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A Tale of Two City Schools

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A TALE OF TWO CITY SCHOOLS: LEADERS' PERCEPTIONS

OF CHANGE IN A HIGH-STAKES TESTING ENVIRONMENT

BY

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ABSTRACT

This study focused on two urban, Massachusetts high schools and the question of how the practices of school leaders related to the level of performance. Specifically, it attempted to provide specifics as to perceptions educational leaders held with regards to high-stakes environments and how they responded to state mandates. The study examined how leaders in both schools define successful reform, perceive high-stakes testing, perceive a need to raise student achievement, and implement reforms in response to high-stakes testing. For the purpose of this study, a leader was defined as anyone within the school system who has the power/ability to facilitate, implement, or lead change. The study combined qualitative interview data and survey methodology to examine differing perceptions and to identify the factors most strongly associated with different levels of reform success The findings from the scales, surveys, and interview data suggest that in a state with high-stakes testing, successful reform was defined by strategies that get "results,"— i.e. achievement on the high-stakes exam. Results help schools measure their progress and also appear to influence teacher support. The findings also show that success in a high-stakes environment is predicated on setting high standards for all students and being consistently aware of student achievement, which includes monitoring and guiding those students who struggle.

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CHAPTER 1: INTRODUCTION TO THE STUDY

Still the question recurs, "Can we do better?" The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty and we must rise with the occasion. As our case is new, so we must think anew and act anew
-Abraham Lincoln

Background

In his Annual Message to Congress, Lincoln exhorted its members to join him in a united venture on December 1, 1862. Early in his presidency, it was clear that change was imminent. Leaders such as Lincoln are not only instruments of change, they are catalysts for change. Within the realm of education, leadership is an important ingredient for educational change, and opportunities for exercising leadership are not dependent upon position. Leadership can come from any place within or even outside an educational organization (Covey, 1990; Day, 2000; Dufour & Eaker 1998; Fullan & Levin 2009; Henderson & Berla, 1994; Lambert, 2005; Riel & Fulton 2001).

Leading meaningful change in education may mean mobilizing schools, families, and communities to deal with some difficult issues—issues that people often prefer to sweep under the rug. More often than not, any significant, adaptive change that benefits the educational system may clearly and tangibly hurt some of those who have thrived under the status-quo. At times, leaders simply follow a set of behaviors, meet expectations, and stay within the scope of authority; however, successful leadership often involves challenging already established authority. When that occurs, leaders often meet with resistance.

Historically, successful school leaders have wanted to see and implement major reforms in public education. Across the United States, leaders have been frustrated by

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problems that they say get in the way of improving schools. The difficulties of school

leadership have been compounded in the last twenty years with the advent of standards-

based reform and high-stakes testing. The role of leadership has become more important

in light of these developments. However, leaders also face more challenges with the

addition of such high-stakes mandates (Borg, Plumlee, & Stranahan, 2007; Foster, 2004:

Johnson, Kimbal, Brown, & Anderson, 2001; Leithwood & Day 2007; Leithwood,

Louis, Anderson, & Wahlstrom, 2004; Natriello & Pallas, 1999; Nichols & Berliner

2007).

For example, school districts have experienced increases in responsibilities and

state-mandates without getting the resources to meet them (McDermott & Jensen, 2005).

The mandates from the states have produced the need for change within schools;

however, the mandates may also encounter constituencies that are likely to fight hard

against significant change. Consequently, most types of change are likely to be

controversial. Such is the case with standard-based reform. Specifically, many states,

like Massachusetts, require that students pass the state's "high-stakes" test in order to

receive their high school diplomas. Leaders within education must balance all of these

forces.

The main focus of this study was to examine the role of leadership and leadership

perceptions in successful standards-based reform. Both change and reform have become

permanent fixtures in education. How leaders cope with this new landscape will help to

determine the success or failure of standards-based reform in education.

Conceptual Underpinnings for the Study

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In order to examine the role of leadership in successful standards-based reform, it is first necessary to define standards-based reform and then to understand the role of leadership in educational change.

Following the Sputnik uproar of the 1950's, there was recurring public dissatisfaction with the quality of education in the United States. This dissatisfaction produced several waves of educational reform over the course of five decades. The release of the National Commission on Excellence in Education's "A Nation at Risk" brought about an increased tendency for states to mandate academic content standards and assessments aligned with these standards.

Test-based accountability plays an integral part of the standards movement. In fact, it has become the "tool of choice" for the federal government and for states seeking to "improve" education. By coupling large scale testing with specific rewards and sanctions, policy makers hope such systems will encourage educational improvement by sending "strong, clear signals" to schools about their performances (Darling-Hammond, 2004; Elmore, Abelmann, & Fuhrman, 1996; Linn, 2000). Formal test-based accountability is seen by many as a relatively quick, relatively inexpensive, and highly visible way to bring about changes in schools (Linn, 2000).

The current state of standards-based reform (SBR) requires three components: First, it requires content or curriculum standards that clearly delineate what students should learn in each grade. Second, it necessitates an assessment system that measures student progress toward mastery of the content standards. Finally, it requires an accountability system that stipulates a set of rewards and interventions based on student

progress. Such a system holds not only students accountable but also teachers, principals, and the entire school systems for the students' rate of learning (Betts & Costrell, 2001).

The concept of a "standards based system" came from multiple sources—a Presidential advisory panel, which included business and political leaders as well as the head of a major teachers' union; a Commission on the skills of the American work force, co-chaired by former secretaries of labor from both political parties; the National Education Goals Panel; and the National Council on Education Standards and Testing. (Resnick & Resnick, 1992).

However, debate during the 1990's grew over standards and standards-based systems. Many doubted that the country could or should move away from local control of curriculum content and replace it with national, or even state, standards. The technical community raised doubts about the feasibility of performance assessment techniques and standards reference measurements, and many others questioned whether the extra expense was warranted. In addition, advocates for minorities and educational equity feared that test-based credentials, intended to raise overall achievement, would "leave behind" poor and minority children who could not meet the new criteria (Rothman, et al., 2002).

Despite these concerns, the standards movement "took off" in the 1990's. According to Rothman, Slattery, Vranek, and Resnick (2002), 49 of 50 states had adopted statewide content standards for elementary and secondary schools. Forty-eight had statewide tests or examinations at one or more grade levels; and more than half had set graduation or promotion requirements based, at least partly, on test results. Perhaps most controversial of all are the state testing policies that have become the centerpiece of

standards-based educational reform (Harkham, 2001, p. 46). Spurred by public pressure

and widespread bi-partisan support of the NCLB Act, all 50 states now have some form

of testing policy in place. Money is a key motivation in this reform effort. NCLB ties

federal aid to a school's academic performance. Offering the "carrot" of more money for

schools whose students have shown marked improvement on annual tests is designed to

be an incentive and a potential source of revenue for school districts with many poor

students.

The intent of this federal and state reform was to rectify the problems and inequity

that had developed in education. Despite what would appear to be a victory for the

standards movement, there continues to be professional and public "backlash" against

some of its elements (Diamond & Spillane, 2004; Gandal & Vranek, 2001; Lipman,

2004; McLaughlin & Shepard 1995, Petrosky & Delandshere, 2001; Sandholz, Ogaana,

& Scribner, 2004; Settlage & Meadows, 2001).

The contemporary literature shows that leadership can have a significant,

marginal, or even negative relationship to the success of reform. "Effective school

leadership is the single most important aspect of school reform" (Marzano, 2003, p. 172).

The work of Marzano (2003) draws upon 35 years of research and contends that

leadership has a strong relationship with the extent to which a school has a clear mission

and goals, the overall climate of schools, the classroom practices of teachers, the

organization of curriculum and instruction, and student opportunity to learn. A

systematic meta-analysis of seven studies over the past 30 years demonstrated that there

was in fact a substantial relationship between leadership and student achievement. The

study found that the average effect size between leadership and student achievement is

.25 (Waters, Marzano, & McNulty, 2003, p. 3). Even a small effect size of .25 would still result in a percentile gain of 10.

The literature further suggests that success of reform "depends on what happens during the implementation and the changes that actually occur in the school" (LaRocque, 1986, p. 487). One major consideration for school leaders, therefore, is professional development. Because successful reform is primarily predicated on how teachers and administrators understand and implement change, many authors have called for a reform of professional development practices and increased professional development as a precursor to educational reform (Fullan, 2002; Glickman, 2002; Guskey, 1995). Specifically, creators of reform and leaders of reform need to recognize the importance of high quality professional development. The re-examination of professional development, researchers argue, would help teacher "buy-in." In addition, reforms need to consider the role of professional development and how professional development can be a means to offer specific guidance to teachers about what they are supposed to do and how they are supposed to do it (Berends et al., 2002).

Lambert (2005) argued that every member of a school community has the potential and right to work as a leader and can learn to do so. Barth (2002) studied over 100 teachers in Rhode Island who participated in the Sizer Fellowship Programs and in the Rhode Island Teachers and Technology Initiative. He found that teachers who become leaders experience satisfaction, less isolation, a sense of "instrumentality," and new learnings and insights. These experiences spill over into their teaching; consequently, teachers become better at teaching while becoming leaders. Through this cycle of leadership and better teaching, student success—the goal of standards-based

reform—becomes a greater possibility. Marzano (2003) also characterized leadership as one of several "school level" factors that would impact student achievement. All three researchers recognize that teachers play a significant role in change because teachers are often the ones who implement the reform mandates within the classroom.

Research by Crowther (2002) suggested that successful reform efforts are also characterized by principals who help facilitate rather than direct professional development. Such principals create successful reform efforts by encouraging the dialogue of new ideas. In addition, Vulliamy and Webb (1991) found that even when reform efforts were launched by teachers, reform is unlikely to be incorporated into school policies and practice without the principal's explicit support for action to be taken.

What was significant about Vulliamy and Webb's research was the fact that the support of school leadership was identified as another important factor enabling changes to take place. In this study, the researchers examined teacher-led reform efforts. They found that even in schools where teachers spearheaded initiatives, school wide change was unlikely if the efforts did not have the support of school administrators (Vulliamy & Webb, 1991). Supportive school leaders demonstrated an "interest and commitment to the research, facilitating both this process and its dissemination within the school" (p. 219). Specifically, without the explicit support of the principal for action to be taken on the research findings, they were "unlikely to be incorporated into school policies and practices" (p. 226). Support for reform must therefore be two-fold. Not only should it include teacher support—the "buy-in" mentioned by Fullan (2002)—but it should also include administrative support.

Another consideration for school leaders is the difference that exists between teachers' and administrators' motivation when it comes to education reform. According to Weiss (1995), successful leaders need to address this difference in motivation when attempting to implement change. In conducting a longitudinal investigation of 12 high schools, Weiss found administrators and teachers must address the contradictions that exist between what is best for students and the interests inherent in their jobs. For example, it is the administrator's interest for the school to perform well on observable measures in order to win the approval of the superintendent's office and the school board. Weiss revealed that where constituencies such as parents, school board members, and district administrators were oriented to reform, principals tend to support these reforms. Teachers in the study, however, were influenced by other considerations. Specifically, teachers were more likely to support change if they believed strongly in standards and saw the value of the subject they taught. In addition, a teacher's "classroom was their kingdom, and they did not welcome anyone—even another teacher into their space" (Weiss, 1995, p.8).

Clearly, the changes that are inevitably brought about by standards-based reform often necessitate a change in school culture. Research shows that in order to transform the culture of a school, leaders—again, both teachers and administrators— must deepen their understanding of the existing school culture. Stolp (1994) defines school culture as the "historically-transmitted patterns of meaning that include the norms, values, beliefs, ceremonies, rituals, traditions, and myths understood maybe in varying degrees, by members of the school community" (p. 2). It is the way things are done in a school (Barth, 2002). This understanding will enable leaders to shape the values, beliefs, and

attitudes necessary to promote a stable and nurturing learning environment. School culture shapes the way people think and how they act.

Ironically, today's school leaders are faced with the challenge of fostering state and national mandates originating from outside the school context. However, such reforms often ignore the culture of a school and the pedagogical beliefs of teachers, who form a large part of the school's climate. Since an administrator cannot change school culture alone (Barth, 2002; Saphier & Kings, 1985), teachers are a critical component in the implementation of any reform; consequently, school leaders must develop collaborative communities to deal with these changes (Brandt, 1992; Fullan, 1992; Sergiovanni, 1992).

These collaborative work cultures/communities will help schools to develop what Saphier and King (1985) refer to as the 12 cultural norms that affect school improvement. These norms include: collegiality, experimentation, high expectations, trust and confidence, tangible support, reaching out to the knowledge bases, appreciation and recognition, caring, involvement in decision making, protection of what's important, traditions, and honest and open communication. If these norms are "strong, improvements in instruction will be significant, continuous, and widespread" (p. 67). Healthy and sound school cultures correlate strongly with increased student achievement and motivation (Stolp, 1996; Waters et al., 2003).

Statement of the Problem

As state-mandated standardized testing becomes an increasing popular tool by which to make student-level, high-stakes decisions, such as promotion or graduation from

high school, it is critical to look at how school leaders' perceptions and practices in a standards-based, high-stakes testing environment may influence "successful reform."

The literature on education change asserts that teachers and leaders play a key role in the implementation of education reform; this reform is often assessed via state mandated high-stakes testing. One problem with this high-stakes system is that test scores alone can only indicate at what level students are performing. They do not provide any explanation as to "why students are performing at a level, what causes differences in performance among different groups of students and ultimately, how the performance level can be improved if it is not satisfactory" (Wang & Goldschmidt, 1999, p. 102). Such insights require further investigation and research.

Such is the case in Massachusetts. Successful schools in Massachusetts have been identified; they have been labeled "Compass Schools." The moniker suggests that these model schools in the Commonwealth will guide other schools to reach the same level of success. However, the specifics of how such successes have been achieved have yet to be studied. There is a great deal of literature devoted to the study of the role of leadership in standards-based reform efforts (Leithwood, Louis, Anderson, & Wahlstrom, 2004). There is also literature devoted to standards-based reform and high-stakes testing as a driving force behind school change (Koretz, Linn, Dunbar, & Shepard, 2001; Maddaus, 1988; McNeil & Valenzuela, 2000; Smith & O'Day, 1990). Researchers have also studied teacher perceptions of state testing programs (Abrams, Pedulla, & Madaus, 2003). And while Massachusetts has been included in standards-based reform studies (Costrell & Betts, 2001), none have focused on the perceptions and practices of Massachusetts school leaders in response to the standards-based reform and high-stakes

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testing implemented by the Commonwealth (Pedulla, Abrams, Madaus, Russell, & Miao 2003; Riordan & Noyce, 2001). Although studies have focused on the high-stakes and the consequences for students (Amrein & Berliner, 2003), none have examined how leaders in Massachusetts perceive the pressure to raise student achievement in a high-stakes environment nor how they successfully respond to that pressure.

Clearly, a complex interrelationship exists between leadership, faculty, school culture and educational change. Reforms that are implemented have a better chance of succeeding when leaders share leadership with teachers and provide necessary resources including professional development for staff. In addition, "some forms of school leadership" may serve as "antidotes to negative teacher motivations and abrasive government implementation" (Leithwood, Steinbach, and Jantzi, 2002, p. 94).

Purpose of the Study

In light of the extensive body of research on school leadership and reform, it is clear that an important aspect of educational reform involves the perceptions, attitudes, and actions of school leaders and teachers with respect to change. The research suggests that the manner in which school leaders approach change will have significant bearing on its success or failure.   Within the realm of educational reform, a leader may be defined as anyone who has the power/ability to facilitate, implement, or lead change. The role of a leader is not limited to administrators. Since all teacher have this potential in a classroom, all teachers can be considered leaders in reform. Given the gap within the existing research that exists between school leaders' perception of pressure to raise student achievement in a high-stakes settings (including Massachusetts) and the successful reform efforts that respond to that perceived pressure, the purpose of the study was to collect empirical data from a high-stakes, standards-based environment on the

attitudes and perceptions school leaders have of reform pressure and their responses to this pressure in such a setting. Specifically, this study focused on two urban high schools (one high performing and one low performing) in the high-stakes testing state of Massachusetts in order to distinguish potential differences in attitudes and approaches to reform and leadership with respect to high-stakes testing. This study combined both survey results and case studies to examine the differing perceptions and practices within each high school and to consequently identify the factors most strongly associated with different levels of reform success. In addition, the information gained from the surveys and interviews was used to examine the interrelationship between the perceptions and pressure of high-stakes testing, leadership practices, and success.

Research Questions

The research was guided by the following questions:

1. How do school leaders in a state with high-stakes testing define successful reform?

2. How do leaders in a high-performing and a low-performing high school perceive high-stakes testing?

3. Do leaders in a high-performing and a low-performing high school perceive a need to raise student achievement with respect to high-stakes testing; and if so, what reforms do they implement to respond to state mandates?

4. What is the nature of change when a state has a high-stakes testing program in place?

Theories

The following theories have been posited:

1. Successful reform in high-performing schools will be based upon collaborative and shared decision making. It will consider school culture as well as research in helping to raise school achievement.

2. Leaders in high-performing schools are more likely to perceive high-stakes testing in a positive way. These leaders "buy in" to the changes that have occurred and the need to help students achieve.

3. Leaders in both schools are likely to perceive a need to raise student achievement with respect to MCAS. The reforms in low-performing are less likely to be supported through quality professional development, a well-defined plan which included the use of assessments to inform practice.

4. The nature of change when a state has a high-stakes program in place is dependent upon strong, collaborative leadership at all levels of an educational institution.

Limits, Assumptions, and Design Controls

In order to explore the perceptions of school leaders, namely teachers, department chairs and principals with regards to standards-based reform and the high-stakes testing component, this study will combine both survey results and case studies following the example of Stecher and Barron (2001). Two Massachusetts urban schools of differing achievement levels with respect to ELA and mathematics scores will be compared to distinguish whether there are also significant differences in the schools' leadership and faculty perceptions of the state's mandated test, MCAS; the pressure to raise student achievement with respect to MCAS; and the reform efforts that respond to that pressure. The investigation is designed to provide insights into the potential differences between two urban high schools with respect to the nature of change in a state with high-stakes testing components.

The use of this mixed methodology may provide greater depth and breadth than would be achieved through just one method alone in a comparative investigation. The advantages of the two methods were highlighted by Patton (1990) who cited that an advantage of a quantitative approach is that it measures the reactions of many people to a limited set of questions. This quantitative technique facilitates comparison and statistical aggregation of the data. It enables a succinct presentation of findings whereas the qualitative method will produce more detailed information about a much smaller number of cases. This technique will help increase the understanding of the cases and situations. By complementing and comparing the case studies with survey data, it will be possible to explore a small number of schools and potential factors that may interact in determining the differential success in reform efforts.

Nonetheless, the study will have limitations in terms of its relationship to state and district high-stakes reform as a whole. Case study methodology is dependent on a limited number of cases. It is incapable of providing a generalizable conclusion on how teacher and leader perceptions impact standards-based reform. Construct validity can also be problematic in case study research because of potential investigator subjectivity. By using multiple sources of evidence (interviews, variety of participants, artifacts of practice, and survey data), the researcher sought to counteract this potential. On the other hand, survey data also has limitations. The mode of administration presents important considerations in terms of response rate. The lack of opportunity to probe beyond a given answer also plagues survey data. For this reason, opportunities to provide open-ended response were included at the conclusion of the survey instrument. Finally, the ability to rule out all competing explanations of observed relationships in order to

suggest a correlation among factors still will not demonstrate that a causal relationship exists.   However, the combination of the methodologies may provide greater insight into the phenomena under investigation for these particular schools. Other limitations of this research include the number of schools willing to participate, incomplete surveys, and strict time controls dictated by bell and teacher schedules.

Definition of Key Terms

It is necessary to define several key terms that will be referenced throughout this study.

Compass School. A Compass School is an exemplary Massachusetts public school as defined by the Department of Education. Specifically, the designation of "Compass School" is a way for the Massachusetts School and the District accountability system to recognize and celebrate improvements in student performance. Initiated in 2001, the evaluation of school performance under the Massachusetts School and District Accountability System consists of three stages: school performance rating, school panel reviews, and diagnostic fact finding reviews. School performance ratings are issued for all public schools every two years based on performance and improvement on the Massachusetts Comprehensive Assessment (MCAS).

Schools showing significant improvement in both English language arts and mathematics at tested grade levels in the school, in a given rating cycle, are invited to apply to the program. The application process includes written responses to questions about the initiatives that leaders and staff think lead to the improvements and a comprehensive survey on factors affecting student performance. The completed applications are reviewed and rated by multiple readers. In addition to the quality of the

written response to questions on school improvement, other criteria are used to select up to sixteen finalists. Other considerations include: schools with stable demographics and consistent participation rates across all subgroups on MCAS tests for the rating cycle, schools representing a range of school performance rating categories that have made adequate yearly progress for at least the previous two years, and schools from different geographic regions of the state.

Schools selected as finalists must then participate in an on-site panel review which is conducted by a team of Massachusetts Department of Education's School Performance Evaluators and three practitioners. This review is framed by two key questions: Is the school using effective improvement initiatives that could be replicated in similarly profiled schools, and are the conditions in place for this school to serve as a model of effective and successful improvement initiatives? Based on the Panel Review Reports, the Commissioner determines which schools shall be selected as Compass Schools during the following school year (Massachusetts Department of Education [Mass DOE], 2009).

Educational change. Educational change is the use of new or revised materials; use of new skills and behaviors, i.e. changes in teaching practices; and changes in beliefs and understandings at the school level and at the teacher level. (Fullan, 1986). Interview, survey, and standardized test scores will be used to help measure educational change and the potential influences upon educational change.

High-performing. A school that is high-performing has achieved the status of 'Compass School.'

High-stakes. A test is considered "high-stakes" if it determines a student's eligibility for earning a high school diploma (Abrams et al., 2003, p. 22).

Leader. Anyone in the school system that has the power/ability to facilitate, implement or lead change is considered a leader. The role of leader is not limited to administrators. Since all teachers have this potential in a classroom, all teachers can be leaders in reform; however, it should be noted that not all teachers choose to lead or implement reform. Interview and survey data will help define school leaders in the schools being studied.

Low-performing. A low-performing school is a school that has scored lower than the Compass School on both MCAS ELA and mathematics scores combined. The "low-performing" school is within the 10th percentile with regards to the combined math and ELA scores on the MCAS.

MCAS. The acronym MCAS refers to the Massachusetts Comprehensive Assessment System that was implemented in response to the Educational Reform Law of 1993 (Mass DOE). The law required that MCAS be designed to test all public schools across the Commonwealth; be administered annually in select grades; measure performance based on the learning standards in the Massachusetts Curriculum Frameworks; and report the performances of individual schools and districts.

Student achievement/performance. In this instance, student achievement and student performance refers to a student's score on both ELA and Mathematics MCAS exams.

Summary

The relationship between leadership and educational change is complex. While the role of leadership in change is well documented, the role of leadership in standards-based, high-stakes Massachusetts reform is less documented. Through a mixed methods examination of two urban Massachusetts schools, this study searched for potential differences in leader perception and approaches to school change.

Chapter Two will detail the literature examined to better understand the relationship between leadership and standards-based reform in Massachusetts. Chapter Three focuses on the study's mixed methodology, combining a three-step interview process and survey methodology. Chapter Four presents the analysis of the data. Finally, Chapter Five presents the findings and poses implications for future study.

CHAPTER 2: LITERATURE REVIEW

Introduction

Clearly, standards-based reform and the high-stakes testing that often accompanies such reform have become more and more prominent in education. Consequently, leadership—both at the administrative and classroom level—must react to this high-stakes environment and implement successful change when necessary. Therefore, it is critical to look at how school leaders' perceptions and practices in a standards-based, high-stakes testing environment may relate to "successful reform." Such is the case with Massachusetts which is considered a high-stakes environment because its MCAS test dictates whether a student graduates.

This chapter will examine the history of standards-based reform in the United States as well as Massachusetts. At the present time, a gap exists within the research on standards-based reform. Specifically, there has been no examination on the relationship between the pressure school leaders feel and the reform efforts that are implemented in relation to that pressure. Through a review of the literature on reform, the positive and negative role of standards-based reform will be analyzed. In addition, the chapter will evaluate research that has examined the barriers and facilitators to standards-based reform. Finally, the role of leadership and school culture within these reform elements will be explored as well. Overall, the literature review will present the research that has been performed on standards-based reform while exposing the gap in the literature concerning leaders' perceptions of reform and the successful efforts that respond to that perception.

Standards-Based Reform in the United States

Background on Standards-Based Reform

Standards-based reform requires content or curriculum standards that clearly delineate what students should learn in each grade. In addition, it necessitates an assessment system that measures students' progress toward mastery of the content standards. Finally, it requires an accountability system that stipulates a set of rewards and interventions based on student progress. As pointed out by Fullan (1986), standards-based reform, in practice, can be defined in relation to three aspects: use of new or revised materials; use of new skills and behaviors, i.e. changes in teaching practices; and changes in beliefs and understandings. Such a system holds not only students accountable but also teachers, principals, and the entire school system for each and every student's rate of learning (Betts & Costrell, 2001).

Standards-based reform began in the United States in the 1980's following the release of the National Commission on Education's "A Nation at Risk." According to the theory behind standards-based reform, setting high standards is expected to improve academic achievement by creating higher expectations and thereby focusing greater efforts and resources on student learning. Another impetus for content standards came from the announcement by former President George H. Bush of national education goals called "America 2000." Grants were offered to educational organizations that would establish voluntary educational standards in various fields. President Clinton carried on with the creation of "Goals 2000: Educate America Act." This initiative included a call for new American achievement tests covering core subjects like English, mathematics, and science based on "new world standards" (U.S. Department of Education, 2005).

The No Child Left Behind Act of 2001 (NCLB) further strengthened standards-based reform by requiring states to implement state-wide accountability systems covering all schools and students. These systems must be "based on challenging state standards in reading and mathematics, annual testing in grades 3-8, and annual progress objectives ensuring all students reach proficiency within 12 years" (US Department of Education, 2005). Assessment results and state progress objectives "must be broken out by poverty, race, ethnicity, disability, and limited proficiency" to ensure no group is "left behind." Schools that fail to make adequate yearly progress on these assessments will be subject to "improvement, corrective action, and restructuring measures" aimed at getting them back on course to meet state standards.

The by-product of national standards and state standards has been a focus on the achievement of these standards. Emphasis is now placed on whether students in a school can achieve the standards that have been established and whether school leaders can implement the standards-based reform and help students achieve those standards. In response to this emphasis and resulting pressure, educators have examined what constitutes good standards-based reform practices (Berends, et al. 2002; Fullan, 2002; Glickman, 2002; Townshend, 2002) as well as practices that doom standards-based reform from the start (Elmore, 2004; Hodgkinson, 1991; Kane, 2005; Kelly, 1999).

With the continued political emphasis on education—both at the national and state level—and the resulting development of high-stakes tests, educators have also examined the positive and negative impacts of this reform movement on curriculum (McNeil & Valenzuela, 2000; Stecher & Barron, 2001) as well as instruction and assessment (Abrams et al., 2003). The continued evolution of standards-based reform

has also spurred studies which have examined the barriers that prevent reform from succeeding (Elmore, 1996; Elmore 2004; Olsen & Kirtman, 2002; Vulliamy & Webb, 1991). In addition, in-depth studies have examined the elements that facilitate standards-based reform and enable it to play a positive role in schools (Harris, 2003; Wolf, et al., 2002; Yeh, 2005; Zimmerman & May, 2003). These studies have identified characteristics which help to facilitate reform; however, the research on how to develop these characteristics and use them to implement positive change has been somewhat limited.

Researchers have also examined the role of leadership in the standards-based movement (Fullan,2002; Hargreaves, 2004; Vulliamy & Webb, 1991). Research has also looked at the relationship between leadership, school culture, and reform (Barth, 2001; Stolp, 1994). Although the research on standards-based reform has identified the characteristics of standards-based reform and the role of leadership in reform, the examinations seems to be in a vacuum with regard to how reform specifically relates to school leadership. In other words, little to no research has been done on how leaders perceive the role and implication of standards-based reform and how they react to those perceptions. Research has failed to fully examine the role of leadership and the strategies employed within the context of school culture in the context of school reform. Rather, the tendency is to examine each element in isolation.

Standards-Based Reform in Massachusetts

Massachusetts began its foray into the standards-based movement in the 1990s with its introduction of the Massachusetts State Frameworks. The frameworks, according to the Massachusetts Department of Education, are "high quality, results driven…world

class standards" (Mass DOE, 2009). Massachusetts has established standards in the arts, English language arts, foreign languages, health, history and social sciences, mathematics, and science/technology. The Massachusetts Comprehensive Assessment System "was implemented in response to the Educational Reform Law of 1993" ("Mass DOE, 2009). This law required that MCAS be designed to test all public school students across the commonwealth, be administered annually in select grades, measure performance based on the learning standards in the Massachusetts Curriculum Frameworks, and report on the performance of individual schools and districts.

MCAS is considered a high-stakes exam since it determines a student's eligibility for earning a high school diploma (Abrams et al, 2003, p. 22). Students in Massachusetts are tested in grades 5, 8, and 10. Starting with the Class of 2010, students who fail to "meet the standards" in grade 10 must be placed on an Education Proficiency Plan (EPP). According to the Massachusetts Department of Education, an EPP will be required for any student who has not scored a 240 on the mathematics or language arts portion of the MCAS. This plan will outline the student's strengths and weaknesses, the courses the student will take in grades 11 and 12 to help him/her acquire proficiency, and descriptions of assessments that will be used to evaluate this proficiency (Mass DOE, 2009.).

With regards to students with learning disabilities, the state has indicated that these students may qualify for an alternative MCAS assessment. Currently, tests are administered in the content areas of English language arts, mathematics, and science/technology/engineering. In addition, questions for history and social science

have been piloted through MCAS. The tests also fulfill the requirements of the federal

NCLB Act.

Given the high stakes nature of the MCAS exam, it is especially important that

classroom instruction be aligned with the Massachusetts State Frameworks. Ideally, in

the standards-based reform model, if students are to be tested on specific content (the

intended curriculum), it must be presented in the course (implemented curriculum) if the

state is to measure what the students have learned (attained curriculum). This is the

mandate inherent in a standards-based reform effort.   However, in a high-stakes testing

climate such as Massachusetts, excellence and success with respect to school reform may

more likely be a function of choice and commitment than a by-product of mandates and

consequences (Cuban, 1998; Settlage & Meadows, 2002). While studies have been done

regarding Massachusetts schools and while excellent schools, i.e. Compass Schools, have

been identified, analysis must still be done on the successful reform efforts that have

evolved from MCAS implementation.

Negative and Positive Aspects of Standards-Based Reform

Introduction

The positive and negative aspects of standards-based reform have sparked debate

across the nation. On one side of the issue are those in favor of the movement. Leaders

such as the former U.S. Secretary of Education, Rod Paige, contend, "Anyone who

opposes annual testing of students is an apologist for a broken system of education that

dismisses certain children and classes of children as un-teachable" (Harkham 2001, p.

44). These advocates cite the positive aspects these reforms have encouraged such as

improved professional development, guidance for teachers, the use of data to improve

assessment and pedagogy, and emphasis on helping all students achieve standards.

On the other side of the issue are those who claim that while they are dedicated to

quality and the goal that the standards purport to accomplish, they are concerned about

what is being lost. In contrast to Popham (2003), Haertel (1999) questions whether

external performances "[could] serve as models of worthwhile instructional activities"

(p.6). He cited the practical constraints placed on external high-stakes testing programs

including the brevity of exam periods, limited student responses, and heavy reliance on

writing. According to Haertel, format, time, and scoring are likely to cause "distinctions

between external and classroom assessment contexts" (p.4). For these reasons, in his

opinion, measurement-driven reforms have failed.

Negative Aspects

Teaching to the test. While the high-stakes tests can have a profound impact on

what happens in the classroom, some teachers believe state testing programs impacts

instruction in ways that seem to contradict the intent of state education reform policies.

For example, findings from a study conducted by Abrams, Pedulla, and Madaus (2003)

suggest that high-stakes, state-mandated testing programs can lead to instruction that

contradicts teachers' views of sound educational practice. Specifically teachers will

"teach to the test," and increase the use of multiple choice items, which is the traditional

form of questioning used on high-stakes test (p. 23). Seventy-six percent of high-stakes

teachers and 63% of low-stakes teachers reported that the implementation of state testing

programs has negatively impacted the quality of instruction students receive (p. 23). If

teachers fail to understand and appreciate the need for change and fail to see the benefits

of change, teachers will teach to the test at the expense of their own pedagogical

philosophies (Greenberg & Baron, 2000).

Although the greatest changes in instructional practices take place in states where

the official consequences of state testing programs are most severe, other studies have

shown that state testing in both high and low stakes states' programs is leading teachers

to change what they teach and how they teach (Pedulla, et al., 2003). Popham (2001)

summarized the difference between appropriate and inappropriate test preparation. Item-

teaching, Popham explains, is when teachers "organize their instruction around the actual

questions or around a set of look-a-like items" (p.1). Curriculum teaching on the other

hand is teaching that is "directed at curricular content (knowledge or skills)" (p.1).

Ideally, curriculum teaching will not only increase student scores but it will "elevate

students' mastery of knowledge or skills on which the test items are based" (p.2).

Unfortunately, under the pressure of high-stakes demands and the need to raise student

scores, some teachers do teach directly toward the test thereby creating "invalid

inferences about their students" (p. 5). Since item teaching is likely to occur, Popham

(2001) argues that a high-stakes test must be accompanied by "a clear description of the

curricular content" (p.6).

Inequitable allocation of time. Another negative aspect of standards-based reform

and an offshoot of teaching to the test is the inequitable allocation of time to test-based

subjects. In the aforementioned study by Abrams, Pedulla, and Maddaus (2003), the

researchers noted a decline in instructional time dedicated to non-tested areas (p.23).

The study revealed that the level of the stakes impacts what content gets

emphasized and how students are assessed. The survey findings highlight the complexity

of high-stakes assessment. Dictated content, based on valid state standards, will get covered but often at the expense of other curriculum and methods of instruction—both of which may be constructed based on the uniqueness of the school environment. Abrams, Pedulla, and Madaus reported that 43% of teachers in 'high-stakes' states, compared to only 17% of teachers in 'low-stakes' states, indicated that the time they spent on instruction in tested areas had increased a great deal (p. 23). One fourth of teachers from high-stakes states reported that instructional time dedicated to non-tested areas had declined a great deal, compared to only 9% in low-stakes states (p. 23). In addition, the high-stakes states reported significant decreases in time spent on instruction in the fine arts, industrial/vocational instruction, field trips, class trips, enrichment assemblies, and class enrichment activities. Paul Barton (2004) suggests that in order to avoid such unintended consequences, there should be a "tracking of instructional time" to ensure there are not shifts away from subjects not tested.

Stecher and Baron's study affirmed the findings of Abrams et.al. In the case of testing during "milepost" grades, Stecher and Barron (2001) examined data gathered in Kentucky when state-mandated tests were given in grades 5, 8, and 11. In 1996, they undertook a two-year study to examine the impact of standards-based assessment on classroom practices in Kentucky elementary schools. They concluded that teachers attended to the aspects of the accountability system that were most salient to their grade level. For example, they found that a fifth-grade teacher who believes that science instruction is as important as mathematics instruction may nevertheless spend more time on mathematics because it is an accountability subject in fifth grade. They noted that "a high-stakes accountability system in which different subjects are tested in different grade

levels, encourages teachers to shift the balance of the curriculum in non-traditional ways"
(p. 278). With standards based reform, the result of the allocation of time may be
improvements in performance in one content area, but that may come at the expense of
achievement in another content area.

Even within the content area, adverse effects can occur. McNeil and Valenzuela
(2000) warn that even within tested subjects, particular topics or skills not included on
the test may be de-emphasized and teachers may spend excessive time on test taking
strategies.

Increased failure/drop-out rate. Unintended shifts in curriculum are not the only
potentially adverse effects of state-mandated testing. A study by Rice University and the
University of Texas at Austin showed a relationship between the increasing number of
dropouts and the number of students who are held back when they are deemed at risk of
reducing school scores. Haubert (2003) presented evidence that "minority students,
students with disabilities, and ELLs are failing some state tests, especially those that
reflect high standards, at rates as high as 60-90%" (p. 238). In addition, lack of
alignment between the state standards and the curriculum is also a problem that could
impact and increase failure rates (Rothman, Slattery, Vranek, & Resnick, 2002). Part of
that increase could be a result of how high-stakes testing can impact student motivation.
Amrein and Berliner (2003) examined research from 18 states and concluded that high
stakes tests do not lead to high student achievement. They also warned that high-stakes
tests can "decrease student motivation to learn" (p. 37).

Positive Aspects

Improved professional development. The debate over standards based reform

remains because studies have also identified the positive impact standards based reform

has made on education. Cizek (2001) emphasized "good things that have grown out of

the increasing reliance on test data concerning student performance" (p.23). To begin

with, Cizek notes that professional development has taken on "a new face" as a result of

standards-based reform (p.23). He also notes that professional development is more

curriculum relevant and results oriented. As a result of better professional development,

educators continue to improve their understanding and implementation of pedagogy;

consequently, education as a whole benefits from this development, which can be directly

linked to standards-based reform.   The U.S. Department of Education has also

recognized the role professional development in the standards-based reform movement

and has produced a list of "Principles of High Quality Professional Development,"

focusing on content strategies and the use of technologies. The focus on standards and

student performance has led to an examination and review of professional development

practices and tools used to help reach standards-based goals. Clearly, the standards-based

movement has been the impetus for this renewed emphasis on professional development.

Guidance for teachers. Standards-based reform has also provided teachers clear

guidance in terms of curriculum and instruction. Based upon their examination of New

American Schools (NAS), a whole school reform model in its twelfth year, Berends,

Chun, Schuyler, Stockly, and Briggs (2002) contend that reforms can have a positive

impact because they can offer specific guidance to teachers about what they are supposed

to do and how they are supposed to do it . However, the educational reforms must be seen

as legitimate and have the support of teachers and administrators if they are to succeed.

When this does occur and when teachers align their curriculum with the state mandated standards, it can have a positive impact on education.

Stecher, Barron, Chun and Ross (2000) discovered Washington state test scores were higher in schools where teachers reported alignment between their curriculum and the state's Essential Academic Learning Requirements (EALRs) and where teachers reported they understood and endorsed EALRs. Overall, the study verifies that standards- based reform can positively impact schools when those schools, in attempting to implement successful reform, have considered a myriad of issues including teacher willingness, professional development, and leadership.

Cizek's study (2001) confirms that standards-based reforms have provided teacher with guidance in terms of curriculum and instruction. Due to the high-stakes nature of the tests, more educators are informed about "content, construction, and consequences" (p. 24). In addition, as a result of standards-based reform, educator expertise within their discipline has increased, and test quality has also improved (p. 24-25).

With regards to Massachusetts and the MCAS tests, Peyser (2001) believes that standards-based reform is responsible for bringing about change in Massachusetts schools. Citing the consistent improvement across grades in both English and math, Peyser claims that MCAS and standards-based reform is "broadening and elevating curriculum for all students." However the question still remains as to what has specifically been implemented by successful high schools in the Commonwealth of Massachusetts.

Increased emphasis on educational data. Another positive development has been the emphasis on data. Education leaders are seeing how data can be used to help improve education. High-stakes testing has also encouraged data collection, and access to such data has also improved. More information is available to schools and educators and "is increasingly used as part of education making" (Cizek, 2003, p.24). Miller (2000) argues that high levels of student achievement can be obtained through data analysis because it is the data that identifies the link between teaching practices and student performance. In fact, Wade (2001) contends that data based on curriculum and performance provides teachers with "their only real evidence of the success or failure of educational programs."

Improved assessment and pedagogy. Specifically, standards-based reform has at times led to improved pedagogy and the improvement of in-class assessments. Popham (2003) suggests that the right kind of standards-based testing "can give teacher really powerful insights about how best to teach" students. For example, by comparing pre-test and post-test data, teachers can determine instructional effectiveness and how much instruction students may need on a topic. Tests, according to Popham, can help "clarify the curriculum" (p. 25). However, this only occurs if teachers "aim their instruction toward the skill, knowledge, or affect" the test represents (p. 27).

Swanson and Stevenson (2002) studied a longitudinal panel of schools and found that "state activism" has had a "significant independent effect on teachers' use of classroom practices consistent with a standards based model in mathematics" (p. 2). These researchers cite a positive relationship between mathematic achievement gains and the implementation of policies related to academic content standards. In other words, the standards-based reform movement has spurred teachers to reexamine and revise their

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pedagogy in order to help students achieve mandated proficiency; and the achievement gains reflect the benefit of this pedagogical adjustment.

Goertz (2007) also contends that teachers, schools, and districts are using the data generated by standards-based test to improve "planning to change curriculum and instructional materials and to focus professional development" (p.11). Goertz argues that educators are responding to the pressure of accountability. However, he cites the continued need for resources and support to help failing schools and the potential of national standards to bring coherence to the educational system.

Increased attention to special needs students. The education of special needs students has also benefited from standards-based reform. Cizek (2003) also notes that federal legislation has brought increased attention to students with special needs since high standards apply to all students. Consequently, educators are focusing on how to ensure that all students achieve the standards that have been outlined.

Increased attention to equity of opportunity. Educators and leaders have become more cognizant of providing equity of opportunity for all students—the crux of public education's philosophy—with the advent of standards-based reform. Researcher Darling-Hammond (1996) recognized how the importance of equity has changed over the course of the 20th century. Whereas in the past schools felt that certain levels and skills were only within the reach of the best and the brightest, schools now understand that they must "help the vast majority of young people" reach these levels that were only reserved for the elite at one time.

Barriers and Facilitators to Standards-Based Reform

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Barriers to Reform

  Disparate understanding of curriculum. One significant barrier to reform that develops prior to implementation involves the different understandings of curriculum. Specifically, an administrator's or teacher's understanding of the school's curriculum may differ from the legislators who create the reform. Standards-based reform by its very nature clearly impacts a school's curriculum; however, questions remain such as "What is meant by curriculum? and "Does a unified understanding of curriculum exist?" (American Federation of Teachers 2009).

  Eva Weisz's findings (1995) suggests that the idea of curriculum may be more complex than the understanding held by policy makers. And if this is the case, the question arises as to how schools and their leaders react to this disparate understanding— especially when high-stakes are involved.

  Inability to maintain long-term commitment. When implemented correctly, standards based reform has the potential to positively impact student learning; however, barriers do exist during the implementation process. For example, Elmore (1996) asserted that innovations which require significant changes in the teacher's materials, pedagogy, and overall beliefs of educational practice seldom penetrate more than a small fraction of U.S. schools and classrooms; and when they do, these reforms seldom last for very long. Elmore's research revealed that the changes to curriculum and pedagogy "seldom appeared in more than one-fourth of the classrooms in any district that systematically tried to install these varied elements" (p. 16). Therefore, although the reform efforts lasted for decades, the impact of the efforts failed to result in significant changes for most of the schools and classrooms involved because teachers failed to

embrace the pedagogical changes. Even in settings where teachers made a conscious effort to incorporate progressive practices, the result was more often "a hybrid of traditional and progressive, in which major elements of the traditional core of instruction were largely undisturbed" (p.17).

     Reform contradicts teacher's philosophy. Whereas some educators attempt to implement reform but fail to maintain the changes, other educators immediately reject attempts at reform because the reform movement fosters pedagogy that contradicts with the teachers' educational philosophies. Real change is unlikely to occur for any length of time without the support of staff (Lambert, 2005). Tyack and Cuban (1995) warn that "change is not synonymous with progress" (p.4). In fact, "teachers have been wise" to resist reforms that "violate their professional judgment." (p.5) For example, Abrams, Pedulla and Madaus (2003) in "Views from the Classroom: Teachers' Opinions of Statewide Testing Programs" cited that state mandated testing programs associated with standards based reform "can lead to instruction that contradicts teachers' views of sound educational practice" (p.18). In their study teachers "frequently report[ed]" that pressure to raise test scores encourages practices that "mirror the content and format of the state test." (p. 18) Such practices have been criticized by Popham (2001).   Goodnough (1999) and Simner (2000) cited how reform has instigated improper behaviors and approaches to teaching such as giving students answers as well as improper reporting behaviors. Irons (2007) noted that university preparation programs for teachers are aligned with state standards and standards-based accountability "appears to have the potential to change the content and practice of teaching" (p. 15). However, they warn that "high-stakes testing associated with the standards may limit content taught, narrowing the depth and breadth

of content area options" (p. 15). They explained that this is the result of the "stringent state standards associated with them" (p.15). Febey et al. (2005) examined teacher's responses to standards-based reform. Although responses varied, some teachers argued that "testing undermines good teaching" (p.1). Teachers also argued that standards-based accountability promoted "a general sense of fear and anxiety about the potential for negative effects on the quality of teaching and learning in the school" (p. 21).

Teacher intractability. Obstacles to standards based reform can rest with the intractability of some teachers. Olsen and Kirtman (2002) identified individual and school-wide influences that shape a teacher's support for reform. They collected data from 36 schools over a three-year period and concluded that there are three "strands of mediating influences" on teachers' willingness to change. The strands include the implementation process, school climate, and individual influences on the teacher. These strands "interrelate to mold each teacher's disposition to implement the particular reform" (p. 301). This disposition then influences whether and how the reform will unfold through teacher practice in the classroom. A teacher's disposition can account for the discrepancy between the intended reform consequences on the one hand and actual classroom practices on the other. For example, teachers may reject curriculum reform efforts if they fail to see the validity and usefulness of the predetermined activities. If teachers do not see that it will help students to achieve, they are likely to reject it. Stigler and Hiebert (1999) contend that because teaching is a "cultural activity," it is resistant to change; and teachers are unaware of their habits. Therefore, they need incentive to change. They need the tools, resources, and the know-how (i.e. professional development) to enact change. Without the support of teachers, changes in the core of

educational practices (i.e. pedagogy and beliefs) are unlikely to happen (Weiss & Pasley, 2006).

Elmore (2004) echoes this sentiment when he warns of the potential disconnect between policy and practice as well as the difference between change and improvement. "Teachers have to feel that there is some compelling reason for them to practice differently, with the best direct evidence that students learn better" (p. 129). Without this sentiment, teachers are unlikely to embrace change. Lambert's study (2005) affirms the import of teacher investment and the consequences if teachers are not invested. Basically, if teachers and administrators feel they are invested in the change, they are more likely to support it. Inability to feel this investment results in failure. Yet within all of the aforementioned research, questions remain regarding how leaders address this "intractability" and how a leader's approach to such a sentiment relates to reform.

Ineffective professional development. As stated previously, Professional Development plays a key role in the reform movement, and professional development has benefited from this movement. However, ineffective professional development—or the complete ignorance of professional development—can become a barrier to successful reform. Zimmerman and May (2003) suggest that without the necessary professional development, reform movements will reach an impasse and eventually dissipate. Their assertions stem from an investigation of professional development practices of elementary, middle, and high school principals in public schools in the state of Ohio. Their study also supports the need for teacher and administrator "buy in" for standards-based reform to succeed. They cite the need for more resources to support adult learning

and collaboration (i.e. professional development); only with this support can schools begin the process of educational change.

The study by Sparks and Hirsh (1997) corroborate the importance of effective professional development. They found that when staff development has only been an afterthought, schools approach change in a fragmented fashion. Lieberman's study (1995) also found the need for renewal and professional development in light of standards-based reform.

Lack of cooperation between school leaders. In addition to ineffectual professional development, lack of cooperation between school leadership (teachers and administrators) can become a barrier to success. The aforementioned Ohio study by Zimmerman and May (2003) also suggests that without the necessary emphasis on cooperation between all school leaders (teachers and administrators), reform movements within a school will stagnate and eventually disappear. Lieberman's investigation (1995) also suggests that the demand for educational change has to be met cooperatively by teachers and administrators in order for it to succeed.

Whereas effective school leadership is a constant in successful reform movements ineffective leadership can impede a reform effort (Hargreaves, 2004). For example, Vulliamy and Webb (1991) studied reform efforts launched by teachers; and they determined that the reform effort was not guaranteed to succeed simply because it was spurred by teachers. Without the principal's explicit support for action to be taken, reform is unlikely to be incorporated into school policies and practices. This study reiterates the importance of cooperation between all leaders within a school. Hallinger and Heck (1998) reviewed research conducted from 1980-1995 on the relationship

between leadership and student achievement. The review contends that principals exercise a "measurable effect" on school effectiveness and student achievement (p. 189). Ultimately, these three studies reveal the need for faculty and administration to work together in order to bring about educational change.

Lack of financial support. Finally, financial factors can also present barriers to standards-based reform. As stated previously, Lieberman's 1995 study emphasized the consequence of poor professional development. Results of Lieberman's investigation (1995) also indicate that although principals recognize the need for renewal and professional development, there are inhibiting factors that continue to challenge their abilities to be effective instructional leaders. One of the dominant inhibitors to providing professional development for their staff was the lack of money to support such development. The study provides a cautionary finding—namely that if the demand of educational change is to be met by teachers and administrators, it must be coupled with adequate financial support.

Because of financial constraints, David and Shield (2001) found that standards-based reform is "exceedingly difficult to realize in urban districts" (p. 11). Resources, particularly financial, must be dedicated in order to build the knowledge and skills of educators and additional instructional time must also be allocated for students. In a report prepared by Achieve Inc., it is acknowledged by business leaders and governors that "closing the gap" will require "more resources than most states and school districts have invested thus far."

Facilitators

Cooperative leadership. Overall, the goal of the standards-based movement is to improve education statewide as well as nationally. Standards, according to Ravitch (2000), can improve achievement by clearly defining what is to be taught and what kind of performance is expected. Standardized tests, such as MCAS, are aligned with these standards and are used to measure achievement. With this altruistic goal, the question remains as to what characteristics facilitate successful reform. One clear facilitator of reform success is cooperation between all school leaders.

Since the implementation of standards-based reform and high-stakes testing, there have been a few studies on successful reform. Wolf, Borko, Elliott, and Melver (2000) presented four case studies of exemplary schools that were able to meet the demands of a standards-based reform effort in Kentucky. The authors looked for schools that were successful with diverse populations of children with respect to standards-based reform in Kentucky and found that successful schools had high regards for cooperative leadership.

Harris's study (2003) of three school improvement projects affirms the value of a cooperative approach between teachers. There is evidence from all three projects that providing teachers the opportunity to work together on pedagogy helps foster positive relationships. Communication and collaboration will encourage shared norms, values, goals and aspirations. For Harris (2003), a professional community is one where teachers participate in decision making, have a shared sense of purpose, and engage in collaborative work.

Another facilitator for success that is an integral part of cooperative leadership is the empowerment of teachers as leaders. Lieberman's (1995) conclusions on reform suggest that teachers need to participate as leaders in the process of school change in

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order for it to be successful. Lieberman (1995) cited the impact of teacher leaders on student academic performance. Lieberman's emphasis on leadership highlights the role of the teacher and the administrative leaders.

Additional literature and research on standards-based reform corroborates that reform mandates that promote pedagogical improvement are predicated on the support of teacher collaboration and mutual learning. These findings are significant given that research on teacher and school practices associated with school effectiveness has shown that the extent to which teachers are involved in the design and implementation of important decisions and policies can have a significant impact on student achievement (Waters et. al. 2003, p. 11). Therefore, student achievement can increase with standards-based reform—assuming that the reform is designed and implemented cooperatively.

Shared leadership is another component of cooperation that can facilitate reform. For those groups of students who historically have been "left behind," the policy premise holds promise when characteristics are in place to facilitate progress. For example, Anderson and Pellicer (1998) examined "unusually successful programs for economically disadvantaged students" in an effort to define what helps the students from these schools to succeed. (p. 252). In their cross-case analysis, Anderson and Pellicer (1998) found that students in all schools had been given "ample opportunity to learn what was important for them to learn" (p. 252). Teachers in three of the schools said they "taught what needed to be taught on state tests of basic skills" (p. 252). In addition, all four schools were characterized by "clear purpose and high performance standards; shared leadership; strong community support; talented, hard-working teachers; opportunity to learn and curriculum integration; and concern for students and non-acceptance of failure" (p. 237).

In part, these students show that students who typically fare poorly on tests perform well when given the opportunity to learn.

Popham's study (2001) of the Hawaiian Board of Education reflects the import of this shared leadership on all levels. Popham notes how the Hawaiian Board of Education worked with Hawaiian schools to reduce the number of content standards and clarified the remaining standards in terms of the intended knowledge or skill. With all of these successful reform movements, the effects of the reform were examined; yet, the relationship between the successful reform efforts and the state mandates remains unclear because no study has been done on that relationship. However, even with all of this research, questions still remain about the way leadership perceives the pressure from the state mandates and how this perception relates to the approach to reform within a school. In addition, one wonders what role does leadership play in the integration of successful reform efforts. Was it a central role or would the success have occurred regardless of the approach by school leaders?

Leadership style. It has also been suggested that leadership style can help facilitate reform for a number of reasons. Effective leadership can help faculty "buy-in" to state mandates, the resulting curriculum changes, and even high-stakes testing. Specifically, Frank Crowther's (2002) study and observations have shown that successful reform efforts are characterized by principals who help facilitate rather than direct professional development. Such principals create successful reform efforts by encouraging the dialogue of new ideas. They encourage teachers to generate school-wide approaches to teaching and learning and to share responsibility for the building of school

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culture. Effective leadership can bring together the aforementioned facilitators and help to orchestrate a movement toward success in a standards-based environment.

Leadership and school culture. The relationship between leadership and school culture also facilitates success in a standards-based climate. Fullan (2002) contends that in this high-stakes, standards based environment, leaders must create a "fundamental transformation in the learning cultures of schools and of the teaching profession itself" (p. 2). For Fullan, this means changing what the people in the organization value and how they work together to accomplish their goals in order to create deep lasting change. This change goes beyond reform "buy-in" and collaborative leadership—although both help to grow the culture. This culture is created, impacted, and perceived by administrators, faculty, staff, students, parents, and community members. The transformation of the learning culture entails adjusting the philosophical climate of the school. Specifically, schools need to reconsider the meaning of education and its purpose in the lives of the 21st Century student.

Burns (1978) conceptualized two factors to differentiate ordinary leadership from extraordinary leadership. "Transactional" (ordinary) leadership is based on an exchange relationship where follower compliance is exchanged for expected rewards. "Transformational (extraordinary) leadership" is development oriented for the purpose of change. The leader's focus on individual development of subordinates enhances their performance which in turn leads to organizational growth. Bass (1981) has argued that transformational leadership can be found in ordinary places, and transformational leadership can be taught.   Most importantly, transformational leadership seems to be necessary in order to implement change.

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A number of studies and books have focused on the essential traits and behaviors of effective leaders (Cotton, 2003) and how leadership relates to student learning (Larson & Myrtadha, 2002; Leithwood & Riehl, 2003; Leithwood, Louis, Anderson, & Walhstrom, 2003; Waters, Marzano & McNulty, 2003). Through their study of distributive leadership, Spillane, Halverson, and Diamond (2001) cite the need for studying leadership at the "level of the school, rather than at the level of the individual leader" (p. 27). The researchers argue that the practice of leaders is distributed throughout a school. Leadership involves interaction between leaders, followers, and the context or situation. Even with all this information on leadership, a gap remains in the literature as to successful strategies by leaders to improve school culture and consequently improve student performance.

According to Stolp (1996), in order to transform the culture of a school, leaders must first deepen their understanding of the existing school culture. Stolp defines school culture as the "historically-transmitted patterns of meaning that include the norms, values beliefs, ceremonies, rituals, traditions and myths understood maybe in varying degrees, by members of the school community" (p.2). It is the way things are done in a school (Barth, 2002). This understanding will enable them to shape the values, beliefs and attitudes necessary to promote a stable and nurturing learning environment.

School culture shapes the way people think and how they act. Ironically, today's school leaders are faced with the challenge of fostering state and national mandates originating from outside the school context. Such reforms ignore the culture of a school and the pedagogical beliefs of teachers, who form a large part of the school's climate. Since a leader cannot change school culture alone (Barth, 2002; Saphier & King, 1985),

teachers are a critical component in the implementation of any reform. School leaders

must develop collaborative communities to deal with these changes (Brandt, 1992;

Fullan, 1992; Sergiovanni, 1992). In addition, Larry Lashway (2003) argues that the

"task of transforming schools is too complex to expect one person to accomplish single-

handedly" (p.3). For this reason, leadership should be distributed throughout the school

therefore enabling teacher leaders to change the school culture

However, teacher empowerment alone does not guarantee success. Lipman

(2004) evaluated two southern schools where teacher leader reform components existed.

Here she found that African American students experienced no gain in academic

achievement. Empowerment alone does not confront the issues of inequity. To confront

the issue of inequity, Holland (1997) suggests challenging the structure, definitions, and

assumptions about people of color in our educational institutions.

With correct teacher empowerment, successful leadership, an awareness of equity,

and the development of collaborative work cultures/communities, schools will develop

what Saphier and King (1985) refer to as the 12 cultural norms that affect school

improvement. These norms include: collegiality, experimentation, high expectations,

trust and confidence, tangible support, reaching out to the knowledge bases, appreciation

and recognition, caring, involvement in decision making, protection of what's important,

traditions and honest, open communication. If these norms are "strong," improvements

in instruction will be significant, continuous, and widespread" (p. 67). Healthy and

sound school cultures correlate strongly with increased student achievement, motivation

and subsequent implementation of reform. (Stolp, 1996; Waters et al, 2003). Therefore,

the development of learning communities that involves administrators, educators, and students becomes integral to reform success.

Clearly, a complex interrelationship exists between leadership, faculty, school culture and educational change. Implemented reforms have a better chance of succeeding when leaders provide necessary resources including information and professional development for staff. In addition, "some forms of school leadership [i.e. collaborative and transformational]" may serve as "antidotes to negative teacher motivations and abrasive government implementation" (Leithwood, Steinbach, & Jantzi, 2002, p. 94).

Teacher "buy-in." Cooperative and effective leadership often leads to another facilitator of reform—teacher "buy-in;" in other words, a reform is more likely to be successful when teachers believe, or "buy-in" to the reform effort. Firestone's 1989 study focused on teacher support as a facilitator to success. Specifically, Firestone suggests that the capacity to respond positively to such reform mandates comes from institutions that believe they can set their own agenda and see reform as a way to meet their own ends (p. 151). Collay (2006) explained that "teachers' values define their practice, not the values of policy-makers currently perpetuating yet another district- or federal-level mandate" (p. 1). Garcia and Rothman's (2002) study of "common conditions for success" in raising achievement in high-stakes states cited the importance of "bipartisan support" for the reform agenda. All three of these studies on reform mandates suggest that teacher support can facilitate successful reform; however, studies still need to explore the role of leadership in teacher "buy-in."

Alignment of state standards with individual school curriculum. Teachers will often buy into a reform when they also believe that policy makers have made a conscious

effort to align the standards-based reform with the realistic components of their school's curriculum. Popham's study (2001) of the Hawaiian standards-based reform movement attests to this fact. Working together, the Hawaiian Board of Education and representatives from Hawaii schools agreed upon the number of standards and clarified confusing components of the reform movement. A study by Weiss and Pasley (2006) recorded similar findings. They found that alignment between district policies and instructional reform facilitated success.

Yeh in (2005) found that Minnesota has "been unusually successful in designing a high-stakes testing system that has garnered teacher support" primarily because the tests were "well aligned with curricular goals, emphasizing critical thinking as well as competencies needed to pass the Basic Standards exit exam, and avoiding the type of recall item that would require drill and memorization" (p.1). Based upon interviews with administrators and teachers in four Minnesota districts, Yeh (2005) found that teachers are more likely to support high-stakes testing mandates if they believe the exams are well-designed and well-aligned with the school's curriculum and pedagogy. Wenglinsky's examination of data from the National Assessment of Educational Progress (2002) affirms the correlation between high-stakes test achievement and teachers' classroom practices. Wenglisnky examination of data, a national sample of students and their schools, revealed that classroom practices aligned with the tests have the greatest influence on student achievement. Specifically, he notes the value of practices that promote higher-order thinking, the development of skills, and active participation.

Similarly, Garcia and Rotham (2002) studied common conditions that contributed to improved achievement in the states of Massachusetts, Maryland, and Texas—all states

that have standards-based reform and high-stakes testing. The researchers found that consistency within the curriculum over a significant amount of time and a comprehensive approach to implementation and alignment contributed to the success.

Effective professional development. Professional development can also facilitate successful reform. In another effort to understand what leads to successful school reform, Harris (2003) compared three school improvement projects that have been successful in achieving organizational and pedagogical change. Harris (2003) uncovered aspects common to each of the successful reform efforts. First, for all three school improvement projects, the classroom or learning level was the main focus for development and change. Each project had well-defined learning outcomes and fixed goals. Second, within each project there was "clear articulation of the instructional framework that guided the development activity at the classroom level" (p. 377). In the third step, teacher development was given the highest priority and quality staff development; and training was a major component. The main thrust of the work with teachers in each of these projects was to equip them, through clear articulation and professional development, to manage classroom change, development, and improvement.

The findings of Weiss and Pasley (2006) reiterate many of Harris's conclusions. Weiss and Pasley examined results from the Local Systemic Change Initiative. They found that reforms can be sustained long-term if professional development is focused on clear goals, delivered over time, based on content and practice, and contains strategies to develop teacher knowledge, content, and pedagogy.

Other studies reiterate the suggestion that professional development can facilitate standards-based reform. The success of reform "depends on what happens during the

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implementation and the changes that actually occur in the school" (LaRocque, 1986 p. 487).   Because successful reform is primarily dependent on how teachers and administrators understand and implement change, many authors have called for a reform of professional development practices as a precursor to educational reform (Fullan, 2002; Glickman, 2002; Guskey, 1995). The reform of professional development, researchers argue, helps teacher "buy-in."

Teacher reflection. Yet another facilitator of successful reform is teacher reflection. Teacher reflection can occur as part of professional development, but it also occurs outside of this structured realm—usually on a daily, monthly, or yearly basis. Successful education professionals allot time for individual reflection—time to evaluate what pedagogy works and what pedagogy needs revision.   Harris (2003) notes in order for teachers to learn effectively, they need to be able to "reflect on their own learning and internalize new knowledge" (p. 378). Change in the classroom requires more than just acquiring new skills or knowledge. It means "changing attitudes, beliefs, and personal theories" in order to reconstruct an approach to teaching (p. 378).

In their case study of four exemplary schools in Kentucky, Wolf, Borko, Elliot and Melver (2002) also found that successful schools in a standards-based climate afforded time for careful reflection on the reform itself.

Summary

Standards-based reform consists of education standards intended to guarantee a high-level, equitable education for all. These reforms hold students, teachers, and administrators accountable. Historically, standards-based reform has presented numerous challenges to leaders. Understanding the process of change, the motivation and attitudes

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of those who implement change, and the information to effect change will help school leaders institute standards-based reform. Similarly, educational leaders of today are faced with the challenge of working with the school community to create and inspire a "can do" attitude with respect to the school's capacity to implement standards-based reform (Herman 2003).

In light of the extensive body of research on school change and reform efforts of the past, it is clear that an important aspect of standards-based reform involves the perceptions and attitudes of school leaders and teachers with respect to change. Characteristics of standards-based reform have been examined, positive and negative impacts have been examined, facilitators of reform have been examined, and leadership within a standards-based environment has been examined. It is also clear that a gap exists within the body of research on standards-based reform. Admittedly, education researchers have examined teacher reaction to standards-based reform and the role of the school leader in reform; however, these elements have only been examined separately. Specifically, Massachusetts is a high-stakes state; yet there are no studies examining Massachusetts standards-based reform in its entirety. Such a study should examine the standards established and the results of that state-based reform. In particular the study must address a school's degree of success in light of school culture, teacher reaction, and the role of leadership.

In the forthcoming chapters, a mixed method analysis of two schools engaged in standards-based reform will be presented with a focus on how leaders in Massachusetts high schools perceive the pressure to raise student achievement in a high-stakes environment and how they successfully respond to that pressure. Chapter three will

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outline the research design and methodology. The fourth chapter will analyze the data that has been collected from surveys and interviews. In the fifth and final chapter, a summary of the study will be provided along with the findings regarding how leaders in Massachusetts high schools perceive the pressure to raise student achievement in a high-stakes environment and how they successfully respond to that pressure.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

Introduction

To review, state-mandated high-stakes testing has enveloped public education throughout the country—including Massachusetts with its high-stakes MCAS exam. The problem investigated in this study involved the question of how school leaders' perceptions and practices in a standards-based, high-stakes testing environment may be related to "successful reform." In Massachusetts high-stakes testing results impact both students and schools. Testing scores play a role in the graduation criteria for students and whether schools retain their autonomy by meeting the Annual Yearly Progress (AYP). The problem with the reliance upon these scores is the fact that the scores only indicate the level that the students and school are performing at. The scores do not provide explanations as to why certain schools perform at high levels while similar schools (i.e. similar size, location, and socioeconomic level) perform much lower.

Specifically, this study focused on two urban high schools and the question of how the practices of school leaders related to the level of performance. The study explored the complex relationship between leadership, faculty, school culture, and educational change. It attempted to provide specifics as to perceptions educational leaders held with regards to high-stakes environments and how they responded to state mandates.

There were four main questions governing this study. First, how did school leaders in a state with high-stakes testing define successful reform? In addition, the study asked how leaders in a high-performing and a low-performing high school perceived high-stakes testing. Another major question was whether leaders in a high-performing

and a low-performing high school perceived a need to raise student achievement with respect to high-stakes testing; and if so, what reforms did they implement to respond to state mandates. The final question explored the nature of change when a state has a high-stakes testing program in place.

In response to these questions, there were four main theories tested. The first theory asserted that successful reform in high-performing schools would be based upon collaborative and shared decision making. It would consider school culture as well as research in helping to raise school achievement. The study also hypothesized that leaders in high-performing schools were more likely to perceive high-stakes testing in a positive way. These leaders would "buy in" to the changes that have occurred and the need to help students achieve. In addition, it is believed that leaders in both schools were likely to perceive pressure to raise student achievement with respect to MCAS. The reforms in low-performing schools were less likely to be supported through quality professional development, a well-defined plan which included the use of assessments to inform practice. The final theory suggested that the nature of change when a state has a high-stakes program in place was dependent upon strong, collaborative leadership at all levels of an educational institution.

Problem and Purposes Overview

In public education, state-mandated standards and the high-stakes testing that inevitably accompanies these standards have become the primary, and at times the sole, tool in measuring student performance and school performance. Literature on educational reform clearly suggests that educational leaders (i.e. teachers and administrators) play a significant role in the successful implementation of this reform;

however, educational research lacks specifics as to why certain schools perform at different levels. Such is the case in Massachusetts. Certain high performing schools have been labeled "Compass Schools"—schools that have achieved a high level of success in a standards-based climate; yet the specifics of how such successes have been achieved have yet to be studied. In this environment, it is critical to look at the question of how school leaders' perceptions and practices in a standards-based, high-stakes environment relate to reform.

Given the gap within the existing research that exists between school leaders' perception of pressure to raise student achievement in a high-stakes settings (including Massachusetts) and the successful reform efforts that respond to that perceived pressure, the purpose of the study was to collect empirical data from two urban high schools in Massachusetts—one school a high performing "Compass School" and another school that was labeled as low-performing. The study attempted to distinguish potential differences in school leaders' attitudes and approaches to reform. For the purpose of this study, a leader was defined as anyone within the school system who has the power/ability to facilitate, implement, or lead change. The study combined case studies and survey methodology to examine differing perceptions and to identify the factors most strongly associated with different levels of reform success. With this information, the study also examined the relationship between the perceptions and pressure of high-stakes testing, leadership practice, and reform success.

Research Questions

The study was governed by four major questions surrounding leadership and performance in a high-stakes environment. Those questions were as follows:

1. How did school leaders in a state with high-stakes testing define successful reform?

2. How did leaders in a high-performing and a low-performing high school perceive high-stakes testing?

3. Did leaders in a high-performing and a low-performing high school perceive a need to raise student achievement with respect to high-stakes testing; and if so, what reforms did they implement to respond to state mandates?

4. What was the nature of change when a state has a high-stakes testing program in place?

Research Theories

In entering the study and the examination of the problem, four main theories were constructed in building toward an understanding of leaders' perceptions of change in a high-stakes environment. They were:

1. Successful reform in high-performing schools will be based upon collaborative and shared decision making. It will consider school culture as well as research in helping to raise school achievement.

2. Leaders in high-performing schools are more likely to perceive high-stakes testing in a positive way. These leaders "buy in" to the changes that have occurred and the need to help students achieve.

3. Leaders in both schools are likely to perceive a need to raise student achievement with respect to MCAS. The reforms in low-performing were less likely to be supported through quality professional development, a well-defined plan which included the use of assessments to inform practice.

4. The nature of change when a state has a high-stakes program in place is dependent upon strong, collaborative leadership at all levels of an educational institution.

Population and Sample

For this study, two urban high schools with similar demographics yet differing achievement on ELA and Math MCAS scores were selected in order to distinguish potential differences in attitudes and approaches with respect to standards-based reform and MCAS. This study focused on urban school achievement in an effort to avoid studying a "no wonder" school. Since higher socio-economic status has been correlated with higher standardized test scores, it is not surprising that such schools would be considered "exemplary," hence the term "no wonder." By selecting the two schools on the basis of their demographics and SES, it eliminated the potential for merely studying the role of wealth rather than actual reform or change on student achievement.

Purposeful sampling was used in this study. One urban "Compass" high school and one urban non-compass high school were selected in order to distinguish potential differences in attitudes and approaches with respect to standards-based reform and MCAS. Compass schools are defined by the Massachusetts Department of Education as "exemplary Massachusetts public schools." Specifically, the designation of "Compass School" is a way for the Massachusetts School and District Accountability System to recognize and celebrate improvements in student performance. Initiated in 2001, the evaluation of school performance under the Massachusetts School and District Accountability System consists of three stages: school performance rating, school panel

reviews, and diagnostic fact finding reviews. School performance ratings are issued for all public schools every two years based on performance and improvement on the Massachusetts Comprehensive Assessment (MCAS). Schools showing significant improvement in both English language arts and mathematics at tested grade levels in the school, in a given rating cycle, are invited to apply to the program.

The application process to become designated as s Compass School includes written responses to questions about the initiatives that leaders and staff think lead to the improvements and a comprehensive survey on factors affecting student performance. The completed applications are reviewed and rated by multiple readers. In addition to the quality of the written response to questions on school improvement, other criteria are used to select up to sixteen Compass School finalists. Other considerations include: schools with stable demographics and consistent participation rates across all subgroups on MCAS tests for the rating cycle, schools representing a range of school performance rating categories that have made adequate yearly progress for at least the previous two years, and schools from different geographic regions of the state.

Schools selected as finalists must then participate in an on-site panel review which is conducted by a team of Massachusetts Department of Education's School Performance Evaluators and three practitioners. This review is framed by two key questions: Is the school using effective improvement initiatives that could be replicated in similarly profiled schools? Are the conditions in place for this school to serve as a model of effective and successful improvement initiatives? Based on the Panel Review Reports, the Commissioner determines which schools shall be selected as Compass Schools during the following school year. Since 2001, ninety-four schools have been awarded this

distinction. Of the 94 schools, 21 have been high schools (grades 9-12). Of the 21, only two in 2007 could be classified as urban and non-vocational. The findings of this study may be applicable to non-vocational, Massachusetts, public high schools in an urban, high-stakes setting.

Selection

This study focused on one of these two urban Compass high schools and one lower performing, urban, non-Compass high school. Compass high school liaisons (ELA and Math department chairs) were contacted by letter at both Compass schools. Both schools responded that the building principals would need to be contacted by phone for permission. Of the two schools, only one school, which will be referred to as "Compass High School," was willing to participate in the study.

Since the state of Massachusetts does not rank schools, it became necessary to consult a private web-based source in an effort to find similar, urban, non-Compass high schools that scored lower than Compass High School for the same 2005-2006 academic year on both ELA and math combined. The site known as School Digger.com ranks schools based upon test scores. Average Math scores and average ELA MCAS scores across grade 10 are added to create a combined score. The combined score is then sorted with the highest combined score being ranked number one and so on. Using this ranking and comparing test score data on the Massachusetts Department of Education website to confirm its validity for the academic year in question, seventeen schools met the criteria as urban, public, and non-vocational Massachusetts high schools scoring below Compass High School. These categories were provided by the National Center for Education Statistics, U.S. Department of Education, and MA Dept. of Education. Urban is defined

as an indication of school's location relative to a populous area. The locales assigned to school districts are based on the locale code of their schools, weighted by the size of the schools' membership. In this study, two mid-size cities were studied. "City, Mid-sized," is defined as territory inside an urbanized area and inside a principal city with population less than 200,000 and greater than or equal to 85,000. Public schools in the United States are tuition free schools supported by taxes and controlled by a school board.

Letters were sent to building principals at the 17 schools describing the intent and purpose of the study. Schools that did not reply were contacted by phone and e-mail. Of the 17 comparison schools, only one school was willing to participate after being contacted by a state representative on the researcher's behalf. This school will be referred to as "Comparison High School." The Assistant Superintendent of Schools for Comparison High School arranged for a hearing with the research sub-committee of the School Committee. After presenting a copy of the research proposal, meeting with the sub-committee and providing a signed copy of an IRB approved consent form, the sub-committee recommended the study to the school committee who then granted final permission in late December 2008.

Compass High School is located in a mid-sized city in Massachusetts hereafter referred to as Compass City. Compass City had a population of 87,470. In 2005-2006 it had 1,527 students, and 87.8 faculty members. The student teacher ratio was 17.4. Sixty-six percent of its students were eligible for discounted/free lunch. Thirteen percent of its students were African-American, 10% Asian, 35%, Hispanic, 4% Unspecified, and 38% White. It was ranked 195 out of 297 public high schools and in the 30-50 percentile range of Massachusetts Public High Schools. Comparison High School is also located in

a mid-sized city. It hosted 3,722 students in 2005-2006. There were 266.2 faculty members. The student teacher ratio was 14.0. Fifty-eight of its students were eligible for discounted/free lunch. Eight percent of its students were African-American, 31% Asian, 20% Hispanic, and 41% White. It was ranked 231 out of 297 public high schools and in the 10-30 percentile range. The population of Comparison City was 103,150. Table 1 summarizes these demographic features.

Table 1

Demographics for Compass High and Comparison High

Features	Compass	Comparison
City population	87,470	103,150
Student population	1,527.0	3,722
Ethnic Percentages		
African American	13.0%	8.0%
Asian	10.0%	31%
Hispanic	35.0%	20.0%
Unspecified	4.0%	
White	38.0%	41.0%
Faculty members	87.8	266.2
Student/Teacher Ratio	17.4	14.0
Discount/Free Lunch Percentage	66.0%	58.0%
*MA rank public high schools	195 out of 297	231 out of 297
*Percentile range MA Public High School	30-50	10-30

For each of the schools in the study, a building principal, a department chair of English and /or mathematics, a teacher in at least one of these tested subjects, and a teacher outside of the tested subject matter were interviewed using an interview technique as described by Seidman (2006). In order to select these participants, the chairs of the English and mathematics department were asked to each recommend four well-regarded teachers (teachers who were respected by their peers and students for their fine pedagogy, professionalism, understanding of subject matter, and participation in school related improvement and committee work)—two in tested subject areas and two outside of the tested subjects, who had worked in the school system for preferably at least 10 years.

This purposeful sampling was designed to make sure the participants had witnessed and participated in any related reforms or initiatives related to the high-stakes testing and the Massachusetts State Frameworks. Teachers from each of the two categories were also selected based upon their willingness to participate. In addition, new participants were added as new dimensions of the issue became apparent in the interviews (Rubin & Rubin, 2005). Thirty three interview segments were conducted with 11 individuals. An interview segment for this study was defined as a period of time devoted to the explorations of one of three distinct goals. Each segment was defined by a number of scripted questions and probes. The first interview segment goal was to establish the context of the participant's experience. The second goal was for participants to reconstruct the details of their reform/change experience. In the third interview segment participants were asked questions which helped define the meaning the change/reform experiences had for them. Six individuals were interviewed at Compass

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High School and five individuals at Comparison High School. Each segment was approximately 30 minutes in duration. The interviews took place on four separate days. Two consecutive days were devoted to Compass, and two separate consecutive days were devoted to Comparison. Scheduling was based upon participant availability and preference on the two days as approved by each school district. Segments were scheduled within the same day and on the consecutive day dependent upon the participant's availability.

Data Collection and Instrumentation

Expanding upon the definition of leadership in most of the studies referenced in the literature review, this study explored the perceptions of school leaders, namely teachers, department chairs, and principals, with regard to standards-based reform and the high-stakes testing component, MCAS. Following the example of Stecher and Borko (2002), this study combined both survey results and interview data to examine two Massachusetts urban school of differing achievement levels with respect to English Language Arts and mathematics scores. The study explored whether there were also significant differences in the schools' leadership and faculty perceptions of the state's mandated test, MCAS; the pressure to raise student achievement with respect to MCAS; and the reform efforts that respond to that pressure. The investigation was also designed to provide insights into the potential differences between two urban high schools with respect to the nature of change in a state with high-stakes testing components.

The use of this mixed methodology provided greater depth and breadth within this comparative investigation. The advantages of the two methods were highlighted by Patton (1990) who cited that an advantage of a quantitative approach is that it measures

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the reactions of many people to a limited set of questions. In this case it included the entire faculty of both schools. This technique facilitates comparison and statistical aggregation of the data. It enables a succinct presentation of findings whereas the qualitative method produced more detailed information about a much smaller number of cases; specifically it involved at least five individuals at each school in the study. This technique helped increase the understanding of the cases and situations. By complementing and comparing the interview data with survey data, it was possible to explore a small number of schools and potential factors that interacted in determining the differential success in reform efforts from multiple perspectives.

As defined by Creswell (2002), the concurrent triangulation approach requires the collection of quantitative and qualitative data in one phase of the research study. The data are then compared to determine similarities, difference, or both. The results are "described side by side in a discussion." In this case the quantitative statistical results are followed by qualitative quotes "that support or disconfirm the quantitative results" (p.213). The benefit of this methodology is that it "can result in well validated and substantiated findings" (p. 213). Creswell is also clear to note the limitations of this model. Namely, it requires greater time and effort to study a phenomenon with two separate measures and the difficulty that arises from discrepancies in the results.

Survey

The first component of this mixed methodology, a survey, was administered with permission from the school's principals to all teachers and school leaders of both schools during a faculty meeting in February of 2008. Each participant who completed a survey gave his/her name to a house secretary who in turn included the name in a drawing for

one of four $25 gift certificates at each school. Although this type of group administered

questionnaire allowed for an efficient collection of survey results in one space and time

for each school, it did not ensure a high response rate. Only 27 out of 87 teachers (31%)

completed surveys at Compass High School, and only 92 out of 266 (34.6%) completed

surveys for Comparison High School.   To increase the response rate for both schools, the

survey was also made available in March 2008 via Survey Monkey. The MCAS

coordinator at both schools sent the link to staff via email.   This yielded an additional 57

surveys – increasing the response rate at Compass High School to 42.5% and Comparison

High School to 52.2 %. Due to the low response rate, the study may not be representative

of the whole faculty for each school. The low response rate may have been due to the

length of the survey. The survey was used to investigate differences in attitudes and

practices between the two schools with respect to standards-based reform and MCAS. In

the first section of the survey, participants were asked to provide background information

including their position (regular full-time teacher, regular part-time teacher, teacher aide,

administrator, librarian, counselor or other); years of teaching experience (0, 1-3, 4-8, 9-

12, 13-20, over 20); subjects taught (English, Math, Science, Social Studies, Special

Education, Other); grade levels taught (9th, 10th, 11th, 12th); gender (male or female); and

age (20-30, 31-40, 41-50, 51-60, 61+).

Part II of the survey contained 34 questions from the eighty item National Board

on Educational Testing and Public Policy's "Teacher Survey on the Impact of State-

Mandated Testing Programs" (National Board of Testing and Public Policy, 2003). The

original eighty item survey was used to elicit teachers' attitudes toward and opinions of

state testing programs in general. The entire survey is contained in Appendix A.

Respondents were asked to indicate the extent to which they agreed with each of the statements 1-24. These items focused on attitudes toward state testing. The response range varied from 1 "Strongly Disagree" to 4 "Strongly Agree."

Question 25 asked participants how they prepared their students for the state mandated test. They were asked to mark all that applied. Question 26 asked respondents to rate whether the amount of time spent on activities had changed to prepare students for the state mandated testing program. The scale ranged from 1, "decreased a great deal" to 5, "increased a great deal." Question 27 asked, "Approximately how many class hours per year do you prepare students specifically for MCAS? The response range included none to more than thirty. Question 28 posed, "When were most test preparation activities for MCAS conducted?" The response range included no specific preparation to throughout the year. Question 29 posed, "How similar is the content of the test preparation materials you use?" The response range included 1, "Very Dissimilar" to 4, "Very Similar." Participants were asked to mark all the strategies that apply with regards to influencing students to do their best work on MCAS in question 30. Respondents were asked to mark only one response in terms of how often the school's results on MCAS influenced their own teaching in question 31. Question 32 posed, "Do you use the results of state mandated tests for any of the flowing activities? Mark all that apply." Question 33 was a "yes or no" question: "Is there at least one person in your school that teachers can turn to for accurate information about MCAS?" Question thirty four asked the extent to which respondents believed MCAS influenced the amount of time spent on various activities. The response range varied from 1, "Strongly Disagreed" to 4, "Strongly Agreed." The purpose of the questions selected for this section was to gather

information about teacher perceptions of MCAS as well as school and teacher practices related to these tests.

The questions in parts II-IV were adapted from the "2002 Bay Area School Reform Collaborative (BASRC) Teacher Survey. The original survey contained 22 scales. This research employed the related scales of School Climate, School Culture, Professional Development, Perceived Value, Alignment, three distinct Leadership Scales, Teacher-Learning Community, Collective Problem Solving, and Teacher Knowledge Sharing.

Part III of the survey was comprised of fifty-three questions. Respondents were provided with response ranges from 1, "Strongly Disagree" to 4, "Strongly Agree." The purpose of Part III was to gather teacher perceptions of school reform with respect to school climate, culture, professional development, district leadership, principal leadership, and department leadership. Part IV of the survey focused on school conditions and contained seventeen questions. These questions were adapted from the "2002 Bay Area School Reform Collaborative (BASRC) Teacher Survey." The response range varied from 1, "Never" to 3, "Always." It included indicators of Teacher-Learning Community, Collective Problem Solving, and Teacher Knowledge Sharing. The items in Part III and IV provided insight as to how teachers and leaders were working to bring about change and reform in a high-stakes testing environment. Although the items from the BASRC survey were randomly presented throughout sections II, III and IV, they were later analyzed according to their specific scale.

The Perceived Value scale with five items had an alpha value of .81. It "dealt with the accuracy of inferences that can be made from the test about quality of

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instruction, student learning, school effectiveness, and differences among various groups and the cost/benefit of the testing program" (National Board of Testing and Public Policy, 2003, p3).

The Teacher Learning scale of 4 items focused on the support among colleagues to try new ideas, trust among faculty, and the use of time to discuss teaching and learning as well as encouragement to experiment with teaching.

The Teacher Knowledge Sharing scale, comprised of 8 items, conveyed the frequency of teachers discussing with other teachers research on effective teaching methods, ideas on teaching, research on instructional practice for language learners, what a teacher learned at a workshop or conference, new approaches for underperforming students, sharing student work or successful lessons, and beliefs about teaching and learning.

The Principal Leadership scale of 8 items explored the extent to which the principal encouraged teachers to try new methods of instruction, promoted community involvement, created a sense of community, took a personal interest in the professional development of teachers, shared decision making, ensured that student learning is the" bottom line," encouraged teachers to take risks, and was characterized as a strong leader in school reform.

The District Leadership for Reform scale was made up of nine items, and it dealt with the extent to which the district inspired the job performance of its teachers, supported local innovation, held high expectations, built community confidence in the school, and supported the schools change effort.

Items on the School Climate scale reflected teacher expectations for students, the conduciveness of the climate in regards to learning, progress toward reform vision, analysis of student data to improve performance, and analysis of data to inform instructional practice.

The School Culture Scale of six items included whether teachers were actively involved in reform, were continually learning and seeking new ideas, were engaged in systematic analysis of student performance data, practiced inquiry and reflection, assessed student performance to change curriculum, and regularly examined school performance.

The Professional Development Scale of five items dealt with professional development's connection to school reform, whether it was sustained and focused, whether it helped to understand students better, whether it included time to think carefully about and evaluate new ideas, whether it helped to build new skills, and whether it identified strategies to better meet the needs of target students.

The Department Leadership for Reform scale consisted of eight items and dealt with whether the department head encouraged teachers to try new methods of instruction, promoted parent and community involvement, worked to create an a sense of community, took a personal interest in the professional development of teachers, committed to shared decision making, and ensured that student learning is the "bottom line."

The Alignment scale of 5 items was related to the alignment of classroom practices with the state test. It dealt with the compatibility between the test and the curriculum, instruction, texts, and teacher-made tests.

The survey concluded with a section and opportunity for respondents to offer related, open-ended comments which were coded and analyzed along with interview data. For example, it asked, "If you wanted to give someone a really good sense of what your school is like, what would be a typical event, practice or procedure you would tell them about?" It also inquired, "If you would like to offer any comments about the relationship between state-mandated testing and school reform, please write them in the space below."

Once the surveys were completed and collected, responses were coded and entered onto an Excel spreadsheet. This format allowed for the analysis of data using SPSS (Statistical Package for the Social Sciences) software.

Interviews

The second component of this mixed methodology was qualitative interviewing. The interviews were an appropriate way to help elicit participants' views on how and why change occurs. According to Rubin and Rubin (2005), qualitative interviews are "conversations in which a researcher gently guides a conversational partner in an extended discussion" (p. 4). Researchers match their questions to what each interviewee knows and is willing to share. Recounting narratives of experience has been "a major way throughout recorded history that humans have made sense of their experience" (Seidman, 2006, p. 8). The method of in-depth phenomenological-based interviewing was used to investigate educational reform/change through the experiences of the individual people who made up the organization and carry out the process. The goal was to have participants reconstruct their experiences with the topic under study. The interviews were based primarily upon open-ended questions. The perspectives of leaders in various positions throughout the organization helped to develop a multi-faceted

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understanding of the phenomenon in question. "The combination of multiple methodological practices, empirical materials, perspectives and observers in a single study is best understood then as a strategy that adds rigor, breadth, complexity, richness, and depth to any inquiry" (Denzin & Lincoln, 2005, p.5).

The interview segments times ranged from 26 minutes to 51 minutes with an average segment time of 34 minutes. The goal of the first segment of the interview was to establish the context of the participant's experience. A set of scripted questions and probes were asked at each interview:

- I know you are a compass/urban high school. I was wondering if you would describe for me what that means in terms of the way you do things at this school? Could you help me to understand the broader picture?

- What is important in this school? What does that mean in practice? How does that show up in your organizational structure?

- Please describe for me any changes that have taken place in your school since high-stakes testing in Massachusetts was initiated. How was this enacted?

- Would you please describe for me step-by-step what this school has done to improve student achievement with respect to the MCAS exam?

- How was the decision made to do that? Can you tell me how that came to be? Can you tell me the story? What comes to mind for you? What is the process?

- What role if any, did school leadership play in the change process? How do decisions get made?

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In the second segment of the interview, participants reconstructed the details of their experience within the context in which it occurs. The researcher started out by stating, "Now I am interested in hearing about your personal experiences with change and reform." Several scripted questions were asked of all participants:

- When you started the change initiative, do you remember how you felt about it? What was your thinking at the time? What kinds of things helped to facilitate this kind of change? Were there any barriers to these changes?

- Do you think other people responded the same way? Do you think they felt the same way you did? What kinds of things came up?

- Do you know what their reasons were?

- "What was your role in the change process?

The third segment of the interview encouraged the participants to reflect on the meaning their experiences hold for them. Interview questions included:

- What would you say to a school that wanted to improve student scores on the MCAS exam? What would you recommend?

- What in your experience leads you to say that?

- What do you think I should take away from this interview in terms of this MCAS achievement, standards based reform, and the value they have?

- How would you describe/define a successful school reform effort? What do you think is necessary to ensure success when approaching school change in a high-stakes testing climate?   Has your school implemented such necessities? What may account for this?

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- Now that we have had this conversation about school, is there anything I should have asked but did not?

This interview series were scheduled and conducted in January and February of 2008. Each segment took approximately thirty minutes. The interviews were conducted at the respective school sites. Each interviewee received a $20 gift card with the school's permission as a token of appreciation for their time. Interviews were transcribed in March and April of 2008. The participants had two dates on which to schedule three interview segments each. Some interview segments were scheduled on the same day; others were scheduled on the following day dependent upon participant availability. The set of questions were the same for each participant; however, follow-up questions and points of clarification varied.

A building principal, a department chair of English, a department chair of mathematics, a teacher in at least one of these tested subjects, and a teacher outside of the tested subject matter were interviewed. One other participant was added. Compass High School was able to provide both English and Math teachers to interview. This led to a total of eleven individuals across both schools.

Data Analysis

Descriptive Statistics

Chi Square. The first part of the survey was comprised of nine background questions. In an effort to compare observed frequencies on background characteristics that occur in each school, chi-square tests were performed to determine whether a difference in proportions of teachers reporting certain background information at the two

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schools was likely to have occurred by chance. The data are presented in chapter four. It

is generally accepted by social scientists that if a p value is less than .05, then the result is

considered statistically significant. Chi-square tests were performed for the following

questions in Part II:

- "How do you prepare your students for the state mandated tests?"
  Mark all that apply.

- "Approximately how many classes/hours per year do you spend
  preparing students specifically for MCAS?" The response range
  varied from none to more than 30 hours.

- "When was most test preparation conducted specifically for MCAS
  carried out?" The response range varied from no specific preparation
  to throughout the year.

- "Is there at least one person at your school that teachers can turn to for
  accurate information about MCAS?" The response choice was *yes* or
  no.

This non-parametric technique was used because the data were measured on nominal

(categorical) scales and the sample size was small.

        Frequencies. For those questions which could not be analyzed using Chi-square,

means and basic frequencies were run using SPSS. Chi-square could not be performed

on three questions in Part I of the survey due to low cell counts, and the categories did

not lend themselves to collapsing. These questions included:

- "What subjects do you teach?" Response selection included English,
  Math, Science, Social Studies, Special Education and Other.

- "What grade levels do you currently teach?" The responses ranged
  from 9th through 12th grade.
- "During this school year will you . . . coach a sport, sponsor any
  student groups, clubs etc., serve as a department lead or chair, serve as
  a lead curriculum specialist, serve on a school wide or district wide
  committee or task force?"

Two survey items, "Does your school rely on any of the following strategies to
influence students to do their best work on the state mandated test? Mark all that apply."
and "Do you use the results of the state mandated tests for any of the following activities?
Mark all that apply." from Part II of the survey were analyzed by "splitting the file" by
school, and then comparing the two groups. Frequencies were then run.

Reliability Analysis. The survey instrument contained several scales that were
interspersed throughout sections two, three, and four. First descriptive statistics were run
on each of the items in the scale in order to examine the item ranges, means, and
variances. By checking the ranges, data entry mistakes were corrected. Next, reliability
analysis was run for each scale. The closer the alpha value is to 1.0, the greater the
internal consistency of the items in the instrument being assessed. Each scale, alpha
level, corresponding survey items, mean, and standard deviation can be found in
Appendix A.

To ensure the construct validity and reliability of the Perceived Value, Teacher
Learning, Teacher Knowledge Sharing, Principal Leadership for Reform, District
Leadership for Reform, School Reform Climate, School Culture, Professional
Development, Department Leadership for Reform, and Alignment scales in Parts II- IV

of the survey, reliability analyses were conducted with the survey data that were collected. The coefficient of internal consistency on the Perceived Value, Teacher Learning, Teacher Knowledge Sharing, Principal Leadership for Reform, District Leadership for Reform, School Reform Climate, School Culture, Professional Development, Department Leadership for Reform, and Alignment Scales for this study sample are also reported in Chapter 4.

T-Tests. Independent samples t-tests were conducted to explore whether the mean scores on the Perceived Value, Teacher Learning, Teacher Knowledge Sharing, Principal Leadership for Reform, District Leadership, School Reform Climate, School Culture, Quality Professional Development, and Department Leadership for Reform scales differed significantly for respondents from the two schools. T-tests assume population normality; however, due to the unbalanced design (n=37 for Compass and n = 140 for Comparison), the results should be used with caution as they are not as robust as a balanced sample. Independent samples t-tests were also conducted on selected survey items to explore differences. The questions in Part II dealt with MCAS perceptions:

- Question 26 asked respondents to rate the amount of time spent on activities had changed to prepare students for the state mandated testing program. The scale ranged from 1, "Decreased a great deal" to 5, "Increased a great deal."

- Question 29 posed "how similar is the content of the test preparation materials you use?" The response range included 1, "Very dissimilar" to 4, "Very similar."

- Question 34 asked the extent to which respondents believed MCAS influenced the amount of time spent on various activities. The response range varied from 1, "Strongly Disagreed" to 4, "Strongly Agreed."

Qualitative Analysis. The thirty three interviews (three segments per individual) were recorded on a digital recorder in the months of January and February of 2008. They were transcribed verbatim. Pseudonyms replaced the names of interviewees and the location of the school. The data were placed in files and labeled by pseudonym: name, time, location, position, and length of interview. Each school was assigned a different file drawer, and each participant was assigned his/her own file within the drawer. The data were stored on computer using N-Vivo software. The software helped facilitate the coding, storage by school, question, and theme as well as the comparison of data.

After transcription, a close reading of the all of the interviews helped to sort out what was potentially important and significant. Then all of the first interviews were read twice, and numerous potential codes were created. This process was used for the second and third sets of interviews as well. A second reader also examined each interview segment twice and created a list of potential themes. The themes were grouped into categories by asking the questions: What is the subject of the passage? Can it be labeled? A comparison revealed the overlap and potential labels. By searching for connecting threads and patterns among the excerpts, the data were classified and coded. The files were read and reread until the most compelling themes emerged. Whenever a potential code related to a scale, it was noted.

The original list of potential codes included: time, buy-in, scheduling class size, training, resources, ELL, modeling, community, funding, collaboration, mandates,

support, decision making, apprehension, hope, benefit, impact, professional development, resistance, grants, tutoring, equity, opportunity, student needs, scores, attendance, expectations, dissatisfaction, communication, coordination, purpose, strategies, leadership, concerns, care, students, alignment, data, value, safety, standards, and reaction.

Interview data were then examined using N-Vivo software. The interview data were imported; each interview was placed in a file with its original pseudonym source as well as interview segment number. Every interview was placed in its corresponding school N-Vivo file. Each interviewee was assigned values related to their position such as principal, department chair, math teacher, etc. Using the list of codes developed from the readings, selections were highlighted. Through this process, the N-Vivo program links codes and their sources. As the interviews were examined, notations were made within N-Vivo in an attempt to thematically organize the codes. In particular, notes were made when a passage related to a particular scale and/or question. Eventually "tree nodes" or hierarchical codes emerged from the original list, as several of the original codes could be classified or included in the nodes depicted in table 2. The nodes were then organized by each research question in the N-Vivo system.

Table 2

Tree Nodes

_____

Nature of change
      barriers
      facilitators
      role of leadership

Perceptions of High-Stakes Testing
      negative
      positive

Response to state mandates
      perceived need to achieve on MCAS
      professional development
      strategies

Successful Reform
      alignment
      climate
      high standards
      recommendations
      results

_____

The query feature of N-Vivo allowed for the examination of similarities and differences between schools and among leadership levels. For example, The N-Vivo software was used to examine the 100 most frequently used words in each school's interviews and to search for potential themes/labels. These 100 words did not add to the analysis. For each node it was also possible to compare the interview data by position and school (i.e. Compass principal vs. Comparison principal). The software presented the text segments for easy reference along with a coverage statistic. "Coverage" is the percentage of a source that is coded at a node. In this case there were two main sources, Compass School and Comparison School. The coverage statistic represents what

percentage of a school's interview data are represented at a node. The data were then interpreted and compared with the survey data.

Summary

For this study, two urban high schools of differing achievement on ELA and Math MCAS scores were selected in order to distinguish potential differences in attitudes and approaches with respect to standards-based reform and MCAS. A mixed methodology approach, using both survey and interview data, allowed for a concurrent triangulation approach. The data were compared to determine similarities, difference, or both; and results were presented in thematically organized discussion. Presenting the data in this way validated and substantiated findings. The survey instrument contained several scales, and independent samples t-tests were conducted to explore whether the mean scores on the Perceived Value, Teacher Learning, Teacher Knowledge Sharing, Principal Leadership for Reform, District Leadership, School Reform Climate, School Culture, Quality Professional Development, and Department Leadership for Reform scales differed significantly for respondents from the two schools. In an effort to compare observed frequencies that occur in each school, Chi-square tests were also performed. For those questions which could not be analyzed using Chi-square, basic frequencies were run using SPSS. The interview data were read, and a portion of the data was examined by a second reader. Preliminary codes were compared and discussed. Using N-Vivo software, files were created and values were assigned to interview data. Coding was facilitated through the software program. Multiple readings of interview segments allowed for the further refinement of themes and codes. A comparison of data between

the two schools and among leaders allowed for the interpretation of qualitative data

which was then compared to the survey data.

CHAPTER 4: ANALYISIS OF DATA

This chapter has been organized to present data analysis. It begins with a brief review of the purpose of the study and the problem to be addressed. It provides a description of the survey instrument and the way the data will be organized/presented. The characteristics of respondents are summarized. It includes a narrative discussion of the demographics as well as tables. The research questions and theories are listed. The data are analyzed by research question. Quantitative and qualitative data will be presented concurrently for each research question. This section also includes a discussion of the statistical and qualitative analysis that was utilized followed by the related theory. Following the theory, there is narrative which reviews the resulting data from the statistical analysis and the qualitative analysis. A concluding statement, indicating the rejection or retention of the theory, will be included in the discussion section. The theory must be supported by both quantitative and qualitative data in order for it to be retained.

The problem being investigated in this study involves the question of how school leaders' perceptions and practices in a standards-based, high-stakes testing environment are related to "successful reform." In Massachusetts, both students and schools must consider the results of high-stakes testing. Testing scores are a factor in the graduation criteria for students and a factor in whether schools retain their autonomy by meeting the Annual Yearly Progress (AYP). The problem with the reliance upon these scores is the fact that the scores only indicate the level that the students and school perform at. The scores do not provide explanations as to why certain schools perform at high levels while similar schools (i.e. similar size, location, and socioeconomic level) perform much lower.

Specifically, this study focused on two urban high schools and the problem of how the practices of school leaders related to level of performance. The study explored the problem of the complex relationship between leadership, faculty, school culture, and educational change. It attempted to provide specifics as to value, perceived by leaders, of the MCAS exam as a measure of high standards of achievement and how leaders successfully responded to the need to raise student achievement

Organization of Data Analysis

There are numerous terms used to describe the combination of quantitative as well as qualitative research methodology. Recent writings use the term "mixed methods." Creswell (2009). In this chapter the data are merged. The two sources of data, survey results and interview responses, will be compared as they relate to each research question and corresponding theories. The discussion will first consist of the quantitative statistical results followed by qualitative quotes that support or disconfirm the statistical results. If the theory is supported with both quantitative and qualitative data, the theory will be retained.

The interviews for each school were divided into three segments. Each segment was defined by a number of scripted questions and probes. The goal of the first interview segment was to establish the context of the participant's experience. The second goal was for participants to reconstruct the details of their reform/change experience. In the third interview segment, participants were asked questions which helped define the meaning the change/reform experiences had for them. Six individuals were interviewed at Compass High School and five individuals at Comparison High School. Each segment was approximately 30 minutes in duration. For each of the schools in the study, a

building principal, a department chair of English and /or mathematics, a teacher in at least one of these tested subjects, and a teacher outside of the tested subject matter were interviewed using a scripted interview technique. In total 33 interview segments were conducted.

The survey instrument was comprised of four sections. In the first section of the survey, teachers and leaders were asked to provide background information including their position, years of teaching experience, subjects and grade levels taught, gender, and age. Part II contained 34 questions related to MCAS perceptions and strategies. The purpose of Part III was to gather teachers' perceptions of school reform with respect to school climate, culture, professional development, district leadership, principal leadership, and department leadership. Part IV focused on school conditions. It included indicators of Teacher-Learning Community, Collective Problem Solving, and Teacher Knowledge Sharing.

To maintain high reliability and construct validity of the scales contained in Parts III and IV of the survey, ten of the original survey items were subsequently excluded from analyses. Negative item total and correlations of less than .5 were considered for elimination. Ultimately, they were eliminated if the corrected item total correlation was less than .5 and the "alpha if item deleted" was higher than the alpha value. A "Good" or high reliability of a scale refers to how well the items measure a single construct. A .8 correlation is good with 1.0 being the best.   As shown in Table 3, the reliability coefficients of the revised survey scales (excluding the 10 deleted items) ranged from .66 to .93 and demonstrated moderate to high internal consistency.

Table 3

Scales Underlying Survey Reliability Estimates

Scale	Number of Items	Cronbach's Alpha
Perceived Value	5	.81
Teacher Learning	4	.71
Teacher Knowledge Sharing	8	.88
Principal Leadership for Reform	8	.93
District Leadership for Reform	9	.87
School Reform Climate	14	.90
School Culture	6	.85
Quality Professional Development	5	.86
Department Leadership for Reform	8	.89
Alignment	5	.66

Note. Scales adapted from BASRC *Teacher's Survey Scale Definitions* (2001) and The National Board of Education Testing and Public Policy (2003) *Impact of Teacher survey on the State-Mandated Testing Programs*.

Presentation of Descriptive Characteristics of Respondents

The first part of the survey instrument was comprised of nine background questions. Respondent positions at the two schools (teaching vs. non-teaching roles) were examined. Percentages of each category are displayed in Table 4. Eighty-six percent of Compass respondents and eighty-two percent of Comparison respondents were classified in teaching roles. Ninety-seven percent taught regularly scheduled classes at Compass High School, as compared to 86% who teach regularly scheduled classes at Comparison High School. Years of teaching experience were fairly evenly divided, with 43% and

47% of teachers with less than thirteen years of experience at Compass and Comparison respectively. Staff with more than thirteen years represented 57% at Compass and 53% at Comparison. Compass High School had 60% female and 40% male. Comparison had a slightly higher female population of 66% and a male population of 34%. There were no significant differences in age ranges between the two schools. Forty percent of Compass High School respondents fell within the 20-40 years of age, as compared to 36% of Comparison High School. Sixty percent of Compass High School respondents were over forty years of age, and 64% of Comparison respondents fell into this category.

Table 4

Part I Respondent Categories

Category	Percentage Compass	Percentage Comparison
Teach regularly scheduled classes	97	86
Years of Experience		
less than 13	43	47
more than 13	57	53
Female respondents	60	66
Male respondents	40	34
20-40 years old	40	36
40+ years old	60	64

In an effort to compare observed frequencies on background characteristics that occur in each school, Chi-square tests were performed to determine whether differences

in proportions of teachers responding in certain ways at the two schools were likely to have occurred by chance.   These items and the proportions of respondents at each school are displayed in Table 5. Chi Square analyses revealed that there was no statistically significant difference between the two schools' respondents in terms of position, teaching regularly scheduled classes, years of teaching experience, gender, and age range (p>.05).

Table 5

Part I Background Information

_____

Question	Chi-Square Value	df	Asym. Sig. (2-sided)	N
How do you classify your position at this school?	.30	1	.58	176
Do you teach any regularly scheduled classes at this school?	3.69	1	.06	174
How many years of teaching experience do you have including this year?	.14	1	.71	172
What is your gender?	.76	1	.38	174
Please mark the appropriate range for your age.	.29	1	.59	174

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Note. N=number of valid cases; df = degrees of freedom.

For those questions which could not be analyzed using Chi-square, basic frequencies were run using SPSS**.** These items included questions regarding subjects taught, grade level taught, leadership positions, and extra-curricular positions. For these items, Chi-square could not be performed due to low cell counts; and the categories did not lend themselves to collapsing. Table 6 details each school's percentages with regards

to subjects taught. Most respondents at each school taught regularly scheduled classes and classified their subject as "other." The subject matter breakdowns were also similar. The percentages will not sum exactly to 100 for either school because only the respondents who taught regularly scheduled classes responded. Thirty Five teachers at Compass and 118 at Comparison responded. Not all respondents who taught regularly scheduled classes chose a category, and not all who were surveyed responded to whether they taught regularly scheduled classes.

Table 6

Subjects Taught

Teach	Compass High School	Comparison High School
Regularly Scheduled Classes	94.6%	84.3%
English	18.9%	17.9%
Social Studies	13.5%	13.6%
Math	18.9%	17.1%
Special Education	2.7%	2.1%
Science	10.8%	12.9%
Other	43.2%	21.4%

Table 7 reveals grade levels taught. The majority of respondents at Compass High school taught grade 12 (81%), whereas the majority of Comparison High School respondents (60%) taught grade 10. This difference is likely to make the samples qualitatively different. Most teacher respondents at Comparison taught grade ten.   This is the year that students are tested in ELA, Math, and Science. By grade 12, most

students have achieved proficiency on the test. This could impact perceptions of teachers who may feel less pressure after the test has been passed.

Table 7

Grade Level Taught

Grade	Compass High School (n=37)	Comparison High School (n=140)
9	64.9%	40.7%
10	64.9%	60.0%
11	81.1%	52.9%
12	81.1%	55.0%

Note. n = number of cases.

Table 8 presents leadership positions within each school. Compass High School had a higher percentage of teacher leaders in every category (sponsor a student group, club or organization, serve as Department Chair or Lead, serve as a lead curriculum specialist, serve on a school-wide or district-wide committee) except for coaching a sport. Comparison High School had 12.1% coaching a sport as opposed to 8.1% at Compass. These findings suggest that respondents from the two schools were qualitatively different with regards to leadership positions.

Table 8

Indicators of School Leadership

Role	Compass High School (n=37)	Comparison High School (n=140)
Coach a Sport	8.1%	12.1%
Sponsor a student group, club or organization	40.5%	20.0%
Serve as Department Chair or Lead	16.2%	5.7%
Serve as a lead curriculum specialist	10.8%	1.4%
Serve on a school-wide or district-wide committee	18.9%	14.3%

Note. n = number of cases.

In summary, participants at both schools did not differ significantly in terms of position classification, subjects taught, years of experience, gender, and age. The respondents from the two schools appeared to differ in terms of grade levels taught and leadership roles.

Research Questions and Associated Theories

Four main research questions and corresponding theories guided the research and analysis.

Research Question 1- How do school leaders in a state with high-stakes testing define successful reform?

Theory 1- Successful reform in high-performing schools will be based upon collaborative and shared decision making. It will consider school culture as well as research in helping to raise school achievement.

Research Question 2 - How do leaders in a high-performing and a low-performing high school perceive high-stakes testing?

Theory 2 - Leaders in high-performing schools are more likely to perceive high-stakes testing in a positive way. These leaders "buy in" to the changes that have occurred and the need to help students achieve.

Research Question 3 - Do leaders in a high-performing and a low-performing high school perceive a need to raise student achievement with respect to high-stakes testing; and if so, what reforms do they implement to respond to state mandates?

Theory 3 – Leaders in both schools are likely to perceive a need to raise student achievement with respect to MCAS. The reforms in low-performing schools were less likely to be supported through quality professional development, a well-defined plan which included the use of assessments to inform practice.

Research Question 4 - What is the nature of change when a state has a high-stakes testing program in place?

Theory 4 - The nature of change when a state has a high-stakes program in

place is dependent upon strong, collaborative leadership at all levels of an

educational institution.

Analysis of Data

Research Question 1

This study of high-stakes, standards-based reform begins first with a definition of

"successful reform." Successful reform in high-performing schools has been

characterized in the literature as based upon collaborative and shared decision making.

The literature also emphasizes that school culture and data driven reflection help to raise

school achievement.

Scales as well as interview data helped to determine whether the theory posed was

to be rejected or retained. Research Question 1 asked, "How do school leaders in a state

with high-stakes testing define successful reform?" The Teacher Knowledge Sharing

scale, School Culture scale, survey items related to using results of MCAS, and interview

data were analyzed in an effort to answer this question. As described in the literature,

successful reform in high-performing schools will be based upon collaborative and

shared decision making. It will consider school culture as well as research in helping to

raise school achievement. The teacher knowledge sharing scale was selected because it

focused on the use of research to improve practice; the sharing and discussion of effective

practice, lessons and student performance among colleagues; and the exploration of new

approaches to improve student performance as well as the discussion of beliefs about

teaching and learning. These aspects speak to the use of research to help raise achievement as well as a collaborative culture.

The school culture scale examined the school's stance toward inquiry and reflection. These are two aspects which may be necessary for successful reform in a high-stakes climate. Specifically the scale explored the extent to which the schools continually learn and seek new ideas. It examined if teachers were engaged in systematic analysis. If so, it explored whether this analysis led to changes in the curriculum and to what extent was the school involved in reform. This scale identifies a reform culture which may speak to a school's ability to achieve on the high-stakes test MCAS.

Several survey items addressed the use of MCAS results to inform practice. Specifically they examined whether the results led to changes in student grouping, evaluation of student progress, assessment of teacher effectiveness, selection of materials, instructional planning, curriculum revision, student feedback, parent feedback, and grading. Using the data in these ways was an essential component of successful reform. In addition, the third interview segment posed the following questions: "How would you describe/define a successful school reform effort? What do you think is necessary to ensure success when approaching school change?"

The theory that successful reform is based upon collaboration was not supported by the Teacher Knowledge Sharing Scale. Questions for this scale included whether teachers felt supported by colleagues to share new ideas, trusted each other, were encouraged to experiment, and used time to discuss teaching and learning together. There was no significant difference between the two schools with regard to "teacher sharing" $t\ (137) = .751, p = .454)$.

However, the other two components of the theory—the role of school culture and the role of data analysis—were supported by the results. The School Culture scale, comprised of six items and an alpha value of .85, did reveal a significant difference between the two schools. The Compass High School mean on a four-point scale was 2.95 with a standard deviation of .481. The responses ranged from 1 "Strongly Disagree" to 4 "Strongly Agree." Comparison High School had a lower mean of 2.58 and a standard deviation of .522; t (135) = 3.428, p = .001. Compass High School teachers were more like to agree that they were engaged in systematic analysis of student data, that their work was characterized by inquiry and reflection, that teachers regularly examined school performance, and that the school was "actively engaged in school reform."

Survey items related to using results of MCAS were analyzed to investigate the extent to which research and data analysis may help to raise school achievement. Compass High had a higher percentage of respondents using MCAS results to plan curriculum at 43% as opposed to 35% at Comparison High and a higher percentage of respondents using MCAS to plan instruction at 41% versus 34% at Comparison. Few teachers at either school (8% Compass High and 6% Comparison High) used the results to group students within the class or to determine student grades (8% Compass High and 4% Comparison High). These results suggested that Compass High School was more likely to use results of MCAS to inform their practice; in other words, the success of Compass High School's approach to reform was partially a result of their data analysis.

Table 9

Using the Results of MCAS

Strategy	Compass Percentage (n=37)	Comparison Percentage (n=140)
Group students within my class	8.1	5.7
Evaluate student progress	24.3	16.4
Assess my teaching effectiveness	29.7	20.7
Select instructional materials	32.4	30.7
Plan my instruction	43.2	35.0
Plan my curriculum	40.5	33.6
Give feedback to students	24.3	25.7
Give feedback to parents	10.8	7.9
Determine student grades (in whole or in part)	8.1	4.3
Do not get the results back in time to use them	27.0	9.3
None of the above	13.5	20.0

Note. n = Number of case

In terms of qualitative data, participants were asked to define and describe a successful reform effort. They were also asked what they thought was necessary to ensure success when approaching school change. Several themes emerged during the coding and analysis of the interviews. The software was also able to provide a "coverage" statistic. This number is the percentage of a source that is coded at a node. In this case, there were two main sources, Compass School interviews and Comparison School interviews. The coverage number reflected the amount of attention devoted to a particular theme in the schools' interviews. In this research, it is the percentage of a school's interview data devoted to a node. A node is a collection of references about a specific theme.

The component of the research theory regarding school culture was also supported by the interviews; specifically, the attitude and approach to student achievement differed by school. Student Achievement on MCAS was more likely to be the focus of Compass respondents with 10.07% of interview coverage as compared to Comparison's 2.73% of interview coverage. Five Compass individuals referenced results as opposed to a single Comparison respondent. For example, the Compass principal cited the role of MCAS scores results on teacher buy-in. He noted, "It took a while for them to see the positive aspects; and of course once you saw more and more students passing MCAS based on the additional support these children received, they realized that they were playing a role." As described by a Compass Math teacher, MCAS results measured progress. He stated, "Look at where the school is starting out. Probably take 2-3 school years to measure what progress if any you have made." He further explained that MCAS results on the tests defined success. This individual commented, "If schools are obtaining results then I guess that would be successful" (Compass Math Teacher). Compass respondents also linked MCAS results with the school's strategies. A typical comment was, "We ask our retired teachers to come in; we call it the long block. These teachers come in several times a year from 11:30 to 1:30, and they work with the neediest population and they have very good results" (Compass ELA Chair).

In contrast to Compass's emphasis on data analysis and student achievement, the only interviewee to mention the role of test results from Comparison High School was a teacher from a non-high stakes tested subject. This teacher stated, "I know that there is a group within the school; I think they are called education curriculum specialists. And one of their jobs is to take the test results from MCAS, place the students in various

math/English MCAS support classes." This response was elicited from the question "What is necessary to ensure success?" The reference was remote, distant from his role as teacher.

Belief in high standards represented another component of culture and another area of difference between the two schools. Compass respondents were also more likely to reference high standards at 4.98% coverage versus 2.95% coverage at Comparison High School. Admittedly, a 2% difference may not seem meaningful; however, when this difference is coupled with the statements regarding standards, the differences between Compass High and Comparison High start to emerge. In response to the question, "What is necessary to ensure success?," the Comparison High School principal did note, "Well it begins with understanding the standards base. You start with that. Prior to MCAS, you didn't hear people talking about standards based anything. We are just trying to maintain high standards and expectations." However, there was no description of how the school set about understanding standards or how standards were incorporated in any of the Comparison interviews. On the other hand, a Compass respondent "would recommend that the level of rigor in a course should start early in education." A belief in rigor extended even into the primary grades for Compass respondents. No reference to early education or intervention was mentioned at Comparison.

The way that Compass High School incorporated the high standards was through alignment. Six references representing 9.91% interview coverage explained the need for and process of alignment. For example the Compass math chair explained:

> It's not an obsolete thing for kids. It's real. They know what the
>
> standards are. They know what the expectations are. They know that we

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need to cover these strands within these standards. There are five

standards to the Massachusetts frameworks. And within each one of the

standards there are these strands. So there are different components to

each one of the strands.

The Compass ELA chair illustrated how these standards are put into practice. The ELA

chair explained:

So we decided that 9th and 10th grade, we're not going to teach to the test,

but we are going to try to make sure that every kid passes the test. We

also found that what's required on the MCAS test is not really bad stuff —

comprehension, writing, understanding, reading— so those are the things

we try to do.

Although both schools referenced school climate in describing successful reform

and/or what was necessary to ensure success. (Compass coverage was 17.6 % and

Comparison coverage was 23.91%), the topics related to climate and the tone differed.

The excerpts from the Compass interviews illustrated a student centered focus to ensure

success at Compass among all levels of leadership. Comparison revealed a more

dissatisfied perspective, a distancing of self from responsibility and an acceptance that

not all students would succeed. For example, the Compass Principal stated:

It's a very caring, supporting environment. That the children in this

building feel very safe. That they know that everyone here wants to help

them. Not to say that they all accept that idea, but they realize that rules

apply to everyone. The rules are clearly told at the very beginning of the

school year. They know what they have to do and they also know that

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there are consequences for every action that they take so I think next in

point they realize that everyone in this building is committed to their

education that we see it as the most important thing to help them get a

high school diploma so they can go on to college or on to the business

world and that's starts right from the beginning.

The Compass ELA teacher said, "There is an embracing and an understanding of

diversity…diversity of culture, diversity of beliefs, both religious and cultural beliefs.

There is acknowledgement of these differences on a social level as well as an academic

level." In addition, the Compass ELA Chair noted, "You have to always keep in mind

what's the best thing for the kid and forget about anything else. What is best for the

child? What do you think will work for the child and so that was the mission."

In contrast, Comparison respondents did not share this same student-centered,

caring culture. Responsibility rested primarily upon the student. The Comparison ELA

chair explained, "Our focus is becoming more and more on instruction - on helping

teachers to help kids be more responsible for their learning" When discussing successful

reform and what needs to be done to ensure success, "barriers" were presented by

Comparison respondents.   The Comparison Math teacher stated, "We have many

problems in this school. Not because of the school, but the children that come in make

problems. Family issues, economic issues, racial. Many of them are relocated from

around the world." The Comparison Math Chair also noted, "I think the main priority is

safety of the students - the orderliness of the school. I think that's probably number one.

And I see that to some degree that is a viable priority. But I personally do not feel like the

actual teaching and instruction is as valued here as it should be by some of the

leadership." One response to this interview segment also included acceptance of failure. The Comparison Principal noted, "There are still some casualties. There are kids out there that are never gonna get to college because of the MCAS. But the numbers are small. They're a lot smaller than we thought they'd be."

Compass school respondents provided more emphasis and detail in their understanding of the school's culture. Compass's recommendations "to ensure success" recorded 9.89% coverage as opposed to 4.75% coverage in Comparison interviews. The Compass math chair noted, "You have to make sure everyone's on board. You have to make sure you have the right teachers teaching those classes. And you just have to let the students know this is important." In addition, the Compass Principal acknowledged, "First look at the student MCAS scores from middle school. If the students are getting 228 or lower, then you need to do something extra for them. And one of the things would be to add an extra program, which we have done at Compass High School. One semester course. Make that course designed to prepare just for the MCAS test." Finally, the Compass ELA Chair succinctly stated, "Teachers who believe in children - I think that's the most important thing." These excerpts presented a few themes in relation to the theory. First, the excerpts showed that teachers at Compass School were cognizant of the school culture, which was student-centered; believed in student success; and incorporated the role of data analysis. The interviews also showed that these components were interrelated. In other words, the discussion of MCAS data as well as student success were interwoven.

Dissimilarly, the content of the excerpts from Comparison lacked the cohesion between environment and data analysis that was seen in the Compass excerpts. The

Comparison Principal noted, "If I was talking to a district, I would say, and a high school as well, that your money would be just spent increasing raises. That is the best thing for your buck…" The Comparison Math teacher noted, "So if they're doing poorly in third grade, fourth grade, fifth grade, they're not going to become geniuses in tenth grade. So I think we have to start early intervention." Finally, the Non-High Stakes teacher focused on programs versus students when noting, "Where we're lacking, assign programs for it." In contrast to the Compass excerpts, these excerpts presented an environment that was teacher-centered versus student-centered. They presented an environment where solutions came from an ambiguous program assigned by an ambiguous authority as opposed to programs that came from teachers, school leaders, and data analysis. The Comparison High School interview excerpts did reference data ("if they're doing poorly in third grade, fourth grade…"); however, the tone was one of limited expectations. The data were not starting points; instead it was an indication of the student's final limitation.

The theory, "Successful reform in high-performing schools will be based upon collaborative and shared decision making; it will consider school culture as well as research in helping to raise school achievement," cannot be fully retained. The results regarding shared decision making and collaboration were inconclusive. They did not appear to be a significant factor in the differences between Compass and Comparison High School. The Teacher Knowledge Sharing scale did not reveal a significant difference between the two schools.

However, the components of the theory that suggest successful reform will be based on school culture and data analysis were supported. The school culture scales, using MCAS result percentages and interview data, each suggested that there was a

distinct difference between the two school cultures,   The interview data provided insights into school cultures, the differences in the ways the two schools defined successful reform, and what helped to ensure success. The Culture Scale supported the retention of the theory. The Compass School fostered a reform culture which was based upon research/data analysis being used to help raise its school achievement. This was also supported by the survey items related to "using results of MCAS." In every single category, Compass High School had a higher percentage of teachers using MCAS result to inform their practices.

Research Question 2

The role of high-stakes testing was also an important element of a school's understanding of successful reform. The attitudes and approaches to high-stakes testing could correlate with the environment of the school. In light of this role that high-stakes testing takes in education reform, the research also examined whether high performing schools were more likely to support high stakes testing.

Research Question 2 was "How do leaders in a high-performing and a low-performing high school perceive high-stakes testing?" The *Perceived Value* and *Alignmen*t scales from the survey, as well as interview data, were analyzed in an effort to answer this question.   The *Perceived Value* scale was selected because it focused on how respondents at both schools perceived MCAS as an accurate measure of student achievement, as a worthwhile investment in terms of time and money, as a reflection of the quality of education students received, as a measure of high standards, and as a necessary measure to bring attention to educational issues within a district. The Alignment Scale was selected because it spoke to the extent of teacher "buy in." For

example, it explored to what extent schools and teachers were actually focusing on state standards. The scale included alignment with daily instruction, curriculum, texts, materials, test format, and content.

The corresponding theory was that leaders in high-performing schools are more likely to perceive high-stakes testing in a positive way. These leaders were hypothesized to "buy in" to the changes that have occurred and the need to help students achieve. The scales and interview data were examined to determine whether the theory posed would be rejected or retained. In addition, the second interview segment posed the following questions: "When you started the change initiative, do you remember how you felt about it? What was your thinking at the time? What kinds of things help facilitate this kind of change? Were there any barriers to these changes? Do you think other people responded the same way? Do you think they felt the same way you did? What kind of things came up?" These types of questions would help to determine if leaders supported the changes that occurred and whether they supported the role of MCAS in improving teaching and learning.

Neither scale, *Perceived Value* nor *Alignment*, revealed a significant difference between the two schools t (153) =.836, p = .404 and t (144) =1.090, p =.277; There was no significant difference in terms of the respondent's value of MCAS as an accurate measure of student achievement, its worth in terms of time and money, as a reflection of the quality of education students received, as a measure of high standards, or as a necessary measure to bring attention to educational issues within a district. Nor was there a distinct difference between the two school's respondents' perceptions of alignment with daily instruction, curriculum, texts, materials, test format, and content.

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In contrast to the survey results, the interview data did help to illustrate potential differences between the schools. Interviewees' comments suggested that Compass respondents were more likely to "buy-in" to the changes required by high stakes testing. Compass High School had 19.9 % positive coverage and Comparison had 14.78 % of positive coverage from the interviews. For example, the Compass Math Chair stated, "I think that teachers are more responsible now for what they are conveying to their students because they know that not only the students but the teachers; the administration the school is being held to a higher standard. In addition, the Compass ELA Chair noted:

It's really about hard work and believing that every kid, every kid, has the right to pass this MCAS test and just find a way, find a way and it starts with the reading and the writing… I think that the MCAS, I think the intent is good. I think that our children in this school deserve the same education as any other child in this state. So I think it's made the teachers more reflective about what they do. I think it's better teaching.

Admittedly, Comparison interviews also reflected positive statements about MCAS. The Comparison ELA Chair stated:

I think that MCAS has some real positive things to offer in terms of giving kids across the state a more level playing field in terms of expectations. We don't want a kid in Comparison to be viewed differently than a kid in Suburban High School just simply because of the school that they went to. The MCAS does kind of give them that equity in some ways, but their

ability to achieve on it has so much more to do than what goes on in the

classroom.

The Comparison Math teacher also recognized, "So I believe the issue itself is necessary. But it has been the driving force of everything."

While both groups said positive things about MCAS, Compass had more statements; more importantly, even when Comparison made a statement in support of high-stakes testing, the statement was qualified with excuses and general dissatisfaction. In fact, there was a distinct lament at Comparison. The math teacher stated, "It is everything that drives us and to the detriment of many other things. It has been faced as well as it could be in our district." The statement reflected not only burden but loss.

This is not to say that Compass respondents did not recognize the difficulty of promoting change. The Compass principal not only acknowledged the reservation among some staff to new approaches, but he also acknowledged the key to successfully getting teachers to buy-in:

> Whenever you mention a new idea - no we can't do it. We've never done it, it's not our job to do it - and it took a while to sell the idea.   You have to try it – maybe it won't work, but if you got a better idea? Eventually more and more people would come on board - for the children because teachers love children. Teachers want to help children. And although you might be fighting them, they realize that if a he doesn't pass MCAS, I haven't helped him. I hurt. So you would find more and more people started to see the greater good. This is what it came down to. It made the difference.

In its totality, the data from the scales and the interviews did not support the theory that leaders in high performing schools are more likely to perceive high-stakes testing in a positive way and "buy in" to the process. The interview data revealed some potential differences but not enough evidence to retain the theory. Although both schools acknowledge the benefit of high-stakes testing, Compass's interview coverage was five percent greater. Once again, this difference in and of itself may not seem significant; however, when the difference is coupled with the tone of the comments, the difference seems to be important because the tone of Compass's comments were completely positive whereas Comparison's included qualifications and limitations. However, this data alone was not enough to support the theory.

Research Question 3

After examining the perceptions of high-stakes testing, the study more specifically explored the perceived need to raise achievement and the reforms that developed from this need. Specifically Research Question 3 asked, "Do leaders in a high-performing and a low-performing high school perceive a need to raise student achievement with respect to high-stakes testing; and if so, what reforms do they implement to respond to state mandates?" The theory was that "Leaders in both schools were likely to perceive a need to raise student achievement with respect to MCAS. The reforms in low-performing were less likely to be supported through quality professional development, a well-defined plan which included the use of assessments to inform practice and teacher collaboration.

The School Reform Climate scale was selected due to its focus on strategies schools employ to implement reform. It included a vision of reform, assessment

strategies, review of student performance to adjust practice, data collection, analysis to inform teaching strategies, examination of achievement gaps, changes to curriculum, and well defined plans.

The Quality Professional Development Scale was used due to the potential relationship between school success with regard to achievement and professional development. The scale dealt with professional development's connection to school reform—whether it was sustained and focused, helped to understand students better, included time to think carefully about and evaluate new ideas, and helped to build new skills and identify strategies to better meet the needs of target students.

Due to its close relationship with professional development, the Teacher Learning Scale was also analyzed. It focused on the support among colleagues to try new ideas, trust among faculty, the use of time to discuss teaching and learning, and encouragement to experiment with teaching. Individual survey items related to perceived need were also examined along with interview questions from the first interview segment.

In terms of strategies employed and their frequencies at the two schools, Chi-square tests and basic frequencies were examined for several survey questions. The interview questions focused on the step-by-step process that the school had taken to improve student achievement with respect to the MCAS exam. The scales, survey items, and interview data helped to determine whether the aforementioned theory was retained.

The School Reform Climate scale was comprised of fourteen items. Independent sample t-tests for scale means revealed a significant difference between the two schools. The Compass High School mean on a four-point scale was 2.99 with a standard deviation .431. The scale ranged from 1 "Strongly Disagree" to 4 "Strongly Agree." Comparison

High School had a lower mean of 2.60 and a standard deviation of .611; t (131) = 3.073, p = .003. This finding supports the theory that a high performing school was more likely to have a well-defined plan which included the use of assessments to inform practice and teacher collaboration. The scale revealed that Compass High School was more likely to have clear a vision of reform, pursue inquiry in teacher practice, examine progress toward a reform vision, and use data to allow the systematic analysis practices and results to improve teaching and better meet the needs of a diverse student body. Compass respondents were more likely to use the assessment of student performance in order to make curriculum changes. Compass was more likely to have well defined plans for instructional improvement and informed decision making.

The Quality Professional Development Scale was comprised of five items. Independent sample t-tests for scale means revealed a significant difference between the two schools. The Compass School mean was 2.73 on a four-point scale ranging from 1 "Strongly Disagree" to 4 "Strongly Agree." The standard deviation was .635. Comparison High School had a lower mean of 2.33 and a standard deviation of .609; t (136) = 3.151, p = .002. This supported the theory that Comparison High School was less likely to have quality professional development. Compass High School was more likely to implement focused and sustained professional development. Compass High School was more likely to agree that professional development was "sustained and coherently focused;" helped teachers to "understand my students better;" included "enough time to think carefully about, try, and evaluate new ideas;" and helped to "build new skills and identify strategies to better meet the needs of target students." There was no significant difference between the two schools with respect to the statement

"Professional development activities have been closely connected to my school's reform vision." Overall, Compass High School had higher means of agreement with regards to quality professional development.

There were also more references regarding professional development in Compass High School interviews with 13.8% topic coverage versus in Comparison High School with 9.75% topic coverage. The statements from Compass High School reflect a thorough, focused, and unified approach toward professional development from multiple staff members. One non-high stakes teacher from Compass High stated, "I purposely went out to Northwestern to get my training because I wanted to get out of New England and get new sources of ideas from people who were doing things. I think that's critical - absolutely critical - new ideas and things." The Compass ELA Chair noted:

> We did have professional development when the superintendent implemented Collins. We did have lots of professional development. So we did have professional development. Everybody in the school system was taken down to the ad building 2- 3 days. English teachers had a week of training. And we who worked as facilitators had tons and tons of training.

While Compass High School teachers received training and actively sought formal professional development opportunities, there were only two references that related to professional development in the Comparison interviews. The Comparison Math Chair indicated, "I know some cluster teachers, at least in the math department, have told me they take it upon themselves to talk with some of their fellow cluster teachers. So I think it happens informally. But there's really not a structured way for

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those people to meet." The Comparison ELA Chair noted, "I know we have John S. coming in and working with the administration. He's wonderful, but we don't have any teachers at the training." At Comparison High School, the statements suggested that professional development was happening informally for teachers if it was occurring at all.

The Teacher Learning Scale independent samples t-tests for scale means did not reveal a significant difference between the two schools t (137) = .751, $= p$.454. Therefore the scale does not support the theory that low-performing schools were less likely to engage in teacher collaboration. Respondents were similar with regard to support among colleagues to try new ideas, trust among faculty, and the use of time to discuss teaching and learning as well as encouragement to experiment with teaching.

In terms of strategies employed and their frequencies at the two schools, Chi-square tests were performed for Part II questions 25, 27, 28 31, and 33. This non-parametric technique was used because the data were measured on nominal (categorical) scales and the sample size was small. There were no significant differences between the ways in which the schools prepared students for the state-mandated test. This supports the theory that both perceive a need to perform well on the state-mandated test. Both schools attempted to prepare their students with similar strategies. The results of the Chi square analysis are depicted in Table 10. The schools were similar with regards to test preparation, teaching test taking skills, encouraging students to work hard, providing rewards, teaching the standards, providing materials, and providing released items to students.

Table 10

How do you prepare your students for the state-mandated test?

Strategy	N	Chi-Square Value	df	Asym. Sig (2-sided)
a. I do no special test preparation to prepare students for MCAS.	131	.016	1	.901
b. I teach test taking skills to prepare students for MCAS.	139	.037	1	.848
c. I encourage students to work hard and prepare for MCAS.	147	.0852	1	.356
d. I provide rewards for test completion.	131	1.461	1	.227
e. I teach the standards or frameworks known to be on the test to prepare students for MCAS.	136	.158	1	.691
f. I provide students with items similar to those on the test to prepare students for MCAS.	141	1.836	1	.175
g. I provide test specific preparation materials developed commercially or by the state to prepare students for MCAS.	134	.611	1	.434

Due to low cell counts, the categories in question 27 were collapsed into two instead of five categories. Respondents were asked "Approximately how many class hours PER YEAR do you spend preparing students specifically for MCAS (e.g. teaching test taking skills)?" The categories were 0-20 hours as compared to twenty or more hours. There was no significant difference between the schools. $\chi2(1) = .488$, p = .485. Chi Square analysis was also conducted for question number 28 which asked when most test preparation was conducted. Again, these results support the theory that both schools perceived the need to do well. Both schools spent time preparing for the test. There was a significant difference between the two schools. $\chi2(2) = 24.320$, p = .000. in terms of when they prepare their students. The results are depicted in Chart 1. Compass was more

likely to prepare days to months before whereas Comparison was more likely to prepare throughout the year.

Chart 1
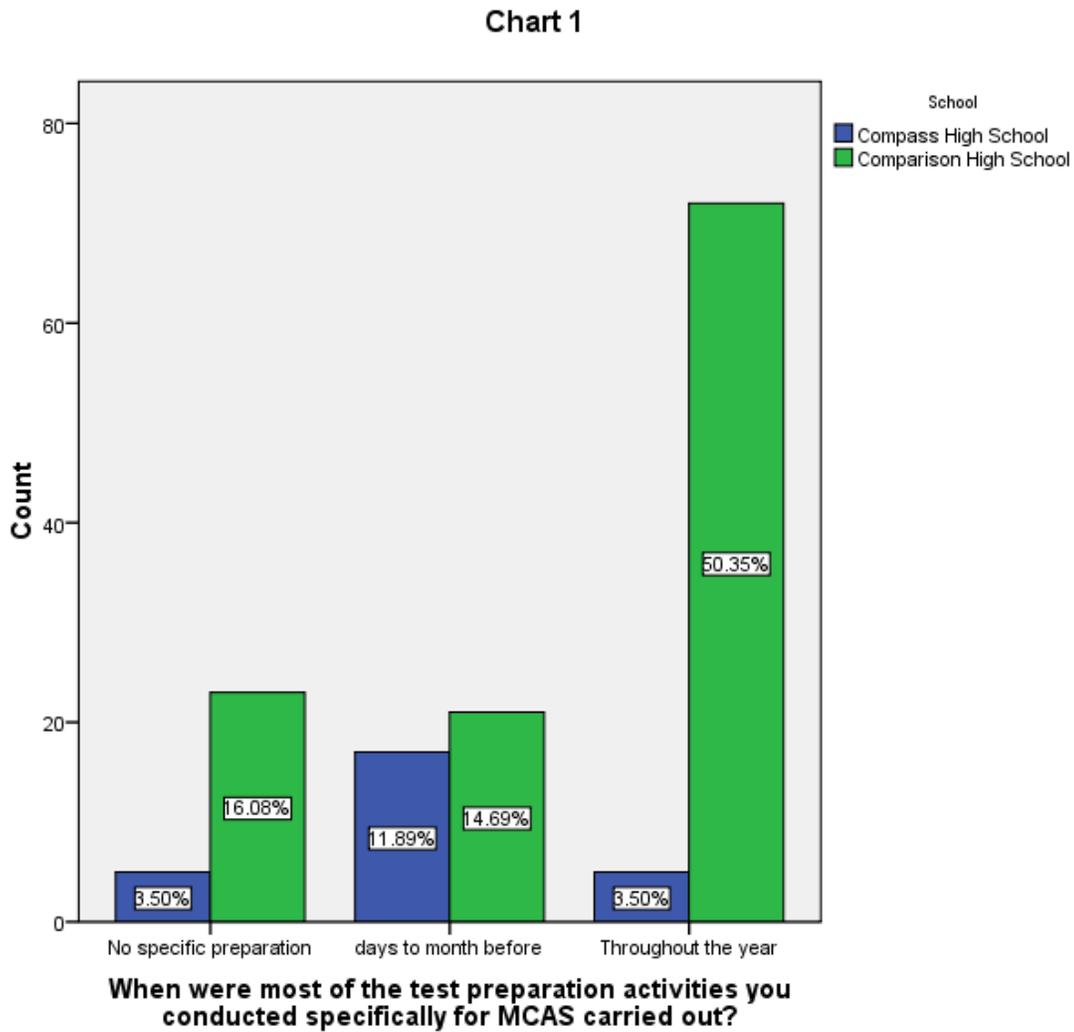
There was no significant difference for Question 31 "How often does your school's results on MCAS influence your own teaching? $\chi^2(2) = 3.153$, $p = .207$ and Question 33 "Is there at least one person at your school that teachers can turn to for accurate information about MCAS?" $\chi^2(1) = 2.692$, $p = .101$. The schools were similar with respect to how often results informed their teaching and whether there was a person who could provide accurate MCAS information.

Basic frequencies were run for questions 30 and 32. These questions dealt with MCAS preparation strategies and use of results. Respondents were asked to "mark all that apply." Both schools discussed the importance of good performance of the school on the test with Compass at 73% and Comparison at 69.3%. Each school held student assemblies to motivate students with 54.1% at Compass and 52.9% at Comparison. Both schools publicly recognized students for good performance—for example, student awards and press releases. Compass was slightly higher at 62.2% than Comparison at 52.1%. There was a much larger disparity between percentages with regards to linking performance to eligibility for participation in extra-curricular activities (e.g. athletics, clubs). Forty-three percent at Compass high school as opposed to only 10% at Comparison selected this as a strategy. This discrepancy may reflect a significant difference between schools with regards to the extent to which a school will go to emphasize the importance of the test and the willingness of school leaders to stand behind that priority.

Table 11

Strategies Used by School to Influence Students

Strategy	% Agreement	
	Compass	Comparison
	(n=37)	(n=140)
Discussing the importance of good performance of the school on the test	73.0	69.3
Holding student assemblies to motivate students	54.1	52.9
Publicly recognizing students for good performance	62.2	52.1
Scheduling special activities (e.g. pizza parties, field trips)	37.8	13.6
Providing free time as a reward to students	10.8	2.9
Linking performance to eligibility for participation in extra-curricular activities (e.g. athletics, clubs)	43.2	10.0

The interview data also revealed that Compass High School was more likely to make statements that reflected a perceived need to raise student scores on MCAS. Compass interviews had 23.34% coverage on the topic of perceived need whereas Comparison had only 9.12% coverage. The need to improve student achievement was reflected by every Compass interviewee:

- "If we don't do these things, then children would not reach a high school diploma. If they don't get a high school diploma, as you well know, they are at a tremendous disadvantage" (Compass Principal).

- "There has to be an awakening to the fact that the people who pay our salaries and pay our costs the state of Massachusetts are demanding a higher bar of knowledge" (Compass non-high stakes teacher).

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- "We're telling our teachers what needs to get done, and what will be taught, and what the curriculum is, and what books they should be using, what materials you will need to implement" (Compass Math Chair).

- "We definitely have to teach content that is definitely going to be on MCAS" (Compass Math).

- "I've seen football players weeping because they haven't passed the MCAS and you've probably seen it too and its heartbreaking it really is heartbreaking, so we basically we try to do the best we can for our kids any way we can do it we just keep at it . . . So you do the best you can for each child. And you have to believe that with a little bit of work they can pass" (Compass ELA chair).

In contrast, only one respondent from Comparison high school, the ELA Chair, touched upon the necessity:

> It's pretty top-down. The administration makes decisions, often, but not always, involves teachers in the decision making and the planning process. So for instance the tenth grade clustering, it was an idea that had been sort of tossed around at the administrative level for a while. And then last spring there was some planning, but it was mostly administration that did the planning, and then invited teachers to join the planning. But the idea was pretty much already set that it was gonna be something that we tried.

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And then the teachers really who are involved, didn't necessarily have a

choice. They were sort of assigned to tenth grade and so they were part of

a cluster. And so there was a frustration level, certainly, with that.

In this case the perceived need was born out of the lack of "choice."

Compass High School also devoted more interview coverage to test preparation

strategies than did Comparison High School. Compass had 55.6% coverage, and

Comparison had 44.56% on this topic.   For example the Compass ELA Chair reported,

"What we try to do is the give the same experience to all kids, so what we've done is, we

use the same text book for the honors kids as well our CP3 kids. The CP3 kids would

translate to you as our special education children. We also try to use that book in our

ELL department. We want every kid to have richness in the language, the same

opportunity." The Compass Math Teacher noted, "If a student fails algebra I but they

still have enough credits to become a 10th grader, then they take grade 10 math which is

geometry." The Compass Math Chair stated, "We wrote in our PIMS plan [Performance

Improvement Mapping System] that every 9th and 10th grade teacher in the school, every

single day, will do a warm up activity. A five, six, seven minute activity. Algebra for

9th grade. In tenth grade, geometry." Finally, the Compass Principal acknowledged:

We brought on board a group of retired teachers and to help the students

prepare for the state exam because obviously if they did not pass the state

exam they cannot get a high school diploma. We take retired math

teachers, retired English teachers and 4 weeks before the exam is given the

first retest in November, these teachers come in here and they work with

small groups of students and they reinforce what happened in the

classroom. They teach them some strategies, point out some mistakes

they made in previous administrations of the test and as a result of their

efforts we have seen many of these children actually pass the test.

The strategies identified in the Compass quotes reflected equity of opportunity in terms

of access to curriculum and materials and the provision of extra support through

strategies such as tutoring.

Comparison statements regarding strategies included the creation of distinct

courses and opportunities for students that did not perform well. The Comparison ELA

Chair stated:

And now as part of the English department we actually have two English

faculty members who teach MCAS classes. We've also instituted an

Essentials of English class which is a class for kids who failed grade nine

English. And so it's a full year course, whether you have credits for one

part of English 1, or you don't, you take an entire year of sort of a repeat

class. And that was with the intent of filling in the gaps because if some of

those kids passed or didn't pass."

In addition, the Comparison Math teacher stated:

We have implemented MCAS tutoring classes within the school, which I

teach too, and another teacher has five of them. And we target seniors who

have not passed it, and at risk junior and tenth graders. . . For the tenth

graders what was done was, we took a look at kids who fit certain profiles.

So it gets harder, obviously, as they get older. They can take a whole

variety of electives, but if there are certain kids that fit a certain profile,

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meaning they're taking honors geometry or, we call it the student college level, college geometry, they're taking college chemistry, they're taking college English, sophomore English, and they're taking whatever the sophomore history is. Well there's let's say a couple hundred kids that are taking all four of those classes. Well, the goal is to have those kids kind of have the same teachers, share the same teachers.

Comparison Principal stated, "We have MCAS prep classes for students that have failed the testing." Although Comparison was similar in creating supplemental supports, such as MCAS classes, the work regarding clustering appeared to separate students by ability and implied differences in curricular approach—antithetical to Compass's approach. Comparison's focus was on the segregation of students based on performance. In contrast, Compass was more geared toward preparing and including strategies to benefit all students. Compass seeks to give students the same experience or opportunity as well as supplemental supports.

Due to the conflicting survey results and interview data, there is not enough evidence to reject or retain the theory that both schools perceive the need to perform well. Both schools were employing strategies and devoted time to prepare for this high-stakes test. However, the data also suggests a higher priority was placed on the high- stakes test at Compass High school. In addition Compass interviews were more likely to reflect the spirit of the NCLB legislation. The interview data suggested that there was a greater emphasis on equity of opportunity and a more systemic approach at Compass High School.

The Quality Professional Development Scale, School Reform Climate Scale, and interview data all supported the theory in terms of differences in professional development and supported the use of data to improve performance. Therefore the theory that the reforms in low-performing were less likely to be supported through quality professional development, a well-defined plan and the use of assessments to inform practice can be retained. The high performing school had more formal professional development and a reform climate to support teachers.   However, the theory that reform was less likely to be collaborative was not supported. In terms of perceived need the results were inconclusive. Although both schools perceived a need to raise student achievement with respect to MCAS, t-test results and qualitative data suggested that the high performing school felt a greater need or pressure. The interview data also suggested that there were also differences in terms of strategies with greater emphasis on equity in the higher performing school. Because of the conflicting results quantitative and the qualitative data further research would need to be done.

Research Question 4

Finally, Research Question 4 explored the nature of change that developed from these perceptions. Specifically, it asked, "What is the nature of change when a state has a high-stakes testing program in place?" The theory posited in the study suggested that when a high stakes program was in place, the nature of change was dependent upon strong, collaborative leadership at all levels of an educational institution. Several Leadership scales (District, Principal and Department) were used to explore this question, due to the potential role leaders may play in the reform process. The scales as well as

interview data helped to determine whether the theory posed would be rejected or retained.

The District Leadership for Reform Scale dealt with the extent to which the district inspired the job performance of its teachers, supported local innovation, held high expectations, built community confidence in the school, and supported the schools change effort.

The Principal Leadership Scale explored the extent to which the principal encouraged teachers to try new methods of instruction, promoted community involvement, created a sense of community, took a personal interest in the professional development of teachers, shared decision making, ensured that student learning is the "bottom line," encouraged teachers to take risks, and was characterized as a strong leader in school reform.

The Department Leadership for Reform Scale dealt with whether the department head encouraged teachers to try new methods of instruction, promoted parent and community involvement, worked to create a sense of community, took a personal interest in the professional development of teachers, strongly committed to shared decision making, and ensured that student learning was the "bottom line."

Two segments and several questions from the interviews also helped to answer this question. Segment Two posed the following questions:

- When you started the change initiative, do you remember how you felt about it?

- What was your thinking at the time?

- What kinds of things help facilitate this kind of change?

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- Were there any barriers to these changes?

- Do you think other people responded the same way?

- Do you think they felt the same way you did?

- What kinds of things came up?

- Do you know what their reasons were?

- What was your role in the change process?

The third segment of the interview included:

- What would you say to a school that wanted to improve student scores on the MCAS exam?

- What would you recommend?

- What in your experience leads you to say that?

- What do you think I should take away from this interview in terms of this MCAS achievement, and standards based reform and the value they have?

- How would you describe/define a successful school reform effort?

- What do you think is necessary to ensure success when approaching school change in a high-stakes testing climate?

- Has your school implemented such necessities?

- What may account for this?"

Independent samples t-tests for the District Leadership for Reform Scale mean revealed a significant difference between the two schools. Compass High School mean was 3.18 on a four-point scale. Comparison High School was had a lower mean of 2.63.; t (131) = 4.551, p = .000. Responses ranged from 1 "Strongly Disagree" to 4 "Strongly Agree." The scale supported the theory that strong collaborative district leadership existed at

Compass High School. Compass High School was more likely to agree that the district inspired the best in job performance of its teachers, supported local innovation, held high expectations, built community confidence, and promoted the professional development of its teachers. Compass High School teachers were more likely to report that they were "proud to tell others that I work for this district."

Independent sample t-tests for the Principal Leadership for Reform scale mean revealed a significant difference between the two schools. Compass High School mean was 3.22. Comparison High School was had a lower mean of 2.39; t (132) = 6.297, p = .000. The results supported the theory Compass High School respondents were more likely to report strong collaborative principal leadership.

Compass High School respondents were more likely to report that the principal encouraged teachers to try new methods of instruction, created a sense of community, took a personal interest in the professional development of teachers, strongly committed to shared decision making, ensured that student learning is the "bottom line," and encouraged teachers to take risks. Compass High School respondents were more likely to state, "The principal at this school is a strong leader in school reform."

Independent sample t-tests for the Department Leadership for Reform Scale means revealed a significant difference between the two schools. The four-point scale ranged from 1 "Strongly Disagree" to 4 "Strongly Agree." The Compass mean was 3.22. Comparison High School was had a lower mean of 2.95; t (133) = 2.231, p = .027. The scale supported the theory in that Compass respondents were more likely to report strong collaborative department leadership. The schools differed with regards to the department head encouraging teachers to try new methods of instruction, promoting

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parental and community involvement, creating a sense of community, taking a personal interest in the professional development of teachers, sharing decision making, ensuring that student learning is the "bottom line," encouraging teachers to take risks, and being a strong leader in reform.

In terms of the qualitative data, the schools were almost even with regards to interview coverage related to leadership. However, they differed in tone and theme. For example Compass High School devoted 30.43% interview coverage to the topic of leadership. The Compass non-high stakes teacher stated:

> On Tuesday some of them wouldn't show up and then Mr. [Compass Principal] would talk to them and he would track them down and Wednesday and Thursday we found the attendance was wonderful. Then we would repeat the process the next week. It was amazing. You think they would show up on Tuesday, but there was always the hope that he would forget about them. He didn't.

Compass Math Chair indicated, "My role as department head is to oversee the MCAS curriculum throughout the school year." In addition, the Compass Math Teacher stated, "Our principal wants to see good results, and if you're not pulling your weight, consequences happen in the sense you might not get the course that you want to teach, you might have to teach something else, you're pushed harder. Administrators take pride in the school, so they expect teachers to do the same." The Compass English teacher noted that, "If we didn't have the support of the superintendent and if we didn't have the support of the associate superintendents and if we didn't have the support from the school

committee for allotting the financial wherewithal too. It's a trickledown effect. And so

there really is support, a systemic support." Finally, the Compass ELA Chair indicated:

> The principal also, if you are failing classes and you don't show up for
>
> MCAS remediation, he will not allow the kids to play sports, to participate
>
> in sports or anything extracurricular. That sounds harsh, but it really
>
> works. If the kid is the star football player and he hasn't passed the
>
> MCAS he's not going to play football until he gets everything analyzed.
>
> So academics are important to us.

There was support for administrative actions and a sense of being supported by

leadership at Compass High School.

Comparison High School, on the other hand, described a hierarchical scheme

where teachers did the work but administration made decisions. Comparison High

School devoted 30.37% interview coverage to the topic of leadership. The Comparison

Principal stated, "It starts with the development at the office level…so, the curriculum

committees and redesign the curriculum. So it's not that the administrators do it, teachers

do it." Comparison Math Chair noted, "But I very rarely see, and this is where I'd get in

trouble I guess, but I very rarely see the headmaster out of his office." Also, the

Comparison Math teacher indicated, "It's pretty top-down. The administration makes

decisions. It does not always involve teachers in the decision making and the planning

process. . .Obviously you're given your schedule and you do what they ask you to do."

At all three leadership levels investigated, the theory was supported. The nature of

change when a state has a high-stakes program in place was dependent upon strong,

collaborative leadership at all levels of an educational institution. The scales and the

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interview data illustrated a more collaborative and supportive leadership style at Compass High School. The strength of the leadership scales and the interview data clearly supported the role of leadership theory.

Summary

There was a significant difference between the two schools with regards to role of leadership at the district, principal and department levels. Compass High School was more likely to agree that such leaders played a key role in reform. Compass High School differed significantly from Comparison High School with regards to School Climate and Culture. Compass staff members were more likely to report that the school had well-defined plans for instructional improvement. As evidenced by the climate and culture scales, Compass was more likely to agree that they engaged in systematic analysis of student data, and this assessment led to curricular changes. They were more actively engaged in school reform. Compass High School was more likely to describe their professional development as sustained, focused, and connected to their school's vision of reform.

Table 12

Significant Mean Scale Scores of Two Schools

Variable	Compass School		Comparison School			
	M	SD	M	SD	t(df)	p
Mean Principal Leadership	3.22	4.68	2.39	.65	6.30(132)	.000
Mean District Leadership	3.18	.70	2.63	.52	4.55(131)	.000
Mean Climate	2.99	.43	2.60	.61	3.07(131)	.003
Mean Culture	2.95	.48	2.58	.52	3.43(135)	.001
Mean Professional Development	2.73	.64	2.33	.6	3.15(136)	.002
Mean Department Leadership	3.22	.52	2.95	.58	2.23(133)	.027

Note. M = Mean; SD = Standard Deviation; t = t distribution, sample of t-test statistic; df = degrees of freedom; p = probability.
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For each scale, there is a significant difference between the two schools. The results

support the multi-faceted and complicated relationship between leadership, climate,

culture, and professional development.

CHAPTER FIVE: FINDINGS, CONCLUSIONS, AND IMPLICATIONS

Introduction

This chapter begins with an overview of the entire study. It includes a review of the problem, the types of information collected, the questions that guided the research, the population sample, and survey response rates. Conclusions are presented as they pertain to each of the research questions. Implications and ways for addressing the issues that have been raised in the research are exhibited as well. The chapter concludes with considerations for further areas of research along with rationales and a brief summary.

Summary of the study

The purpose of the study was to collect empirical data from two urban high schools in Massachusetts—one school a high-performing "Compass School" and another school that was labeled as low-performing. The study attempted to distinguish potential differences in school leaders' attitudes and approaches to reform. For the purpose of this study, a leader was defined as anyone within the school system who has the power/ability to facilitate, implement, or lead change.

The study combined qualitative interview data and survey methodology to examine differing perceptions and to identify the factors most strongly associated with different levels of reform success. With this information, the study examined the relationship between the perceptions of high-stakes testing, leadership practice, and reform success. Following the example of Stecher and Borko (2002), this study combined both survey results and qualitative interview data to examine two Massachusetts urban school of differing achievement levels with respect to English language arts and mathematics scores and explored whether there were also significant

differences in the schools' leadership and faculty perceptions of the state's mandated test, MCAS.

Four main questions governed this study.

1. How do school leaders in a state with high-stakes testing define successful reform?

2. How do leaders in a high-performing and a low-performing high school perceive high-stakes testing?

3. Do leaders in a high-performing and a low-performing high school perceive a need to raise student achievement with respect to high-stakes testing; and if so, what reforms do they implement to respond to state mandates?

4. What is the nature of change when a state has a high-stakes testing program in place?

Purposeful sampling was used in this study. One urban "Compass" high school and one urban non-compass high school were selected in order to distinguish potential differences in attitudes and approaches with respect to standards-based reform and MCAS. The purposeful sampling was designed to make sure the participants had witnessed and participated in reforms or initiatives related to the high-stakes testing and the Massachusetts State Frameworks. Teachers from each of the two categories were also selected based upon their willingness to participate.

The survey was administered to all teachers and school leaders of both schools during a faculty meeting with permission from the school's principals in February 2008.

Findings

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The participants from both schools who provided the data for this study were similar in most of their characteristics. Chi Square analyses revealed that there was no statistically significant difference between the two schools' response rate and respondents in terms of position, teaching regularly scheduled classes, years of teaching experience, gender, and age range with p>.05. The subject matter breakdowns and years of experience were also similar.

The respondents from the two schools differed in terms of grade levels taught and leadership roles and school size. The majority of respondents at Compass High school taught grade 12 at 81% whereas the majority of Comparison High school respondents (60%) taught grade 10. This made the samples qualitatively different. Most teacher respondents at Comparison High School teach grade ten, the year that students are tested in ELA, Math, and Science. This difference could play a role in differences in perceptions. Comparison is more than twice the size of Compass, and some studies on the effects of school size show that small schools provide substantial benefits to low socio-economic status students (Howley 2011, Sporte 2011, Rector 2011).

Another noted difference was the fact that Compass High School had a higher percentage of teacher leaders in every category (sponsor a student group, club or organization, serve as Department Chair or Lead, serve as a lead curriculum specialist, serve on a school-wide or district-wide committee) except for coaching a sport. Comparison High School had 12.1% as opposed to Compass at 8.1 percent. Respondents from the two schools are qualitatively different with regards to leadership positions. This difference could also play a role in perception because leaders have a distinct perceptions and qualities which differ from the norm.

The theory that successful reform is based upon collaboration was not supported by the Teacher Knowledge Sharing Scale .t (137) =751, p = .454) and was rejected. The other two components of the theory, the role of school culture and the role of data analysis, were supported by the results of the *School Culture Scale*, *t* (135) = 3.428, *p* = .001, using MCAS results survey items and the interview responses.   Specifically, Compass High School was more likely to agree that teachers were engaged in systematic analysis of student data; inquiry and reflection; examination of school performance; and "active engage[ment] in school reform."   Compass also had a higher percentage of respondents using MCAS results to plan curriculum at 43% as opposed to 35% at Comparison and plan instruction at 41% versus 34% at Comparison. Results were more likely to be the focus of Compass respondents with 10.07% of interview coverage compared to Comparison's 2.73% of interview coverage.

With regards to the second theory, the data from two scales and interviews did not support the theory that leaders in high performing schools were more likely to perceive high-stakes testing in a positive way and "buy-in" to the process. Neither scale, Perceived Value nor Alignment, revealed a significant difference between the two schools t (153) =.836, p = .404 and t (144) =1.090, p =.277; There was not a significant difference in terms of the respondent's value of MCAS as an accurate measure of student achievement, its worth in terms of time and money, as a reflection of the quality of education students received, as a measure of high standards, and as a necessary measure to bring attention to educational issues within a district. Nor was there a distinct difference between the two school's respondent's perceptions of alignment with daily instruction, curriculum, texts, materials, test format, and content. The interview data revealed some potential

differences but not enough evidence to retain the theory. Although both schools acknowledge the benefit of high-stakes testing, Compass's interview coverage was 5 percent greater, and the tone of Compass's comments were completely positive whereas Comparison's included qualification and limitation.

Due to the conflicting survey results and interview data, there is not enough evidence to reject or retain the theory that both schools perceive the need to perform well. Both schools were employing strategies and devoting time to test preparation. However, the data does suggest a higher priority was placed on the high-stakes test at Compass High School. Another noted difference deduced from the interview data was that Compass High School emphasized equity of opportunity—an important component of NCLB—and had a more systemic approach to MCAS preparation.

The finding supported the second component of the third theory that a high performing school was more likely to have a well-defined plan which included the use of assessments to inform practice and teacher collaboration. The School Reform Climate Scale revealed a significant difference between the two schools t(131) = 3.073, p = .003. The scale revealed that Compass school was more likely to have a clear vision of reform, pursued inquiry in teacher practice, examined progress toward a reform vision, and used data to allow the systematic analysis practices and results to improve teaching and better meet the needs of a diverse student body.

The theory that high-performing schools were more likely to have focus and sustained professional development was supported. The Quality Professional Development scale revealed a significant difference between the two schools t (136) = 3.151, p = .002. There are also more references regarding professional development in

Compass High School interviews with 13.8% topic coverage versus Comparison High School with 9.75% topic coverage. Both quantitative and qualitative data sources supported the retention the theory that Comparison High School was less likely to have quality professional development.

The Teacher Learning Scale independent samples t-tests for scale means did not reveal a significant difference between the two schools t (137) = .751, = p.454. Therefore the scale did not support the theory that low-performing schools were less likely to engage in teacher collaboration.

The findings did suggest differences in leadership at the district, principal, and department levels. Independent samples t-tests for the District Leadership for Reform Scale means revealed a significant difference between the two schools. The Compass High School mean was 3.18 Comparison High School had a lower mean of 2.63.; t (131) = 4.551, p = .000. Independent samples t-tests for the Principal Leadership for Reform scale means revealed a significant difference between the two schools. The Compass mean was 3.22. Comparison High School had a lower mean of 2.39; t (132) = 6.297, p = .000. Compass school respondents were more likely to report department leadership's support for reform. The Compass school mean was 3.22. Comparison high school had a lower mean of 2.95; t (133) = 2.231, p = .027. At all three levels of leadership, faculty were encouraged to try new methods of instruction; leaders created a sense of community; and leaders took a personal interest in the professional development of teachers. In addition, leaders were strongly committed to shared decision making, ensured that student learning was the "bottom line," and encouraged teachers to take risks.

The data support the concept that when a state has a high-stakes program in place the nature of change is dependent upon strong leadership for reform at all three leadership levels. Compass High School exhibited this leadership approach. These interviews suggested that there was support for administrative actions and a sense of being supported by leadership at Compass High School. On the other hand, while Comparison High School also covered the topic of leadership, those interviews described a hierarchical scheme (i.e. "top-down") where teachers do the work but administration makes decisions. It should be noted that the faculty at Comparison is three times larger. Collaboration may be easier with 87 teachers as compared to 266. This is not to say that collaboration at a larger school is not possible.

Conclusions

The findings from the scales, surveys and interview data suggests that in a state with high-stakes testing, successful reform was defined by strategies that get "results," namely achievement on the exam. Results help schools measure their progress, and these results also appear to relate to teacher support. Authors Murnane, Sharkey, and Boudette (2005) concur that the student-assessment results that schools must report to satisfy No Child Left Behind (NCLB) requirements could be useful in pinpointing strengths and weaknesses in instructional programs and students' skills. Over a ten year period they explored different types of data and data analyses that helped teams use data to analyze a school-specific problem and create an action plan. Wade (2001) explains that "statistical data on school programs and student performance provide educators with their only real evidence of the success or failure of educational programs. Data "identif[ies] the link

between teaching practices and student performance so that high achievement levels can be obtained" (Miller 2000).

The findings also show that success in a high-stakes environment is predicated on setting high standards for all students and being consistently cognizant of student achievement—specifically how students are performing and consistently monitoring/guiding those students who struggle. At Compass High School, a school that has met with success, the emphasis was on student achievement and high standards for all students. Based upon the example of Compass High School, successful reform is characterized by teachers who are engaged in systematic analysis of student data. They engage in inquiry and reflection as well as regular examination of school performance. Leadership at all levels is "actively engaged high in school reform." Compass High School used test results to plan curriculum and instruction. Compass High school also believed that all students can achieve these high standards—not just a select few. The interview data suggests there was greater emphasis on equity and access to the curriculum in Compass High School.

Darling-Hammond (1996) clarified how equity of opportunity for all students affect the educational challenges for U.S. schools. "It is not that its schools are not as good as they once were. It is that schools must help the vast majority of young people reach levels of skill and competence that were once thought to be within the reach of only a few." Elmore and Furman (1995) contend that states have been concerned about the issues raised by the "opportunity to learn" for over a century, but they have not had much success in addressing these issues with state policy. Compass High School provided

some insight into providing all students the opportunity to succeed in a high-stakes, standards-based environment.

The way that Compass High School emphasized student achievement was through the consistent monitoring of student performance by all school leaders (i.e. teachers departments, principals, and districts alike). Compass illustrated that a school successful in its reform efforts must use data to inform its practice as a means to achieve success. *In Learning by Doing,* Dufour (2006) summarizes this process; "clarifying what students must learn, monitoring the learning of each student, responding to students who need additional time and support for learning and challenging the students who have already mastered the intended outcomes are the most critical tasks in a school" (p.108).

In contrast, equity of opportunity, monitoring the progress of all students, and a system-wide response to students in need was glaringly absent from the Comparison High School data. In fact, the interview data suggested that some Comparison leaders expected and accepted student failure or "casualties." Having a systemic philosophy and systemic approach toward the success of all students, particularly the students who struggle, appears to be a factor in determining whether a school will be high-performing or low-performing. Leadership and school culture determine how a school approaches student success.

The interview data suggest that Compass school respondents not only took on the responsibility to help all students succeed (as referenced in the previous paragraph), but they also believed that the tested material contains skills that students needed to learn. Using data from the National Longitudinal Study of 1988, Lee and colleagues conducted three studies which supported the concept that students do better academically in a school

where their teachers take collective responsibility for the success of all students. (Lee, Smith & Croninger, 1997.) In this study, leaders in both high-performing and low-performing high schools perceive a need to perform well on high-stakes testing. However, this pressure is not a barrier to reform; instead, it facilitates successful reform—if handled correctly. In other words, if leaders perceive the need to perform well, and this perception coincides with an emphasis on student achievement and a belief that all students can achieve, the perceived need to perform well becomes a facilitator for success.

Another factor that relates to success in a standards-based environment is professional development; specifically, the leaders at high performing school have more formal professional development. For example, Compass High School respondents reported a clear vision of reform, the pursuit of inquiry in teacher practice, the open examination of progress toward a reform vision, the collection of and systematic analysis of data to improve teaching, changes to better meet the needs of a diverse student body, the assessment of student performance which leads to curriculum changes, well defined plans for instructional improvement, and informed decision making. In contrast, the professional development at Comparison High School happened informally at best.

The School Culture Scale, Quality Professional Development Scale, School Reform Climate Scale, and interview data all revealed differences between the schools in the ways that they orchestrate professional development in response to the state mandates. These findings are in keeping with literature. For example Fishman, Marx, Best and Tal (2003) assert that professional development is paramount to standards-based reform. Others warn that reform efforts in the past have often been unsuccessful because

they failed to take teachers' existing knowledge, beliefs, and attitudes into account. Van Driel, Beijaard, and Verloop (2001) recommend that teachers' practical knowledge be investigated at the start of a reform project, and that changes in this knowledge be monitored throughout the project. In that way, the reform project may benefit from teachers' expertise. Professional development is not just the acquisition of knowledge and skills; it is the sharing of expertise, knowledge, and experience.

Approaches to leadership also relate to a school's level of success in this high-stakes environment. At all three leadership levels (department, principal and district) that were investigated, the data supported the concept that success in a high-stakes, standards-based environment was dependent upon strong reform based leadership at all levels of an educational institution. Compass High School exhibited this leadership style whereas Comparison High School appeared to have a "top-down" leadership approach. Leaders who support learning communities facilitate reform and student achievement. For example, Strahan (2003) conducted a 3-year study that examined the dynamics of three schools that have beaten the odds in improving low-income and minority student achievement. The analysis indicated that personnel at these schools reported developing supportive cultures that enabled participants to coordinate efforts to improve instruction and strengthen professional learning communities.

Implications

The findings from the study suggest that schools seeking to improve and implement standards-based reform must consciously create an environment that supports the reform efforts among all levels of leadership. This reform must employ the expertise of all leadership levels to examine results and use those results to spur change. This

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culture can only be created by employing a leadership style engages all of its leaders in thoughtful reflection and examination of strengths, weaknesses, standards and expectations. This can also be accomplished through well-though out, meaningful professional development that involves school leaders.

Successful schools must also use data to determine their current level of success. From that point, they must use the results/data to inform their practice and institute strategies to help all students to succeed. This data must be used to identify students who struggle with the high-stakes tests. In the aforementioned environment, leaders must make sure that all students, particularly those students who struggle, are not "lost in the system." This may mean integrating support and enrichment programs, restructuring of curriculum and scheduling and creating a climate that supports, recruits, and harnesses the collective expertise of its leaders.

Schools that hope to thrive in this high-stakes and standards-based environment must also believe that all students, not just a select group, can achieve success in a high-stakes environment. In order to do this, all leaders must embrace equity of opportunity for all students. This means exposing all students to the same information. It means providing all students, regardless of "level," access to the same materials and tools. It also means that schools take responsibility for exploring new ways to support all students. It is a continual process of inquiry, reflection, and care.

Future Research

Since this study was limited to two urban schools in the state of Massachusetts, the findings are not generalizable. Future studies may include a cross section of urban, suburban and rural school responses to MCAS. This would provide more insight into the

relationship between high-stakes testing and the perceived need in schools across the state. Such a focus may highlight the role of demographics and expose potential differences among types of schools. The study does not place the schools in the context of the district as a whole. Such research may help to explain to what extent is successful reform systemic. It would also be interesting to examine and focus on "equity of opportunity" in schools throughout the state and questions such as: What changes have been instituted in an effort to ensure equity? To what extent does such opportunity render results? These investigations will provide more depth and understanding for schools and communities searching for ways to help all children succeed in public education.

Summary

In public education, state-mandated standards and the high-stakes testing that inevitably accompanies these standards have become the primary, and at times, the sole tool in measuring student performance and school performance. Literature on educational reform clearly suggests that educational leaders (i.e. teachers and administrators) play a significant role in the successful implementation of this reform; however, educational research lacks specifics as to why certain schools perform at different levels. Such is the case in Massachusetts. Certain high-performing schools have been labeled "Compass Schools"—schools that have achieved a high level of success in a standards-based climate; yet the specifics of how such successes have been achieved have yet to be studied. In this environment, it is critical to look at the question of how school leaders' perceptions and practices in a standards-based, high-stakes environment relate to reform.

Given the gap within the existing research that exists between school leaders' perception of the need to raise student achievement in a high-stakes settings (including Massachusetts) and the successful reform efforts that respond to that perceived need., the purpose of the study was to collect empirical data from two urban high schools in Massachusetts—one school a high performing "Compass School" and another school that was labeled as low performing. The study attempted to distinguish potential differences in school leaders' attitudes and approaches to reform. For the purpose of this study, a leader was defined as anyone within the school system who has the power/ability to facilitate, implement, or lead change. The study combined qualitative interview and survey methodology to examine differing perceptions and to identify the factors most strongly associated with different levels of reform success. With this information, the study also examined the relationship between the perceptions of high-stakes testing, leadership practice, and reform success.

The findings from the scales, surveys and interview data suggest that in a state with high-stakes testing, successful reform is defined by strategies that get "results," meaning achievement on the exam. Results help schools measure their progress and there appears to be correlation between the results and teacher support.

At Compass High School, a school that has met with success, the emphasis was on student achievement and high standards for all students. Based upon the example of Compass High School, successful reform is characterized by teachers who are engaged in systematic analysis of student data, inquiry, and reflection. Teachers and leaders regularly examine school performance; and the school is "actively engaged in school

reform." A successful school uses test results to plan curriculum and instruction, monitor student performance, and inform professional development.

In this study, leaders in both high-performing and a low-performing high schools perceived a need to perform well on high stakes testing. However, although both schools perceived a need to raise student achievement with respect to MCAS, t-test results and qualitative data suggested that the high-performing school felt a greater need or pressure. In addition, The School Culture Scale, the Quality Professional Development Scale, School Reform Climate Scale, and interview data all revealed differences between the schools in the ways that they responded to the state mandates. At the high-performing high school, the perceived need to perform well on the exam led to direct, informed, and productive strategies for both leaders and students. At the low performing school, the perceived need did not produce this response; instead, the response lacked cohesion and organization.

The high performing school had more formal professional development and a reform climate. For example, Compass respondents reported a clear vision of reform, the pursuit of inquiry in teacher practice, the open examination of progress toward a reform vision, the collection of and systematic analysis of data to improve teaching, changes to better meet the needs of a diverse student body, the assessment of student performance which leads to curriculum changes, well defined plans for instructional improvement, and informed decision making.

At all three leadership levels (department, principal and district) investigated, the data supported the concept that the nature of change when a state has a high-stakes

program in place is dependent upon strong leadership for reform at all levels of an educational institution.

In conclusion, the study provided some insights into the complex relationship between leadership, culture, climate and standards- based success. It suggested that school leaders should be aware of their school's results on high-stakes testing. Leaders must consciously take a collaborative approach toward leadership and work cooperatively with other leaders and students to create and implement a climate that emphasizes high standards and the belief that all students can achieve these high standards. Leaders must also create an environment where all school community members involved in high-stakes testing perceive the need to succeed and to the support reform efforts. Reform efforts, including professional development, must be clearly articulated and strategized. Future research and investigations should continue to investigate school and district wide efforts to provide equitable opportunities for students. It should also examine the ways leaders create a culture to achieve their collective purpose.

APPENDIX A: SURVEY ITEMS BY SCALE

Survey Items by Scale

Scale	Item Number	Statement	M	(SD)
Perceived Value .81	Part II.2	MCAS is as accurate a measure of student achievement as a teacher's judgment.	1.94	(.75)
	Part II.4	Overall, the benefits of MCAS are worth the investment of time and money.	1.97	(.84)
	Part II.6	Scores on MCAS accurately reflect the quality of education students have received.	1.85	(.73)
	Part II.13	MCAS measures high standards of achievement	2.15	(.76)
	Part II.18	MCAS has brought much needed attention to education issues in my district	2.47	(.82)
Teacher Learning .71	Part IV.2	I feel supported by colleagues to try out new ideas.	2.28	(.67)
	Part IV.6	Teachers in this school trust each other	2.09	(.47)
	Part IV.9	Teachers in this school are encouraged to experiment with their teaching	1.98	(.56)
	Part IV.16	Teachers use time together to discuss teaching and learning.	1.97	(.56)
Teacher Knowledge Sharing .88	Part IV.1	How frequently do you share and discuss research on effective teaching methods with other teachers in your school?	1.87	(.58)
	Part IV.4	How frequently do you share ideas on teaching with other teachers in your school?	2.20	(.57)
	Part IV.5	How frequently do you share and discuss research on effective instructional practices for English language learners with other teachers in your school?	1.89	(.61)
	Part IV.8	How frequently do you discuss what you/they learned at a workshop or conference with other teachers in your school?	1.84	(.58)
	Part IV.10	How frequently do you explore new teaching approaches for under-performing students with other teachers in your school?	2.00	(.57)

Scale	Item Number	Statement	M	(SD)
Teacher Knowledge Sharing	Part IV.12	How frequently do you share and discuss student work with other teachers in your school?	2.17	(.60)
	Part IV.15	How frequently do you discuss particular lessons that were not very successful with other teachers in your school?	1.87	(.55)
	Part IV.17	How frequently do you discuss beliefs about teaching and learning with other teachers in your school?	2.06	(.57)
Principal Leadership for Reform .93				
	Part III.5	The principal at this school encourages teachers to try new methods of instruction	2.57	(.88)
	Part III.12	The principal at this school promotes parental and community involvement in this school	3.06	(.70)
	Part III.19	The principal at this school works to create a sense of community in this school	2.69	(.91)
	Part III.25	The principal at this school takes a personal interest in the professional development of teachers	2.37	(.91)
	Part III.31	The principal at this school is strongly committed to shared decision making	2.30	(.91)
	Part III.36	The principal at this school ensures that student learning is the "bottom line in this school	2.58	(.85)
	Part III.41	The principal at this school supports and encourages teachers to take risks	2.35	(.87)
	Part III.45	The district ensures that student learning is the "bottom line" in this school	2.52	(.87)
District Leadership for Reform .87				
	Part III.4	I feel that this district inspires the very best in the job performance of its teachers.	2.46	(.85)
	Part III.11	I am proud to tell others that I work for this district.	3.02	(.73)
	Part III.18	The district supports local innovation	2.51	(.83)
	Part III.24	The district holds high expectations for our school	3.04	(.69)
	Part III.30	The district builds community confidence in our school	2.53	(.73)

Scale	Item Number	Statement	M	(SD)
District Leadership for Reform	Part III.35	The district supports my school's whole school change effort	2.70	(.71)
	Part III.40	The district promotes the professional development of teachers.	2.79	(.83)
	Part III.50	The district is committed to high standards for every student	2.73	(.81)
	Part III.52	District priorities are consistent with my school's priorities	2.78	(.69)
School Reform Climate .90				
	Part III.1	This school has a clear vision of reform that is linked to standards for student learning and growth.	2.88	(.74)
	Part III.7	In this school we use a variety of assessment strategies to measure student progress	3.20	(.70)
	Part III.8	This school encourages teachers to pursue inquiry into their classroom practice	2.85	(.74)
	Part III.14	Teachers meet regularly to review student performance in order to adjust their practices.	2.37	(.94)
	Part III.15	My school's progress towards its reform vision is openly examined and acknowledged.	2.60	(.84)
	Part III.21	Teachers collect and use data to improve their teaching.	2.64	(.75)
	Part III.27	This school has made changes designed to better meet the needs of its diverse student body.	3.04	(.77)
	Part III.33	Teachers are engaged in systematic analysis of student performance data.	2.42	(.83)
	Part III.38	The whole school examines gaps in the achievement of students by grade level.	2.35	(.77)
	Part III.39	Assessment of student performance leads to changes in our school's curriculum.	2.60	(.73)
	Part III.43	This school has well-defined plans for instructional improvement.	2.57	(.79)
	Part III.47	Teachers in this school share a vision of good teaching.	2.78	(.84)
	Part III.51	Useful information to make informed decisions is readily available to teachers (e.g., about student performance, resources, community satisfaction.)	2.38	(.79)
	Part III.53	This school uses assessment data to evaluate teachers' instructional practices.	2.40	(.86)

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Scale	Item Number	Statement	M	(SD)
School Culture .85				
	Part III.2	Teachers in this school are continually learning and seeking new ideas.	3.04	(.74)
	Part III.9	Teachers are engaged in systematic analysis of student performance data	2.54	(.75)
	Part III.16	Our stance towards our work is one of inquiry and reflection.	2.46	(.79)
	Part III.22	Assessment of student performance leads to changes in our school's curriculum.	2.55	(.73)
	Part III.28	Teachers in this school regularly examine school performance	2.58	(.76)
	Part III.34	This school is actively involved in school reform	2.75	(.69)
Professional Development .86				
	Part III.3	Professional development activities have been closely connected to my school's reform vision	2.65	(.73)
	Part III.10	Professional development activities have been sustained and coherently focused, rather than short-term and unrelated	2.30	(.81)
	Part III.17	Professional development activities have helped me understand my students better	2.39	(.83)
	Part III.23	Professional development activities have included enough time to think carefully about, try, and evaluate new ideas.	2.19	(.75)
	Part III.29	Professional development activities have helped me build new skills and identify strategies to better meet the needs of target students	2.53	(.82)
Department Leadership for Reform .89				
	Part III.6	The department head at this school encourages teachers to try new methods of instruction	3.27	(.75)
	Part III.13	The department head at this school promotes parental and community involvement in this school	2.94	(.74)
	Part III.20	The department head at this school works to create a sense of community in this school	3.09	(.76)

Scale	Item Number	Statement	M	(SD)
Department Leadership for Reform	Part III.26	The department head at this school takes a personal interest in the professional development of teachers	3.11	(.73)
	Part III.32	The department head at this school is strongly committed to shared decision making	2.92	(.84)
	Part III.37	The department head at this school ensures that student learning is the "bottom line" in this school	3.02	(.72)
	Part III.42	The department head at this school supports and encourages teachers to take risks	2.80	(.78)
	Part III.46	The department head at this school is a strong leader in school reform	2.85	(.78)
Alignment .66				
	Part III.26	The MCAS test is compatible with my daily instruction.	2.66	(.87)
	Part III.32	My district's curriculum is aligned with the MA state frameworks testing program.	3.48	(.59)
	Part III.37	The instructional texts and materials that the district requires me to use are compatible with the MA state frameworks.	3.14	(.62)
	Part III.42	My tests are in the same format as MCAS.	2.48	(.77)
	Part III.46	My tests have the same content as MCAS.	2.60	(.84)

Note. M = Mean; SD = Standard Deviation

Teacher Survey—"Perceptions of Change in a State with High-stakes Testing"

Instruction for completing the questionnaire: The purpose of this survey is to gather information about school change and reform in a state with high-stakes testing.

I am interested in your candid beliefs and practices about important issues related to these tests. Your individual responses will be kept confidential and will not be provided to any other person or group.

I thank you in advance for participating in this study.

Part I: Background Information

1. How do you classify your position at this school?
a. regular full-time teacher   b. regular part-time teacher
c. teacher aide   d. administrator
e. library media specialist or librarian   f. counselor
g. other

2. Do you teach any regularly scheduled classes at this school?
a. yes (go to items 3&4)   b. no (go to item 5)

3. What subjects do you teach? Please mark ALL that apply.

      English   Social Studies
      Math   Special Education
      Science   Other _____

4. What grade level(s) do you currently teach? Please mark ALL that apply.

      9th 10th
      11th 12th

5. _____ How many years of teaching experience do you have, including this year?
a. 0   b. 1-3   c. 4-8
d. 9-12   e. 13-20   f. Over 20

6. How many years of teaching experience do you have including this year at this school?
a. 0   b. 1-3   c. 4-8
d. 9-12   e. 13-20   f. Over 20

7. During this school year, do you or will you
a. coach a sport?
b. sponsor any student groups, clubs, organizations, etc.?
c. Serve as a department lead or chair?
d. Serve as a lead curriculum specialist?
e. Serve on a school wide or district wide committee or task force?

8. _____ What is your gender?
a. male   b. female

9. Please mark the appropriate range for your age.
a. 20-30   b. 31-40   c. 41-50
d. 51-60   e. 61+

Part II: MCAS
Dir: Please indicate the extent to which you agree with each of the following statements by identifying the best description that corresponds with your response.

Strongly Disagree—1
Disagree—2
Agree—3
Strongly Agree—4

1. _____ The MCAS test is compatible with my daily instruction.

2. _____ MCAS is as accurate a measure of student achievement as a teacher's judgment.

3. _____ My district's curriculum is aligned with the MA state frameworks testing program.

4. _____ Overall, the benefits of MCAS is worth the investment of time and money.

5. _____ The instructional texts and materials that the district requires me to use are compatible with the MA state frameworks.

6. _____ Scores on MCAS accurately reflect the quality of education students have received.

7. _____ MCAS is just another fad.

8. _____ Teachers at your school have high expectations for the performance of all students on MCAS.

9. _____ Teachers at my school feel pressure from the district superintendent to raise scores on MCAS.

10. _____ Many low scoring students will do better on MCAS if they receive specific preparation for it.

11. _____ Score differences from year to year on MCAS reflect changes in the characteristics of students rather than changes in school effectiveness.

12. _____ If I teach to the state standards or frameworks, students will do well on MCAS.

13. _____ MCAS measures high standards of achievement.

14. _____ Teachers have high expectations for the in-class academic performance of students in my school.

15. _____ Differences among schools on MCAS are more a reflection of students' background characteristics than of school effectiveness.

16. _____ Teachers feel pressure from parents to raise scores on MCAS.

17. _____ There is so much pressure for high scores on MCAS that teachers have little time to teach anything not on the test.

18. _____ MCAS has brought much needed attention to education issues in my district.

19. _____ My tests are in the same format as MCAS.

20. _____ MCAS leads some teachers in my school to teach in ways that contradict their own ideas of good educational practice.

21. _____ Teachers in my school have found ways to raise state-mandated test scores without really improving student learning.

22. _____ Teachers in my school feel pressure from the building principal to raise scores on MCAS.

23. _____ Administrators in my school believe students' MCAS scores reflect the quality of teachers' instruction.

24. _____ My tests have the same content as MCAS.

25. How do you prepare your students for your state-mandated tests? Mark ALL that apply:

<div align="center">
Yes—1
No—2
</div>

_____ I do no special test preparation.
_____ I teach test-taking skills
_____ I encourage students to work hard and prepare.
_____ I provide rewards for test completion.
_____ I teach the standards or frameworks known to be on the test.
_____ I provide students with items similar to those on the test.
_____ I provide test-specific preparation materials developed commercially or by the state.
_____ I provide students with released items from the state-mandated test.

Please skip to question #27 if you are a first-year teacher

26. In what ways, if any has the amount of time spent on each of the following activities changed in your school in order to prepare students for the state-mandated testing program? Please rate each area with the following scale.

1. Decreased a Great Deal
2. Moderately Decreased
3. Stayed About the Same
4. Moderately Increased
5. Increased a Great Deal

_____ Instruction in tested areas
_____ Instruction in areas not covered by the state-mandated test
_____ Instruction in tested areas with high stakes attached (e.g. promotion, graduation, teacher awards)
_____ Instruction in tested areas without high stakes attached
_____ Instruction in the fine arts
_____ Instruction in physical education
_____ Instruction in foreign language
_____ Instruction in industrial/vocational education
_____ Student free time (e.g., recess, lunch)
_____ Field trips (e.g., museum tour, hospital tour)
_____ Class trips (e.g., circus, amusement park)
_____ Student choice time (e.g., games, computer work)
_____ Enrichment school assemblies (e.g. professional choral group performances)
_____ Administrative school assemblies (e.g., awards ceremonies)
_____ Classroom enrichment activities (e.g., guest speakers)
_____ Student performance (e.g., class plays)
_____ Parental contact

<div align="center">
150
</div>

27._____ Approximately how many class hours PER YEAR do you spend preparing students specifically for MCAS (e.g., teaching test-taking skills)?
a. none   b. 1-10   c. 11-20   d. 21-30   e. more than 30

28. _____ When were most of the test preparation activities you conducted specifically for MCAS carried out?
a. no specific preparation   b. The day before
c. Throughout the week before   d. Throughout the two weeks before
e. Throughout the month before   f. Throughout the year

29. _____ How similar is the content of the test preparation materials you use to the content of MCAS?
a. Very similar   b. Somewhat similar
c. Somewhat dissimilar   d. Very dissimilar

30. Does your school rely on any of the following strategies to influence students to do their best work on the state-mandated test? Mark ALL that apply.

_____ Discussing the importance to the school of good performance on the test.
_____ Holding student assemblies to motivate students
_____ Publicly recognizing students for good performance
_____ Scheduling special activities (e.g., pizza parties, field trips)
_____ Providing free time as a reward to students
_____ Linking performance to eligibility for participation in extra curricular activities (e.g., athletics, clubs)
_____ Giving prizes to reward students
_____ Requiring /recommending summer school
_____ Using scores for assigning report card grades
_____ Placing students in classes (e.g., honors, remedial)
_____ exempting students who do well from required course work.

31. _____ How often does your SCHOOL'S results on MCAS influence your own teaching? Mark only one response.
a. daily
b. A few times a week
c. A few times a month
d. A few times a year
e. Never
f. I did not receive the school's test results in time to use them
g. I teach a grade and/or subject that does not receive the school's test results.
h. I teach a grade and/or subject that should get results but did not receive them.

32. Do you use the results of the state-mandated tests for any of the following activities? Mark ALL that apply.

_____ Group students within my class
_____ Evaluate student progress
_____ Assess my teaching effectiveness
_____ Select instructional materials
_____ Plan my instruction
_____ Plan my curriculum
_____ Give feedback to students
_____ Give feedback to parents
_____ Determine student grades (in whole or in part)
_____ Do not get the results back in time to use them
_____ None of the above

33. _____   Is there at least one person at your school that teachers can turn to for accurate information about MCAS?
a. yes   b. no

34. MCAS influences the amount of time you spend on . . .
1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

_____ Whole group instruction
_____ Critical thinking skills
_____ Individual seat work
_____ Basic skills
_____ Students working together in small groups (cooperative learning)
_____ Concept development using manipulatives or experiments
_____ Problems that are likely to appear on the state-mandated test

Adapted from the National Board of Education Testing and Public Policy. (2003) Impact of teacher

survey on the state-mandated testing programs. Boston College.

III. SCHOOL REFORM

Dir: Please answer each of the questions/statements using the following scale

1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

1. _____ This school has a clear vision of reform that is linked to standards for student learning and growth.
2. _____ Teachers in this school are continually learning and seeking new ideas.
3. _____ Professional development activities have been closely connected to my school's reform vision
4. _____ I feel that this district inspires the very best in the job performance of its teachers.
5. _____ The principal at this school encourages teachers to try new methods of instruction
6. _____ The department head at this school encourages teachers to try new methods of instruction
7. _____ In this school we use a variety of assessment strategies to measure student progress.
8. _____ This school encourages teachers to pursue inquiry into their classroom practice.
9. _____ Teachers are engaged in systematic analysis of student performance data
10. _____ Professional development activities have been sustained and coherently focused, rather than short-term and unrelated
11. _____ I am proud to tell others that I work for this district.
12. _____ The principal at this school promotes parental and community involvement in this school
13. _____ The department head at this school promotes parental and community involvement in this school
14. _____ Teachers meet regularly to review student performance in order to adjust their practices.
15. _____ My school's progress towards its reform vision is openly examined and acknowledged
16. _____ Our stance towards our work is one of inquiry and reflection.
17. _____ Professional development activities have helped me understand my students better
18. _____ The district supports local innovation
19. _____ The principal at this school works to create a sense of community in this school
20. _____ The department head at this school works to create a sense of community in this school
21. _____ Teachers collect and use data to improve their teaching.
22. _____ Assessment of student performance leads to changes in our school's curriculum.

23. _____ Professional development activities have included enough time to think carefully about, try, and evaluate new ideas.

24. _____ The district holds high expectations for our school

25. _____ The principal at this school takes a personal interest in the professional development of teachers

26. _____ The department head at this school takes a personal interest in the professional development of teachers

27. _____ This school has made changes designed to better meet the needs of its diverse student body.

28. _____ Teachers in this school regularly examine school performance

29. _____ Professional development activities have helped me build new skills and identify strategies to better meet the needs of target students

30. _____ The district builds community confidence in our school

31. _____ The principal at this school is strongly committed to shared decision making

32. _____ The department head at this school is strongly committed to shared decision making

33. _____ Teachers are engaged in systematic analysis of student performance data.

34. _____ This school is actively involved in school reform

35. _____ The district supports my school's whole school change effort

36. _____ The principal at this school ensures that student learning is the "bottom line) in this school

37. _____ The department head at this school ensures that student learning is the "bottom line in this school

38 . _____ The whole school examines gaps in the achievement of students by grade level

39. _____ Assessment of student performance leads to changes in our school's curriculum

40. _____ The district promotes the professional development of teachers.

41. _____ The principal at this school supports and encourages teachers to take risks

42. _____ The department head at this school supports and encourages teachers to take risks

43. _____ This school has well-defined plans for instructional improvement

44. _____ The district ensures that student learning is the "bottom line" in this school

45. _____ The principal at this school is a strong leader in school reform

46. _____ The department head at this school is a strong leader in school reform

47. _____ Teachers in this school share a vision of good teaching

48. _____ The district helps my school focus on teaching and learning

49. _____ Teachers in this school are engaged in systematic analysis of their teaching practices

50. _____ The district is committed to high standards for every student

51. _____ Useful information to make informed decisions is readily available to teachers (e.g., about student performance, resources, community satisfaction.

52. _____ District priorities are consistent with my school's priorities
53. _____ This school uses assessment data to evaluate teachers' instructional practices

Adapted from BASRC Teacher's Survey Scale Definitions 2001.

Part IV. SCHOOL CONDITIONS

Dir: Please respond to each of the statements using the following scale:
1. Never
2. Sometimes
3. Always

1. _____ How frequently do you share and discuss research on effective teaching methods with other teachers in your school?
2. _____ I feel supported by colleagues to try out new ideas.
3. _____ Teachers take an active role in school-wide decision making.
4. _____ How frequently do you share ideas on teaching with other teachers in your school?
5. _____ How frequently do you share and discuss research on effective instructional practices for English language learners with other teachers in your school?
6. _____ Teachers in this school trust each other
7. _____ The faculty has an effective process for making group decisions and solving problems.
8. _____ How frequently do you discuss what you/they learned at a workshop or conference with other teachers in your school?
9. _____ Teachers in this school feel responsible to help each other do their best
10. _____ How frequently do you explore new teaching approaches for under-performing students with other teachers in your school?
11. _____ In this school we take steps to solve problems; we don't just talk about them.
12. _____ How frequently do you share and discuss student work with other teachers in your school?
13. _____ Teachers in this school are encouraged to experiment with their teaching
14. _____ Collaboration in this school significantly supports my work.
15. _____ How frequently do you discuss particular lessons that were not very successful with other teachers in your school?
16. _____ Teachers use time together to discuss teaching and learning.
17. _____ How frequently do you discuss beliefs about teaching and learning with other teachers in your school?

V. Comments

If you wanted to give someone a really good sense of what your school is like what would be a typical event, practice, or procedure you would tell them about?

_____
_____
_____

If you would like to offer any comments about the relationship between state-mandated testing and school reform, please write them in the space below.

_____

_____

_____

_____

APPENDIX C: INTERVIEW QUESTIONS

Interview Questions

Thank you for agreeing to participate in this interview. It is designed to help me gain insights into how school leaders perceive change in a standards-based climate.

Part A. The Larger Context

1. I know you are a compass/urban high school. I was wondering if you would describe for me what that means in terms of the way you do things at this school. Could you help me to understand the broader picture?

2. What is important in this school?

    a. What does that mean in practice?
    b. How does that show up in your organizational structure?

3. Please describe for me any changes that have taken place in your school since high-stakes testing in Massachusetts was initiated.

    How did ____ get enacted?

4. Could you please describe for me "step-by-step" what this school has done to improve student achievement with respect to the MCAS exam?

5. How was the decision made to do that? Can you tell me how that came to be? Can you tell me the story? What comes to mind for you?

    What is the process?

6. What role, if any, did school leadership play in the change process?

    How do decisions get made?

The big picture has been very helpful. Now I am interested in hearing about your personal experiences with change and reform.

Part B. Their Experiences

1. When you started the change initiative, do you remember how you felt about it? What was your thinking at the time?

   possible probes

     a. What kinds of things help to facilitate this change?

     b. Were there any barriers to these changes?

2. Do you think other people responded the same way? Do you think they felt the same way you did? What kinds of things came up?

3. Do you know what their reasons were? (conflict or support)

4. What was your role in the change process?

Part C— The meaning for them

1. What would you say to a school that wanted to improve student scores on the MCAS exam? What would you recommend?

2. What in your experience leads you to say that?

3. What do you think I should take away from this interview in terms of this MCAS achievement, and standards-based reform and the value they have?

4. How would you describe/define a successful school reform effort? What do you think is necessary to ensure success when approaching school change in a high-stakes testing climate? Possible probes:

    a. Has your school implemented such "necessities?"

    b. What may account for this

5. Now that we have had this conversation about the school, is there anything I should have asked but did not?

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