special education instructional leader shared: “we had to write the plan for the district and then there was building level teams.... I mean that’s probably an initiative that hasn’t moved quite as well” (C2, personal communication, December 13, 2011). The social studies instructional leader echoed these observations as he reflected: “This has been a process that has probably taken us longer to get to than it should have. I think some pushback based upon some speakers that were brought in here. One of the things here is that when we look at students of color and their academic achievement, we have very few students of color. You get the argument, ‘Well you are basing this on 7 kids out of 1700, so this is not statistically significant.’” He also pointed out: “In the last three or four years we have had at least one African American student [in AP]. We had gone the previous ten years without having any, which is kind of hard to justify regardless of how big or small the numbers are” (C5, personal communication, December 13, 2011).

### **School C Non-Systemic Targeted Interventions**

Although the district goal did not gain systemic traction, it did motivate targeted data analysis. School C’s efforts led to interventions that targeted specific groups of students who struggled. The special education instructional leader has been the chair since 2005 and has been with the school for 22 years. She reflected on efforts that targeted special education students beginning in the 2010-2011 school year. She shared: “we identified students with PLAN and

EXPLORE scores below 15 and gave them some supplementary instruction in the mornings for about 10 weeks prior to the Prairie State Test....[T]his year, we've identified juniors and sophomores with the PLAN and EXPLORE scores below 15...and [students are] using a program called Catch Up Math to supplement reading and math concepts with them over the course of the year" (C2, personal communication, December 13, 2011). She also shared that specific test prep work had occurred with special education teachers beginning in the 2007-2008 school year.

School C's science instructional leader led her department for the past eight years. She indicated that her department began efforts similar to those emerging from the new principal in a school-wide fashion this year as she shared: "so we started in '06-'07 and we have been doing that for five years now....it was kind of the initial movement with looking at targets, backward design, learning outcomes and all" (C3, personal communication, December 13, 2011). Although she indicated that this work has been occurring, there have been limits to progress. She continued: "We are struggling with common assessments. We all teach the same thing, but we don't all teach the same way. I think that it is uncomfortable for kids in my class to take a test that my colleague wrote, because we don't talk the same way" (C3, personal communication, December 13, 2011). This statement illuminated the depth of the department's work along with the autonomy that remained pervasive across the department through the years of this study.

The mathematics instructional leader shared many foyers into support for specific groups of students. He shared that his department focused on learning about the test during the 2003-2004 school year as his department focused on their low-level classes. He shared that the mathematics department: "looked at the curriculum of those classes. That is traditionally our

survey here. Our survey is our euphemism...it is our lower level course and modified” and then had his department take the ACT during the 2004-2005 school year (C6, personal communication, December 13, 2011). The department also passed on names of low-level students who were struggling in math classes as he shared: “So we identified by let’s say 100 kids on the list I said, ‘What did they take freshman year and who taught them?’ Their names were associated with these kids.... I try to keep my finger on [them] as a chair. Who are these kids?” (C6, personal communication, December 13, 2011). The mathematics instructional leader also discussed his department’s efforts in improving PSAE as he shared, “Two years ago, we had a huge breakthrough here. We just kept going like this. We went from, in math, from an 80% to a 90%, which is pretty significant statistically, because we give the test to all 450 juniors” (C6, personal communication, December 13, 2011). It was worth noting that information gleaned from the [iirc.niu.edu](http://iirc.niu.edu) website showed that School C’s mathematics scores were actually 90% in 2003, dropped to the low 80s around 2006 and returned to around 90% in 2009. He summarized his efforts:

The approach I guess I have taken...and it’s more been...to use a Calvin and Hobs word a “transmogrification” than some grand vision is. We started identifying the students who aren’t going to do well. We know that in this class, this class, and this class we have the low EXPLORE scores, the 14 or below composite math or teacher recommendation. (C6, personal communication, December 13, 2011)

He continued reflecting:

I made them take the ACT. You know we talk about it. What is it? Here it is. [L]et’s take it and get a feel for it. I think that was a revelatory moment for my teachers because they saw the nature that it was a speed test more than a content test. It just raised departmental awareness. (C6, personal communication, December 13, 2011)

He worked with his department to increase their understanding of the assessments being taken by students. He also worked to create targeted interventions for those at-risk. He summarized one such intervention:

I prepared a 25 week unit with 5 questions a week for those classes. Five ACT or WorkKeys type questions for those classes per week that they could do every week or in March. There was at least some acknowledgement that at the end of April this test was going to be happening. (C6, personal communication, December 13, 2011)

This instructional leader worked within a system that felt little urgency due to its historic success with high achieving students. Although School C had embraced autonomy, interviews revealed that leaders within School C recognized the advantage of systemic efforts.

### **School C The Beginnings of Systemic Efforts**

School C's leadership team members have traditionally worked independently as have their teachers. Current leaders recognized the limitations of a culture of true autonomy and lack of consistency in curriculum and instructional methods across the school. They have worked to lay the groundwork for future work that will focus on systemic improvement and incorporate NCLB goals. The foreign language instructional leader shared her realization that, "[T]he autonomy that exists there right now, as much as people would assume that's... a gift, it's also what could tear them down" (C11, personal communication, December 15, 2011). Although School C's leaders have not fully implemented systemic curricular efforts, the principal set a goal of defining common "targets" and common final exams. They have progressed from implementing interventions for the students not making AYP to goals that will impact the entire school.

The principal summed up the lack of systemic efforts, “So coming here and watching that it hasn’t changed was a bit of a time warp” (C1, personal communication, November 9, 2011). In reflecting on her current efforts to begin systemic improvement at School C, the principal shared, “I loved my lone ranger days too...I really did. Being able to shut my door and teach. But then the research came out about how adult-centered practice is as opposed to systematically meeting the needs of students and I had to abandon that thinking 20 to 25 years ago” (C1, personal communication, November 9, 2011).

The special education instructional leader shared that the current principal set a direction as she reflected, “she had a clearly defined goal of the targets and curriculum and instruction that came from building and administrator meetings, and then it was up to the chairs to go back to their departments and kind of implement or work toward those goals” (C2, personal communication, December 13, 2011). As she set the current direction for School C, the current principal confessed, “I did a study on best practices first semester and I am a little chagrined to admit it, but I didn’t ask people what they wanted to do. I told them that this is what we are going to do.... So here is what the research says will best advantage all kids, and I do buy into the concept that rising tides raise all boats” (C1, personal communication, November 9, 2011). As she has instituted a call for common targets and assessments within courses this year she has sensed resistance. She observed, “[Y]ou would think I was talking about violating the Constitution of the United States” (C1, personal communication, November 9, 2011). The mathematics chair shared an example of resistance to current efforts outlined by the principal: “When my teachers hear common assessments, they have heart attacks.... When they hear common test security, they talk...they are like, ‘I’m not making two tests’” (C6, personal



communication, December 13, 2011). The foreign language chair, who came from outside of School C shared that she feels the need to slow down as she shared: “I’ve got to tell myself I come from a PLC model....which you know it’s all about teaming and it’s all about smart goals and it’s all about, you know, that kind of looking at Mastery Manager and seeing how can we compare data. And so when I’m throwing that out there, you know, I see that I present it and then I’ve to take a couple steps back, because it’s like okay, that’s way too much, like they can’t...they’re not there, I’ve got to go back” (C11, personal communication, December 15, 2011).

The current principal has maintained her course as one of her chairs resigned and said, “she couldn’t work under those conditions” (C1, personal communication, November 9, 2011). Another chair stepped down sharing he could not “navigate the vociferous nature of people” within his department (C1, personal communication, November 9, 2011). As eager as she was to institute change, she shared “I am having to slow down.... After all, there is no wolf at the door....What I am talking about in their eyes is for under achieving schools who are struggling” (C1, personal communication, November 9, 2011). Even though she has slowed down, clear collective autonomy improvement and progress was tangible across School C.

The foreign language instructional leader who joined School C this year shared that she was working to move her department from their current instructional model, which was from the late 1990s. She summarized that the fact that they are still operating on this old model, “is another indicator of how they just became stagnant, you know, and they just thought this is what’s working” (C11, personal communication, December 15, 2011). She continued: “the first area that needs attention is looking at the curriculum.... What kind of data have they collected?

Which the answer to that is that there has been no data collection.” She shared, “we need to give students tools and skills....[I]t’s that whole backward design...in curriculum building” (C11, personal communication, December 15, 2011). She also shared that her efforts have been furthered by the support of her principal and assistant principal as she summarized: “You have a situation in which if you have the support of those that surround you that are able to make those decisions; you’re obviously bringing that vision and you’re hoping that that’s being supported; anything is possible. And I feel now I’m in that kind of mix right now, where I think: ‘Okay, I know where I want to go.’ You know I can be very forthright with my assistant principal and my principal and know that they’ve got my back and that they’ll support that effort, knowing that I’m shifting the paradigm a bit within my department” (C11, personal communication, December 15, 2011).

The mathematics instructional leader also illuminated resistance to efforts he has had within the math department as he shared: “That really came to a head at the beginning of this year on the in-service day before school starts. It was like a mutiny. My ears were red. I had the whole plan for the year for the late starts and it was a complete mutiny....I was like, ‘Fine. Offer some suggestions. You naysay everything....How about you come up with something because we are meeting for these late starts?’....They are having meetings after school. They are presenting me with ideas” (C6, personal communication, December 13, 2011). He identified specific teamwork underway to define everything from how much homework will count to the *College Readiness Standard* questions that will be implemented and assessed via four target areas aligned to AP. He shared, “In each of these categories we are going to write a basic, a core and a stretch question [as they are setting up] a bank of 12 to 15 questions on that target” (C6,

personal communication, December 13, 2011). Although these are not actually being implemented this year, they have laid the groundwork.

The fine and applied arts instructional leader shared how things are now changing even with the ongoing *Excellence and Equity* initiative when she shared: “there was a lot of discussions, work with individuals as to where I saw them, where they saw themselves, in relationships to diversity and equity. And then really over the last two years expanding that vision to not...be just about race, [but] to be about what I say is ‘all means all’” (C9, personal communication, December 13, 2011).

The social studies instructional leader shared that his department was also changing with the clear focus provided by the new principal. He recognized that no systemic way of measuring student skill attainment were in place until the 2011-2012 school year. At this point the department, “built into the assessments a content part and a skills part with the ACT type reading comprehension questions, map reading questions, chart reading questions.” He continued: “One of the things we have done also with the last class is we, instead of just grading a student’s test and just telling them they received x percent, we break down the test into skill areas so they can target where they need to improve and we allow them to do retakes on as much or as little of the test as they want without penalty. They can isolate the matching section for vocabulary, reading comprehension section, map section, identifying main ideas and support” (C5, personal communication, December 13, 2011). This work was being done in the US History class that all students took their junior year within the social studies department and the teachers were truly teaming for the first time in recent history.

The foreign language chair shared, “I’m all about relationships, so ideally I would like to sustain the relationships that I’m building with them in these early months and years and build confidence, you know, with them and show them...minimize fear...and show them that there is a way of getting better” (C11, personal communication, December 15, 2011). She saw clearly that their efforts were not systemic and that if they were in a different situation, their lack of systemic focus would be obvious. She summarized: “...all those pieces that I mentioned to you, all different aspects in which...if we were in a different community, those would be...clear signs of failing schools. I mean, and yet it’s surviving and yet it’s moving forward and I do attribute that to the community that we’re at...I feel that we’re failing because we could do more” (C11, personal communication, December 15, 2011).

School C’s English instructional leader was also new to School C and as she has worked with her department on common targets and assessments, she observed, “What we’re doing particularly in the department to align with that one goal of the District is I’ve introduced the idea of common summative assessment and that was something that fell on, if you will, foreign ears, something that this district was not accustomed to hearing” (C12, personal communication, January 5, 2012). She continued: “So I decided we would focus on Common Core because I think Common Core absorb college readiness. So we’ve been working to align our summative assessments for each semester with Common Core just to ensure that if 48 states have adopted these standards. We’re sending our kids out to various colleges and it’s important that we prepare our students to compete against other students in the nation – not just other students in [our county] or in Chicago or in the state of Illinois (C12, personal communication, January 5, 2012).

The dean, who could not recall significant curricular efforts from the school when he was in the classroom from 2004 through 2008, shared that the dean's office was focusing in on targets that will increase the number of students in class. He shared, "...now we're looking at targets of behavior...hoping to increase our attendance...overall by half a percentage point" (C11, personal communication, December 13, 2011).

### **School C Collective Autonomy**

During the years studied between 2001 and 2011, School C's school improvement efforts were greatly independent within each department. Even though a district wide goal of *Excellence and Equity* was defined by the superintendent in roughly 2005, the efforts surrounding this and other improvement efforts achieved only low levels of collective autonomy. In fact, complete autonomy was the theme of the school from 2002 through 2010 until the new principal arrived in the 2010-2011 school year.

Of the 12 leaders interviewed, seven were at School C since before the first year of EXPLORE to PSAE ACT data provided by the district for the Class of 2008 including the math, science, social studies, special education chairs, a dean, an assistant principal of student services and the student activities director. The math chair was defined as *minimal* until the 2004-2005 school year when his department took the ACT and began targeted efforts related to the goals of NCLB. His collective autonomy from the 2005-2006 school year on was *partial* as he has begun true systemic efforts during the last year of the study. The science chair began in the 2004-2005 school year and was identified as *minimal* through the 2010-2011 school year. Before the 2004-2005 school year, the position's collective autonomy was *NA* due to a lack of information. The social studies instructional leader's position was coded as *partial* during the entire span of the

study due to the skills focus that had a lack of coordinated curricular efforts for all classes taught. The special education instructional leader's collective autonomy was coded as *NA* before the 2006-2007 school year and as *none* due to the fact that no systemic or even targeted efforts occurred until the final year of the study. Two deans were interviewed. The dean that was in place though the span of the study was defined as *none* prior to 2008 and the one in place since the 2008-2009 school year was defined as *NA* prior to 2008 and as *none* until the last year of this study in which one was defined as *partial*. The other dean was coded as *complete* during the 2010-2011 school year due to the attendance efforts that were underway. The assistant principal of student services' collective autonomy was defined as *minimal* from the 2005-2006 school year on due to the department's focus on diversity factors that partially support NCLB goals. Due to a lack of information, this position was defined as *NA* prior to the 2005-2006 school year. The student activities director began in the school in the 2007-2008 school year and his collective autonomy was also defined as *minimal* due to the work on connecting students within the school, which again minimally supports the goals of NCLB. The position was defined as *NA* before the 2007-2008 school year.

Five leaders have been at School C after the 2008-2009 school year including the new principal, the foreign language instructional leader, the English instructional leader and the fine and applied arts instructional leader. Of these individuals, the principal began in the 2010-2011 school year and fine and applied arts instructional leader had been with School C even before this study began and then became the instructional leader during the last two years of the study. The foreign language and English instructional leaders began during the 2011-2012 school year, which was after the scope of this study. However, all provided insights into School C's curricular

and co-curricular improvement efforts that have largely been autonomous until the new principal arrived in 2010. According to all accounts, the collective autonomy of the principal's position was defined as *none* until the current principal arrived in the 2010-2011 school year. From the time the new principal arrived, she has been identified as *complete*. The foreign language instructional leader's collective autonomy was defined as *none* through the scope of this study as the department was still operating on the model from the late 90s. The English instructional leader's collective autonomy was defined as *none* until the 2009-2010 school year, after which time the position's collective autonomy increased to *minimal*. The fact that she identified all teachers as doing "nothing in common" along with her assertion that work on common targets began during the 2009-2010 school year was used to generate this conclusion. The fine and applied arts instructional leader was defined to have a collective autonomy of *none* since she began in 2009-2010 and her work on diversity efforts began in the last two years. Before that time the position was coded as *NA* due to a lack of information.

The following interviews were considered and the abbreviations of each were included in Table 32:

P – Principal

C – Career and Technical Education

D1 – One Dean

D2- Second Dean

E – English Instructional Leader

F&A – Fine and Applied Arts Instructional Leader

FL – Foreign Language Instructional Leader

M – Mathematics Instructional Leader

SE – Special Education Instructional Leader

S – Science Instructional Leader

SS – Social Studies Instructional Leader

Stu S – Assistant Principal of Student Services

Table 32

*School C Leadership Team Members' Collective Autonomy*

School Year	Complete	Partial	Minimal	None	No Information
2001-2002		SS	M	P, E, D1, FL	S, F&A, SE, Stu S, S, SA, D2
2002-2003		SS	M	P, E, D1, FL	S, F&A, SE, Stu S, SA, D2
2003-2004		SS	M	P, E, D1, FL	S, F&A, SE, Stu S, SA, D2
2004-2005		M, SS	S	P, E, D1, FL	F&A, SE, Stu S, SA, D2
2005-2006		M, SS, Stu S	S	P, E, D1, FL	F&A, SE, SA, D2
2006-2007		M, SS, Stu S	S	P, E, D1, SA, FL, SE	F&A
2007-2008		M, SS, Stu S	S	P, E, D1, D2, SA, FL, SE	F&A
2008-2009		M, SS, Stu S, D1	S	P, E, D2, SA, FL, SE	
2009-2010		M, SS, Stu S, D1	E, S	P, D2, SA, F&A, FL, SE	
2010-2011	P, D1	M, SS, Stu S, SE, D2	SA, F&A, FL		

These were then summarized numerically in Table 33.



Table 33

*School C Leadership Team Members' Collective Autonomy Summary*

Year	Complete	Partial	Minimal	None	No Information
2001-2002	0	1	1	4	6
2002-2003	0	1	1	4	6
2003-2004	0	1	1	4	6
2004-2005	0	2	1	4	5
2005-2006	0	3	1	4	4
2006-2007	0	3	1	5	3
2007-2008	0	3	1	7	1
2008-2009	0	4	1	6	1
2009-2010	0	4	2	6	0
2010-2011	2	5	2	3	0

These results were viewed graphically as shown below:

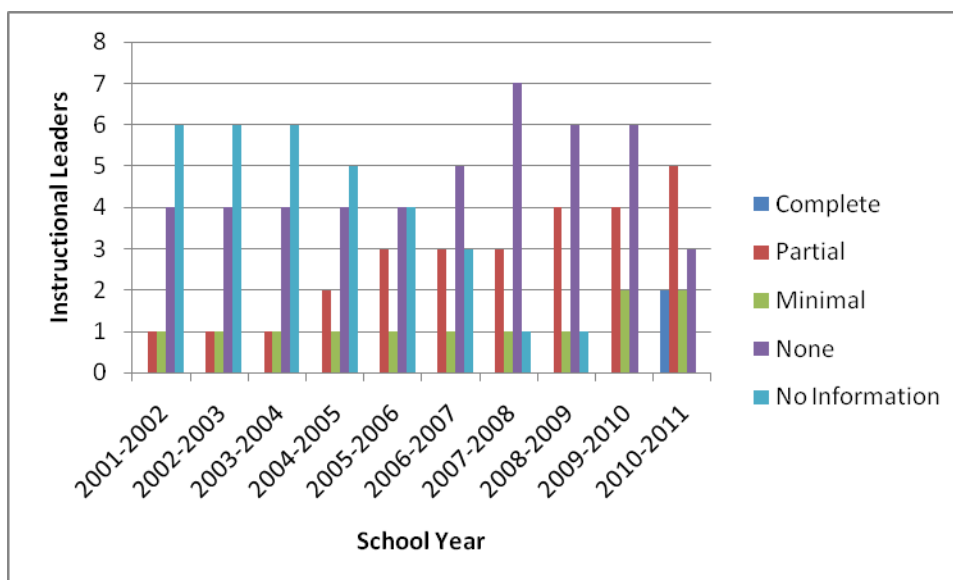


Figure 17. School C's Collective Autonomy of Instructional Leaders vs. School Year

School C had low degree of collective autonomy until the end of the study. School C, was a high achieving school which reported a low degree of collective autonomy on goals related to

NCLB. Leaders across the school referred to their high achievement status as a reason for the lack of systemic change.

### **School C Student Achievement Data**

School C's EXPLORE and PSAE ACT data were only available for each graduating class from 2008 through 2011. Table 34 and Table 35 summarize these data values. It was important to note that School C utilized EXPLORE information for placement purposes but had not systemically utilized it along with the PSAE ACT to systemically measure growth scores for English, mathematics, reading or science.

Table 34

#### *School C Average EXPLORE Scores*

Class	Average EXPLORE English	Average EXPLORE Math	Average EXPLORE Reading	Average EXPLORE Science
2008	18.5	18.4	17.3	18.6
2009	18.0	18.2	17.1	18.3
2010	17.7	18.4	17.1	18.4
2011	18.1	18.5	17.4	18.5

To determine if incoming student EXPLORE achievement, which was a relevant factor when predicting student performance on the ACT, changed through the years analyzed, a one-way ANOVA was run for School C on each EXPLORE subtest taken by students through the years. There was only one incoming EXPLORE score that was significantly different than others. The first was the mean for the mean EXPLORE English score for 2008 (mean = 18.5) was significantly higher than the mean EXPLORE English scores for 2010 (mean = 17.7). This test provided sound evidence that the incoming EXPLORE scores of freshman did not significantly change through the years studied.

School C's PSAE ACT Scores for the provided years were also among the highest in the state.

Table 35

*School C Average PSAE ACT Scores*

Class	Average PSAE ACT English	Average PSAE ACT Math	Average PSAE ACT Reading	Average PSAE ACT Science
2008	26.5	25.4	25.6	24.6
2009	27.0	25.4	25.9	24.7
2010	26.2	25.3	25.7	24.5
2011	27.5	26.6	26.3	25.5

In general, the greatest PSAE ACT achievement has been in English, followed by reading, mathematics and science. For the Class of 2011, the order of mathematics and reading reversed. Scores remained consistently high in all areas. In considering a school's impact on student achievement, seeing an increase in the overall PSAE ACT does not show success alone if student abilities of incoming students were not considered. To more accurately determine the curricular impact of School C, a common high school practice in Illinois was followed. This was the practice of utilizing Educational Planning and Assessment System (EPAS<sup>TM</sup>) which included considering the growth achieved from EXPLORE to the PSAE ACT in each sub-test as shown below. This growth system has not been consistently employed by School C during the years of this study.

Table 36

*School C Actual Growth*

Class	Actual EXPLORE to PSAE ACT English Growth	Actual EXPLORE to PSAE ACT Math Growth	Actual EXPLORE to PSAE ACT Reading Growth	Actual EXPLORE to PSAE ACT Science Growth
2008	8.0	7.0	8.4	6.0
2009	9.0	7.2	8.7	6.3
2010	8.6	6.9	8.6	6.1
2011	9.4	8.1	8.9	7.0

For the classes of 2008 through 2010, student growth from EXPLORE to the PSAE ACT remained consistent and high. School C's growth increased in all four areas in 2011.

ACT's Context Adjusted Value-Added Model utilized the EXPLORE scores of each student, the time in months between the EXPLORE test and the administered ACT, and key school demographic information to determine expected ACT scores and expected growth. School C's demographics changed slightly from the 2001-2002 school year through the 2010-2011 school year, but School C remained a school with extremely low poverty and minority levels. The data in Table 37 summarized information needed to complete these calculations:

Utilizing Figure 4 for ACT's Context Adjusted Value-Added Model along with the parameters from Table 2, each student's and then each class's context adjusted expected ACT scores and expected EXPLORE to ACT growth were generated for each sub-test.

Table 37

*School C Demographic Data*

School Year	School Size*	Proportion Tested	Poverty Level (Percent)	Proportion Minority (Percent)	EXPLORE to ACT Time Span (Months)
2001-2002	3.7	1.00	1.0	1.9	42
2002-2003	3.7	1.00	1.1	1.9	42
2003-2004	4.0	1.00	0.9	1.9	42
2004-2005	4.2	1.00	0.8	1.8	42
2005-2006	4.3	1.00	0.8	2.1	42
2006-2007	4.5	1.00	0.7	2.0	42
2007-2008	4.4	1.00	0.4	2.1	42
2008-2009	4.4	1.00	0.3	2.9	42
2009-2010	4.3	1.00	0.7	3.2	42
2010-2011	4.3	1.00	1.1	3.3	42

Note: \*Number of students, in hundreds.

Table 38

*School C Context Adjusted Expected ACT Results*

Class	Expected ACT English	Expected ACT Math	Expected ACT Reading	Expected ACT Science
2008	23.6	23.3	24.0	23.4
2009	23.2	23.1	23.6	23.2
2010	23.1	23.1	23.5	23.2
2011	23.4	23.3	23.8	23.4

Table 39

*School C Context Adjusted Expected Growth*

Class	Expected ACT English Growth	Expected ACT Math Growth	Expected ACT Reading Growth	Expected ACT Science Growth
2008	5.1	4.9	6.7	4.8
2009	5.2	4.8	6.5	4.8
2010	5.4	4.7	6.4	4.8
2011	5.3	4.8	6.4	4.9

ACT's context adjusted predicted ACT and growth figures were significantly lower than School C's actual results. School C's actual EXPLORE to ACT growth as compared to its predicted growth generated the following value-added scores from 2008 through 2011.

Table 40

*School C Context Adjusted Value-Added*

Class	Value-Added ACT English	Value-Added ACT Math	Value-Added ACT Reading	Value-Added ACT Science
2008	2.92	2.03	1.66	1.16
2009	3.77	2.32	2.26	1.52
2010	3.17	2.20	2.16	1.27
2011	4.06	3.37	2.47	2.14

Viewing these results graphically visually represented change over time:



Figure 18. School C English Value-Added vs. Graduation Class



Figure 19. School C Mathematics Value-Added vs. Graduation Class

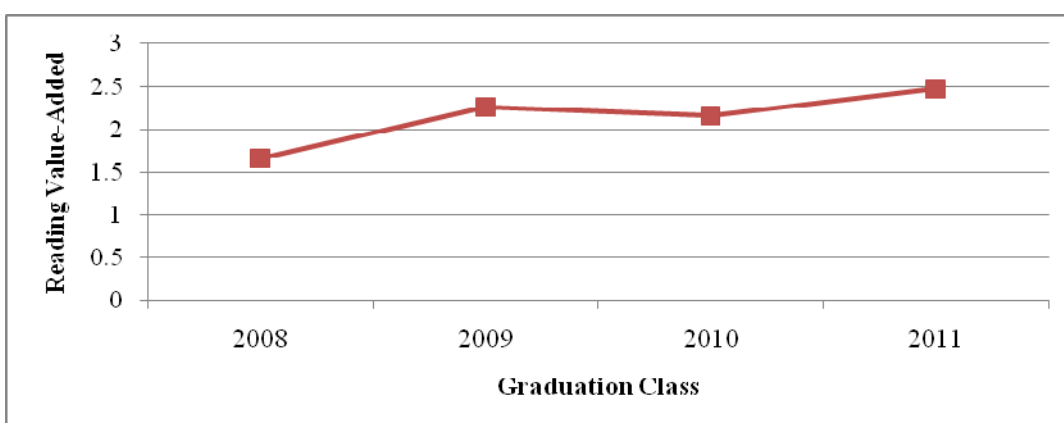


Figure 20. School C Reading Value-Added vs. Graduation Class



Figure 21. School C Science Value-Added vs. Graduation Class

To examine if School C's value-added scores significantly changed over time, a one-way ANOVA was run on the value-added within each sub-test taken by students through the years. The Levine test was not significant in English, reading and science. However, the Levine test was significant in mathematics, which created some caution with the results. With this in mind, there was a significant difference among the means for School C's value-added scores in English across years ( $F(9,1967) = 10.09, p = 0.000$ ), and a significant linear trend across years ( $F(1, 1967) = 13.36, p = 0.000$ ). The mean value-added English score for the Class of 2008 (mean = 2.92) was significantly lower than the mean value-added English scores for the Class of 2009 (mean = 3.77) and the Class of 2011 (mean = 4.06). In addition, the mean value-added English score for the Class of 2009 (mean = 3.77) was significantly higher than the mean value-added English score for the Class of 2010 (mean = 3.17) and was not significantly different than the mean value-added English score for the Class of 2011 (mean = 4.06). The mean value-added English score for the Class of 2010 (mean = 3.17) was significantly lower than the mean value-added English score for the Class of 2011 (mean = 4.06), but was not statistically different than the mean value-added English score for the Class of 2008 (mean = 2.92).

There was a significant difference among the means for School C's value-added scores in mathematics across years ( $F(9, 1967) = 15.11, p = 0.000$ ), and a significant linear trend across years ( $F(1, 1967) = 30.06, p = 0.000$ ). There was no significant difference in the mean value-added mathematics score for the Class of 2008 (mean = 2.03), the mean value-added mathematics score for the Class of 2009 (mean = 2.32) and the mean value-added mathematics score for the Class of 2010 (mean = 2.20). However, the mean value-added mathematics score



for the Class of 2011 (mean = 3.37) was significantly higher than the mean of each value-added mathematics scores from the Class of 2008 through the Class of 2010.

There was a significant difference among the means for School C's value-added scores in reading across years ( $F(9, 1967) = 2.76, p = 0.041$ ), and a significant linear trend across years ( $F(1, 1967) = 6.57, p = 0.010$ ). The mean value-added reading scores had a general upward trend through the years analyzed. However, the mean value-added reading score for the Class of 2011 (mean = 2.47) was the only one that was found to be significantly different than any other year's score. This score was significantly higher than the mean value-added reading score for the Class of 2008 (mean = 1.66).

There was a significant difference among the means for School B's value-added scores in science across years ( $F(9, 1967) = 7.98, p = 0.000$ ), and a significant linear trend across years ( $F(1, 1967) = 13.89, p = 0.000$ ). The mean value-added science score for the Class of 2011 (mean = 2.14) was the only year that was found to be significantly higher than the mean value-added science score for the Class of 2008 (mean = 1.16), the mean value-added science score for the Class of 2009 (mean = 1.52) and the mean value-added science score for the Class of 2010 (mean = 1.27).

### **School C Other Student Achievement Data**

The Average ACT scores for each graduating class were shared annually with the community and with prospective colleges. For School C, the following data represented average ACT sub-test scores for each of the graduating classes from 2002 through 2011. It was important to note that these scores represented the average of the last ACT test seniors took in each given

class. These scores were particularly important when considering the improvement story of School C due to the lack of EXPLORE to PSAE ACT data for the classes of 2002 through 2007.

Table 41

*School C Average ACT Scores for Each Identified Class*

Class	Average ACT English	Average ACT Math	Average ACT Reading	Average ACT Science
2002	25.3	25.0	25.3	23.8
2003	25.6	25.0	25.2	24.1
2004	26.7	25.5	25.6	24.5
2005	26.5	25.6	25.1	24.6
2006	26.3	25.2	25.6	24.6
2007	25.9	24.8	25.5	24.5
2008	27.1	25.7	25.9	24.7
2009	27.6	26.1	26.2	25.2
2010	27.1	26.3	26.0	25.4
2011	28.0	27.1	26.6	26.3

*Note:* From various Internet sources and personal communication with School C.

These scores increased for School C throughout the ten years studied.

In addition, the following data were often viewed by the public and considered by school officials when evaluating the success of a given school. The provided data were also included to provide a more holistic picture of school improvement efforts for each school.

### **School C's Growth Results Summary**

When considering this school's improvement journey from the classes of 2002 until 2011, growth-related data were only available from 2008 – 2011 for School C. Considering the EXPLORE to PSAE ACT, English growth rose from 8.0 to 8.6 from the Class of 2008 through the Class of 2010 and then rose to 9.4 for the Class of 2011, with a context adjusted value-added increase from 2.92 to 3.17 from the Class of 2008 through the Class of 2010 and then up to 4.06 for the Class of 2011. For English, the school was a school that exceeded 0.53, the 75<sup>th</sup> percentile

Table 42

*School C Other Quality Indicators for Each Identified Class*

Class	Graduation Rate (%)	Drop Out Rate (%)	College Bound Rate (%)
2002	94.5	0.1	98%
2003	99.2	0.3	98%
2004	100	0.5	98%
2005	100	0.2	98%
2006	100	0.1	97%
2007	99.5	0.1	98%
2008	99.8	0.3	97%
2009	99.5	0.2	97%
2010	99.5	0.1	93%
2011	97.2	0.3	96%

*Note:* From “Illinois Interactive Report Card,” Northern Illinois University, 2011. Compiled on January 2, 2011, from <http://iirc.niu.edu>. From <http://iirc.niu.edu/> and personal communication with School C.

of school value-added scores according to analysis conducted by ACT. In mathematics, growth as measured from EXPLORE to PSAE ACT remained relatively consistent, changing slightly from 7.0 to 6.9 from the Class of 2008 through the Class of 2010 and then jumped to 8.1 for the Class of 2011. In addition, School C’s mathematics context adjusted value-added scores increased from 2.03 to 2.20 from the Class of 2008 through the Class of 2010 and then rose to 3.37 for the Class of 2011. This school’s mathematics context adjusted value-added score remained well above the 75<sup>th</sup> percentile (0.50) of school value-added scores identified by ACT. In reading, growth as measured from EXPLORE to PSAE ACT increased slightly from 8.4 to 8.6 from the Class of 2008 through the Class of 2010 and then rose to 8.9 for the Class of 2011. School C’s reading context adjusted value-added scores increased from 1.66 to 2.16 from the Class of 2008 through the Class of 2010 and then increased to 2.47 for the Class of 2011. School

C continued to be well above ACT's 75<sup>th</sup> percentile (0.49) of school value-added scores identified by ACT. In science, growth as measured from EXPLORE to PSAE ACT remained relatively consistent, changing from 6.0 to 6.1 from the Class of 2008 through the Class of 2010 and then jumped to 7.0 for the Class of 2011. School C's science context adjusted value-added scores increased from 1.16 to 1.27 from the Class of 2008 through the Class of 2010 and then increased to 2.14 for the Class of 2011. Again, School C continued to be above the 75<sup>th</sup> percentile (0.45) of school value-added scores identified by ACT for all years available.

When considering the one-way ANOVA results for the context adjusted value-added scores of each sub-test, all showed that the scores for the Class of 2011 were significantly higher than those of the Class of 2008. No analysis for classes prior to the Class of 2008 could be run due to School C's limited EXPLORE to PSAE ACT data available.

Therefore, for School C, examining the average ACT score of each identified class was important. Considering that School C's poverty level remained relatively constant at 1.0% in 2002 to 1.1 % in 2011 along with the fact that the school's minority population increased modestly from 1.9% to 3.3%, the context adjusted expected ACT Scores would have been expected to remain relatively flat. School C's reported ACT scores for seniors went up from 24.9 in 2002 to 26.2 by 2010 and then up to the school's all-time high of 27.1 in 2011.

In examining School C's sub-test scores, the English score increased from 25.3 in 2002 to 27.1 in 2010 and then rose to 28.0 in 2011. The mathematics score increased 25.0 in 2002 to 26.3 in 2010 and then rose to 27.1 in 2011. The reading score increased from 25.3 in 2002 to 26.0 in 2010 and then rose to 26.6 in 2011. Finally, the science test increased from 23.8 in 2002 to 25.4 in 2010 and then rose to 26.3 in 2011. When comparing School C's average ACT score over

time to School A, School C's growth remained high, but was roughly the same as School A's, which has a significantly more diverse population. There was a significant increase in all subtests for the Class of 2011 as compared to the Class of 2002. However, without the EXPLORE scores for the classes of 2002 through 2007, it was impossible to conclude that School C's value-added scores followed this same pattern.

### **School C Core Academic and Elective Course Analysis**

Curricular narrowing was also examined. Data for School C were available for the 2001-2002 school year, the 2009-2010 school year and the 2010-2011 school year. School C had not reported any significant changes in its curriculum from the 2001-2002 school year to the 2010-2011 school year. The student enrollment in core classes that included courses taken in English, foreign language, social studies, mathematics and science. In addition, student enrollment in elective classes included courses taken in art, drama, music, business and applied technology. The analysis of School C's core academic and elective courses illuminated how student course selections changed over time.

Table 43

#### *School C Core Academics and Elective Courses*

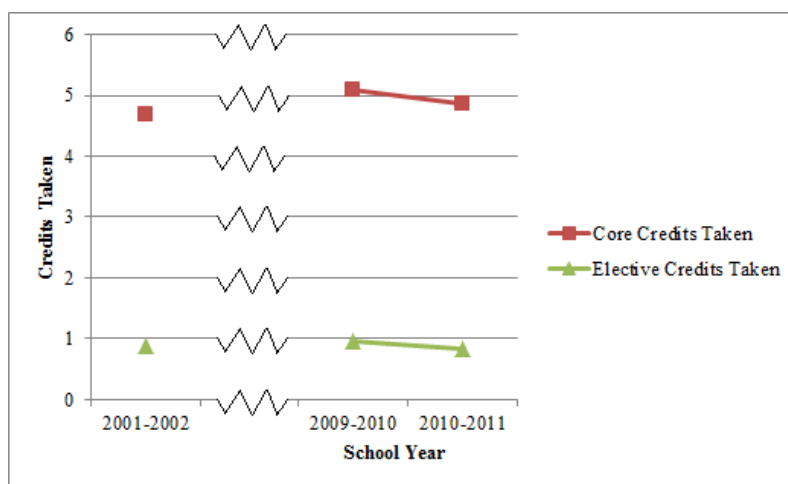
	School Year		
	2001-02	2009-10	2010-11
Core/Student	4.69	5.09	4.87
Elective/Student	0.874	0.950	0.843
Core %	84.3%	84.3%	85.2%
Elective %	15.7%	15.7%	14.8%

*Note:* Core courses include courses in English, foreign language, social studies, mathematics and science. Elective courses include courses taken in art, drama, music, business and applied technology.

To examine changes in course enrollments in core and elective classes over time, a one-way ANOVA was run on core and elective classes taken by students through the years. The Levine test was significant, which created some caution with the results. With this in mind, there was a significant difference among the means for the core academic courses taken across years ( $F(2,4918) = 9.56, p = 0.000$ ), and a significant linear trend across years ( $F(1, 4918) = 86.29, p = 0.000$ ). The mean core credits taken by students in the 2001-2002 school year (mean = 4.69) was significantly less than the mean core credits taken by students in the 2009-2010 school year (mean = 5.09) and the 2010-2011 school year (mean = 4.87). In addition the mean core credits taken by students in the 2009-2010 school year (mean = 5.09) was significantly higher than the mean core credits taken by students in the 2010-2011 school year (mean = 4.87).

In addition, there was a significant difference among the means for the elective academic courses taken across years ( $F(2,4918) = 3.13, p = 0.044$ ), and a significant linear trend across years ( $F(1, 9989) = 7.81, p = 0.000$ ). The mean elective credits taken by students in the 2001-2002 school year (mean = 0.874) was significantly less than the mean elective credits taken by students in the 2009-2010 school year (mean = 0.950), but this was not sustained as this mean was not significantly different than the number of elective credits taken by students in the 2010-2011 school year (mean = 0.843). The mean elective credits taken by students in the 2009-2010 school year (mean = 0.950) was also significantly higher than the mean elective credits taken by students in the 2010-2011 school year (mean = 0.843).

Viewing of core and elective credits taken by School C students graphically visually represented change over time:



*Figure 22. School C Core and Elective Credits Taken vs. School Year*

From 2002 through 2011 the core courses taken by students increased slightly but significantly from 4.69 core credits per student to 4.87 core credits per student. The elective courses taken by students began at 0.874 in the 2001-2002 school year and ended at a significantly higher figure in the 2010-2011 school year. Even though the percentage represented by the elective credits taken by students dropped from 15.7% in the 2001-2002 school year to 14.8% in the 2010-2011 school year, this result was due to increasing core credits taken along with a slight drop in electives taken that was not statistically significant.

### **School C Summary**

School C was progressing toward collective autonomy throughout much of its leadership team, but it had low degrees of collective autonomy between the 2001-2002 school year and the 2010-2011 school year. The increase in collective autonomy for School C followed the arrival of the new principal in the 2010-2011 school year. She began intentionally moving the school toward collective goals and away from their tradition of autonomy.

The social studies instructional leader shared what he observed during the 2011 school year:

We really have [began] a team approach. We have three new teachers and we have two teachers who are team leaders and we have worked with the curriculum to set the targets and we have a lot of common assessments and assignments. So we are doing a lot of work with that where we are getting people on the same page with what we are trying to do. (C5, personal communication, December 13, 2011)

Demonstrating the leadership team's progression toward efforts that were more systemic and that moved beyond the "at-risk students," another administrator shared efforts for an entire lower level class within his department. He shared:

The other teacher and I have been very explicit about how we want to develop skills. We have built into the assessments a content part and a skills part with ACT type reading comprehension questions, map reading questions, chart reading questions. While they are related to the content we are studying, you can answer independent of the content. (C5, personal communication, December 13, 2011)

Until the last year of this analysis School C embraced autonomy. In fact, until the 2011-2012 school year, School C always made AYP and had never employed systemic efforts focusing on NCLB related initiatives. School C's growth from EXPLORE to the PSAT ACT remained consistent and high for the classes of 2008, 2009 and 2010. The growth for the Class of 2011 increased significantly for all sub-tests. No clear explanation for this growth was uncovered during discussions with School C's instructional leaders. In addition, no explanation for higher ACT scores achieved by School C's seniors was offered.

Finally, the curricular core and elective choices of students showed no data supporting a significant change over the years. The data did not show significant change in the number or ratios of core and elective courses taken by students at School C.



## CHAPTER V

### DISCUSSION AND CONCLUSION

#### **Introduction**

The goal of this study was to demonstrate how student growth and curricular narrowing related to the collective autonomy of three Chicagoland high schools from as early as 2001 through 2011. Student growth was measured using the EXPLORE test taken by incoming freshmen during their 8<sup>th</sup> grade year and the PSAT ACT taken by students in April of their junior year. Curricular narrowing was examined through analysis of the core and elective curricular choices of students in the three high schools from as early as 2001 through 2011. This study ultimately aimed to inform the importance of the school leadership team's collective autonomy as they implement mandated reform and improvement efforts. It also aimed to arm school leaders with insights to help increase their success on the journey of creating collective autonomy. The three schools studied were significantly different in their levels of collective autonomy regarding the targets of NCLB, but all took active steps to increase the collective autonomy within the schools and have successfully done so. In addition, these schools offered insights to help principals and other instructional leaders succeed within the current challenging environment of educational accountability.

### **Research Question Review**

1. *How have the leadership teams for three Chicagoland high schools introduced and implemented school improvement efforts mandated by NCLB?*

School improvement efforts introduced and implemented by three Chicagoland schools have been motivated at different points in time by NCLB and have become increasingly systemic with increasing collective autonomy around those goals. Principals have created these improvement goals in a relatively unilaterally manner. They have expanded participation to other leaders and teachers as action steps were defined and implemented to achieve the defined goals. Finally, all principals employed several strategies to increase the momentum of their efforts. These included selling the initiative, maintaining focus and getting the right people on the bus.

2. *To what degree have three Chicagoland high school's leadership teams achieved collective autonomy for their school improvement efforts mandated by NCLB?*

Through the interview process and review of interview transcripts the degree of collective autonomy of each leadership team was determined by evaluating each leader in each of the attributes contained within the rubric shown in Table 7.

Each Chicagoland school achieved a different degree of collective autonomy. School A achieved the highest degree, followed by School B and then School C. Each school studied also increased the leadership team's collective autonomy through time. Below, the degree to which each school achieved collective autonomy will be summarized.

Table 7

*Collective Autonomy Rubric*

	Complete	Partial	Minimal	None
Goals	Relate to & support goals of NCLB.	Relate to NLCB.	Related to NCLB.	Goals are not related to NCLB or are not in any way systemic.
Range	Systemic for all students.	For targeted groups or systemic, but	Targets limited groups, and	
Efficacy	Leader believes goals will succeed.	Leader demonstrated partial belief in success.	Leader does not believe efforts will be successful, or	
Personal Beliefs	High importance & align with personal mission.	Efforts not in full alignment with leader's beliefs.	Efforts are not aligned with the leader's personal beliefs.	

**School A's Collective Autonomy**

The principal and English department led identified improvement efforts in 1999. These efforts involved the restructuring of the English curriculum to a three year, coordinated curriculum that infused the *College Readiness Standards* in English and reading. This school had also clearly established principles that were formulated in 1999. These were revised, but remained relatively consistent and guided their curricular and co-curricular improvement efforts that clearly aligned with the goals of NCLB. These were clearly understood by the principal and one chair during the 2001-2002 school year. Another chair embraced these efforts by the 2003-2004 school year, and there was system wide leadership support for these efforts by the 2007-2008 school year. These efforts

were systemic with a high degree of belief in the ability to succeed. The efforts also aligned with all leaders' personal missions of School A's leaders.

### **School B's Collective Autonomy**

School B began systemic efforts related to NCLB through the *College Readiness Standards* skills beginning in the 2003-2004 school year. At that time, collective autonomy began to form around their common efforts. Three instructional leaders were identified as achieving *complete* collective autonomy beginning in the 2003-2004 school year after witnessing the success of School A's efforts that included "radically increasing ACT scores" and "radically improving AP scores with an exponential increase in participation and kids taking the AP test" (A2, personal communication, November 29, 2012). With the addition of a new principal that launched a STEM focus for School B in the 2007-2008 school year, the collective autonomy grew to include six positions with *complete* collective autonomy and one with *partial* collective autonomy.

### **School C's Collective Autonomy**

School C demonstrated the least collective autonomy of the three schools studied. It was a high performing school with a history of valuing autonomy. School C also had the largest leadership team studied with fourteen individuals identified by the principal as impacting the curricular and co-curricular efforts. Twelve of these leaders were interviewed. In 2001-2002, School C had no instructional leaders coded with *complete* collective autonomy, one with *partial*, one with *minimal*, four with *none* and 6 were classified as *NA*. School C's collective autonomy remained low increasing only slightly through time until a new principal arrived in the 2010-2011 school year. She created clear

improvement efforts and began building collective autonomy through her efforts. In fact, in the 2010-2011 school year, School C's identified collective autonomy grew from no leaders classified with *complete* collective autonomy to a point where School C had two members identified with *complete* collective autonomy. In addition, five individuals were coded with *partial* and two were *minimal*.

3. *How has EXPLORE to ACT student growth and other student quality indicators changed in three Chicagoland high schools from as early as the class of 2001 to the class of 2011?*

School A and School B provided the greatest time span of data and showed significant EXPLORE to ACT increases through the years. In general, School A demonstrated the largest improvement of the three schools studied. Other quality indicators reviewed include the context adjusted value-added score for each sub-test. These scores compared each school's growth to other schools with similar size, incoming EXPLORE scores and demographic information. In addition, graduation rate, dropout rate, and college bound rates were analyzed.

### **School A's Student Growth and Other Student Quality Indicators**

EXPLORE to PSAT ACT student growth increased significantly from the Class of 2002 to the Class of 2011. The largest increase occurred in English which grew from 5.7 to 8.8, followed by reading which grew from 6.2 to 8.1. In addition, science grew from 4.5 to 5.8, and mathematics growth remained relatively constant and increased slightly from 6.0 to 6.5. Other quality indicators included the context adjusted value-added scores for each class. School A's context adjusted value-added English score

increased from 0.72 for the Class of 2002 to 3.85 for the Class of 2011. Increases of 1.43 to 2.27, 0.5 to 2.08 and 0.20 to 1.64 were found in math, reading and science respectively. These were impressive increases. Although they cannot be directly attributed to School A's curricular and co-curricular efforts, the significant increase in the Class of 2004's English scores occurring at the predictable time that the first cohort of students completed the restructured sequence that integrated the skills of the *College Readiness Standards*. This significant increase provided compelling evidence that this school's efforts made a difference.

In addition, from the Class of 2002 to the Class of 2011, School A's graduation rate increased as its dropout rate decreased. In addition, even though the school's self-reported college bound rate was higher than the district reported average, both show an overall increase in the percentage of students going to college.

### **School B's Student Growth and Other Student Quality Indicators**

EXPLORE to PSAE ACT student growth increased significantly from the Class of 2002 to the Class of 2011. The largest increase occurred in English which grew from 4.4 to 6.5, followed by math which grew from 5.6 to 6.6, and reading which grew from 5.6 to 6.1. Science growth remained relatively constant, having increased slightly from 3.9 to 4.2. Other quality indicators included the context adjusted value-added scores for each class. School B's context adjusted value-added English score increased from 0.07 for the Class of 2002 to 1.85 for the Class of 2011. Increases of 1.35 to 3.13, 0.24 to 0.91 and 0.16 to 0.60 were found in math, reading and science respectively. These increases were impressive considering School B's significant increases in its minority and low-

income populations over the years examined. Although they cannot be attributed directly to School B's curricular and co-curricular efforts, these are significant increases, especially within math, which was the department identified to be most aligned with the *College Readiness Standard* focus through the course of this study.

In addition, from the Class of 2002 to the Class of 2011, School B's graduation rate increased as its dropout rate decreased. School B's self-reported college bound rate was higher than the district reported average and, unlike the district reported college bound rate, demonstrated an increase. Based on the fidelity of the district study, which was reported to be high, it was likely that School B's college bound rate decreased from the high seventies to the low seventies through this study. This may be more due to the significant change in School B's demographics and may still be higher than it would have been without School B's efforts. In addition, the district data were only available through the Class of 2008.

### **School C's Student Growth and Other Student Quality Indicators**

When considering this school's improvement journey from the 2001-2002 school year through the 2010-2011 school year, growth was only available from the Class of 2008 through the Class of 2011. EXPLORE to PSAE ACT student growth increased in English from 8.0 for the Class of 2008 to 8.6 for the Class of 2010. It then took a relatively sharp jump to 9.4 for the Class of 2011. EXPLORE to PSAE ACT student growth remained relatively constant in math with a 7.0 increase for the Class of 2008 and a 6.9 increase for the Class of 2010. It then took a relatively sharp jump to 8.1 for the Class of 2011. EXPLORE to PSAE ACT student growth remained relatively constant in

reading with an 8.4 increase for the Class of 2008 and an 8.6 increase for the Class of 2010. It then increased slightly to 8.9 for the Class of 2011. EXPLORE to PSAT ACT student growth remained relatively constant in science from 6.0 for the Class of 2008 and 6.1 for the Class of 2010. School C's science score then increased to 7.0 for the Class of 2011.

Other quality indicators included the context adjusted value-added scores which increased slightly in English from 2.92 for the Class of 2008 to 3.17 for the Class of 2010. It then took a relatively sharp jump to 4.06 for the Class of 2011. The context adjusted value-added scores remained relatively constant in math at 2.03 for the Class of 2008 and 2.20 for the Class of 2010. It then took a relatively sharp jump to 3.37 for the Class of 2011. The context adjusted value-added scores increased in reading from 1.66 for the Class of 2008 to 2.16 for the Class of 2010. It then increased again to 2.47 for the Class of 2011. The context adjusted value-added scores remained relatively constant in science at 1.16 for the Class of 2008 and 1.27 for the Class of 2010. It then increased to 2.14 for the Class of 2011.

In addition, from the Class of 2002 to the Class of 2011, School C's graduation rate increased slightly from 94.5% to 97.2% as its dropout rate increased slightly from 0.1% to 0.3%. This dropout rate remained extremely low. In addition, even though the school's self-reported college bound rate decreased slightly from 98% to 96%, it also remained high.

4. *How have students' core and elective course choices changed in three Chicagoland high schools from as early as 2001 to 2011?*



School A and School B are both in the same district, which provided student course enrollment information from the 2005-2006 school year through the 2010-2011 school year. School C provided student course enrolment information for the 2001-2002 school year, the 2009-2010 school year and the 2010-2011 school year. This study illuminated no significant data that sounded an alarm for “curricular narrowing” of the electives even within the two schools that created the greatest focus on systemic goals related to and motivated by addressing the target areas of NCLB. In fact, School B, which was the school furthest along the progression of NCLB sanctions, actually showed an increase in the average number of core and elective courses taken in 2011 as compared to 2006.

*5. How does a leadership team’s collective autonomy relate to student growth and curricular narrowing?*

Although student growth and curricular narrowing was difficult to attribute directly to these school’s curricular and co-curricular actions, the student growth as shown from the EXPLORE test taken by students during their 8th grade year to the PSAE ACT taken by students in April of their junior year improved significantly in School A and School B. Both schools created collective autonomy around the systemic goals related to the targets of NCLB. This improvement was even more notable in these two schools considering that their diversity and low-income populations increased significantly throughout the time span analyzed. From the 2001-2002 school year through the 2010-2011 school year, School A’s poverty level grew from 4.7% to 11.1% and its minority population grew from 8.8% to 13.4%. Over the same years, School B’s low

income population grew from 17.4% to 32.2% while its minority population increased from 30.5% to 47.0%. Even with these changes that usually predict a decrease in student achievement and standardized test scores, instructional leaders in charge of English, mathematics, reading and science led meaningful systemic efforts to improve skills as outlined by the *College Readiness Standards*. Their efforts were accompanied by increased student growth and context adjusted value-added scores that increased significantly in predictable patterns as the collective autonomy of these leaders increased.

### **School A's Collective Autonomy and Growth**

School A had the highest degree of collective autonomy observed and clearly focused on targets that incorporated the goals of NCLB. One School A leader illuminated how to keep moving forward. He shared: "You always get pushback with change, but the momentum has not been the pushback. It has been it makes sense and let's do it" (A6, personal communication, November 29, 2011). This was a result of the school's leaders remaining on course, sharing why it was valuable to students and demonstrating through data that their efforts were making a difference. School A utilized the significant results in English as a springboard that created a culture of continual improvement. One leader from School A illuminated what literally every instructional leader eluded to when he said "As we go through every year, we can see how to improve" (A6, personal communication, November 29, 2011).

A predictable result was seen. When more students complete a rigorous and coordinated curriculum that incorporates the skills contained within the *College Readiness Standards*, their achievement was seen to increase. This was observed as

students completed the coordinated English three-year curriculum. It was also observed when students completed an intentional integration of the *College Readiness Standards* in reading within social studies and when students completed a coordinated three year sequence within science.

Comparing the collective autonomy and improvement story of English provides evidence of this relationship and supports the assertion that collective autonomy matters. The English instructional leader was coded with *complete* collective autonomy along with the principal from the beginning of the school's current improvement journey that began in 1999. This leader's complete buy in led to the restructuring of the English curriculum that began with the Class of 2004 when they were freshmen. This class, like others studied at School A, took the EXPLORE test in 8th grade. By the time this class took the PSAE ACT their junior year, they had completed the redesigned English curriculum and were the first class to do so. As noted in the performed one-way ANOVA, this class demonstrated significantly greater scores than the previous two classes studied. This was ultimately reflected in their context adjusted value-added score that increased to 2.03 from the previous class's score of 0.96. The Class of 2005 was the second cohort to complete this sequence, which in its second cycle realized another significantly greater context adjusted value-added score of 2.66, which was also significantly higher than the scores realized by the Class of 2002 and the Class of 2003. Scores for the Class of 2006 were significantly higher than those from the Class of 2004. The next significant jump occurred in English for the Class of 2009, which took the PSAE ACT in 2008. This significant increase happened to occur for the class that took

the PSAE ACT during the year the district's superintendent defined and implemented district wide goals that included the growth efforts related to the *College Readiness Standards*. This was also the year that School A's collective autonomy was *complete* for each leader interviewed. Although the context adjusted value-added scores increased significantly over the decade studied, the significant jump in scores noted in English for the Class of 2009 was also evident in the areas of reading and science.

In mathematics, growth, as measured from EXPLORE to the PSAE ACT from 2002 through 2011, increased from 6.0 to 6.5, with a context adjusted value-added score that increased from 1.43 to 2.27. This school's mathematics context adjusted value-added score remained well above the 75<sup>th</sup> percentile value-added (0.50) threshold identified by ACT. For mathematics, the Class of 2011 was the first class to achieve a context adjusted value-added score that was significantly greater than most other years. It was interesting to note that mathematics had been relatively aligned to a skill based curriculum for many years prior to the school's current focus on the *College Readiness Standards*. The Class of 2011 was the first to experience a redesigned mathematics curriculum that was created by district teachers to align with the skills of the *College Readiness Standards*.

In reading, growth as measured from EXPLORE to the PSAE ACT increased from 6.2 to 8.1, with a context adjusted value-added score that increased from 0.05 to 2.08. School A moved from not meeting ACT's 75<sup>th</sup> percentile value-added (0.49) threshold to one approaching ACT's maximum observed growth. Reading had taken only one other significant jump in scores for the Class of 2006. In School A, social studies was charged with systemic focus on the improvement of reading skills. Also important to note

was that the collective autonomy of the social studies instructional leader increased to *complete* when a new instructional leader joined the school in 2008. The class of 2009 would have taken the PSAE ACT during his first year.

In science, growth as measured from EXPLORE to the PSAE ACT increased from 4.5 to 5.8, with a context adjusted value-added score that increased from 0.20 to 1.64. Again, School A progressed from being a school that did not meet ACT's 75<sup>th</sup> percentile value-added threshold (0.45) to one that was consistently above. Although science scores increased over time, the first significant increase as shown by the completed one-way ANOVA test was for the Class of 2009, which followed the same pattern in English and reading and took the PSAE ACT during the first year of the district level goals set by the superintendent.

Considering that School A's poverty level increased from 4.7% in 2002 to 11.1% in 2011, along with the fact that the school's minority population increased from 8.8% to 13.4%, the context adjusted expected ACT scores actually decreased in all subtests over the time span tested. Over this same time span, School A's reported ACT scores for seniors went up from 22.2 to 25.1 which mirrored and exceeded their PSAE ACT scores increases.

### **School B's Collective Autonomy and Growth**

School B's improvement efforts over time showed a steady increase in the collective autonomy of its leaders. School B began systemic efforts related to NCLB through the *College Readiness Standards* skills in 2003. During the 2003-2004 school year, collective autonomy began to form around their common efforts. Three

instructional leaders were identified as achieving *complete* collective autonomy beginning in 2003. The mathematics instructional leader and her teachers embraced the focus on the *College Readiness Standards*, and the two building leaders began efforts surrounding these skill standards in 2003. However, the principal and associate principal of curriculum were described as being on “different pages” when efforts began in 2003, which created some dysfunction. Even with this barrier, focused efforts surrounding the infusion of the *College Readiness Standards* and the increase in AP participation and success occurred.

School B’s collective autonomy remained relatively stagnant until 2007 when a new principal began to lead the school. With a new principal in 2007, these efforts became more focused as the school zeroed in on newly created district improvement goals that included the infusion of the *College Readiness Standards*, increased AP participation and the reduction of Ds and Fs. During the same time, School B’s principal launched a focus on STEM initiatives and career paths to be integrated into their curriculum. He had the opportunity to hire his two associate principals and soon after replaced the instructional leader in English and increased collective autonomy across his team. The collective autonomy of a majority of School B’s leadership team, 4 of the 6 instructional leaders, was identified with *complete* collective autonomy beginning in 2007. This increased and included all but one department’s leader in 2009.

Considering this school’s improvement journey from 2002 until 2011, growth as measured in English from the EXPLORE to PSAT ACT increased from 4.4 to 6.5, with a context adjusted value-added increase from 0.07 to 1.85, which was School B’s

maximum. For English, the school exceeded 0.53, the 75<sup>th</sup> percentile of school value-added scores according to analysis conducted by ACT. School B moved from not meeting ACT's positive value-added threshold to consistently meeting it since 2005. The significant bump in scores in 2005 followed the implementation of systemic efforts by an English instructional leader coded as *partial* in her collective autonomy of related goals. However, the work completed by the department did mirror efforts of School A, and this class was expected to be the first to benefit from these curricular changes. In fact, the completed one-way ANOVA for School B's context adjusted value-added scores for each year beginning with the Class of 2005 were significantly higher than the scores for the Class of 2002. In addition, scores have been significantly higher for each class following the Class of 2008, which was when School B's collective autonomy increased from three of the six interviewed instructional leaders to four of the six.

In mathematics, growth as measured from EXPLORE to ACT increased from 5.6 to 6.6, with a context adjusted value-added increase from 1.35 to 3.13, which was also School B's maximum. This school's mathematics context adjusted value-added score remained well above the 75<sup>th</sup> percentile (0.50) of value-added scores identified by ACT. The one-way ANOVA performed demonstrated a significant increase in context adjusted value-added growth scores for each class beginning with the Class of 2008. School B's instructional leader and teachers maintained a focus on integrating the *College Readiness Standards* since 2003. The data through time showed a general upward trend. In addition, School B's teachers have played an integral part in the district wide efforts to create curriculum built around the focus on the *College Readiness Standards*. As was the case

with School A, the Class of 2011 was the first to experience this curriculum, and the school's context adjusted value-added score set a new high score of 3.13. In addition, scores were significantly higher for each class following the Class of 2008, which was when School B's collective autonomy increased from three of the six interviewed instructional leaders to four of the six.

In reading, growth as measured from EXPLORE to the PSAE ACT increased from 5.6 to 6.1. School B's context adjusted value-added scores increased from 0.24 to 0.91, with a maximum of 1.42 for the Class of 2010. School B moved from not meeting ACT's 75<sup>th</sup> percentile (0.49) value-added score to hitting that mark consistently since 2006. In 2003, School B began to implement the skills based *College Readiness Standards* that, when implemented in School A, showed success. This focus was school-wide in School B. The increase in other sub-scores trailed those seen in English as was the case in School A. In addition, scores had been significantly higher for each class following the Class of 2008, which was when School B's collective autonomy increased from three of the six interviewed instructional leaders to four of the six.

In science, growth as measured from EXPLORE to the PSAE ACT increased from 3.9 to 4.2. School B's context adjusted value-added scores increased from 0.16 to 0.60, with a maximum of 0.93 for the Class of 2008. Again, School B progressed from being a school that did not meet ACT's 75<sup>th</sup> percentile (0.45) of value-added scores to one that was consistently above that mark since 2005. Although the only context adjusted value-added science score significantly higher than that of the Class of 2002 was the Class of 2008, there was a general upward trend to scores across the decade analyzed.



This science leader was defined with *complete* collective autonomy since 2009. Increased efforts related to the *College Readiness Standards* were underway, but results will be beyond the scope of this study.

Considering that School B's poverty level increased from 17.4% in 2002 to 32.2% in 2011 and that the school's minority population increased from 30.5% to 47.0%, the fact that School B's context adjusted value-added scores increased significantly was impressive. Over this same time span, School B's reported ACT scores for seniors went up from a 21.0 to a 22.2 which mirrored, but barely exceeded their PSAE ACT scores which increased from a 20.7 average composite to a 22.1 average composite as a school.

#### **School C's Collective Autonomy and Growth**

School C has progressing toward collective autonomy throughout much of their leadership team, but had low degrees of collective autonomy between 2001 and 2011. It was interesting to note that when systemic efforts began with common targets and assessments in the 2010-2011 school year, the school's growth increased significantly on every sub-test for the class of 2011, which took the PSAE ACT in that year. Clearly more data will need to be gathered over the next several years to see if current efforts continue and maintain similar results.

As previously noted, with School C it was important to examine the average ACT score of each identified class. Considering that School C's poverty level remained relatively constant at 1.0% in 2002 to 1.1 % in 2011 along with the fact that the school's minority population increased modestly from 1.9% to 3.3%, the context adjusted expected ACT scores were expected to remain relatively flat. However, School C's

reported ACT scores for seniors went up from 24.9 in 2002 to 26.2 by 2010 and then increased to the school's all-time high of 27.1 in 2011. Due to the lack of EXPLORE and PSAE ACT data provided, it was impossible to generate context adjusted value-added scores for this entire time span. However, these scores could have increased over the years. No explanation for the increase in scores for the Class of 2011 was offered. In addition, no explanation for the decade's increase in scores was shared.

If this growth occurred, it was important to note that there was no systemic initiative for School C. The social studies instructional leader summed up School C's improvement and success. He shared: "When I first started here, we had a very veteran department, and I don't know that we were systematically examining many things. When they had a social studies portion of the Prairie State Exam, we would consistently score in the top five in the state and honestly, we did nothing to prepare for it other than just teach our regular classes. The first year I was chair, the assistant principal asked what they do and he told him, 'Honestly...we don't do anything. We just do what we do'" (C5, personal communication, December 13, 2011).

### **Collective Autonomy and Growth within School A, School B and School C**

This study calculated average student core and elective course choices for each Chicagoland school through time. School A and School B were both in the same district, which provided student course enrollment information from the 2005-2006 school year through the 2010-2011 school year. School C provided student course enrollment information for the 2001-2002 school year, the 2009-2010 school year and the 2010-2011

school year. As the collective autonomy of each school changed through time, no significant change in core or elective courses taken by students was found.

### **Discussion**

There are many lessons to learn from this study that illuminate the path to collective autonomy for principals and school leaders. The stories of the three Chicagoland schools also provide motivation for leaders to do so. Specifically, the improvement efforts introduced and implemented by three Chicagoland schools were motivated at different points in time by NCLB and had become increasingly systemic with increasing collective autonomy around those goals. This was particularly important for today's school leaders as they worked to implement external improvement goals in ways that created meaningful efforts within American schools. Principals created these improvement goals in a relatively unilateral manner. They expanded participation to other leaders and teachers as action steps were defined and implemented to achieve the defined goals. Finally, all three of these principals employed several strategies to increase the momentum of their efforts. These included communicating the need, selling the initiative, maintaining focus and getting the right people on the bus.

#### **NCLB Motivated Goals**

The leadership of each school indicated that NCLB played a role in motivating the creation and expansion of their systemic school improvement efforts. School A's current improvement efforts began in 1999 after the district's superintendent at the time requested that the school's principal "tweak" things to place greater emphasis on test scores. In this multi-school district, the superintendent concluded that School A was

underperforming and he knew “universal testing” was on the horizon. According to the English instructional leader who was instrumental in School A’s systemic response at School A during the conception of these improvement efforts, “Universal testing was coming to pass and motivated the superintendent, who was not a test hog. We needed to do something in light of universal achievement to bump our achievement” (A2, personal communication, November 29, 2011). The school was one that had traditionally underperformed in comparison with other high schools in the district on national tests and with Advanced Placement (AP) participation and performance. The English instructional leader also shared, “The reality is that we were just slightly under where we should be on the ACT. We were probably well below where we would be expected to be on AP” (A2, personal communication, November 29, 2011).

For School B, the associate principal at the school when curricular efforts related to NCLB began in 2003 shared that School B had been analyzing disaggregated student data due to predictions indicating that School B would soon realize a significant increase in its diversity and percentage of low-income students. This was because of the accountability that followed from School B not making AYP in 2002. She also shared: “[A] group of our kids were coming in with very low EXPLORE scores in math and we needed to accelerate their progress. That was Part A. Part B was we did not have enough kids from our perspective in those honors and AP math classes. We needed to increase the number of kids in those classes and improve success” (B7, personal communication, February 14, 2012).

School C was a high performing Chicagoland school with a minority population that remained low through the time span of this study. School C was a school that embraced autonomy within the classroom and school. It had not responded to NCLB due to the fact that the 2011-2012 school year was the first year the school failed to make AYP. With the addition of a new principal in the 2010-2011 school year, School C initiated systemic efforts related to NCLB. Although School C had just begun to implement systemic efforts related to NCLB, School C's current principal had led successful efforts increasing student performance at her previous school. It was the principal's understanding of the difference these efforts can make that motivates her current goals that motivated her current goals. She shared that she loved her "lone ranger" days, which was largely the paradigm under which School C operated when she arrived. She shared:

I loved my lone ranger days too. I really did. Being able to shut my door and [teach]. But then the research came out about how adult centered that practice is as opposed to systematically meeting the needs of students and I had to abandon that thinking 20 to 25 years ago. So coming here and watching that it hasn't changed was a bit of a time warp. (C1, personal communication, November 9, 2011)

As she reflected on NCLB, she shared her insight into how it had motivated schools to look at data. She shared:

I think it is awesome. I think it is one of the best things that has happened to our professional practice. Flawed as it may be, it is the first time that we use large scale data sets to be evaluating the performance of the kids that are under our care. Before we were good because I told you we were good. I don't remember before NCLB ever systematically looking at race or special education or language proficiency. (C1, personal communication, November 9, 2011)

School C's principal captured the essence of why it was important to incorporate meaningful student assessments that provide comparative data. Educators involved in the important work of improving student learning have now looked at meaningful disaggregated data as they have learned specific strategies that work.

One administrator shared the impact of NCLB mandates due to not making AYP in the 2011-2012 school year:

This year is a new thing for us, because for the first time we are not considered a passing school, which I think is going to happen to every school in the state with the sliding scale. It is a little bizarre that last year we had this big ceremony as a Blue Ribbon School and "Hey we are going to Washington." The next year we are a "failing school." I think that is the reality we are all dealing with and we have started to be very deliberate and intentional about how we respond. (C5, personal communication, December 13, 2011)

NCLB has been a catalyst to move School C toward a more systemic approach.

Another instructional leader reinforced this fact as she witnessed her school not making AYP for the first time last year. She reflected:

I will say I think that it has really helped move education forward. It used to be that we didn't used to worry about the kids who didn't make it. We didn't worry about multi-language students or the special ed students. I have seen a lot more of us working together as a team in special ed as a school addressing the needs of these students not passing these tests. (C3, personal communication, December 13, 2011)

Even though this type of focus had been a goal of ESEA since its inception, these types of efforts had not occurred systemically within American education. The three schools studied all shared that NCLB motivated their improvement efforts that have progressed to include a focus on every student.

### **Unilaterally Defining the Beliefs and Vision**

As important as what was documented in this study was what was not observed. Collective autonomy was not achieved through running an organic process to generate the school's direction or goals. In addition to being motivated by NCLB accountability and the illumination of the need for systemic skill development efforts to improve the performance of all students, the principals who started their respective improvement efforts did not seek much input to create their focus nor did they abdicate their decision making authority.

All principals and virtually all leaders for whom collective autonomy was *complete* understood that generating goals organically was not only difficult, but as one leader put it: "Our structure believes in spontaneous combustion, which of course can't happen. It is another one of these myths that paralyzes us. It is constantly kowtowed to" (A2, personal communication, November 29, 2011). The principles developed that defined the focus of School A's efforts, for example, captured much of the English instructional leader's vision. They were not defined by gaining input across the entire school or even by running a process with the entire leadership team.

School A began with a "leap of faith" in 1999, but with complete understanding that no systemic change in student achievement occurs without a system in place with a clearly defined focus. These did not come from "spontaneous combustion," but rather they came from well thought out principles by which they would design curriculum. They clearly included "radically increased ACT scores" and "radically improved AP scores

with an exponential increase in participation and kids taking the test” (A2, personal communication, November 29, 2011).

School B’s current improvement efforts began in the 2007-2008 school year with a new principal generating a focus for the school based upon its strengths and upon its community. The current principal shared:

I tried to identify what the strengths of the school were. [School B] has always had its strengths in technology and math and some history I had learned is that we had the first modular lab in the area and I would look in, and Moodle was just starting out and we had more teachers using Moodle. So we had this natural strength in technology, meaning people who were open to doing it and trying to be cutting edge. At the same time, our math performance was very strong. It was just solid. Our math teachers were some of the strongest in the building. And so I needed some hook, something to help rebrand the school to itself and the community. To reintroduce it based upon its strengths. And, that’s how I came to the concept of a STEM focused school. I want you to know I actually did that at my very first administrative team meeting at this school. It was the first thing I said – we are going to be a math, science school. (B1, personal communication, November 3, 2011)

In 2007 the current principal molded his school’s efforts around their strengths and also utilized demographic and enrollment projections in the formulation of his vision. He summarized:

I saw the writing on the wall and I knew our demographics were changing. Our student enrollment was projected to drop by hundreds of students. Every time I lose 20 students I lose a teacher. So that is a significant impact. So my challenges were a declining enrollment, an increase in the number of at-risk students to now we have about 48% of our incoming students are at-risk. (B1, personal communication, November 3, 2011)

These changing demographics only fueled the need for a coordinated, skill based focus. He also noted that he did not complete a process of defining the school’s vision by committee as he reflected:



I want you to know I never took a single survey. I never asked anybody if they wanted this to be a STEM school. Never, because they would have said “no.” I knew that is where we needed to go. So, I am not one of these guys who leads by committee. I need to frame a future for us and I need to be thinking five to ten years out and I need to create a vision, but then I do need to allow everyone who works around me to work to fill that space, because they are going to do more than I ever imagined or expected. (B1, personal communication, November 3, 2011)

School C’s new principal also accepted the challenge of shifting its culture of autonomy to one that systemically implements research based practices with consistency and fidelity across her school. In doing so, she followed a pattern similar to the principals of School A and School B. As she set the current direction for School C, the current principal confessed, “I did a study on best practices first semester and I am a little chagrined to admit it, but I didn’t ask people what they wanted to do. I told them that this is what we are going to do.... So here is what the research says will best advantage all kids, and I do buy into the concept that rising tides raise all boats” (C1, personal communication, November 9, 2011).

School A and School B also have district level goals that align with their school goals and that were also developed in a relatively unilateral fashion by the superintendent. He identified three district goals in the beginning of the 2007-2008 school year that included EXPLORE to PSAT ACT student achievement growth, increased participation in Advanced Placement classes, and reducing the number of Ds and Fs in each school. Before this action by the current superintendent, this district believed in autonomy. This was highlighted by a longtime administrator who shared that before this “...the district...was not driving it, because the district at the time was, ‘Let’s

innovate, let's be creative'....and figure out what the needs are in your building and what you need to do to address those needs....everybody's out there experimenting" (B7, personal communication, February 14, 2012). She described that the outcome was a lack of true curricular focus or a system that supported learning from one another as she shared, "We were the home of a million electives....And also there was an attitude of, you know: 'That might be great for your school, but it's not going to work for ours'" (B7, personal communication, February 14, 2012).

Even though these superintendent initiated goals were not collaboratively developed, they were related to NCLB improvement efforts. All leaders in School A and School B interviewed easily identified their improvement goals, understood related district-wide goals, school-wide goals and the efforts within their own departments. The principal of School A shared, "We let the district goals drive us, but we modify them for us" (A1, personal communication, November 3, 2011).

### **Collectively Defining the Action Steps**

Each principal defined school improvement goals relatively autonomously, not by committee. They formulated a vision for improvement generated by their perceived needs of the school and incorporated the goals of NCLB, generated focused goals and shared those goals with their leadership teams and faculties. However, as they implemented their goals, each incorporated the talent and insights of their respective leadership team and teachers to define the action steps to be taken to accomplish the defined goals. One belief that has driven many improvement efforts that includes the observation that "people support what they help to create." Another common belief was that collective wisdom

can create more powerful and insightful efforts than can be created in isolation. These tenants were not followed by the principals in the generation of their schools goals. However, they were certainly followed by each to “fill in the spaces” as the action steps were collectively created by each leadership team. In each school there was direct evidence of collectively establishing the plan to achieve the goals established by the principal. In fact, it appeared that including many individuals in the definition of the actions steps increased the “collective autonomy” of the team.

The power of the efforts that included many and ultimately increased the school and district’s results were summarized by the English instructional leader from School A who shared: “What has really increased is the technical capacity of teachers. Throw a common theory out there that has very clear directions and ends and give it to good and smart people and put them in this collaborative environment and keep emphasizing to them that this is the way it is going to be and magic happens.” He continued: “You need to control by giving clear structure with clear goals and then give space where the best will rise to the top. Collaboration is one of the principles, but it is accountable collaboration” (A2, personal communication, November 29, 2011).

School A’s principal shared many avenues that were created to allow for focused work by her leaders and teachers. One was increased time for their Professional Learning Communities (PLCs) to work. The current principal shared: “We moved to a one-hour late start every week....The collaborative piece was really important....I try and give the teachers as much time as possible” (A1, personal communication, November 3, 2011). This increased planning and collaboration time also generated several initiatives were

created and built out by their teachers and leaders. One example included integrated “forums” in which teachers from different curricular areas came together to leverage common topics. The principal shared that the result of these forums included the creation of common talking points and “more teachers assuming this kind of leadership role” (A1, personal communication, November 3, 2011). Yet another example was the work done by departments to analyze current student achievement on skills and then to generate common curriculum that better incorporates the desired skills contained within the *College Readiness Standards*. The principal shared that the teachers were frustrated at the lack of growth in math and that they, “did a gap analysis and looked at the ACT standards and looked at our curriculum to ask where it is taught. If it is not, where should it be taught? Will it be left out?” (A1, personal communication, November 3, 2011). The mathematics instructional leader corroborated this and illuminated his departments voice in the creation of their curriculum as he shared: “There were quite a few gaps and a lot of material in the *College Readiness Standards* that [was] not addressed. So we began to modify and add and substitute and it got to the point where we had to make a decision. So we have gone away from the texts themselves and began to write quite a bit of our own curriculum the last few years” (A6, personal communication, November 29, 2011).

Another example of collectively creating the action steps comes from School A’s current social studies instructional leader’s reflections. He significantly increased buy in and focus on goals within his department over the last few years. He shared: “My thought was that these are thinking skills that need to be cultivated over a long period of time....So my major emphasis was to get these kinds of skills in place for every class at

every level for every kid” (A3, personal communication, November 29, 2011). As he reflected on his own efforts and those of his fellow department members, he shared that it was the talent of many people that created the curriculum and assessments driving their goals. As he reflected on one of these talented teachers he shared that one teacher he hired: “has become the best decision I ever made. She is now the sophomore team leader. She is and was absolutely the driver of these throughout the sophomore level (A3, personal communication, November 29, 2011).

Curricular creation for School A and School B progressed to include district-wide efforts. The current associate principal for curriculum at School B led one of these efforts. She reflected on the momentum being created by everyone creating these materials together district-wide. She shared, “...most of the English teachers in the district are pretty cohesive now and they wrote all this original curriculum in all those three years” (B2, personal communication, November 15, 2011). She shared the benefits this work generated with, “hundreds of original passages, exercises and tutorials [that integrate]...English ACT alignment, reading ACT alignment and critical thinking” (B2, personal communication, November 15, 2011). In fact, the efforts surrounding critical thinking were started with “a cross district-disciplinary group of teachers and administrators...[who were] pulled together...the different steps of research” (B4, personal communication, December 8, 2011). School B’s current English instructional leader reflected that when she was a teacher, a district leader “tapped me and she tapped another teacher from our English department and said, ‘would you be interested in working on this?’” She continued, “At that point, it really was very theoretical and the

idea [to]...create a series of materials that were aligned directly with the ACT *College Readiness Standards* in the areas of reading and English, and then...begin to look at how [to]...incorporate critical thinking” (B4, personal communication, December 8, 2011). In addition, she captured the essence of teacher input into these efforts when she shared one of her desired outcomes was “to see the materials that we created that are focusing on skills being really organically integrated into the curriculum and so that it’s...just part of it; that the critical thinking piece, it’s just part of it.” She continued, “At the end of the day, if we can make that happen, we’re going to see that growth and that will be our quantitative gain” (B4, personal communication, December 8, 2011). In addition, the current associate principal of curriculum at School B shared that, “math...is now in year one of their process [of jointly created curriculum] and science will start this summer in year one” (B2, personal communication, November 15, 2011).

Effectively, their involvement in these sustained efforts led to a stronger desire for the “next improvement” in order to further their goals. The next steps that were consistently identified, planned, and crafted by these instructional leaders along with carefully identified teacher leaders in each department.

This collective process of meeting goals also occurred beyond the core areas. School B’s career and technical education instructional leader shared that he began their STEM focus with the charge to “...analyze all of our programs and determine what we could do to offer kids certification or dual credit or something that significantly improved, enhances their chances postsecondary” (B3, personal communication, December 8, 2011).

These efforts brought increasing numbers of leaders and teachers into the process and, thanks to the focused district level goals, incorporated teachers from across the district. They had the dual effect of increasing each teacher's understanding of the efforts and supported the meaningful implementation of those efforts.

During the 2011-2012 school year, School C was also incorporating many of the above strategies. School C's principal formulated goals and charged her leaders to put a framework in place for leaders and teachers to bring her goals to life. School C's principal shared that she was flexible in regards to how goals were achieved, but she was simply "interested in seeing increased growth out of the students" (C1, personal communication, November 9, 2011).

The mathematics instructional leader of School C also described the resistance to efforts he had within the math department as he shared: "That really came to a head at the beginning of this year on the in-service day before school starts. It was like a mutiny. My ears were red. I had the whole plan for the year for the late starts and it was a complete mutiny....I was like, 'Fine. Offer some suggestions. You naysay everything....How about you come up with something because we are meeting for these late starts?'....They are having meetings after school. They are presenting me with ideas" (C6, personal communication, December 13, 2011).

School C's leaders started utilizing the expertise within their departments. This has come with various levels of success. The social studies instructional leader had already implemented a skill based focus years before and he shared that teachers "...spent about two years of our in-service time coming up with what we called a skills

rubric.” Describing outcomes from efforts in the 2011-2012 school year, he shared, “We have built into the assessments a content part and a skills part with ACT type reading comprehension questions, map reading questions, chart reading questions” (C5, personal communication, December 13, 2011). As of 2011, his teachers were beginning to strengthen the efforts supporting the goals. He shared what he has recently observed:

We really have [began] a team approach. We have three new teachers and we have two teachers who are team leaders and we have worked with the curriculum to set the targets and we have a lot of common assessments and assignments. So we are doing a lot of work with that where we are getting people on the same page with what we are trying to do. (C5, personal communication, December 13, 2011)

This instructional leader also shared the beginning of systemic efforts supporting the skills of the *College Readiness Standards* as he said:

The other teacher and I have been very explicit about how we want to develop skills. We have built into the assessments a content part and a skills part with ACT type reading comprehension questions, map reading questions, chart reading questions. While they are related to the content we are studying, you can answer independent of the content. (C5, personal communication, December 13, 2011)

### **Multiplying Efforts**

After defining the goals relatively independently and expanding input to define action steps to achieve those goals, the principals of these three schools employed several strategies to multiply those interested in the defined efforts through the years. These included communicating the need, continuing to sell the initiative, maintaining focus and getting the right people on the bus.



### **Communicating the Need**

Each school worked to make the case for their efforts. It was interesting to note that not making AYP was a driving force for their work. It was also interesting to note that this need expanded over time and, especially in School A, led to a “thirst for the next improvement” that supported the goals as defined.

In school A the improvement journey began with two leaders in 1999. School A developed principles that guided them through time. They also shared the data demonstrating how increased growth expanded college options and generated thousands of dollars in scholarship money for their students.

Leaders demonstrated this with common talking points in regards to their collective efforts. One leader shared, “We have more scholarships, more AP Scholars, more kids going to college” (A1, personal communication, November 3, 2011). Leaders discussed the importance of creating curriculum that allowed for common talking points across departments to enable true integration and students moving up levels if able. They universally discussed opening doors for students with increased test scores, increasing scholarship money available to their graduates, and truly believe in the value of their coherence and skill development. The social studies instructional leader shared increased choice of schools by raising a student’s ACT as he reflected that he can now tell a student, “by the way, because you got a 24 where do you want to go to school” (A3, personal communication, November 29, 2011). The math and science instructional leader further shared: “To me the ACT score means opportunity. If we go up a 0.5 in growth [as a school], that means a lot of kids who could not go to ISU who [can]...[A] lot of kids

who could not go to college who [can]. Let's look at that as individual faces. Let's look at the money saved for parents.... My personal mission is to open up as many doors for students and I think that is exactly what we are doing." (A6, personal communication, November 29, 2011).

School B worked to create relevance for students around STEM initiatives that provide a focus around which to build the skills contained within the *College Readiness Standards*. All leaders currently at School B identified the district goals when asked about current improvement efforts and all shared a desire to "open doors" for student's future with their focus on skills. One leader shared, "We want to make the opportunities....we want them to have their choice of what school to go to." She also asserted, "If they're not going to school at all and they're going into the work world, we want them to have a kind of a leg up, to have some kind of a marketable skill" (B5, personal communication, December 8, 2011).

School C struggled to generate the urgency for change in their culture of autonomy. School C's current principal shared: "I am having to slow down and I think there is still a disconnect with much of my staff here as to why I am so earnest about this. After all, there is no wolf at the door. Our kids are getting into the schools they want to. What I am talking about in their eyes is for under achieving schools who are struggling" (C1, personal communication, November 9, 2011). The principal at School C also challenged them to examine the way they operate. She set the goal of "all same course teams having the same targets and common assessments" (C1, personal communication, November 9, 2011). She built off the district's *Excellence and Equity* goal, as she

emphasized her core belief about equity. She shared her enthusiasm for what she termed a miracle that she believes in. She believes, “that America public schools open their doors every August to whoever lives in their attendance area regardless of their surname and address they are living at and do the best we can.” She added a core belief: “[I am] not interested in just paying attention to the adults and how they are feeling when I still have a shameful situation. We are a tracked situation with honors, gen ed and survey....you can tell which are my survey classes by the color of the kids in there. There are so few kids of color sitting in the AP classes” (C1, personal communication, November 9, 2011).

### **Selling the Initiative**

The principal at School A shared the value of sharing successes with her staff: “I always say changes in education are evolutionary, not revolutionary. It takes time, but you get buy in through success. No matter who your naysayers are, when they see the kids are doing well they are going to get on board. Because everyone wants to see the kids be successful” (A1, personal communication, November 3, 2011). The leaders of the school consistently shared data of increased AP participation and increased EXPLORE to PSAT ACT growth at the beginning of every year. When leaders in place today were asked if they believed efforts would be successful, they unequivocally agreed with the current principal at School A who answered, “Yes, they already have been successful” (A1, personal communication, November 3, 2011).

This was exemplified by School A’s assistant principal of student activities who taught mathematics for 14 years before moving into his current position. He shared the

impact of seeing efforts that have integrated skill development within curriculum in a meaningful way. He reflected:

If you would have asked me ten years ago or even eight years ago, I would have said, “no.” I was probably one of the holdouts, but as I have seen the whole change in the curriculum and how it fits together and benefits kids...it is not teaching to the test. You know, I was one of the people early on that said, ‘If we’re going to teach the ACT skills, of course they are going to do better.’ I am seeing more kids being able to analyze and synthesize a lot of information and do a lot of things that are not test driven...to see kids who have never had an opportunity to be in an honors or AP class to not only have that opportunity, but to do well and excel in those classes. I think it is pretty exciting. I have bought in because as I have seen this grow, it is not teaching to the test, it is giving our kids skills to be able to perform in the future and do well and be successful. (A7, personal communication, November 29, 2011)

He exemplified the power of continuing to share the data. He continued: “When you see the data and say, ‘Wow it is impressive.’ What is more impressive is that the young adults we put out there. The data gives them the opportunity. I was afraid of putting out book smart without common sense and that is not the case” (A7, personal communication, November 29, 2011).

The social studies leader who increased School A’s social studies departmental focus shared that he utilized course specific data to drive the department’s work. He shared, “We have developed a series of skill templates that are usable in classes...these are thinking skill exercises” (A3, personal communication, November 29, 2011). More than creating buy in because they helped create these tools, the teachers were significantly impacted when they implemented these skill templates. He continued, “[W]hen a student really has to demonstrate their understanding or lack thereof, that does allow you to offer teaching in the moment that goes farther than a general lesson can for

kids” (A3, personal communication, November 29, 2011). After teachers were introduced to these skill based activities and saw them work, his teachers “...made their own versions of them and expanded on the things that could be put into practice and they never looked back on that” (A3, personal communication, November 29, 2011). As previously noted, School A utilized the EPSA™ system to measure student growth. This system uses the EXPLORE test, the PLAN test and the ACT. He also strategically highlighted increases in growth within sections employing this focus. The social studies leader in School A shared: “We saw a bump with the freshmen as part of the PLAN and the first thing I did was run to the teachers and say ‘this is good’ and gave them results for their own students. They could go back to kids and say, ‘You grew 5’” (A3, personal communication, November 29, 2011). He also shared the data with his freshmen AP teachers who were not implementing these templates and asked his AP teachers why their students were not growing as much. After getting push back from the freshmen AP teachers, he actually identified students within the other classes that were doing well enough to create a new section of AP that he taught himself. He employed these templates and skill focus and “that section showed huge growth.” He took the results to his fellow AP teachers and said, “Look guys, I am not a better teacher than either of you and this made a significant difference for these kids” (A3, personal communication, November 29, 2011). These teachers took the risk and made the shift. The next year and every year since, their students’ growth exceeded those in non-AP classes. He employed this strategy over and over again with his own efforts along with an increasing number of teachers motivated by the tangible results.

School A's mathematics and science instructional leader shared the ease teachers had focused on content along with the challenge of gaining traction on a skill based focus. However, he also shared the power of formative assessments that illuminated the need for skill based focus. He shared, "[The teachers] find out that kids can't do what [they] assumed they could" and then increase their work to build those skills. He continued, "We are seeing how much kids struggle with these and we are then re-teaching...reteach, reteach, reteach" (A6, personal communication, November 29, 2011).

School B's English instructional leader shared her view of "selling" the department's initiatives in light of the current STEM focus across the school. She shared, "If we're looking at STEM as a program and we're looking at all the different STEM opportunities that kids have in our building, in order for kids to be able to access any of that, they have to be able to read, they have to be able to think critically, and they have to be able to write well, and those are the three skills we focus on in English. So, you know, I would say that from an English perspective, without us and without the skills we are imparting, our kids are not going to be successful in STEM" (B4, personal communication, December 8, 2011).

In essence, the principal at School B unilaterally created the school's improvement efforts and then was aware that he "needed to sell it over and over again" (B1, personal communication, November 3, 2011). The principal and almost all leaders shared a belief in the importance of and efficacy for success for their efforts. He shared that his "school improvement efforts was first a culture among students and staff,

convincing both students and staff that they are competitive in this space.” The principal shared:

When I came in my view was certainly that we need to be a national model school based upon the challenges that we have. If we can't be successful, then nobody can in this space. We have the resources to be successful so there is no excuse for us. If we can't do it, it can't be done and I know that is not the case. (B1, personal communication, November 3, 2011)

He also reflected on the fact that having the STEM focus was not enough. He continually needed to create the reason for change:

I looked at all the projections and knew where we were going and why. I had to sell it. I showed them all data, I showed them the enrollment projections and I created a reason for change. If there is no reason to change, then why would you change? (B1, personal communication, November 3, 2011)

With the district goals in place, School B was also privy to School A's data, which was reported to be motivational. One example was demonstrated by School B's English instructional leader who reflected on her disappointment of her school's latest growth figures in English. This was generated out of comparison with School A as she shared:

[School A] had 9.2 points of growth this past year and their population is absolutely different than ours, but our high kids are coming in just as high as [School A]'s kids and our low kids are coming in just as low. We need to make gains with our subgroups like [School A] makes with theirs and we need to push our high kids the way [School A]'s pushing theirs. (B4, personal communication, December 8, 2011)

This shared data informed and motivated School B's skill based efforts. Part of the motivation was a level of competition, which was illuminated by the former associate principal of curriculum, as she reflected, “We knew we could never beat [schools in the

district with less diversity] with their average ACT scores, but we thought that we could beat...any school in terms of at least the growth piece” (B7, personal communication, February 14, 2012).

School C was still in the process of transitioning from autonomy at every level within the school to a more systemic approach focused on goals established by the principal. She challenged her faculty directly. She recalled: “I have stood up in front of the faculty and said, ‘I think your grades are made up.’ I think they are measuring compliant behavior, and I think that what is an A in your class may very well be a B in my class” (C1, personal communication, November 9, 2011). Her focus was on establishing goals that would bring them in line with current educational research across her leadership team to motivate change across the school.

### **Maintaining Focus**

For School A, a growth goal that incorporated ACT’s *Standards of Transition*, now the *College Readiness Standards* has been in place since 1999. School A’s goal of increasing growth included determining EXPLORE to PSAT ACT growth. School B adopted a very similar growth that incorporated the *College Readiness Standards*, and measured growth in a similar fashion beginning in the 2003-2004 school year. A new principal absorbed this goal within a STEM focus that has been maintained since the 2007-2008 school year. In addition, the superintendent of the district in which School A and School B reside set three district goals in 2007 that aligned with their efforts and that have remained in place. The goals included increasing student growth within the *College Readiness Standards* as measured from EXPLORE to the PSAT ACT, increasing



Advanced Placement (AP) participation and success, and decreasing the amount of Ds and Fs across the district.

These systemic skill based efforts met with resistance within each school. The English instructional leader who was instrumental in beginning these efforts at School A shared, “The resistance which was pretty strong and remained strong when [the new principal] became the principal....We withheld it and they waited for the results to continue and they did” (A2, personal communication, November 29, 2011).

School B also faced challenges to the defined initiative and remained on the defined course. One leader shared that the new principal faced challenges and overcame them by remaining on his path. He observed:

[The principal] was a private sector guy. He gets the fact that you’re going to have resistance; with any change you’re going to have resistance. Fine Arts, you know. What does this mean for English? Do we matter? And so the fact that he came out and he wasn’t wishy-washy. This is what we’re doing....I would be lying to you if I said there wasn’t resistance and resentment out of English [asking] how do we fit that? But they’ve come around to realize we’re still a comprehensive high school, we’re just giving kids opportunities. (B3, personal communication, December 8, 2011)

School C had been one in which autonomy flourished for years. The principal began in the 2010-2011 school year, set a focus on common targets and assessments, and shared the message that she will remain and maintain the school’s focus. She did get pushback. She reflected, “You would think I was talking about violating the Constitution of the United States” (C1, personal communication, November 9, 2011). The new principal at School C recognized the challenge in front of her due to the school’s tradition of autonomy, high performing students, and short tenure of principals in recent year. She

understood the difference systemic efforts make and shared that she was, “hired here with a multi-year contract and...have no intentions of going anywhere” (C1, personal communication, November 9, 2011).

### **Right People on the Bus**

All three schools set the vision and helped their efforts gain traction by empowering their leaders to build out their efforts. They also made sure those who were leading sincerely bought into defined goals. If they did not demonstrate this belief by helping their efforts gain traction within their department, they put different leaders in place. This occurred in each school after systemic efforts began.

As a new principal in School A joined the school from the outside during the 2005-2006 school year, she became a supporter of the principles and the school’s initiatives. She shared that one of her first tasks was to “increase the buy in by replacing administrators who didn’t...You need the right people in place” (A1, personal communication, November 3, 2011). The current team, with a few new administrators replaced, has been in place since the 2008-2009 school year. Interviews with each demonstrated a high degree of collective autonomy since the 2007-2008 school year. This extended to staff members also. New staff members that shared belief in the principles were sought and hired, and in one case the new principal revealed that a counselor shared that she did not believe in these efforts as they were “making the kids think they are smarter than they really are.” The current principal continued, “She is no longer with us” (A1, personal communication, November 5, 2011). She stressed that individuals who philosophically align with the defined mission of the school, multiply those efforts as she

reflected, “I think hiring is critical and they need to buy into the system and they have to be willing to collaborate and support. We do not want lone rangers” (A1, personal communication, November 5, 2011).

School B shared several examples of changes that occurred within the organization’s leaders to ensure support. The former associate principal became a principal as the district-wide focus on student growth began. She reflected that one could not be an instructional leader within the district without being “on board with the skills....you either came on board with the skills or you were terminated from your position” (B7, personal communication, February 14, 2012). In line with this thinking, School B’s new principal made needed changes. Because of openings, he was able to hire both associate principals on his team. In addition, the former associate principal observed that the new principal made needed changes within the school’s English department as he, “released...five teachers and released one division head, and now has...a totally new...department” (B7, personal communication, February 14, 2012).

The School C principal shared her vision for common targets and assessments and then “dealt with the fallout” (C1, personal communication, November 9, 2011). She did not change direction, but she did change a few of the leaders. After she set the school’s goals she shared: “One [department chair] resigned, and said she couldn’t work under those conditions. I did have another department chair choose to step down. He said, ‘I can’t navigate the vociferous nature of people in my department who are smiling and saying yes, yes, yes and then going behind closed doors and saying hell will freeze over before I do that’” (C1, personal communication, November 9, 2011).

### **Study Limitations**

Student scores on EXPLORE and the PSAT ACT were used to generate growth figures and context adjusted value-added scores for the three schools analyzed. There was a general assumption made that the results of these calculations were correlated to the effectiveness of skill focus by the three schools. Although it was maintained that this was appropriate, it was not possible to attribute the school's actions in a one-to-one fashion with changes in these values. For example, there are also many factors external to the school that can impact results such as test preparation by private tutors and tutoring agencies.

It was also important to note that the scores analyzed do not represent every student in School A or School B. To be included in this analysis each student needed to be in attendance to complete the EXPLORE test. This basically limited the study to students who have attended each high school all four years or who have been in the district for all four years. On one hand, that strengthens the study as it narrows the data to only those impacted by the school all three years, with the exception of a few who transferred between schools. On the other hand, it does limit the study and does not represent all students in the school. For this study, students in School A and School B were also eliminated if they had partial EXPLORE scores or if they had scores entered without the date the EXPLORE test was administered. Due to the need for the time in months, these students, which included a small number for many of the years analyzed, were eliminated from the study. In addition, School C did not respond to requests for the number of students who did not take the EXPLORE test. Only students with EXPLORE

data and PSAE ACT data were provided for analysis. Therefore, School C's population tested was coded consistently as 100% assuming there were very few transfers into the school.

There was also one major change to the PSAE ACT during the time span analyzed. In 2007, Illinois changed the way it assessed English Language Learners (ELL). Prior to this year, the state gave an ELL assessment called the IMAGE test. This was discontinued in 2007 and all ELL students were required to take the PSAE ACT for state testing (Ruscitti, 2007). Of all the three schools included in this study, School A would not have been affected by this change as this school does not have an ELL population. School C would be minimally impacted due to small ELL numbers of students. However, School B could have been significantly impacted by this change. Prior to the Class of 2008, ELL students would not be tested using the ACT. After that date, School B's figures included their significant ELL population in their scores. This adds to the impressive nature of School B's results that were maintained across the board after this change.

This study provided support for the fact that leadership actions can improve student performance for mandated educational initiatives. It also provided hope that coordinated systemic efforts can make a difference. However, due to the fact that this study was limited to three schools, one of which could have made gains without identifiable systemic efforts, there are limitations to the ability to generalize this study.

In addition, the method to determine the collective autonomy of each instructional leader was accomplished by summarizing the roughly 45-minute interview around the

questions included in Appendix C. This process, although it utilized a clear rubric with clearly defined attributes, was limited by design. Confounding the difficulty of this process was the fact that many key instructional leaders had changed over the time span analyzed. In some cases reflections of other leaders were used to infer the collective autonomy over time. In most cases, the lack of information led to leaders being classified as *NA* when these leaders could have actually been classified with *complete* or *partial* collective autonomy.

### **Conclusion**

To be successful in the age of accountability, school leaders, particularly principals, need to continue to build their capacity to lead meaningful, systemic and sustainable student improvement efforts like those mandated by NCLB. At the same time, principals need to inspire those involved in school improvement work that the school's identified goals are achievable, meaningful and lasting.

This study focused on improvement efforts of three Chicagoland schools over the last decade to inform the importance of the school leadership team's collective autonomy as they implemented mandated reform and improvement efforts. It also armed school leaders with insights to help increase their success on the journey of creating collective autonomy. Overall, this study included some exciting results highlighted by the increased EXPLORE to PSAE ACT growth that followed systemic improvement efforts, particularly as shown in School A. This school achieved the highest degree of collective autonomy and increased student growth and value-added measures. In School A, the data reinforced that once a leader of a department achieved collective autonomy with focus on

skills aligned with the *College Readiness Standards* occurred in earnest, increased growth from EXPLORE to the PSAT ACT and indeed on the ACT scores for all graduating seniors increased in predictable patterns. The English instructional leader who initiated this school's improvement vision reflected on how this was truly different than the results in many high schools today. He reflected on the fact that ACT results are so strongly correlated to socioeconomic predictors, as he said: "High school education pretty much produces exactly what is predicted socioeconomically. Schools don't make a difference. The differences are in socioeconomics...[T]eachers don't teach skills. So kids are generally just reflecting the skills they would develop as a result of their socioeconomic placement" (A2, personal communication, November 29, 2011). This is, in fact, an indictment of the American high school system. This strong correlation of student performance on standardized tests and socioeconomic and minority factors have been cited in many studies through time (Allen, Bassiri, Noble, 2009; Goldschmidt & Choi, 2007; Wainer, 2004). This strong correlation supports one of two conclusions. First, that America's more wealthy students are receiving a fundamentally more sound education, or second, that they are learning their skills in spite of America's educational system and have supports at home to do so. On the whole, America's low-income counterparts are receiving neither to the same degree. Significant need exists to incorporate skill development into American high school curricula.

According to Zmuda, Kuklis and Kline (2004) successful transformation of schools involves six steps of continuous improvement:

1. Identifying and clarifying the core beliefs that define the school's culture.

2. Create a shared vision by explicitly defining what these core beliefs look like in practice.
3. Collect accurate, detailed data and use analysis of the data to define where the school is now and to determine the gaps between the current reality and the shared vision.
4. Identify the innovation(s) that will most likely close the gaps between the current reality and the shared vision.
5. Develop and implement an action plan that supports teachers through a change process and integrates the innovation within each classroom and throughout the school.
6. Embrace collective autonomy [as] the only way to close the gaps between the current reality and the shared vision, and embrace collective accountability in establishing responsibility for closing the gap. (pp. 18-19)

Although this research focused on the impact of collective autonomy, one interesting finding was that cyclical utilization of the first five steps of Zmuda, Kuklis and Klein's improvement framework was in essence a significant tool for generating the collective autonomy called for in step six. It was important to note that for these schools, the improvement efforts were driven by the first two steps in this improvement process. Defining the beliefs and creating a vision were largely completed by the principals in a unilateral manner after they gathered significant input. School A and B increased collective autonomy after these were completed and communicated. The English leader stressed that although improvement efforts began in English, the school's improvement



efforts were always designed to be an all-school effort. Not all members of given leadership teams or teachers charged with implementing efforts were on board initially. Steps taken to increase buy in incorporated steps three through six.

The English instructional leader from School A captured this important observation that varies significantly from what has traditionally been taught to school leaders who have been taught to create buy in through an inclusive process of creating goals and a vision. He shared: “You need to control by giving clear structure with clear goals and then give space where the best will rise to the top. Collaboration is one of the principles, but it is accountable collaboration” (A2, personal communication, November 29, 2011). Once the goals are in place, he described the power of the efforts with a great description of collective autonomy. He shared: “What has really increased is the technical capacity of teachers. Throw a common theory out there that has very clear directions and ends and give it to good and smart people and put them in this collaborative environment and keep emphasizing to them that this is the way it is going to be and magic happens” (A2, personal communication, November 29, 2011). He described what he observed in School A. The school’s autonomously created goals created the structure around which the school’s leaders and teachers continuously implemented efforts to achieve.

As collective autonomy increased, student growth increased in predictable patterns for School A and School B. This study provides evidence that focused goals on skill development can result in increased skills across the board. As educators began to view their content as vehicles for skill development and actually measure their students’ skills, their efforts to increase them appeared to pay dividends. Ensuring the skills of

every student was not only viewed as important; it was considered the moral imperative of the three principals that set NCLB related goals for their schools in this study. Clearly, this should be followed by every individual entrusted with the preparation of America's youth.

School C's story was one of autonomy as opposed to collective autonomy and no systemic efforts other than skill based efforts within social studies were discovered until the year 2010 when a new principal arrived and provided the school's focus on common targets and assessments. Although it was interesting to note that the Class of 2011's mean context-adjusted value-added scores showed a significant increase on every sub-test, further study was needed to identify causes. Additional increases in these scores may have been present throughout the time span included in this study, but due to the lack of School C's data analysis, coupled with the inability to provide the data prior to the Class of 2008, no conclusion was formulated.

This study also highlighted the fact that although universal testing was imperfect, all tests were not equally bad. In fact, this study provided evidence that the skill based ACT test responded to meaningful efforts to improve skills surrounding the *College Readiness Standards*. Although there were many calls for change in America's current accountability efforts, high quality assessments taken seriously by students offer value to inform America's collective efforts to improve student learning. National voices in education like Diane Ravitch often call for the full elimination of testing. Ravitch (2010) summarized her thoughts:

Schools that expect nothing more of their students than mastery of basic skills will not produce graduates who are ready for college or the modern workplace. Nor will they send forth men and women prepared to design new technologies, achieve scientific breakthroughs, or accomplish feats of engineering skill. Nor will their graduates be prepared to appreciate and add to our society's cultural achievements or to understand and strengthen its democratic heritage. Without a comprehensive liberal arts education, our students will not be prepared for the responsibilities of citizenship in a democracy, nor will they be equipped to make decisions based on knowledge, thoughtful debate and reason. (p. 226)

This quote captured Ravitch's call to protect offerings within our schools that generate important attributes for our students. The English instructional leader from School A summarized his feelings for Ravitch clearly as he said: "I have great respect for her until she starts talking about testing. Then she buys into myths" (A2, personal communication, November 29, 2011). He reflected on being at a conference in San Francisco: "[Someone said] 'time to stop the drill and kill and memorization and meaningless factoids.' There was hells of ovation. I remember standing there saying 'show me one factoid on the ACT.' It is a skills based test. [This claim] is a disconnect from reality" (A2, personal communication, November 29, 2011). He summarized this entire study, in saying, "good professionals who run schools should realize that we have a responsibility to [the] community and kids. We need to ensure they walk away with something that has cash value. I would want that for my kids and you would want that for your kids. By the same token, the secret is that you can't just focus on scores and increase scores. The way you increase scores substantially is to create a culture of common instructional practice" (A2, personal communication, November 29, 2011).

This study illuminated that the call for skills and high quality learning experiences for students are not mutually exclusive goals. School A's English instructional leader summarized this fact well. He shared:

You have to be a fool to think that ACT scores is what your goal is. You have to equally be a fool to think that you can't increase performance measurably by doing something. If you look at the principles you will see critical thinking, forums that create common experiences. This is more what the kid feels, but good professionals who run schools should realize that we have a responsibility to this community and kids. We need to ensure they walk away with something that has cash value. I would want that for my kids and you would want that for your kids. By the same token the secret is that you can't just focus on scores and increase scores. The way you increase scores substantially is to create a culture of common instructional practice. (A2, personal communication, November 29, 2011)

In fact, his claim was supported by Ravitch (2010), who shared "in education, there are no shortcuts, no utopias, and no silver bullets" (p. 3).

This study focused on the need for leaders to build collective autonomy around the relentless pursuit of quality of educational rigor that aligned with the noble goals of NCLB while connecting those goals to the higher purpose of education. In effect, principals employed the improvement model contained within Zmuda, Kuklis and Kline's (2004) *Transforming Schools*. However, they did so in a manner that was different than the one strictly included in this improvement model. Zmuda, Kuklis and Klein (2004) assert that principals must employ a collaborative and inclusive process in which "members of the school community must identify their core beliefs and develop a shared vision" (p. 55). This study provided evidence that a school's goals and vision can be generated in a relatively unilateral fashion by high school principals. In fact, a compelling argument was provided by an influential school leader in School A that this

manner may be the only way that systemic improvement goals that incorporate the skills of reading and mathematics can be created within a school. In this study, the vision and focused goals were created by the principal, who gathered input and then unilaterally defined the beliefs and vision for their respective schools. They then built collective autonomy around their vision and toward achievement of their goals. It was notable that several instructional leaders noted that their ability to incorporate the school's goals was enhanced by the knowledge that the principal supported their efforts. One example included an instructional leader who worked to change her department's culture of autonomy. She shared: "You know I can be very forthright with my assistant principal and my principal and know that they've got my back and that they'll support that effort, knowing that I'm shifting the paradigm a bit within my department" (C11, personal communication, December 15, 2011). The principals also aggressively built the collective autonomy of their important instructional leaders who then generated the same within their departments. They accomplished this by collectively defining the action steps and employed several strategies to multiply their school's efforts. This multiplication of efforts was accomplished by communicating the need, continuing to sell the initiative, maintaining focus and getting the right people on the bus.

Ravitch (2010) called educators to action, "We must make sure that our schools have a strong, coherent, explicit curriculum that is grounded in the liberal arts and sciences, with plenty of opportunity for children to engage in activities and projects that make learning lively" (p. 3). This was a modern day dilemma for educational leaders who must respond to mandates for reading and mathematics achievement measured on less

than perfect tests, while supporting the comprehensive, high quality, rigorous learning that will prepare students to compete in the increasingly competitive global economy.

Educational literature often references “curricular narrowing” as a result of NCLB (Center on Education Policy, 2007; Jennings & Renter, 2006; von Zastrow & Janc, 2004). However, very few studies were found to be supported by data, and no studies were found that analyze actual student curricular choices. This study provided no evidence of a relationship between collective autonomy and curricular narrowing. This study also illuminated no significant data that sounded an alarm for “curricular narrowing” even within the two schools that created the greatest focus on systemic goals related to and motivated by addressing the target areas of NCLB. In fact, School B, the school furthest along the progression of NCLB sanctions, actually showed an increase in the average number of core and elective courses taken in 2011 as compared to 2006.

Perhaps the fact that School A and School B incorporated improvement efforts into curricular areas had the effect predicted by van Zastro and Janc (2004) who advocated for maintaining comprehensive schools:

Even while schools undertake crucial interventions designed to improve some students’ literacy and mathematics skills, they must maintain a long-term vision of what constitutes educational excellence, one that both incorporates and moves well beyond literacy and numeracy....further learning builds upon the academic foundation established by English, math, science, history, government, geography, languages, and the arts. As soon as we sacrifice one or more of these subjects to budgetary constraints, or to simple apathy, we limit students’ opportunities after graduation. In a society founded on equality, such sacrifices are unconscionable. (p. 12)

These authors shared an important strategy for incorporating skill focus and protecting the electives as they pointed out that with schools “some are incorporating reading and mathematics into other classes, from social studies to the arts” (p. 13). School A and School B demonstrated improvement efforts that were meaningful examples of doing just that.

Educational leaders must remain conscious of maintaining rich, comprehensive curricular offerings that include social studies, the arts, physical education, etc. Educational leaders must also maintain relentless focus on educating every child to accomplish the noble goals of NCLB. This study provided evidence that achieving one does not require sacrifice of the other.

### **Recommendations for Future Studies**

1. This study focused on efforts of instructional leaders along with the collective autonomy of the instructional leaders within three Chicagoland schools. Although it is reasonable to expect the collective autonomy of leaders to impact the collective autonomy of the teachers implementing improvement efforts, this study did not examine collective autonomy to the teacher level. This would be interesting to study within any one of the departments or for the teachers as a whole to examine the impact of a staff’s collective autonomy on student growth and to help inform the actions instructional leaders should employ to build collective autonomy within their own departments.
2. This study focused on growth from EXPLORE to PSAT ACT and other quality indicators like graduation rate, dropout rate, etc. for three schools for

their collective population. It did not study changes in these indicators by disaggregated group. This would be a rich study and further inform leaders on the value of different improvement efforts.

3. An interesting finding for the three Chicagoland schools was that collective autonomy began around relatively autonomously generated goals and visions.

This reinforces a point made by Bolman and Deal (2008) as they summarized:

We often assume that people prefer structures with more choices and latitude (Leavitt, 1978). But this is not always the case. A study by Moeller (1968), for example, explored the effects of structure on teacher moral in two school systems. One was structured loosely and encouraged wide participation in decision making. The other was tightly controlled, with centralization of authority and a close chain of command. Moeller found the opposite of what he expected: faculty morale was higher in the district where a tighter structure existed. (p. 50)

An interesting follow up to this study would be to repeat Moeller's 1968 study. Collective autonomy seems impossible without high buy in and teacher moral. It would be interesting to find if the results of this study are, in fact, more broadly true than currently assumed.

4. Another observation from this study was the impact formative assessments had on instructional leaders and on their teachers. Instructional leaders within School A and School B were in the process of constructing and implementing district wide formative assessments to inform student abilities within the *College Readiness Standards*. This was being supported in a staggered method for each core academic department. Leaders uniformly described the impact of illuminating the fact that students did not possess the skills assumed



by their teachers. This was described to be a motivating factor for increased focus and continued evolution of systemic efforts to impart the defined skills. It would be interesting to compare the results of schools utilizing these tools to those “focusing” on the *College Readiness Standards* without implementing such tools.

5. Interviews at the three Chicagoland schools indicated a natural progression of interventions for school improvement efforts motivated by NCLB. They seemed to begin with non-systemic targeted interventions for the disaggregated groups not projected to make AYP. These efforts seemed to begin with “test prep” and move to systemic efforts that supported the meaningful improvement of all students. It was these systemic efforts that showed evidence of school improvement. It would be interesting to research this pattern to see if it is common and to verify the power of systemic efforts.
6. Several School C instructional leaders indicated resistance to systemic efforts that stemmed from the fact that their school is a high performing school. An interesting study would be to examine the resistance that exists in high performing schools to these types of systemic efforts to study if the issues being addressed by School C are prevalent within high performing schools. Change theory often cites the importance of creating the “need for change.” Such a study could help inform instructional leaders struggling to improve high performing schools.

7. According to Scherer (2006) “the education assessment system now used can’t be considered valid under ordinary standards of program evaluation because it does not do what it is supposed to do: sort effective schools from ineffective ones” (p. 7). Goldschmidt and Choi (2007) identify four key questions that status models fall short in their ability to answer, “To what extent is previous student performance influencing current performance? What student background factors are influencing achievement? How does current performance relate to achieving the 100% proficiency target? How accurate is this model in identifying schools in need of improvement?” (p. 4). Studying how different accountability systems address each of these important questions would also be an interesting study.
8. EXPLORE to ACT growth has been shown to be dependent upon incoming EXPLORE scores. Higher incoming EXPLORE scores of a student and school result in more growth. ACT’s context adjusted value-added model includes this fact, but the fact that School C’s value-added figures were so high without attributing actions begs the question as to why. Is this the case with all homogenous high performance schools? Why or why not?
9. School C’s incoming EXPLORE scores remained constant through this study in light of demographic changes that predicted a decrease. Studying the impact of sender school actions on value-added figures could also be a rich study.

APPENDIX A  
PRINCIPAL CONSENT FORM

## CONSENT TO PARTICIPATE IN RESEARCH

**Project Title:** Leadership Team Actions that Manifest Collective Autonomy and their Impact on Student Growth and Curriculum

**Researcher(s):** Brian K. Wegley

**Introduction:**

You are being asked to take part in a research study being conducted by Brian K. Wegley for a dissertation under the supervision of Dr. Terri Pigott in the Administration and Supervision program in the School of Education at Loyola University of Chicago.

You are being asked to participate because you, as the principal, are the educational leader of your high school's school improvement efforts.

Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

**Purpose:**

The purpose of this study is to explore the curricular and co-curricular school improvement efforts of three Chicagoland high schools from as early as 2001 through 2010 in response to No Child Left Behind (NCLB). Changes in student growth in reading and mathematics using EXPLORE and ACT scores and other indicators such as graduation rate, and college bound rate will also be examined for the time period beginning as early as 2001 through 2010. Finally, the core and elective curricular choices of students throughout their four years of high school will be examined for changes during this time period.

**Procedures:**

If you agree to be in the study, you will be asked to:

- Participate in a 30 to 45 minute interview at your convenience at your school and will be set up via email. Specifically, actions and perceptions regarding curricular and co-curricular school improvement efforts your school has initiated in response to NCLB will be explored. In addition, other key members of the leadership team responsible for implementing the school's improvement efforts will be identified and asked to participate in a similar interview. Confidential interviews will be digitally audiotaped, transcribed and sent to the interviewee via email to review and verify.
- Provide de-identified student EXPLORE and ACT scores with race and low-income status from as early as 2001 through 2010.
- Provide de-identified student transcripts from as early as 2001 and 2010.
- Provide state report cards for each year in which EXPLORE and ACT data are provided.

- Provide a school improvement summary document if one is not filed with the Illinois State Board of Education.

**Risks/Benefits:**

There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.

There are no direct benefits to you from participation, but the results of this research will help inform successful leadership efforts. In addition, each principal will receive their school's EXPLORE to ACT value-added score for the reading and mathematics sub-tests. These value-added calculations will be generated by comparing the school's actual ACT scores with those predicted by ACT's context-adjusted model, which incorporates data from 1,341 high schools.

Finally, observations regarding student curricular choices through time will be shared with you as the principal.

**Confidentiality:**

Schools will be referred to as only School A, School B and School C. The identities of individuals interviewed will be identified numerically only as A1, A2, A3, etc. Interviews will be audiotaped and transcribed using only the leader's code name. Participating schools will be kept strictly confidential. The confidentiality of participating individuals will be maintained to the degree that is possible by the researcher. Only the researcher will have access to the raw data.

**Voluntary Participation:**

Participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty.

**Contacts and Questions:**

If you have questions about this research study, please feel free to contact Brian K. Wegley at (847)486-4559 or [bkwegley@glenbrook225.org](mailto:bkwegley@glenbrook225.org), or Dr. Terri Pigott at (312)915-6245 or [tpigott@luc.edu](mailto:tpigott@luc.edu).

If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

**Statement of Consent:**

Your signature below indicates that you have read the information provided above, have had an opportunity to ask questions, and agree to participate in this research study. You will be given a copy of this form to keep for your records.



APPENDIX B  
ADMINISTRATOR CONSENT FORM

## CONSENT TO PARTICIPATE IN RESEARCH

**Project Title:** Leadership Team Actions that Manifest Collective Autonomy and their Impact on Student Growth and Curriculum

**Researcher(s):** Brian K. Wegley

**Introduction:**

You are being asked to take part in a research study being conducted by Brian K. Wegley for a dissertation under the supervision of Dr. Terri Pigott in the Administration and Supervision program in the School of Education at Loyola University of Chicago. You are being asked to participate because you are an educational leader of your high school's school improvement efforts.

Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

**Purpose:**

The purpose of this study is to explore the curricular and co-curricular school improvement efforts of three Chicagoland high schools from as early as 2001 through 2010 in response to No Child Left Behind (NCLB). Changes in student growth in reading and mathematics using the EXPLORE and ACT scores and other indicators such as graduation rate, and college bound rate will also be examined for the time period beginning as early as 2001 through 2010. Finally, the curricular choices of students throughout their four years of high school will be examined for changes in response to NCLB.

**Procedures:**

If you agree to be in the study, you will be asked to participate in a 30 to 45 minute interview at your convenience at your school and will be set up via email. Specifically, actions and perceptions regarding curricular and co-curricular school improvement efforts your school has initiated in response to NCLB will be explored. Confidential interviews will be digitally audiotaped, transcribed and sent to the interviewee via email to review and verify.

**Risks/Benefits:**

There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.

There are no direct benefits to you from participation, but the results of this research will help inform successful leadership efforts. In addition, each principal will receive their school's EXPLORE to ACT value-added score for the reading and mathematics sub-tests. These value-added calculations will be generated by comparing the school's actual ACT



scores with those predicted by ACT's context-adjusted model, which incorporates data from 1,341 high schools. Finally, observations regarding student curricular choices through time will be shared with the principal.

**Confidentiality:**

Schools will be referred to as only School A, School B and School C. The identities of individuals interviewed will be identified numerically only as A1, A2, A3, etc. Interviews will be audiotaped and transcribed using only the leader's code name. Participating schools will be kept strictly confidential. The confidentiality of participating individuals will be maintained to the degree that is possible by the researcher. Only the researcher will have access to the raw data.

**Voluntary Participation:**

Participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty.

**Contacts and Questions:**

If you have questions about this research study, please feel free to contact Brian K. Wegley at (847)486-4559 or [bkwegley@glenbrook225.org](mailto:bkwegley@glenbrook225.org), or Dr. Terri Pigott at (312)915-6245 or [tpigott@luc.edu](mailto:tpigott@luc.edu).

If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

**Statement of Consent:**

Your signature below indicates that you have read the information provided above, have had an opportunity to ask questions, and agree to participate in this research study. You will be given a copy of this form to keep for your records.

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher's Signature

\_\_\_\_\_  
Date

APPENDIX C  
GENERAL INTERVIEW QUESTIONS

### **Leadership Questions**

1. Please state your name and share your history with this school.
2. What has been the history of your curricular and co-curricular school improvement efforts since 2001?
3. What are current school improvement efforts underway at this high school/department?
4. What process was used to develop these goals?
5. What are the expected outcomes of these efforts?
6. Do you personally believe these efforts will be successful? In your opinion, does your leadership team?
7. When considering your personal mission of education, how important are these efforts for the students of this school?
8. Which efforts would you expect to address the goals of NCLB, if any? In what ways?
9. What are your beliefs about NCLB? Goals and implementation?
10. What are the NCLB beliefs of your leadership team?

APPENDIX D  
EMAIL INTERVIEW VERIFICATION

Dear [Insert Name],

Thank you again for all your help with my dissertation. I enjoyed our conversation and have enjoyed learning the story of your school's improvement efforts.

Attached is the transcript of our discussion. Please contact me if you see the need for any changes. If I do not hear from you by the end of the week, I will assume the transcript is fine.

Thank you again and have a great weekend.

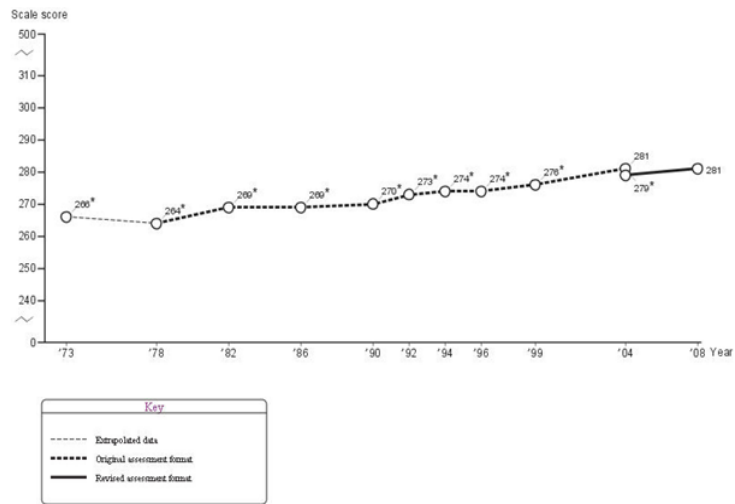
Brian

Brian K. Wegley  
Principal

Glenbrook South High School  
4000 West Lake Avenue  
Glenview, IL 60026

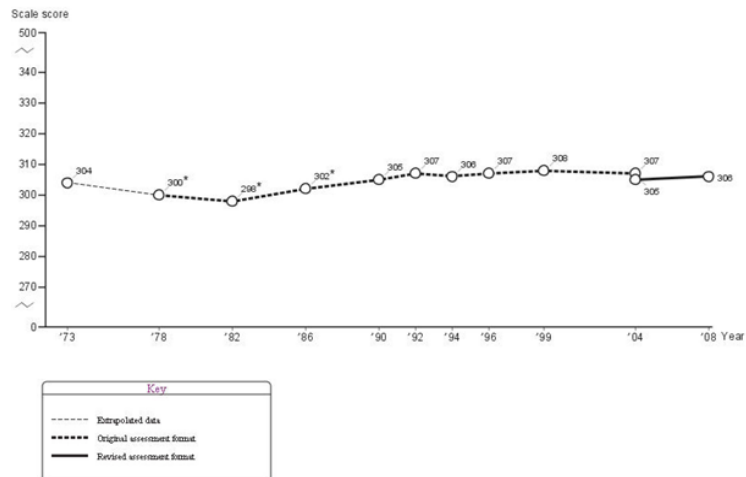
APPENDIX E  
NAEP LONGITUDINAL GRAPHS OF STUDENT ACHIEVEMENT

Trend in NAEP mathematics average scores for 13-year-old students



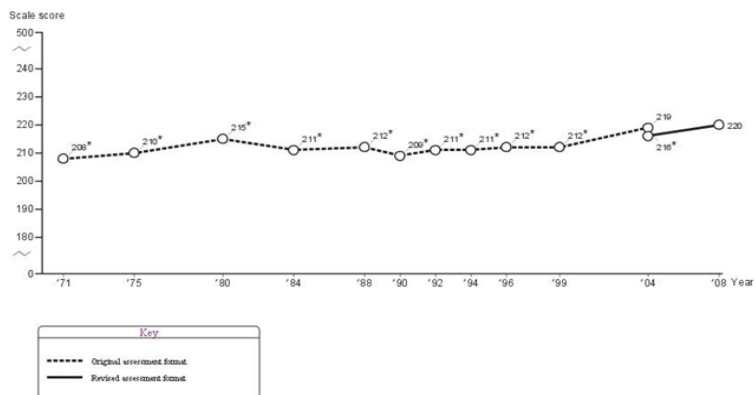
Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0002.asp?subtab\\_id=Tab\\_2&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltt_2008/ltt0002.asp?subtab_id=Tab_2&tab_id=tab1#chart)

Trend in NAEP mathematics average scores for 17-year-old students



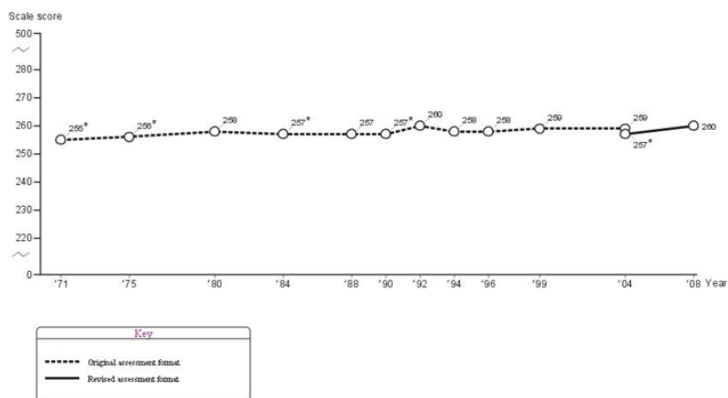
Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0002.asp?subtab\\_id=Tab\\_3&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltt_2008/ltt0002.asp?subtab_id=Tab_3&tab_id=tab1#chart)

Trend in NAEP reading average scores for 9-year-old students



Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0003.asp](http://nationsreportcard.gov/ltt_2008/ltt0003.asp)

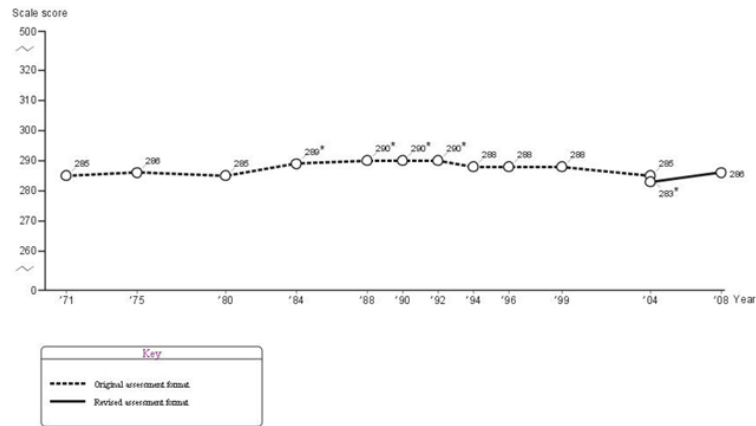
Trend in NAEP reading average scores for 13-year-old students



Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0003.asp?subtab\\_id=Tab\\_2&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltt_2008/ltt0003.asp?subtab_id=Tab_2&tab_id=tab1#chart)

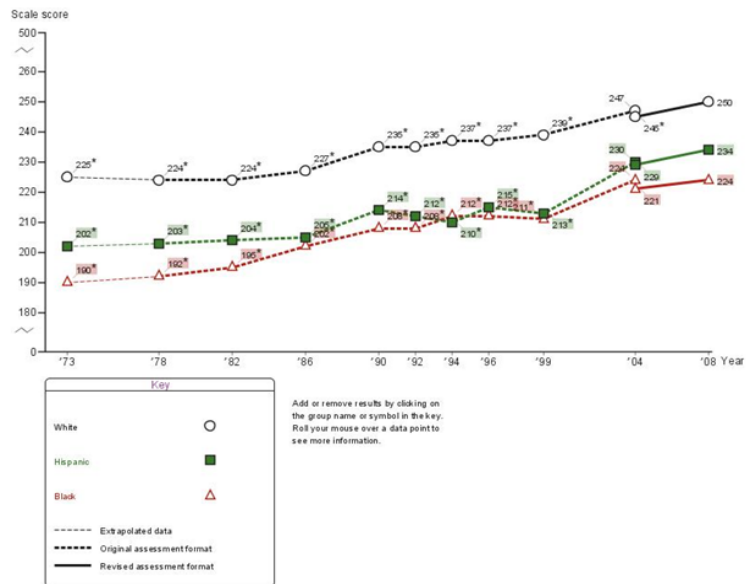


Trend in NAEP reading average scores for 17-year-old students



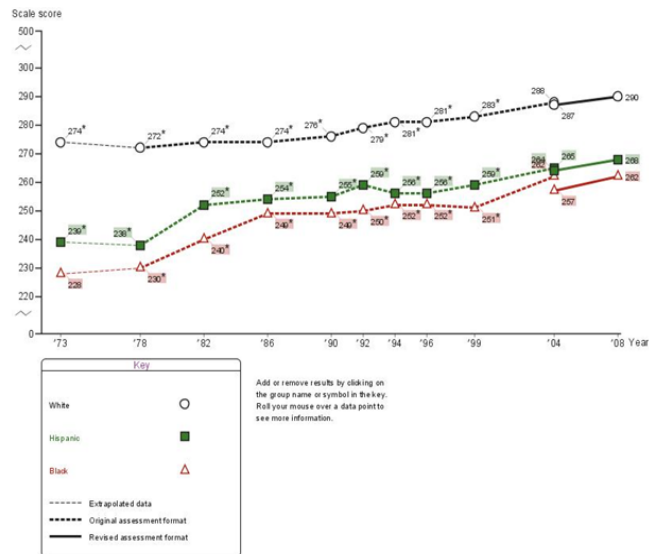
Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0003.asp?subtab\\_id=Tab\\_3&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltt_2008/ltt0003.asp?subtab_id=Tab_3&tab_id=tab1#chart)

Trend in NAEP mathematics average scores for 8-year-old students, by race/ethnicity



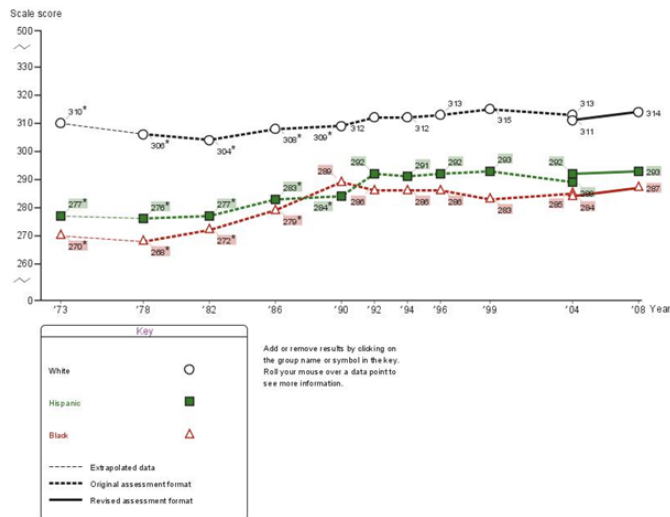
Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0005.asp](http://nationsreportcard.gov/ltt_2008/ltt0005.asp)

Trend in NAEP mathematics average scores for 13-year-old students, by race/ethnicity



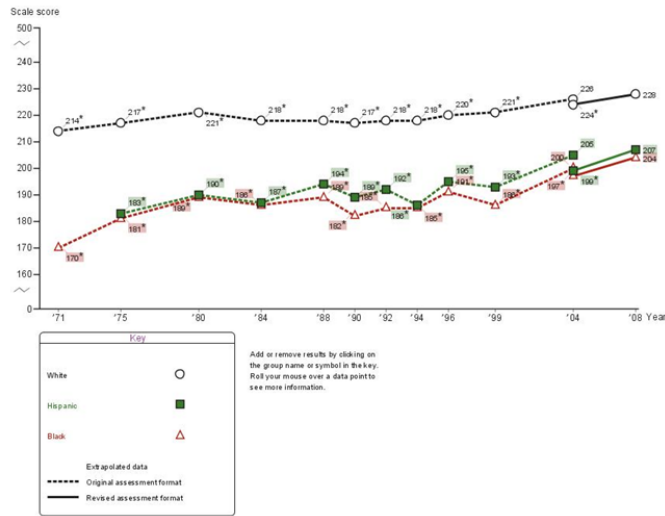
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Trend in NAEP mathematics average scores for 17-year-old students, by race/ethnicity



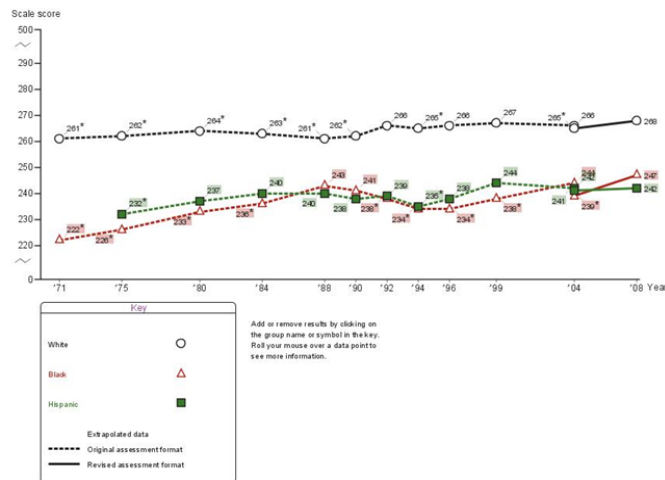
Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltt\\_2008/ltt0005.asp?subtab\\_id=Tab\\_3&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltt_2008/ltt0005.asp?subtab_id=Tab_3&tab_id=tab1#chart)

Trend in NAEP reading average scores for 9-year-old students, by race/ethnicity



Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltr\\_2008/ltr0009.asp](http://nationsreportcard.gov/ltr_2008/ltr0009.asp)

Trend in NAEP reading average scores for 13-year-old students, by race/ethnicity



Note: From "The Nation's Report Card - About the Nation's Report Card The Nation's Report Card - About the Nation's Report Card ." NAEP - Nation's Report Card Home . National Assessment of Educational Progress. Retrieved March 1, 2011, from [http://nationsreportcard.gov/ltr\\_2008/ltr0009.asp?subtab\\_id=Tab\\_2&tab\\_id=tab1#chart](http://nationsreportcard.gov/ltr_2008/ltr0009.asp?subtab_id=Tab_2&tab_id=tab1#chart)

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## VITA

Brian K. Wegley is the son of Marilyn K. Pecoraro and Donald J. Pecoraro. He was born in Dickenson, North Dakota on March 11, 1966. He currently resides in a suburb of Chicago with his wife Kathy and two children, Corine and Rob.

Belonging to a military family, Brian Wegley attended public schools in Utah, Hawaii, New York and Illinois. He graduated from Augustana College in 1988 with a Bachelor of Arts degree in physics, mathematics and secondary education. In 1995 he earned a Master of Arts degree in Educational Leadership, which included a Type 75 School Administration Certificate. In 2012, he completed his Educational Doctorate in Administration and Supervision at Loyola University, which he began in 2007.

Brian Wegley has served in the field of education for the past 24 years after beginning his career as a mathematics teacher at Moline High School in Moline, IL. He taught physics at St. Charles High School, St. Charles North High School and Glenbrook South High School for a total of 16 years and also enjoyed many years of athletic coaching. He has held administrative positions as an instructional coordinator and associate principal of curriculum before his current role as the principal of Glenbrook South High School, a position he has held for the past seven years.

Brian Wegley is an active member of Rotary, attends Glenview Community Church and continues to be an active member of several leadership councils in the Chicagoland area.

## DISSERTATION COMMITTEE

The Dissertation submitted by Brian K. Wegley has been read and approved by the following committee:

Terri Pigott, Ph.D., Director  
Professor, School of Education  
Loyola University Chicago

Janis Fine, Ph.D.  
Associate Professor, School of Education  
Loyola University Chicago

Marla Israel, Ed.D.  
Associate Professor, School of Education  
Loyola University Chicago