The Extent to Which Teachers and Principals Perceive High Schools as Learning Organizations

Scott Kemple

Western Michigan University

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THE EXTENT TO WHICH TEACHERS AND PRINCIPALS PERCEIVE HIGH SCHOOLS AS LEARNING ORGANIZATIONS

by

Scott Kemple

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the requirements for the Degree of Doctor of Education
Department of Teaching, Learning, and Leadership

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THE EXTENT TO WHICH TEACHERS AND PRINCIPALS PERCEIVE HIGH SCHOOLS AS LEARNING ORGANIZATIONS

Scott Kemple, Ed.D.
Western Michigan University, 2003

The purpose of the study was to conduct an assessment of the culture and leadership of a sample of Michigan high schools as perceived by their teaching staff and principals.

The variables of culture and leadership are primary indicators of whether a school is viewed as a learning organization by the faculty, staff and administration of the school (Leithwood et al., 2001). Five primary questions were examined: (1) To what extent are high schools perceived as learning organizations by their principals? (2) To what extent are high schools perceived as learning organizations by their teachers? (3) Is there a difference in perception of the extent to which high schools are learning organizations as perceived by school principals of schools of different sizes? (4) Is there a difference in perception of the extent to which high schools are learning organizations as perceived by teachers of schools of different sizes? (5) Overall is there a difference in perception of the extent to which high schools are learning organizations between principals and teachers regardless of school size?

The combined mean score for the two variables of culture and leadership was analyzed for questions one and two. This analysis was followed by a frequency distribution. Third, a mean score analysis and frequency distribution was carried out for

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each variable. Finally, the data was disaggregated and an analysis of the mean score for
each indicator area for each variable was performed. A T-test for comparison of the
mean scores was used in questions three and four. In question five mean scores on the
combined variables were compared for individual school principals and teachers from the
same school. Second, a t-test for comparison of the means of the paired principals and
teachers was conducted. This was followed by a frequency distribution for mean
differential scores between the principals and teachers. Finally an analysis of mean scores
for the indicator areas for each variable was calculated.

The findings indicated that principals viewed their high schools as learning
organizations to a significantly higher degree than teachers no matter what size of school
is measured. They also indicated that principals, no matter what size the school viewed
their schools as learning organizations. However, teachers of smaller schools viewed
their schools as learning organizations to a greater degree than do teachers of larger
schools.
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The long and winding road of this endeavor has had many people on it who have assisted in the completion of this study. I have been very fortunate to have the support of a continuing stream of family, friends, and professors. At this time I would like to acknowledge those individuals who have been instrumental in helping me successfully complete this dissertation and course of study.

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Scott Kemple
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CHAPTER I

PURPOSE OF THE STUDY

The purpose of the study was to conduct an assessment of the culture and leadership of a sample of Michigan high schools as perceived by their teaching staff and principals.

The variables of culture and leadership are primary indicators of whether a school is viewed as a learning organization by the faculty, staff and administration of the school (Leithwood et al., 2001). Although the concept of a learning organization has been in the literature for over a decade, the suspicion is that most schools have failed to become learning organizations. Many educational writers believe that schools must change into learning organizations if they are to be viable in the 21st century (Fullan, 2000; Schlechty, 1997; Senge, 2000). The essential first step in becoming a learning organization is assessing the current environment (Kline & Saunders, 1998; Leithwood et al., 2001). The development of baseline data on perceptions of teachers and principals will assist schools in determining the size of the gap between current reality and the goal of becoming learning organizations. The information collected will assist in focusing the change efforts toward significant areas of weakness or areas where high leverage change may take place (Leithwood et al., 2001; Senge, 1990). The findings will provide researchers and leaders in education an indication of the progress that Michigan high schools have made toward becoming learning organizations.
Problem Statement

There is no evidence to support the proposition that high schools in Michigan are learning organizations. Schools must drastically alter their current bureaucratic structure and become learning organizations if they are to survive as viable options for student education in the twenty-first century.

Introduction

Americans have argued about their schools since the inception of public education. "It is impossible to find a period in the twentieth century in which education reformers, parents, and the citizenry were satisfied with the schools" (Ravitch, 2000, p. 13). The debate over how to educate our children has not abated. The enormity of educating almost forty-seven million children and the amount of spending for education, an estimated 347 billion dollars during the school year 1999–2000, has once again focused the national spotlight on education (Gross, 1999). This trend is documented in the last three Pew Research Center surveys (1997–99) that ranked education as the number two concern for most Americans behind crime.

Numerous studies have indicated that all the educational reform of the past decades has done nothing to enhance public schools' "fundamental mission of teaching and learning" (Ravitch, 2000, p. 467). Recent results of the Third International Mathematics and Science Study indicated that seniors in American high schools scored at the bottom of the 21 countries administering the test. The results suggested that 50% of seniors had math skills commonly found in the junior high school (Gross, 1999, p. 32).
Reading was equally troubling. The NAEP report for 1998 stated that 38% of all fourth graders were reading at such low levels that they were non-functional.

Gross (1999) reported a reduction in the percentage of minimal readers to 36% by the time the child graduates from high school. This represents more than 750,000 high school graduates who could not read at a functional level. By comparison only six percent of graduates tested at the advanced levels.

In addition to poor performance on test scores, several researchers stated that more than 20 million Americans are functionally illiterate while more than one-quarter of all 17-year-olds failed to graduate from high school. The report for minorities was even more dismal as more than 55% of all minority students failed to even graduate from high school (Bigler & Lockard, 1992; Bryk, Kerbow, and Rowland, 1997).

While national test scores have diminished, the amount of money spent on a per student basis has increased significantly. United States taxpayers spent about $375 a year to educate each public school student in 1960. The support grew more than twice that amount during the next 10 years. By 1996 per student support from taxpayers had increased more than 16 times the 1960 level to over $6,000. Adjusting for inflation over the 40-year period, the United States taxpayer now spends almost three times more to educate each student (Gross, 1999).

A large part of this additional spending can be linked to the tremendous increase in teachers, administrators, and support personnel now working in the schools. Teacher ranks have grown from 1.35 million in 1960 to 2.7 million in 1999. Administrators now number 215,000 from a 1960 level of 96,000. Other types of support personnel including instructional specialists, classroom aides, counselors, special education teachers, and
clerical staff have risen from 700,000 to over 2.5 million. The student population has
grown only 12 million students during the same time frame. Staff for schools has
increased 300% faster than the student population (Bigler & Lockard, 1992; Gross,
1999).

A Carnegie Corporation report entitled “Turning Points” underlined our current
public school situation when it suggested that the ability of our young people to function
in the global economy is very questionable. The report suggested that the future
competitiveness of the country is at stake unless something radical is done to improve our
schools (Gross, 1999, p. 34). These statistics indicate that the current system of American
education is receiving a failing grade. If educational leaders do not intervene and
systemically change the way we educate our children, we may find a generation of
children ill-prepared to compete in a global marketplace (Bigler & Lockard, 1992; Gross.
sounded an alarm on the educational system and initiated the last twenty years of debate
on public education. The authors concluded, “If an unfriendly foreign power had
attempted to impose on America the mediocre educational performance that exists today.
we might well have viewed it as an act of war” (NCE, 1983, p. 6).

This dire warning is now almost twenty years old and the debate over school
reform continues. Historians of school reform have indicated that the attempts to fix the
system actually made the situation worst (Cuban, 1995; Fullan, 1993; Ravitch, 2000;
Sarason, 1990). The reforms of the past have attempted to create change within the same
fundamental structure (Gerstner in Sarason, 1990). Systemic change requires the reformer
to understand the process of change as well as the political and power relationships that
influence any educational change effort (Sarason, 1990; Kearns & Harvey, 2000). Senge (2000) suggested that schools really don’t need all the fixes that politicians and educators have tried in the past. He sees schools as communities needing to evolve in multiple ways through multiple methods and with the input from multiple people. To achieve schools that are systemically different will require an entirely new view of school. He suggested that a new metaphor for school be used. A metaphor, according to Senge (2000), that creates an “emerging understanding of (schools) as living systems” (p. 52).

A living system view of school radically alters the perception of how schools operate. Senge (2000) wrote that a living system has the following characteristics: (a) its fundamental nature of reality is relationships, not things; (b) it has the capacity to create itself; (c) it is self-made; (d) it continually grows and evolves; (e) it has innate goals to exist and recreate; and (f) it can learn (pp. 56–57).

Systemic educational change will only come from creating schools that have the characteristics of a living system where the administration, teachers, students, parents, and community members are intimately involved in the learning process. Institutions must continually search for knowledge that allows them to implement more effective methods of teaching and learning (Christman, Cohen, & MacPherson, 1997; Senge, 2000). This orientation toward learning in all areas recreates schools as learning organizations with the characteristics of a living system (Senge, 2000).

If it is necessary for schools to become learning organizations in order to evolve and systemically change and if the first step in determining the extent to which a school is a learning organization is assessing current reality, then a study about the current perceptions of high school teachers and principals has merit. This study examined the
perceptions of principals and teachers in the largest and smallest high schools in the state of Michigan, about the nature of their school culture and leadership, and related those perceptions to the development of schools as learning organizations. The investigation attempted to answer the following research questions:

1. To what extent are high schools learning organizations as perceived by the principals?

2. To what extent are high schools learning organizations as perceived by the teachers?

3. Is there a difference in perception of the extent to which high schools are learning organizations as perceived by principals of large high schools (Class A) and principals of small high schools (Class D)?

4. Is there a difference in perception of the extent to which high schools are learning organizations as perceived by teachers from large high schools (Class A) and teachers from small high schools (Class D)?

5. Is there a difference in perception of the extent to which high schools are learning organizations between principals and teachers regardless of school size?

Significance of the Study

As indicated in the introduction, public schools have been heavily criticized for not educating a large percentage of American school children. Attempts to remedy this lack of performance have not generated the positive results the reformers had hoped for in implementing school reform. Sarason (1990) challenged “schools and communities to look at education in a whole new light… the goal is to nurture innovative—even radical—
new approaches, not reward entrenched wisdom" (p. 176). If schools are to survive the mounting challenges to them they must develop “an organizational culture that makes self-correction a norm and not a war” (Sarason, 1990, p. 129). Senge (1990) asserted that the only way an organization can develop a culture that is self-correcting is to become a learning organization. Senge (2000) extended his theoretical premises to schools, asserting that schools must also become learning organizations. If Senge’s and Sarason’s theoretical constructs are correct then a study of the extent to which high schools are learning organizations, as perceived by principals and teachers, takes on added importance. Assessing employee perceptions according to Kline and Saunders (1998) is the first step in developing a dynamic learning organization. The information developed in this study will benefit those educational innovators attempting to radically change the current educational structure and create true learning organizations.

Methodology and Procedures

The purpose of this study was to determine the perceptions of high school administrators and teachers about the extent to which their school is a learning organization. The methodology and procedures for collecting and analyzing data for the study are divided into two sections as follows: (1) Identification of Population and Sampling, and (2) Analysis of Data.

Identification of Population and Sampling

The teachers and principals for all class A and class D schools, as determined by the Michigan High School Athletic Association 2001 classification, are the population for
the study. The researcher made an assumption that significant differences would be more likely in a comparison of the smallest and largest schools. A random sample size of 90 class A and 90 class D high schools was selected from the total high school population in the state of Michigan. The principal and three randomly selected teachers at each school comprised the study sample.

After completion of the high school selection, the researcher sent a packet containing the surveys and return envelopes to the principal for distribution. The researcher followed up with phone calls as needed. Return rates for the study were expected to be about one in four.

Analysis of Data

The combined mean score for the two variables of culture and leadership was analyzed for Questions 1 and 2. This analysis was followed by a frequency distribution. Third, a mean score analysis and frequency distribution was carried out for each variable. Finally, the data was disaggregated and an analysis of the mean score for each indicator area for each variable was performed. A $t$-test for comparison of the mean scores was used in Questions 3 and 4. In Question 5 mean scores on the combined variables were compared for individual school principals and teachers from the same school. Second, a $t$-test for comparison of the means of the paired principals and teachers was conducted. This was followed by a frequency distribution for mean differential scores between the principals and teachers. Finally an analysis of mean scores for the indicator areas for each variable was calculated.
The independent variables include the roles in the school (i.e., principal, teacher) and school size. The dependent variables were school culture and leadership.

Limitations of the Study

Limitations of the study include: (a) the study was limited to Michigan high schools; (b) the study was limited to only the largest and smallest high schools; (c) only 180 high schools were studied; (d) the study was limited to data generated by a questionnaire consisting of items deemed important to establishing a learning organization; and (e) only two sections of the nine-section school assessment were used in the study.

Definition of Terms

Certain terms are continually found in this paper. The definition for these commonly used terms was found in the literature and is listed below for reference:

- **Learning Organization.** A place where inventing new knowledge is not a specialized activity it is a way of behaving, indeed a way of being, in which everybody is a knowledge worker; a place that continually monitors and reflects upon its operating assumptions. It is in touch with itself and its environment and adapts and changes as a matter of course, rather than traumatically, as in a crisis (Schwandt & Marquardt, 2000, p. 242).

- **Personal Mastery.** The practice of articulating a coherent image of your personal vision; the results you most want to create in your life; alongside a realistic assessment of the current reality of your life today (Senge, 1990 p. 7).
• Shared Vision. A process to establish a focus on mutual purposes. People with a common purpose can learn to nourish a sense of commitment in a group or organization by developing shared images of the future they seek to create and the principles and guiding practices by which they hope to get there. A school or community that hopes to live by learning needs a common shared vision process (Senge, 1990 p. 8).

• Mental Models. A discipline of reflection and inquiry skills that is focused around developing awareness of attitudes and perceptions—your own and others around you. Working with mental models can also help you more clearly and honestly define current reality. Since most mental models in education are often not discussable and hidden from view, one critical act for a learning school is to develop the capability to talk safely and productively about dangerous and discomforting subjects (Senge, 1990, p 9).

• Team Learning. A discipline of group interaction. Through such techniques as dialogue and skillful discussion, small groups of people transform their collective thinking, learning to mobilize their energies and actions to achieve common goals and draw forth an intelligence and ability greater than the sum of the individual members' talents (Senge, 1990 p.10).

• Systems Thinking. People learn to better understand interdependency and change and thereby are able to deal more effectively with the forces that shape the consequences of their actions (Senge, 1990. p11).
Organization of the Dissertation

The dissertation includes five chapters, a selected reference list, and appendixes. Chapter 1 includes the introduction, definition of terms, statement of the problem, statement of the research questions, methodology and procedures, significance of the study, limitations of the study, and organization of the study. Chapter 2 contains a review of the related literature pertaining to school effectiveness and rationale for, and the development of, a learning organization. Chapter 3 contains the presentation of the methods and procedures used to conduct the study. Chapter 4 contains the methods used to conduct the study and the analysis of the data. Chapter 5 contains a summary, findings, conclusions, implications, guidelines for creating a learning organization in a school setting, and recommendations for further study. Finally, appropriate appendixes and selected reference lists are attached as concluding sections.
CHAPTER II

REVIEW OF LITERATURE AND RELATED RESEARCH

Introduction

The purpose of the study was to conduct an assessment of the culture and leadership of a sample of Michigan high schools as perceived by their teaching staff and principals.

The variables of culture and leadership are primary indicators of whether a school is viewed as a learning organization by the faculty, staff and administration of the school (Leithwood et al., 2001). The data was gathered from principals and teachers in the largest and smallest schools in the state of Michigan.

The review of relevant literature and research focused on the following sections: (a) Section 1 was a summation of the current school assessment literature and reviews literature and research into the failure of past school reforms; (b) Section 2 describes the need for developing learning organizations, defines a learning organization, and the identified characteristics of a learning organization; (c) Section 3 describes the theoretical basis for organizational learning; and (d) Section 4 reviews the literature and research on principal leadership and culture development in a learning organization school.
The Failure of Educational Reform

Richard Elmore (1996) said, “A significant body of circumstantial evidence points to a deep, systemic incapacity of U.S. schools, and practitioners who work within them, to develop, incorporate, and extend new ideas about teaching and learning in anything but a small fraction of schools and classrooms” (p. 1). In her extensive review of the history of educational reform, Ravitch (2000) details over 100 years of attempts to reform and improve the school system. The advent of the new era of the battle in school reform began with the printing of the National Commission on Excellence in Education report entitled “A Nation at Risk” (Dufour & Eaker, 1998; Ravitch, 2000).

The report created a political firestorm, setting off a national debate on the nation’s school systems. Arising out of the national debate was a significant number of school reform programs that collectively became known as the Excellence Movement (Dufour & Eaker, 1998). This marked a reemergence of the conservative movement philosophy that schools could educate all students if they focused more on the basics. Schools simply had to work harder at what they were doing; they did not have to change what they were doing (Dufour & Eaker, 1998; Ravitch, 2000).

Working harder at the same things, however, failed to create any significant school reform (Fiske, 1992). Chester Finn (1991) put it this way, “Despite all of the talk of reform, despite the investment of tons of billions of extra dollars, public education in the United States is still a failure. It is to our society what the Soviet economy is to theirs” (p. xiv). Rising from the ashes of the excellence movement were two parallel movements, national goals and standards and restructuring (Dufour & Eaker, 1998; Ravitch, 2000). President George H.W. Bush, who convened an educational summit in
1989, highlighted the national goals and standards movement. From the summit six national goals for education were established:

1. All children in America will start school ready to learn.

2. The high school graduation rate will increase to at least 90%.

3. American students will leave Grades 4, 8, and 12 having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared to become responsible citizens.

4. U.S. students will be first in the world in mathematics and science achievement.

5. Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

6. Every school in America will be free of drugs and violence and will offer a disciplined environment that is conducive to learning (United States Department of Education. 1994).

Congress added two more goals:

7. By the year 2000, the nation’s teaching force will have access to programs for the continued development of their professional skills and opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century.
8. By the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children.

The development of national goals and standards initiated similar movements at the state level. Governors and state legislatures became more involved in determining standards for their school systems (Dufour & Eaker, 1998; Ravitch, 2000). An attempt was made to apply the private industry model for accomplishing goals to the school systems. This model required state and national goals and standards, but called for local autonomy in determining how to meet the goals and standards (Dufour & Eaker, 1998). From this model sprang the site-based decision making reform of the 1990s. This reform movement had local educators believing that they would have significant input into how to meet the goals. Site-based reforms included the ability to change structures, determine budget allocations, and share equally in decision-making (Barth, 1991; Dufour & Eaker, 1998). However, a study by Murphy, Evertson, & Radnofsky (1991) related:

> The connections between teacher empowerment and site based management and improved educational processes and outcomes are tenuous at best...It remains to be seen if restructuring leads to radical changes that deeply affect teachers and students or if changes will stop at the classroom door, leaving the teaching-learning process largely unaltered (p. 148).

Schools seem almost impervious to reform. The educational reforms of the past failed for a number of reasons. The sheer enormity of the task of reforming a system that stretches over 50 states with 15,000 school districts, 80,000 board members, 320,000 administrators, 2.5 million teachers, 84,000 schools, and over 43,000,000 students is absolutely incredible (Dufour & Eaker, 1998; Gross, 1999). Couple the overwhelming dimensions of the system with its basically conservative nature and the result is a formula
for failure in school reform. As Michael Fullan (1993) wrote, "The way that teachers are trained, the way the hierarchy operates, and the way that education is treated by political decision makers results in a system that is more likely to retain the status quo than to change" (p. 3). In addition, the general public does not really want any educational change. Surveys indicate, paradoxically, that most Americans view the quality of public education as a national problem, yet they still indicate on national polls that they are satisfied with their own school system (Elam, Rose, & Gallup, 1997).

Additionally, reformers seem to have an inability to grasp reform as a process that is ongoing and needs to be managed (Hargreaves & Fink, 2000; Schlechty, 1997; Senge, 2000). An open communication system is essential to management of the reform process (Hargreaves & Fink, 2000). Researchers indicated that the main reason educational reform fails is due to a general lack of communication between reformer and teachers, parents, community, and students. The bottom line for the lack of communication is the failure of the educational establishment to listen to people. It is imperative that educational leadership put listening well ahead of talking. Without the feedback generated by listening there was a lack of commitment by the stakeholders to the reform (Brandt, 1998; Haberman, 1994).

Research also suggested that successful school reform depends less on the particular organizational structural change that was presented than on who the reformers were as a people and their attitude towards the stakeholders involved in the actual reform. It was their authentic desire to bring about meaningful change in cooperation with the various stakeholders that enabled the reform to be successful (Brandt, 1998). The key
element in being perceived by the stakeholders as authentic was the plain direct language of the reform leaders, not their ability to talk educational jargon (Lindle, 1989).

The tendency to descend into educational jargon seems to be caused by a true lack of understanding by the educational reformers of the results they truly desire (Dufour & Eaker, 1998; Senge, 2000). This lack of vision about the desired results of the reform initiatives resulted in an inability to stay the course with any reform (Hargreaves & Fink, 2000; Schlechty, 1997). The outcome of not staying the course is educational reform that has not systemically changed education and has not impacted, in a significant manner, student learning (Hargreaves & Fink, 2000). Other factors in the demise of past educational reforms according to Christman, Cohen, & MacPherson (1997) were the failure of the reform to accomplish three missions, “building community, generating knowledge about change, and reinventing curriculum” (p.154). It is the interplay of these three tasks that transforms the culture of teaching and learning (Christman, 1997).

John Kotter (1995) identified eight mistakes that are common when attempting to implement change:

1. Allowing too much complacency. The change agent must establish a sense of urgency that will help motivate others to want to change.

2. Failing to create a sufficiently powerful guiding coalition. The power of inertia within an organization is significant. The development of a powerful coalition is essential to creating enough critical mass to overcome the inertia.

3. Underestimating the power of the vision. A powerful vision unites, motivates, and aligns the members of the organization directing the change process.
4. Under-communicating the vision by a power of 10. The vision needs to be communicated over and over and over again in a consistent fashion by all the leadership. This includes modeling the desired change.

5. Permitting structural and cultural obstacles to block the change process. Alignment of the reward system, a reduction in bureaucracy, and training for those initiating the change are essential to its success.

6. Failing to create short-term wins. Only the zealots will stay with a change effort that does not have some short-term goal achievement. People need to see positive movement and results to keep their motivation.

7. Declaring victory too soon. The change process is slow and difficult. Leadership can celebrate short-term wins while reinforcing the long-term process of the change. People will go back to the status quo too easily and the change process will stop prematurely.

8. Neglecting to anchor changes firmly in the culture. The change must become the new standard operating procedure. New norms and values must be incorporated into the culture of the organization for the change to be successful and lasting.

Perkins (1992) summarized the results of his study of educational reform when he stated “almost all educational innovations fail in the long term” (p. 205). Fullan and Hargreaves (1997) reinforced this dismal summary stating, “none of the current strategies being employed in educational reform result in substantial widespread change. The first step toward liberation is the realization that we are facing a lost cause” (p. 220).

The failure of the latest attempt to reform schools has left educators defensive. There is growing criticism about the way professional educators operate their schools
(Dufour & Eaker, 1998). Yet an increasing amount of research from a variety of fields, including organizational development, physics, effective schools, and other business areas has indicated a similar model for effective change in schools. The new model for schools requires a break with the industrial model of the past and creation of a new model that allows schools to become learning organizations (Dufour & Eaker, 1998; Fullan & Hargreaves, 1997; Senge, 2000).

Why Learning Organizations?

It is becoming clear that schools can be re-created, made vital and sustainable, renewed not by fiat or command, not by regulation, but by taking a learning orientation. This means involving everyone in the system in expressing their aspirations, building their awareness, and developing their capabilities together. In a school that learns, people who traditionally may have been suspicious of one another—parents and teachers, educators and local businesspeople, administrators and union members, people inside and outside the school walls, students and adults—recognize their common stake in the future of the school system and the things they can learn from one another (Senge, 2000, p.5).

Learning faster, more effectively, and more comprehensively is essential to long term survival for educational institutions and for businesses (Liebowitz, 2000). Learning is the primary focus for many businesses and some schools (Owens, 1991; Senge, 2000). The rapid change in our global economy has driven business and industry to the realization that learning is the only way to survive (Zuboff, 1988). The ability to adapt and learn in a chaotic environment will make the difference between survival and extinction (Dilworth, 1998; Kiernan, 1993; Ravens, 1983). “Organizations must learn faster and adapt to rapid change in the environment or they simply will not survive” is the blunt assessment of Schwandt and Marquardt (2000, p. 2).
Schools are not immune to the dramatic and rapid changes in the world. Schools must also adapt and learn or become extinct (Covey, 1991; Schlechty, 1997; Thornburg, 2000). Covey (1991) stated that schools needed to reinvent themselves consistent with the changes that were taking place in education. He went on to assert that failure to make the changes would result in the schools becoming obsolete. A 1997 Gallup poll indicated that more than 25% of those interviewed thought that it would be easier to find alternatives to public schools then to reform them (Elam, Rose, & Gallup, 1997). Ten years of research on the relationship between the American public and their schools by the Kettering Foundation led its president to state, “The research forces me to say something I never thought I would say...The public school system, as we know it, may not survive into the next century” (Mathews, 1997, p. 741). Phil Schlechty (1997), a noted educational reformer, stated that unless America’s public schools are transformed in a dramatic fashion, “public schools will not be a vital component of America’s system of education in the twenty-first century” (p. xi). In a recent study on effective schools, Newman, King, and Young (2000) indicated that developing professional learning communities was a major component of school success.

Becoming a learning organization offers all organizations, including schools, the opportunity to survive and succeed in the long term. Focusing on learning allows an organization to transform itself over and over again (Marquardt, 1996). Schwandt and Marquardt (2000) summarize four basic reasons for becoming a learning organization. A learning organization can: (1) survive as a viable system of actions, to take actions different from past actions; (2) know if present actions are different from past or not, and to understand the reasons for this difference; (3) allow the collective to retain its
knowledge over a period of time; and (4) ensure that knowledge is available to inform the actions of the entire organization (p. 61).

Learning Organization Defined

Numerous definitions of a learning organization have been developed. The definitions have common themes. First, the definitions for human learning cannot be directly applied to organizational learning. Learning in an organization is much more complex involving an interaction of an organization’s social, cultural, and bureaucratic structures (Lord and Ranft, 2000; Schein, 1996; Schwandt and Marquardt, 2000). The learning is used for some form of adaptive behavior that assists in the survival of the organization (Senge, 1990; Watkins and Marsick, 1993). There are operating procedures for the organization to gather, interpret, store, and use data. Finally, the new knowledge stays with the organization, even after individuals with the knowledge leave the organization (DiBella & Nevis, 1998; Watkins & Marsick, 1993).

At this point it is important to note the two terms, organizational learning and learning organization, are used almost interchangeably in the popular media but have very different meanings. Becoming a learning organization may be the goal of the company or school. Organizational learning is the process through which a company or school may achieve the goal (Griego, Geroy, & Wright, 2000; Schwandt & Marquardt, 2000). The next two sections explore the literature on what it means to be a learning organization (the goal) and on how organizations actually learn (the process).
The Characteristics of a Learning Organization

The one best way to become a learning organization does not exist. Over the past ten years numerous individuals have written on the basic ingredients necessary for a learning organization. DiBella accurately summarizes, "Although some prescriptive approaches have been popular, there has concurrently been a realization that teams and organizations learn in a myriad of ways and that there is no one way to build a learning organization..." (p. viii). With this in mind, a review of the literature identifies several common skills that could be identified as fundamental to a learning organization. They include personal and organizational vision, a work culture that supports learning, a focus on dialogic communication, and systemic thinking.

Vision: Personal and Organizational

Peter Senge in his 1990 book, The Fifth Discipline, established vision, personal and organizational, as a basic characteristic of a learning organization. The concept that building a learning organization started with visioning by individuals and then developed into an organizational vision was found in the works of numerous other learning organization writers (Dufour &Eaker, 1998; Kline & Saunders, 1998; Marquardt, 1999; Senge, 2000; Watkins & Marsick, 1993). Personal vision is a mental image of what a person wished to accomplish in their work life (Marquardt, 1999; Senge, 1990). Each person has a personal vision that cannot be mandated by the organization (Senge 1990). It was from the personal vision that each individual developed a dream of what they wanted to accomplish at work; a dream that internally motivated them, provided value, and gave meaning to their work world (Marquardt, 1999).
The collections of personal visions, if shared in the correct organizational climate, make up the organizations' overall shared vision (Bohm & Peat, 2000; Senge, 1990). An organization that learns is not possible without shared vision (DuFour & Eaker, 1998; Watkins & Marsick, 1993). Senge (1990) forcefully wrote:

You cannot have a learning organization without a shared vision. Vision establishes an overarching goal. The loftiness of the target compels new ways of thinking and acting. A shared vision also provides a rudder to keep the learning process on course when stresses develop. Learning can be difficult even painful. With shared vision we are more likely to expose our ways of thinking, giving deeply held views and recognizing personal and organizational shortcomings. (p. 209).

Shared vision cannot be dictated; it must be built on the personal visions of the people who work in an organization. Developing an organizational shared vision from personal visions takes an organizational focus (Senge, 1990). Shared vision can only be developed, over time, through open and honest dialogue; conversations between multiple levels of people about what the organization will become (Hite, 1999; Senge, 1990; Watkins & Marquardt, 1993).

Developing a concise vision that is acceptable to all members of an organization is an ongoing process (Kline & Saunders, 1998; Kotter, 1995). The shared vision constantly evolves influencing the organization's culture and being influenced by the organization's culture (Kline & Saunders, 1998; Marquardt, 1996; Senge, 2000).

Developing personal mastery and a shared vision are necessary steps in developing a culture of learning. The culture of an organization is the way things are done in an organization. It includes the way the members of the organization think, the behavior that is acceptable, and what the belief system is for the organization. To describe the culture of an organization, examine the symbols, rituals, stories, and values
that make up its basic fabric (Deal & Peterson, 1991; Fullan, 2000; Marquardt, 1996). It is the type of culture that an organization exhibits that will determine its ability to learn (Marquardt, 1996). An organizational culture that supports learning has the basic values that reinforce: (a) diverse views by its employees, (b) risk taking and experimentation, (c) learning by all individuals, and (d) open and honest communication at all levels (Darling-Hammond, 1995; Garvin, 2000). The support of diversity of views is seen by DiBella and Nevis (1998) as a "kind of litmus test of an organization's readiness to learn" (p. 73).

In addition to being open to diverse views, an organization needs to develop an organizational atmosphere that is open to risk-taking to enhance learning. Without the ability to challenge the status quo, to try new things, the organization cannot change. The benefit of risking must be greater than the cost of risking to the individual, team, or organization (Garvin, 2000; Kline & Saunders, 1998; Marshall, Mobley & Calvert, 1995; Senge, 1990; Watkins & Marsick, 1993). Establishing a climate for risk-taking requires psychological safety as a basis. Schein (1993) noted five aspects of a culture that offers psychological safety: (1) ample times and places for training and practice of new skills; (2) sufficient encouragement to overcome the possible negative outcomes of making errors; (3) adequate coaching to assist in the improvement of skills; (4) built-in rewards that reinforce improved performance on a skill; (5) norms that support the making of errors; and (6) enough rewards to promote experimentation and innovation.

Garvin (2000) condenses the five aspects of culture into three: "A culture that does not demand infallibility and perfection; freedom to fail without punishment or penalty; and systems or incentives that encourage the identification, analysis, and review of errors" (pp. 40–41).
Risk-taking, however, must be done intelligently. If an organization is working on personal vision and developing a shared vision, its risk-taking behavior should be tied to the vision (Senge, 1990). Huseman & Goodman, (1999) stated that an organization must be smart about the type of risk-taking behavior it exhibits. They further stated that the risk-taking behavior must be tied to the shared vision of the organization. It is risk-taking that has a good chance of succeeding. Successful or not, risk-taking will result in knowledge being brought into the organization (Kline & Saunders, 1998; Schwandt & Marquardt, 2000).

Dialogic Communication

Numerous authors have written on the importance of dialogue as the primary method of communication within a learning organization (DiBella, 1998; Garvin 2000; Marquardt, 1996; Senge. 1990; Watkins & Marsick 1993). Each individual and therefore each organization bring to any communication (potential learning situation) a set of unconscious rigidly held beliefs (called mental models by Senge (1990)) that hinder or stop the communication and therefore the potential learning that could take place (Bohm & Peat, 2000; Senge, 1990; Watkins and Marsick, 1993). Dialogic communication exposes the assumptions and “recognizes the destructive misinformation” (Bohm & Peat, 2000, p. 244), freeing the individual mind for learning to take place. Dialogic communication is the open and free flow of communication. People involved in dialogue have an ability to look at their own assumptions, “hold them in suspension,” while they examine and “hold in suspension” the assumptions of others (Bohm & Peat, 2000, p.
241). This is in contrast with discussion where assumptions are defended and held to be true (Bohm & Peat, 2000; Garvin, 2000; Senge, 1990).

Through dialogic communication individuals can choose new ground between two opposing views of the world. The new ground is not a compromise, but rather a "new order" (Bohm & Peat, 2000 p. 244). When an individual or an organization is willing to engage in dialogic communication it opens up creativity. This allows for new and innovative ways of dealing with problems, which results in new learning for the organization, what Senge (1990) calls "generative learning" (p. 14).

Dialogic communication changes enemies into colleagues with different points of view (Bohm & Peat, 2000). It allows an individual, a group, or an organization to arrive at a consensus decision for action. As Bohm relates:

Such consensus does not involve the pressure of authority or conformity, for it arises out of the spirit of friendship dedicated to clarity and the ultimate perception of what is true. In this way the tacit infrastructure of society (or an organization) and that of its subcultures are not opposed, nor is there any attempt to alter them or destroy them. Rather, fixed and rigid frames dissolve in the creative free flow of dialogue as a new kind of micro-culture emerges (p. 247).

The ability to adapt, adjust, and to create a new future is based in dialogic communication (Argyris, 1993; Bohm & Peat, 2000; Senge, 1990; Watkins and Marsick, 1993). It is the only way to generate what Senge (1990) calls a "metanoia" or shift of mind, which will be necessary for organizations to become learning organizations (p. 13).

**Systemic Thinking**

Systemic thinking is another essential characteristic of a learning organization. Systems thinking is an ability to see the whole picture rather than just the parts (DiBella
& Nevis, 1998; Huseman & Goodman, 1999; Kline & Saunders, 1998; Marquardt 1999; Senge, 1990). Hite (1999) described it as “an attitude toward a system that incorporates all that is part of the system along with those other elements or systems that may not be a part of the system, but touch on it and influence it” (p. 6).

Systems thinking is “harder, deeper, better” (Noer, 1997, p. 15) than most of the thinking that goes on in organizations. The tendency for most individuals, and therefore most organizations, is to look for quick fixes to problems (Kline & Saunders, 1998; Marquardt, 1996; Senge, 1990). The problem with this approach is that in complex organizations, cause and effect are not immediately linked in a linear fashion. Cause and effect are most often delayed both in time and location (DiBella & Nevis, 1998; Kline & Saunders, 1998; Senge, 1990).

The complexity of organizations and their problems places a priority on the need for systemic thinking for a learning organization. Watkins and Marsick (1993) warned that organizations develop a “tunnel vision” that prohibits them from seeing “oneself and a situation from a systems point of view and act accordingly”(p. 246). This leads to two forms of behavior. First, a tendency to react blindly, going for the most apparent solution creating a short-term solution to a problem that causes a larger long-term problem (Senge, 1990; Watkins & Marsick, 1993). Second, to become immobilized and unable to make a decision due to the complexity that allows a problem to grow and expand. (Marquardt, 1999; Watkins & Marsick, 1993).

Systemic thinking by a learning organization slows the reactive process to problems as the individuals within the organization automatically reflect on the potential multiple, system wide causes of problems and the impact of potential solutions (Kline &
Saunders, 1998; Senge, 1990; Watkins & Marsick, 1993; Wheatley, 1992). Second, systems thinking helps individuals in organizations to move from being immobilized to looking for high leverage behaviors that, despite the situational complexity, will significantly impact the organization in a positive manner (Marquardt, 1996, 1999; Senge, 1990).

Finally, systemic thinking is a skill that will lead to significant organizational learning (DiBella & Nevis, 1998; Senge, 1990; Watkins & Marsick, 1993). Marquardt (1996) states that “thinking about the big picture, yet seeing underlying, unexpected influences is a rare and difficult skill to develop, but essential to do smart quantum learning” (p. 63). This type of learning is essential if the organization is to have a “successful adaptation to the rapid and constant change that is taking place…”(Kline & Saunders, 1998, p. 236) in the world today.

How Organizations Learn

Two generalizations may be made about organizational learning. First, learning constantly occurs in an organization (DiBella & Nevis, 1998; Schwandt & Marquardt, 2000; Watkins & Marsick, 1993). Second, learning in organizations is essentially a social process. People interact with other people about an infinite number of topics and at some point learning takes place. Lave and Wenger (1991) have shown through various studies that “learning, whether through formal or informal mechanisms, is a fundamental part of social life. Any approach to building learning capability in teams or organizations must be based on this fundamental characteristic” (quoted in DiBella, 2001, p. 9).
All organizations go through the same basic functions in their learning system. They must select, from the universe of information, what information they will recognize and bring in for processing. This information may be from the external environment or may be internally generated. Once the information is selected by the organization it must be processed in such a way as to be meaningful to the organization. Once processed the information must be disseminated throughout the organization for use. Finally, meaningful information must be stored in the organization's memory for retrieval and future use (Watkins & Marsick, 1993, p. 21). This basic flow of learning happens both formally and informally. However, the ability of organizations to maximize the learning cycle for organizational success has a variety as infinite as the number of organizations in existence. The following sections will explore in more detail the basic learning cycle for all organizations.

Scanning and Selecting Information

Information flow can come internally or externally. It can be passively or actively sought. Schwandt and Marquardt (2000) described information as the lifeblood of any organization. "New information is the energy required by the organizational learning system" (p. 88). Meyer (1982) called new information a "jolt" to organizational learning. Garvin (2000) supported them when he wrote, "new ideas are essential if learning is to take place" (p. 11). External knowledge can be obtained in a wide variety of ways from the very passive, such as attending a service club meeting to aggressively forming joint ventures with like organizations. Marquardt (1996) lists methods for companies to bring in external information including benchmarking, attending conferences, consultants.
reading and researching, television and video, tracking political, economic, and social trends, feedback from customers, non-customers, and competitors, new staff, and collaboration and alliance building (p. 131). Internal data streams come from the individuals and teams within an organization. An organization “can let information ‘perk up’ through or ‘trickle down’ through…or they can actively scan their own internal environments” (Schwandt & Marquardt, 2000, p. 89). Additionally, internal information may be created by the organization. Ikujiro Nonaka, Professor of Management at Hitotsubashi University in Tokyo has defined two types of information, tacit and explicit. Tacit information is held by the individual in the form of personal insights, intuitions, skills, abilities, and is not easily communicated to others in the organization. Explicit information is internal information that can be openly shared in an organization. Internal information in either form is constantly created by organizations. The everyday functions of problem solving, experimentation, and past experiences add to the flow of internal information (Marquardt, 1996).

Information, whether internal or external, is so abundant in the world of today that it can overwhelm an organization. Like the alien clairvoyant in an episode of Star Trek who could not filter out of their mind the four hundred voices on ship and went mad because of it, an organization must filter out relevant information from all its internal and external sources or it will go figuratively mad. The process of filtering according to Schwandt & Marquardt (2000) is “bounded by the assumptions and values the organization holds with respect to its environment. The actions and methods employed by the organization to achieve the interface function are dependent not only on how they perceive their environment, but also on the type and intensity of the actions the
organization is willing to support” (p. 95). Marquardt (1996) stated that there are two very important points to remember when looking at information filtering. The first point is “the fact that there is not a one-to-one correspondence between what is happening and what is collected. Information, whether it is acquired from an external or an internal source is subjected to perceptual filters (made up of the organization’s norms, values, procedures) that influence what information the organization listens to and ultimately accepts. Second, acquiring knowledge is not always intentional; much is accidental or a by-product of organizational actions” (p. 133). According to Garvin (2000) information enters an organization in the form of “noise” or “signals.” It is the challenge of the organization to filter out the noise from the signals. The process is even more complicated because the people who inhabit the organization “do not attend to all information but instead rely on processes that amplify some stimuli and attenuate others, thus distorting the raw data...” (p. 23). Selection of information for processing according to Schwandt and Marquardt (2000) is “not only dependent on organizational assumptions about the environment, but also... on the individuals’ orientation to their role within the organization” (p. 102).

The filtering process for information goes on in every organization. Organizations according to Daft and Weick (1984) can be classified by how the organization interpreted their environment. There were two dimensions that influenced organizations and the way the organization interpreted the information coming to them: “(1) management’s beliefs about the analyzability of the external environment and (2) the extent to which the organization intrudes into the environment to understand it” (p. 287).

Organizations developed four distinctive patterns of filtering information:
1. An enacting mode in which the organization assumed the world was not analyzable. Therefore, the organization had to construct an internal environment that allowed the organization to make sense of the world. This type of organization aggressively collected external and internal information using the information in an innovative manner and ignoring the way things are commonly done.

2. A discovery mode assumed an analyzable world. A world where the right answers can be found if the right measurements are used. Therefore, an organization had to aggressively look for information from all sources.

3. A conditioned viewing mode that assumed an analyzable world. The organization has been successful with their current ways of filtering information; therefore there is no need for change.

4. An undirected view of the world assumed that the world is not analyzable. Therefore, there was not a need for a lot of hard data. The organization based its actions on soft data with limited collection (Daft & Weick, 1984).

According to Schwandt and Marquardt (2000) this categorization has two important ideas. First, how an organization filters the huge quantity of information, both internally and externally, determines how and what the organization will learn. Second, that organizational patterns for analyzing information can and do change (p. 97).

Knowledge Creation

Information flow into an organization does not mean the organization has learned anything. Information must be turned into knowledge that is useful to the organization in taking action in the world (DiBella & Nevis, 1998; Peters & Waterman, 1982). The
processes of information gathering, making interpretations of the information, and thus creating organizational knowledge are dynamic and ongoing. This occurs at all levels of the organization. Knowledge creation from information gathering as an activity does not enhance organizational learning unless it is tied to the organization’s vision and goal accomplishment (Schwandt & Marquardt, 2000, p. 119). The articulation and dissemination of organizational goals, based on an organization’s vision, establishes a structure determining what information will be recognized. What information will be recognized will determine the type of organizational knowledge that will be created (Daft & Weick, 1984; Garvin, 2000).

On a very functional level the interpretation of information, turning it into organizational knowledge, is also influenced by who, what, why, when, and how of the information. Who was the source of the information—a valued consultant, a politician, or a rumor circulated by a secretary in the office lounge? What was the information—research data, a government report, an office memo? Why was the information given to the organization—corporate competitor information to achieve a competitive advance or sale information for office supplies? When was the information delivered—during a corporate crisis, at lunch, or during the annual meeting? Finally, how was the information received—a televised report, training video or a memo from the CEO? (DiBella & Nevis, 1998).

Given the functional aspects of knowledge development, the actual process of transforming information into knowledge that is useful to the organization happens through the process of practice and reflection according to Schwardt and Marquardt (2000) and Garvin (2000). Practicing is necessary for new knowledge creation because it
assists in overcoming organizational resistance to new information and allows "hands-on experience...to learn new behaviors" according to Garvin (2000, p. 27). However, without time for reflection this new knowledge may be lost to the organization. Schwandt and Marquardt (2000) indicated that the process of reflection goes on at the individual, team, and organizational level. There are three levels of reflection: (1) reflection on the processes in their actions; that is the how we do things; (2) reflection on content or results of their actions...the what we do; and (3) reflection on the underlying premise of their actions; this requires answering the questions about why they do what they do (or did) (p. 118). They go on to state, "The concept of knowledge and its continuous creation is vital to the survival of the organization. The ability to reflect on information is not only critical to the organizations performance; it is also key to its self-generation...it provides the path for altering cultural values and assumptions so that the organization can achieve long-term adaptation" (p. 121).

DiBella and Nevis (1998) theorized that organizations change information into useful organizational knowledge based on learning choices, which they identify as the seven learning orientations. Learning orientations affect collection of information, determining what organizational knowledge is acquired from the information collected and how it is distributed and used. The learning orientations are tied to organizational goals, but primarily they impact how an organization filters and collects its information. They point out that most organizations are a collection of orientations, but have one dominant orientation that represents their learning style. The seven learning orientations are:
1. Knowledge Source. Preference for developing knowledge internally versus preference for acquiring knowledge developed externally.

2. Content-Process Focus. Emphasis on knowledge about what products or services are as compared to emphasis on knowledge about how those products or services are developed or delivered.

3. Knowledge Reserve. Knowledge possessed by individuals as compared to knowledge that is publicly available.

4. Dissemination Mode. Knowledge shared in formal, prescribed methods as compared to knowledge shared through informal methods, such as role modeling and causal interaction.

5. Learning Scope. Preference for knowledge related to the improvement of existing capabilities, products, or services as compared to preference for knowledge related to the development of new ones.

6. Value-Chain Focus. Emphasis on learning investments in engineering or production activities versus sales and service.

7. Learning Focus. Development of knowledge pertaining to individual performance as compared to the development of knowledge pertaining to group performance (pp. 40–41).

Communicating Organizational Knowledge

Action and goal-referenced knowledge generated from information selected by the organization must be transmitted to the rest of the organization for total organizational learning to take place (Garvin, 2000). The transmittal of this information is
accomplished through formal and informal mechanisms within the organization. The quality of the transfer determines the quality of the learning by the organization (DiBella & Nevis, 1998, p. 30-31). The structural processes that the organization creates for communication determines the quality of the information transfer. The structural processes, therefore, may inhibit or enhance the learning of the organization (Schwandt & Marquardt, 2000).

The transmittal of knowledge for learning within an organization is complex, as the interplay of personal biases, cultural norms, and structural systems form a dynamic mosaic. DiBella and Nevis (1998) stated, “Values, norms, procedures, and business performance data are communicated broadly and assimilated by members, starting with early socialization and continuing through all types of group communications” (pp. 20–21). In her study of best practices for knowledge transfer, Szulanski (1996) identified four practices that movement of knowledge is based on:

1. The motivation of the participants and their perceptions of need for forming new norms, which allow increases in the absorptive capacity of the organization;

2. The creation of flexible organizational structures that bridge unit boundaries to increase movement and retention of knowledge;

3. Providing guides and manuals that reduce causal ambiguity; and

4. Creating forums for relationships to form thus preventing arduous relationships.

Additionally, the transfer is influenced by what Daft and Weick (1984) called the “media richness.” Media richness is based on four characteristics: (1) the use of feedback so that errors can be corrected; (2) the ability to convey multiple cues; (3) relating the
message to personal circumstances; and (4) language variety (In Schwandt & Marquardt, 2000, p.168-169). Examples of the common forms of media, called "modes of dissemination" by DiBella and Nevis (1998), are telephones, e-mail, meetings, face-to-face discussions, memos, training sessions, speeches, special events, reports, newsletters, and computerized management information systems (pp. 33-34).

The rapid advancement of technology has created tremendous possibilities for organizations to enhance organizational learning. However, the quantity of the information available to all levels of an organization is too great for the organization to reflect on what information is valuable and which information is not valuable (Zuboff, 1988). The past structuring patterns are being challenged including norms, roles, and structures. The information system is almost in competition with the other structuring variables. Competition between constructs in an organization is counterproductive to information movement and knowledge creation. What becomes imperative for organizations is the smooth integration of structures, which enhance the ability of the organization to learn (Zuboff, 1988).

Organizational Memory

Finally, an organization must take what it has learned and store the knowledge in organizational memory for future use. Organizational memory appears as norms, policies, and procedures that endure over the life of the organization (Garvin, 2000). This allows an organization to make sense of the world and remember the knowledge that is essential for its continuing survival (Schwandt & Marquardt, 2000).
Knowledge stored in organizational memory is used to "create the criteria for judgment, selection, focus, and control" of the entire organizational learning system (Schwandt & Marquardt, 2000, p. 196). Walsh and Ungson (1991) related that organizational memory is stored in the individuals, the culture, the ecology, the transformations, and the structures of an organization. The memory of the organization can be identified in the symbols, the language, the stories, the culture and the artifacts of the organization. (p. 60). The way an organization does business is representative of organizational memory (Watkins & Marsick, 1993).

Walsh and Ungson (1991) proposed three assumptions about organizational memory. First, that organizations process information in a similar fashion to human beings, sensing, coding, processing, storage, and retrieval. Second, because of this complexity there must be some type of retention of the information. Third, that the memory is exhibited in the language, the social structure, and the common shared meanings of the organization. They define organizational memory, in its most basic sense, as "stored information from the organization’s history that can be brought to bear on present decisions" (p. 61).

Organizational memory is stored according to Walsh and Ungson (1991) in six areas above and beyond informational systems within the organization:

1. Individuals—Individuals retain information from personal experiences and observations in their own memories.

2. Culture—Knowledge is stored in language, shared assumptions, symbols, stories, and values.
3. Transformations—Much of this knowledge is stored in routines and standard operating procedures.

4. Structures—Individual roles provide a storage area for memory. The roles and structure form the social routine for the organization.

5. Ecology—The actual appearance of the work place indicates organizational memory in such areas as hierarchy, physical layout, culture and history.

6. External Archives—Other storage places include former or retired employees, government agencies, and competitors (pp. 63–67).

Of the six areas mentioned above, culture is the major area of organizational memory. The culture of an organization determines the way an organization will learn. The way an organization learns influences the entire learning process (DiBella & Nevis, 1998).

Finally, organizational memory allows the organization to assign meaning to its actions. Weick (1995) called this process sense making. Sense making is grounded in how an organization sees itself. This type of sense making is socially developed and imbedded in the interactions of its members. The members take in information about the actions of the organization and assign meanings to the actions during the course of their social interactions. The process never stops and does not depend on accuracy, but rather on the plausibility of an explanation of an organizational action.

The process of organizational learning is continuous and dynamic with each area interacting and influencing every other area. The flow of data from one part of the learning system effects every other part and is in turn affected itself by data from the other parts. Still, organizations go through the same basic functions in the learning
system. Organizations must scan and select what information is important to them and therefore needs processing. The information may be externally or internally generated. Once the information is selected by the organization, it must be turned into knowledge. The new organizational knowledge must be disseminated to the organization for use. Meaningful information must be stored in the organization’s memory for retrieval and future use (Watkins & Marsick, 1993). This basic flow of learning happens both formally and informally. However, the organization with the ability to maximize the formal use of a learning system and influence the informal learning system will have the competitive advantage.

The processes for organizational learning, described in the preceding pages, apply to school systems as well. Leithwood et al. (2001), in their analysis of school systems as learning communities, identify eight critical areas essential for a school system to learn. Included in their monitoring system are the areas of mission and goals, culture, leadership, structure and organization, information collection and decision-making, policies and procedures, partnerships, and family participation. Two areas of particular importance are school culture and leadership. Numerous authors have identified the principal as a key to organizational learning in a school. Two vital areas that directly effect school learning are leadership and culture development (Dufour & Eaker, 1998; LeZotte, 1997; Louis et al., 1996). The following sections explore the research on the principal’s role in developing a learning school focusing in on the areas of leadership and cultural development.
Principal Leadership in Learning Organizations

The existing traditional model for principal leadership has four basic tenets. Collectively the tenets rigidly cause principals to choose management behaviors that work against developing a learning organization. Senge (2000) call this the "Principal Do-Right" (p. 412) model of leadership. The four basic tenets are:

1. The principal is in control of every situation.
2. The principal must win almost all the time or rationalize a win even when they lose.
3. The principal must not show emotions, especially negative emotions.
4. Decisions made by the principal must appear to be rational (Argyris, 1993; Senge, 2000).

Principal leadership for organizational learning is critical (Dufour & Eaker, 1998; LeZotte, 1997; Louis et al., 1996; Newman et al., 2000). The type of leadership however must alter the "Principal Do-Right" model and exhibit a new set of leadership behaviors (Dufour, 1999; Senge 2000). Principals as the leader of a learning organization will lead from the center (DuFour & Eaker, 1998; Dufour, 1999; LeZotte, 1997; Miles, 1987 in Fullan & Hargreaves, 1997). Leading from the center principals will develop teacher leaders and become leaders of leaders within their school (Ash & Pursall, 2000; Dufour & Eaker, 1998; Lieberman & Miller, 1984). Creating this type of learning environment will require that principals take the following steps:

1. Develop a shared vision and values (Dufour & Eaker, 1998; Lewen & Regine, 2000; Louis, Marks, & Kruse, 1996; Senge, 2000),

3. Involve all stakeholders in critical decisions providing sufficient data to make the best decisions possible (Ash & Persall, 2000; Dufour, 1999),


5. Always focus on the results of the teaching—student learning (Dufour, 1999; Elmore, 1996).

Senge (1990) created the seminal work on creating a shared vision for an organization from the personal visions of the people who work or are associated with the organization. His work was examined earlier in this paper. The critical nature of this work cannot be overstated. Visioning starts the change process in motion for the entire school and sets the stage for its success. "Change is always a threat when it is done to people, but it is an opportunity when it is done by people. The ultimate key is creating pleasure in the hard work of change is...to give people the tools and autonomy to make their own contribution to change" (Kanter, 1995, p. 83). Visioning also forms the basis for all the other work a principal must do to establish a learning organization (Dufour & Eaker, 1998; Fullan, 2000; Kouzes & Posner, 1987). From the shared vision process, the emphasis is on process because the work of visioning is never done (Dufour 1999; Senge, 2000). The school develops the values that will guide its decision-making, its evaluation of results, its behavior (Fullan, 2000).
Building collaborative structures with students, teachers, parents, and the community is another essential group of tasks for the principal of a learning school. Dufour and Eaker (1998) related that only human sexual behavior is more private than teaching. Donahoe (1993) described schools as "convenient places for a bunch of individual teachers, like individual contractors, to come to teach discrete groups of children" (p. 299). Teachers are isolated and unable to talk about the issues that are essential to teaching and learning (Darling-Hammond, 1995; Sarason, 1996). Due to this sense of isolation teachers focus on personal issues rather than issues critical to teaching and learning (Sarason, 1996). Continued isolation of the teaching staff eventually leads to alienation and an overwhelming sense of disempowerment (Darling-Hammond, 1995). Teacher isolation and alienation negatively affect their ability to be effective instructors (Dufour & Eaker, 1998). Collaboration will overcome the sense of isolation and alienation and enhance teacher learning. Collaboration will also increase the ability of teachers to make and commit to decisions critical to teaching and learning (Neuman & Wehlege, 1995; Trimble & Miller, 1996). Collaboration also reduces teacher fears to innovate (Ash & Pursall, 2000; Neuman, 1996). Innovation, better decision-making, and reduction in fear create and reinforce cultural and systemic change (Klein et al., 1996). Next to shared visioning, collaboration is the most important task of the principal of a learning school (Eastwood & Louis, 1992).

Overcoming the entrenched culture of isolation in schools is a tremendous challenge for the principal of a learning school. The one best way to break down the isolation is to develop structures that ensure that every teacher is on a team that must work together to solve significant problems for the school (Dufour & Eaker, 1998). The
team forms the basis of the learning school as it does for all learning organizations (Dilworth, 1995; Pinchot & Pinchot, 1993; Senge, 1990). "History has brought us to a moment where teams are recognized as a critical component of every enterprise—the predominant unit for decision-making and getting things done" (Senge, 1994, p. 354).

Collaboration reaches beyond the teacher administrator relationship. A principal of a learning school must have collaborative partnerships with parents and the community as well (Senge, 2000; Fullan & Hargreaves, 1997). This will be difficult to do because the structures that are in place create little or no opportunity for interaction. Yet without this meaningful interaction and the collaboration that develops from the interaction any attempt to increase the quality of the education will fail (Dolan, 1994). In their analysis of the research on the effect of parent participation and student achievement, Henderson and Berla (1995) identified six positive outcomes for parent/school collaborative relations:

1. Students achieve more regardless of their racial or socioeconomic background.
2. Student achievement goes up as parent involvement increases.
3. Behavior is better.
4. Graduation rates are higher.
5. Benefits of parent involvement occur at all levels of schooling.
6. Parent involvement is one of three primary predictors of student success.

The principal advocating collaboration within the staff and with the community will encounter resistance to his/her efforts (Dufour & Eaker, 1998; Fullan & Hargreaves, 1997; Owens, 2001; Sergiovanni, 2001). The natural inclination of the principal is to not listen to the resisters, perhaps even exclude them from the change effort (Fullan, 2000). The principal of a learning school working through the collaborative groups can embrace
the resisters to change (Owens, 2001). Maurer (1996) stated, “Often those who resist have something important to tell us. They can influence us. People resist for what they view as good reasons. They may see alternatives we never dreamed of. They may understand problems about the minutiae of implementation that we never see for our lofty perch atop Mount Olympus” (p. 49). He goes on to indicate that the ignoring of the opinions of the staff who resist change will only increase the resistance and further divide the staff. Fullan (2000) added that resistance that is ignored or actively excluded could go underground and subvert any chance for success of the learning school effort. Therefore, it is essential that the learning school principal “embrace resistance, respect those who resist, and join with the resistance to listen, understand and find common ground for new possibilities” (Maurer, 1996, p. 54).

Inclusion of all stakeholders and acknowledgment of differing opinions assure that the outcome of collaboration will be greater organizational learning (Senge, 2000). Authentic collaboration creates a context that positively impacts the learning of teachers, which in turn, positively impacts the learning of students (Dufour, 2001). A number of research studies indicated that in schools where collaboration between teachers was a cultural norm evidenced higher student achievement across the socioeconomic spectrum (Bradley, 1993; Newman & Wehlege, 1995). Lewis et al. (1996) explained that collaborative school cultures positively influenced student achievement because:

• Teachers were empowered to find ways to improve student achievement. Their “sense of affiliation with the school and with each other, and their sense of mutual support and individual responsibility for effectiveness of instruction is increased by collaborative work with peers” (p. 24).
• Teacher’s sense of self-worth and pride in their profession was increased. The teachers believed that they could positively impact student learning.

• Concern for all student learning in the school, not just the learning in their classroom increases.

A critical part of collaboration is the ability to make important decisions together (Kouzes & Posner, 1987). Decision-making should be a community behavior with power for decisions given to those closest to the task (Dufour & Eaker, 1998; Louis et al. 1996). Sharing decision-making is sharing power (Fullan & Hargreaves, 1997). Sharing power is the fundamental step for a principal if he/she wants to initiate a lasting structural change (Sarason, 1996).

To ensure good decisions by collaborative groups a principal needs to set the guidelines for decisions, provide sufficient information or create structures so the groups may obtain the information, and provide training when necessary (Dufour & Eaker, 1998; Fullan & Hargreaves, 1997). In the learning school the principal guides the decision-making and insures that the decisions reinforce the shared vision and values of the school (Dufour & Eaker, 1998; Senge, 2000).

To insure that quality decisions are made by collaborative groups the principal must create structures that: (a) increase the flow of information pertaining to the decision (Dufour & Eaker, 1998); (b) foster group learning and enhance decision-making (Fullan, 2000); and (c) train his/her staff to work in a collaborative fashion (Ash & Persall, 2000; Dufour, 1999). Due to the significant isolation mentioned previously, teachers do not know how to work collaboratively with each other (Sarason, 1996). The essential skills
for collaborative groups are dialogue and skillful discussion (Bohm & Peat, 2000). Training in both is a must for quality decision-making (Senge, 2000).

Through a process of change to a learning school it is vitally important that a principal model behavior that is consistent with his/her espoused values and vision (Dufour & Eaker, 1998). Modeling consistent behavior develops trust among staff and community eventually developing a sense of moral leadership for the principal (Sergiovani, 2001). It is this sense of trust that becomes the "glue that holds the organization together" (Bennis & Townsend, 1995, p. 61). Trust is earned by principals daily doing what they say they will do (Kouzes & Posner, 1987). Kouzes and Posner (1987) summarized what people look for in a leader:

We want leaders who are credible. We must be able to believe in them. We must believe their word can be trusted, that they are personally excited and enthusiastic about the direction in which we are headed, and that they have the knowledge and skill to lead. We call it the first law of leadership: If you don't believe in the messenger you won't believe the message" (p. 103).

All the training, teaming, empowerment, visioning, or valuing won’t mean a thing if results are not produced. Bottom line results for schools are educated children (Murphy & Lick, 2001). The learning school principal must always be results oriented (Dufour, 1999; Fullan, 2000). Ulrich (1996) stated that the ultimate test of a leader is results. He/she must develop comprehensive systems to develop clear and articulated goals and then measure them (Dufour & Eaker, 1998). Authentic, results oriented assessment that is ongoing and used to improve the system is essential in a learning school (Senge, 2000). The principal is the key to the door that unlocks the school as a learning organization. The principal’s leadership will determine the success or failure of the development of a learning school. The challenge of this leadership cannot be understated. The ongoing
process of developing a compelling shared vision and supporting values, building collaborative teams and groups with teachers, parents and community, empowering teams and groups into action while walking the walk and talking the talk and producing highly educated students is daunting. When principals work at developing this process they will disturb the future "in a manner that approximates the desired outcomes" (Pascale et al. 2000, p. 1) and create the learning organizations in schools that will transform our educational institutions.

Principal’s Role in Shaping the Culture

One of the most important areas for a principal to exert his or her leadership is in the role as a shaper of the culture of the school (Deal & Peterson, 1991; Sashkin & Walberg, 1993). Edward Schein (1985) stated emphatically "there is a possibility, underemphasized in leadership research, that the only thing of real importance that leaders do is to create and manage culture and that the unique talent of leaders is their ability to work with culture" (p. 2).

One reason that there are so few references to culture in the leadership research may be the difficulty of defining the culture (Sarason, 1995). Numerous authors on education, however, have attempted to place a definition on culture. Robert Owens (2001) defines organizational culture in the following manner:

Organizational culture refers to the norms that inform people about what is acceptable and what is not. The dominant values that the organization cherishes about others, the basic assumptions and beliefs that are shared by members of the organizations, the rules of the game that must be observed…the philosophy that guides the organization in dealing with its employees and clients. (p. 122)
Educational writers have summed up a school's culture as the sum total of the actions, beliefs, values, behaviors, and history of a school (Deal & Peterson, 1991). The culture of the school tells people what is distinctive about the school (Marriott, 2001). The culture of the school is not manufactured; it is grown and developed over time (Cooper, 1988; Marriott, 2001). In the final analysis, it is the way everything is done in a school (Fullan, 2000; Goertz, 1973).

Despite being hard to quantify, the type of culture that exists in a school or business is vital to its success (Fullan & Hargreaves, 1997; Newman & Wehlege, 1993; Peters & Waterman, 1982; Sapier & King, 1985; Schein, 1996). The link between strong school cultures and student learning as indicated by high-test scores has been reported in a number of studies (Purdy & Smith, 1983; Sapier & King, 1985; Spady & Marx, 1984).

The common elements of a strong school culture as they related to high-test scores were identified as:

- Strong values that support a safe and secure environment, one that is conducive to learning and is free of disciplinary problems or vandalism (Deal & Peterson, 1991; Marriott, 2001; Sergiovani, 1992);
- High expectations of every student and faculty (Fawcett, Brobeck, Andrews, & Walker, 2001; Leithwood et al., 1998; Louis et al., 1996; Newman & Wehlege, 1993);
- Involvement by all stakeholders, administrators, teachers, students, parents, and community members (Dufour & Eaker, 1998; Igo, 1997; Leithwood et al., 1998; Senge, 2000)
• Cooperation, collaboration, caring, and sharing between all stakeholders (Cash, 1997; Dufour, 2001; Leithwood et al., 1998);
• A belief that everyone can achieve (Cash, 1997; Deal & Peterson, 1991; Mitchel, 2000);
• Belief that basic skills mastery is essential for the success of every student (Deal & Peterson, 1991);
• Clear goals (Leithwood et al., 1998; Newman & Wehlege, 1993),
• Meaningful feedback (Downey & Frase, 2001; Dufour, 2001; Leithwood et al., 1998; Mitchel, 2000);
• Clearly stated and supported shared vision (Leithwood et al., 1998; Saunders, 1998; Senge, 1990, 1994, 2000);
• Open communication at all levels of schooling (Leithwood et al., 1998; Marriott, 2001; Purdy & Smith, 1983).

The common elements of a strong school culture that directly relate to student learning, as shown by high test scores, are the same as the strong elements of a strong learning community. A learning community is characterized by involvement, shared vision and values, caring, cooperation, democratic decision making, open communication, reduced bureaucracy, and continuous learning for all stakeholders (Dufour & Eaker, 1998; Edwards, 1999; Henry, 1996; Sarason, 1995; Senge, 2000; Sergiovani, 1994). The development of a strong culture that supports and enhances learning and the development of a learning community are inseparable (Fullan, 2000; Fullan & Hargreaves, 1997; Leithwood et al., 1998, Newman & Wehlege, 1993; Sashkin & Walberg, 1993). The one factor found to be consistent in successful restructuring of
schools was a change in school culture that promoted high student achievement and the
The only way to lasting change is through cultural change (Noruma, 1999; Schein, 1996).
The principal is uniquely positioned to have maximum impact on the development of a
strong school culture that supports learning and therefore the development of a learning
school community (Deal & Peterson, 1998; Fullan & Hargreaves, 1997; Holland, 1997;
Louis et al., 1996; Marriott, 2001; Sashkin & Walberg, 1993; Sergiovani, 2001).

A school’s culture, however, is a powerful force for a principal to attempt to
shape (Deal & Peterson, 1991; Schein, 1996). Shaping culture does not happen by
accident; it requires careful planning, ongoing monitoring, and extremely skillful
(2001), and Deal and Peterson (1991) indicated that changing a school culture begins
with a careful analysis of the current culture. To accomplish an analysis of current school
culture, a principal, according to the authors, must engage in communication with all
stakeholders. This communication, coupled with continual observation will reveal the
schools history, its current vision and values, the key stakeholders and their relative
influence over the culture, and other vital information important to any change effort
(Noruma, 1999). The analysis enables the principal to identify consistencies and
discrepancies in vision and values between the current culture and her/his own (Deal &
Peterson, 1991). This enables a principal to focus change effort on high leverage areas
while reinforcing strong areas within the culture (Deal & Peterson, 1991; Fullan &
Hargreaves, 1997; Marriott, 2001; Senge, 2000).
Any movement of a school culture must start with developing a common vision and values between all stakeholders (Holland, 1997; Leithwood et al., 1998; Mitchel, 2000; Sashkin & Walberg, 1993; Senge, 2000). The key stakeholders for the school are the teachers, staff, students, parents, and community members (Holland, 1997; Mitchel, 2000). The work of visioning starts with consistency between a principal’s word and their behaviors, which builds trust by the stakeholders in the principal and his/her vision for the school (Argyris & Schon, 1978). Then, using stakeholder input and the information gathered from his/her critical analysis, the principal works with all the stakeholders to develop a shared vision and a shared set of values for the school. This work is essential if the culture is to be reshaped as it forms the basis for the other culture altering steps (Deal, 1991; Fullan & Hargreaves, 1997; Leithwood et al., 1998; Senge, 2000).

Once this work is completed the principal becomes the symbol of the new vision and values (Deal & Peterson, 1991; Fullan & Hargreaves, 1997; Louis et al., 1996; Mitchel, 2000; Sashkin & Walberg, 1993). The symbolic role for a principal includes the development of significant ceremonies and traditions that reinforce the vision and values (Deal & Peterson, 1991; Fullan & Hargreaves, 1997), identifying heroes and heroines within the school community that reinforce the vision and values (Fullan & Hargreaves, 1997; Sashkin & Walberg, 1993; Senge, 2000), and continually celebrating victories (large and small) that involve many members of school community (Cash, 1997; Deal & Peterson, 1991; Fullan & Hargreaves, 1997; Sashkin & Walberg, 1993). In addition, the principal must model the new vision and values in all their behaviors at school (Barth, 1990). Dufour (2001) quoted Albert Switzer when he described the importance of the
principals' modeling behavior, "example isn't the best way to influence others—it's the only way" (p. 16).

The principal who wishes to shape and change her/his school culture toward that of a learning community must do more than manage the symbolism of the change; they must also become its main communicator and visible supporter (Colley, 2002; Danzberger & Friedman, 1997; Peterson & Kelley, 2001). Stories are a primary form of communicating the shared values of a school (Deal & Peterson, 1991; Furman, 1998; Schein, 1992). They illustrate and teach the ways of the culture forming lasting mental pictures, and motivating the culture's members (Deal & Peterson, 1991; Furman, 1998; Morgan, 1997). The principal, through the use of stories, metaphors, and examples is able to communicate a sense of history about the school that roots people and ties them to the school (Bellah et al., 1985; Deal & Peterson, 1991). The smaller communities within the larger school community become part of the historically significant, continuous stream of supporters and co-creators that transform the culture (Brown & Duguid, 1995).

The principal must also establish opportunities for increased communication between all stakeholders (Ash & Pursall; 2000; Danzberger & Friedman, 1997; Igo. 1997; Louis et al., 1996; Mitchel, 2000). Increased communication must be monitored by the culture-changing principal for clarity (Dufour, 2001). Clear communication about substantive issues within the school community breaks down barriers, builds trust, and most importantly reinforces the vision and value of the culture (Ash & Pursall, 2000; Danzberger & Friedman, 1997; Mitchel, 2000; Scribner et al., 1999). It allows a principal to indicate her/his priorities and assist all community members in focusing on improving student learning (Dufour, 2001; Fawcett et al., 2001; Holland, 1997; Lipsitz, 1984;
Mitchel, 2000). As groups communicate with increased frequency they begin to form collaborative cultures that are, according to Dufour (2001), "the single most important factor for successful school change...the first order of business for those seeking to enhance their schools effectiveness" (p. 14).

As a principal attempts to shape and change culture they will encounter substantive conflict that must be dealt with directly (Deal & Peterson, 1991, Leithwood et al., 1998). Dealt with within the context of the new school culture, the principal, using the shared vision and values and collaborative communication that have developed in the school, enlists the members of the school community in becoming part of the solution to whatever substantive conflict has arisen (Cash, 1997; Deal & Peterson, 1991; Dufour, 2001; Igo, 1997; Lindle, 1989). Resolving disputes together builds unity, reinforces core-shared values, and provides a powerful symbol of the culture of a learning community (Dufour, 2001; Louis, Marks, & Krause, 1996; Scribner et al., 1999).

Finally, the principal can impact the speed of the transformation of the culture by selecting staff whose vision and values reinforce the vision and values of the learning community (Deal & Peterson, 1991; Scribner et al., 1999). Once selected, the principal must train and mentor the new staff adding momentum to the change effort (Noruma, 1999). The new staff members assist the principal in reinforcing key values of the culture. Multiple reinforcement of significant values by multiple members of the school community eventually entrench the values as the way things are done in this school culture (Dufour & Eaker, 1998).

Cultural change is necessary for schools to become learning organizations. The principal plays a significant role in reshaping a school’s culture from one dominated by
the bureaucratic model to one that exhibits the characteristics of a learning organization. Culture reshaping is subtle work that needs a continual focus and determination if change is to be successful. The principal must “create a learning environment by the manipulation and control of multiple variables...that create needed organizational outcomes” (Schein, 1996, p. 233).

Summary

The necessity of become a learning organization is paramount for all organizations including schools. The chaotic, rapidly changing times require flexibility and adaptation (Thornburg, 2000). The only way to achieve the necessary organizational skills to meet the demands of such an environment is to be able to learn rapidly (Garvin, 2000; Marquardt, 1996; Senge, 1990).

Becoming a learning organization is very complicated and requires a tremendous amount of transformational leadership that alters the culture of the school (Leithwood et al., 1998; Schein, 1996). The process requires a general knowledge of organizational learning theory that provides a framework for how organizations take in, process, and store vital information to create knowledge that will ensure long-term survival of the organization (Schwandt & Marquardt, 2000). The process also requires the detailed study of the school and its culture that results in the development of an organizational plan of action, based on theory, that has the elements of individual and shared visioning, collaborative teams, dialogic communication, and systemic thinking (Bohm, 1995; Deal & Peterson, 1991; Senge, 1990).
The process of becoming a learning organization depends on transformational leadership (Marquardt, 1996). The key leadership for schools is embodied in the principal (Fullan & Hargreaves, 1997). The principal's ability to reshape the culture and create a learning environment for all members of the school family including students, staff, teachers, parents, and community members will ultimately determine the long-term viability of the school (Deal & Peterson, 1991; Dufour & Eaker, 1998; Fullan & Hargreaves, 1997; Fullan, 2000).
CHAPTER III

METHODOLOGY AND PROCEDURES

Introduction

The purpose of the study was to determine the extent to which high schools are learning organizations as perceived by their principals and teachers. Chapter III contains an explanation of the methodology and procedures that were employed to obtain the necessary data. Chapter III includes identification of the population and selection of the sample, selection and description of the data collection instrument, procedures that were used in collecting the data, and methods that were utilized in analyzing the data.

Identification of the Population and Selection of the Sample

The population for the study consisted of 180 principals and 540 teachers. A list of all 183 class A (largest) high schools and all 176 class D (smallest) high schools, was obtained from the Michigan High School Athletic Association. Class A high schools were defined by the Michigan High School Athletic Association as schools with reported student counts of over 1,009 students during the winter fourth Friday count of 2001. Class D high schools were defined in the same manner and had student enrollments of less than 259. Ninety schools from each list were selected at random using a table of random numbers. The principal at each school and three teachers were selected for
inclusion in the study. The principal was provided with instructions on how to randomly select three teachers.

Selection of the Data Collection Instrument

Kenneth Leithwood, Robert Aitken, and Dois Jantzi created a monitoring system that has been used in several school settings to develop “a concise description of what should be and a process to determine what is” (Leithwood et al., 2001, p. 6). It is based on several indicators that describe characteristics of the model school system. The model school on which the monitoring system is based is the school as a learning organization. “The concept of the learning organization is used to generate principles for the ideal school and district” (Leithwood et al., 2001, p. 18).

The authors developed the monitoring system on five basic dimensions:

1. Inputs. This dimension related to the demographics of the families served, their educational culture, and the wider culture of the community.

2. District Characteristics, Conditions, and Processes. This dimension takes into account the resources of the school district to educate its students.

3. School Characteristics, Conditions, and Process. This dimension includes the resources that individual schools have to educate its students.

4. Immediate Outcomes. The ability of the school and the district to assist individual students and the student population as a whole to learn and develop.

5. Long-Term Outcomes. The accomplishment of immediate outcomes and the contribution that the school and district make to the larger community within which they are situated. (Leithwood et al., 2001, p. 4).
Within these five dimensions are the characteristics that describe the ideal "learning organization" model for the school systems. The monitoring system establishes the framework for measuring certain indicators and using that information for organizational learning (Leithwood et al., 2001, pp. 6–7).

The monitoring system seeks to reveal useable data about seven characteristics of districts and individual schools. The characteristics include (1) mission and goals; (2) culture; (3) management and leadership; (4) structure and organization; (5) decision making; (6) policies and procedures; and (7) community relations (Leithwood et al., 2001, p. 25). The authors of the monitoring system make assumptions about what behavior a person in a school would exhibit in the ideal model of a learning organization.

In a school that is a learning organization the faculty, staff, and administrators would have a clear understanding of the school's mission and goals. The faculty, staff and administrators would also know that the mission and goals evolve as the system learns. The culture continually reinforces each member to relate to each other in a collaborative fashion in problem solving and planning that adds knowledge to the entire system. Leadership is transformational with members having a high degree of self-management based on clear and concise visions and goals. Structures for accomplishing the model school tasks would be situational, determined by the nature of the work and the context in which the work was to be accomplished. Policies and procedures are kept to a minimum. They are used to enhance the school system's learning processes. Finally, the model school would form a partnership with the community. The school would have a basic value of attending to and attempting to satisfy the needs of the community. In
attending the needs of the community, the school is still held accountable for the learning of all its students (Leithwood et al., 2001, pp. 25–27).

The development of schools as learning organizations is the next step in the growth of school systems. Chapter II of this study indicated in detail the necessity for this type of change in school systems. The development of a tool by Leithwood, Aitken, and Jantzi, which is researched-based, to measure a current school system’s reality in comparison to their ideal model school system that functions as a learning organization offers an excellent tool to measure the extent that high schools are learning organizations as perceived by selected principals and teachers.

The instrument is based on a Likert scale with a rating of 1 to 4 and a fifth choice of not applicable. A selection of “1” indicates strong agreement with the statement. The selection of “4” indicates strong disagreement with the statement. The instrument has been used in many educational settings and will not need pilot testing.

Data Collection Procedures

High schools in the study were selected from a list of all high schools published by the Michigan High School Athletic Association. Schools are placed in four divisions by the MHSAA based on their reported enrollment. Ninety high schools from the Class A, representing the largest high schools in the state and 90 high schools from Class D, representing the smallest high schools were selected at random. The principal of each high school and three randomly selected teachers completed the questionnaire.

Administration of the data collection instrument was conducted by each building principal. Ensuring that teachers were selected at random, each building principal was
provided with a set of random numbers with instructions describing the procedure for matching each of the random numbers with their current list of teaching staff.

Sampling packets were prepared and mailed to each of the participating high school principals. The packets included a letter to the principal with instructions on conducting the sampling, three teacher questionnaires and one principal questionnaire, a cover letter and instructions on filling out the survey, and a self-addressed stamped envelope for return of the completed questionnaire.

Two weeks after the initial mailing phone calls were made to each high school in the study failing to respond to the initial mailing. The principals were asked to follow up on the survey. Those indicating a problem with the mailing were mailed another sampling packet.

Analysis of Data

The combined mean score for the two variables of culture and leadership was analyzed for Questions 1 and 2. This analysis was followed by a frequency distribution. Third, a mean score analysis and frequency distribution was carried out for each variable. Finally, the data was disaggregated and an analysis of the mean score for each indicator area for each variable was performed. A $t$-test for comparison of the mean scores was used in Questions 3 and 4. In Question 5 mean scores on the combined variables were compared for individual school principals and teachers from the same school. Second, a $t$-test for comparison of the means of the paired principals and teachers was conducted. This was followed by a frequency distribution for mean differential scores between the
principals and teachers. Finally an analysis of mean scores for the indicator areas for each variable was calculated.

The tests were used to analyze the following questions:

1. To what extent do the principals view high schools as learning organizations?
2. To what extent are high schools learning organizations as perceived by the teachers?
3. Is there a difference in perception of the extent to which high schools are learning organizations as perceived by school principals of large high schools (Class A) and principals from small high schools (Class D)?
4. Is there a difference in perception of the extent to which high schools are learning organizations as perceived by teachers from large high schools (Class A) and teachers from small high schools (Class D)?
5. Overall is there a difference in perception of the extent to which high schools are learning organizations between principals and teachers regardless of school size?

Summary

This chapter contains an explanation of the methods and procedures employed to obtain the necessary data. The chapter also contains a description of the methods used in the identification of the population and selection of the sample used in the study, testing of the survey instrument, procedures for data collection, and methods for analysis of data.

The researcher surveyed Class A high schools and 90 Class D high schools. The administrative sample population consisted of 180 potential respondents and the teacher sample population consisted of 540 potential respondents. Principal response rate was
22.2% and teacher response rate was 19.4%. Data obtained from the returned surveys was computer tabulated, analyzed, summarized and reported in narrative form. An appropriate table will be developed to report the raw data in Chapter IV.
CHAPTER IV

RESULTS

Introduction

The purpose of the study was to conduct an assessment of the culture and leadership from a sample of Michigan high schools as perceived by their teaching staff and principals. The variables of culture and leadership are primary indicators of whether a school is viewed as a learning organization by the staff and leadership of the school (Leithwood et al., 2001). Many educational reformers believe that schools must change into learning organizations if they are to be viable in the 21st century (Fullan, 2000; Schlechty, 1997; Senge, 2000). The first essential step in becoming a learning organization is assessing the current environment. (Kline & Saunders, 1998; Leithwood et al., 2001) The development of baseline data on schools will determine the size of the gap between current reality and the goal of becoming learning organizations. The information collected will assist in focusing the change efforts toward significant areas of weakness or areas where high leverage change may take place (Leithwood et al., 2001; Senge, 1990). The findings provide an indication of the distance that Michigan high schools must travel in order to become learning organizations.

Five primary questions were examined:

1. To what extent are high schools perceived as learning organizations by their principals?
2. To what extent are high schools learning organizations as perceived by the teachers?

3. Is there a difference in perception of the extent to which a high school is a learning organization as perceived by school principals of schools of different sizes?

4. Is there a difference in perception of the extent to which high schools are learning organizations as perceived by teachers of schools of different sizes?

5. Overall is there a difference in perception of the extent to which a school is a learning organization between principals and teachers regardless of school size?

In this chapter, the findings of and the processes undertaken for statistical analysis are described. First, a description of the procedures employed to extract a sample for the study are provided. Second, the procedures employed for the examination of and finding for each primary research question. Last, a summary of findings is provided.

Data Collection Procedures

Data were collected using a series of surveys developed by Keith Leithwood and his colleagues (Leithwood et al., 2001). The principal and three teachers were surveyed in randomly selected high schools in the state of Michigan. A random selection of the largest and smallest high schools was used in the sample. In total 90 of the largest (Class A) schools and 90 of the smallest (Class D) schools were surveyed.

The instrument is based on a Likert scale with rating of 1 to 4 and a fifth choice of "not applicable." A selection of "1" indicates strong agreement with the statement. The selection of "4" indicates strong disagreement with the statement. The areas of principal leadership and school culture were studied.
From the randomly selected 90 Class A school principals 24 returned the survey for a return percentage of 26.7 percent. Sixteen out of the 90 randomly selected Class D principals returned the survey for a return percentage of 17.8 percent. Overall return percentage for principals was 22.2 percent.

From the randomly selected Class A teachers 65 out of 270 possible returned the survey for a return percentage of 24.1 percent. Forty of 270 Class D teachers returned the survey for a return percentage of 14.8 percent. Overall return percentage for teachers was 19.4 percent.

Keith Leithwood and associates developed the survey instrument. The sections pertaining to school leadership and culture were administered in the study. Sixty-five questions made up the leadership section of the survey and 40 questions the culture section. The participants were asked to respond on a Likert scale with “1” meaning significant agreement and “4” significant disagreements with the statement in the survey. The participants could also indicate a fifth choice of “not observed.” All the questions were positive in direction and enabled the researcher to use mean scores and mean comparisons in the analysis.

The combined mean score for the two variables of culture and leadership was analyzed for Questions 1 and 2. This analysis was followed by a frequency distribution. Third, a mean score analysis and frequency distribution was carried out for each variable. Finally, the data was disaggregated and an analysis of the mean score for each indicator area for each variable was performed. A t-test for comparison of the mean scores was used in Questions 3 and 4. In Question 5, mean scores on the combined variables were compared for individual school principals and teachers from the same school. Second, a
A $t$-test for comparison of the means of the paired principals and teachers was conducted. This was followed by a frequency distribution for mean differential scores between the principals and teachers. Finally an analysis of mean scores for the indicator areas for each variable was calculated.

Research Question One

To What Extent Do Principals View High Schools As Learning Organizations?

Leithwood and associates (2001) in their comprehensive analysis of schools systems identify nine separate areas that were indicators of the extent that a school system was a learning organization. Two sections of Leithwood's assessment were selected for use. The areas of leadership and culture were strong indicators of overall perceptions on whether schools were learning organizations. The lower score indicated greater agreement with the survey question. The lower score also revealed a stronger perception that the school was a learning organization.

First, the researcher combined the results for the areas of culture and leadership and determined the mean score for each principal. Then a frequency distribution was done on the combined mean scores. Table 1 indicates an overall mean for the principals of 1.88. Principals, taken as a group, agreed or strongly agreed with the statements in the survey and therefore perceived their schools as learning organizations. The table also indicates a maximum mean for all principals of 2.47. This mean indicated a principal that disagreed with many of the statements in the survey and therefore did not perceive his/her school as a learning organization. The minimum mean of 1.45 indicated strong to general
agreement with the survey statements. That principal perceived their school as a learning organization.

Table 1
Comparison of Combined Mean Scores for All Principals

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lrn. Org.</td>
<td>40</td>
<td>1.45</td>
<td>2.47</td>
<td>1.88</td>
<td>0.18</td>
</tr>
</tbody>
</table>

In Table 2 a frequency distribution was conducted to determine the relative placement of the principals along the continuum of mean scores from 1.0 to 3.00.

Table 2
Mean Score Frequency Distribution for All Teachers on the Combined Variables of Leadership and Culture

<table>
<thead>
<tr>
<th>Scale</th>
<th>Average</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Agreement</td>
<td>1.0–1.50</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Strong Agreement</td>
<td>1.51–2.00</td>
<td>28</td>
<td>70%</td>
</tr>
<tr>
<td>Agreement</td>
<td>2.01–2.50</td>
<td>9</td>
<td>25%</td>
</tr>
<tr>
<td>Disagree</td>
<td>2.51–3.00</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Strong Disagreement</td>
<td>3.01–3.50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total Disagreement</td>
<td>3.51–4.00</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Table 2 clearly demonstrated that the responses for principals in the combined areas of culture and leadership indicated agreement with the perception that their schools were learning organizations. Additional analysis of the mean scores of each variable offered deeper insight into the perception of principals about their schools as learning organizations.

As detailed in Chapter II, culture is a complicated and powerful concept with tremendous impact on becoming a learning organization. Kotter & Heskett (1992) stated:

We encounter organizational cultures all the time. When they are not our own, their most visible and unusual qualities seem striking…When the cultures are our own, they often go unnoticed—until we try to implement a new strategy or program which is incompatible with their central norms and values. Then we observe, firsthand, the power of culture. (p. 3)

The invisible nature of culture gives it power. Mental models as described by Senge (1990) are indicators of the culture. Mental models, in turn, influence the perceptions of people in the culture. Perceptions become a window into the true nature of a culture (Bohm, 1995).

A brief explanation of Leithwood’s theoretical basis for the survey instrument is appropriate as an introduction to the results found in the study for the culture variable. Leithwood and his colleagues (2001) in the development of the survey instrument indicated that few studies on school culture have been conducted. Through his synthesis of the published research and his work with school systems he has developed a description of an ideal school culture for development of a learning organization. He indicated that school culture varies in three distinct ways. Cultures vary as to relative strength as indicated by their degree of shared norms, beliefs, values and assumptions. Cultures vary on the specifics of the norms, beliefs, values and assumptions. According
to Leithwood and his associates (2001) this defines their cultural content. Finally, school cultures vary in their form based on the type of work that is reinforced, ranging from isolated to collaborative.

These three broad cultural variances directly influence the way a school culture accomplishes its day-to-day business, reacts to change initiatives from within and from the outside environment, and learns. Leithwood and associates (2001) suggested that cultures with a high degree of consensus are more productive cultures. Day-to-day decisions are made in isolation or in small groups. To be productive, the individuals and small groups must be guided by a high degree of consensus on the cultures norms, beliefs, values and assumptions (Leithwood et al., 2001; Senge, 1996).

Schools constantly undergo change initiatives generated from inside the school and from the external environment. A productive school culture should be open to change initiatives. In addition, the productive school culture has the ability to work collaboratively with the change initiatives generated from outside the school environment.

If a school is to learn effectively its culture must be open to information from multiple sources such as individuals, small groups, and the external environment. Effective school learning also involves the staff having the ability to risk and fail. The ability to risk and fail goes on both individually and in small groups. Finally, a learning culture places a significant value on high-level individual development (Leithwood et al., 2001; Senge, 1990; Sitkin, 1992).

Analysis of the variable of culture for principals revealed a mean score almost identical to the combined mean score for principals and is displayed in Table 3.
Table 3
Mean Score for All Principals for the Variable of Culture

<table>
<thead>
<tr>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lrn. Org.</td>
<td>40</td>
<td>1.58</td>
<td>2.42</td>
<td>1.89</td>
</tr>
</tbody>
</table>

Further analysis of frequency distribution for principals for the variable of culture revealed that fully 65% of principals are in agreement and 5% of principals were in strong agreement with the statements in the cultural section of the survey and 27.5% of the principals were only somewhat in agreement with the statements. Finally one principal strongly disagreed with the survey statements (Table 4). The frequency distribution indicated a robust view of their school as a learning organization when the data are disaggregated for culture.

Table 4
Frequency Distribution for All Principals for the Variable of Culture

<table>
<thead>
<tr>
<th>Scale</th>
<th>Average</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Agreement</td>
<td>1.0–1.50</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Strong Agreement</td>
<td>1.51–2.00</td>
<td>26</td>
<td>65%</td>
</tr>
<tr>
<td>Agreement</td>
<td>2.01–2.50</td>
<td>11</td>
<td>27.5%</td>
</tr>
<tr>
<td>Disagreement</td>
<td>2.51–3.00</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Strong Disagreement</td>
<td>3.01–3.50</td>
<td>1</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total Disagreement</td>
<td>3.51–4.00</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Further break down of the data into the cultural indicator areas revealed consistency of agreement with the survey statements with exception of the indicator area that Leithwood et al. (2001) identifies as the "form" of the school culture. The area statements dealt with the professional development and improving in educational skills directly involved in teaching and learning. The mean score for the principals was 2.55 indicating significant disagreement. The indicator mean score was also more than 0.60 higher then any other indicator area mean score, obviously a concern area for principals of all sized high schools.

Table 5

<table>
<thead>
<tr>
<th>Indicator Area</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength of Culture</td>
<td>1.00</td>
<td>3.50</td>
<td>1.94</td>
<td>0.508</td>
</tr>
<tr>
<td>Form of Culture</td>
<td>2.00</td>
<td>4.00</td>
<td>2.55</td>
<td>0.399</td>
</tr>
<tr>
<td>Safety of School</td>
<td>1.00</td>
<td>3.56</td>
<td>1.61</td>
<td>0.489</td>
</tr>
<tr>
<td>Positive Environment</td>
<td>1.00</td>
<td>3.00</td>
<td>1.71</td>
<td>0.530</td>
</tr>
<tr>
<td>Student Centered</td>
<td>1.00</td>
<td>2.83</td>
<td>1.81</td>
<td>0.393</td>
</tr>
<tr>
<td>Foster Learning</td>
<td>1.00</td>
<td>2.67</td>
<td>1.87</td>
<td>0.403</td>
</tr>
<tr>
<td>Professional Work Environment</td>
<td>1.14</td>
<td>3.00</td>
<td>1.89</td>
<td>0.433</td>
</tr>
</tbody>
</table>

The second variable examined in the study was leadership. Leithwood et al. (2001) indicated that research provided support for the necessity of transformational leadership to truly restructure schools. The type of transformational leadership necessary
to restructure schools should be multidimensional in nature (Podsakoff et al., 1990). Not only must a transformational leader develop a collective vision with values and goals, but he/she must also provide intellectual stimulation, provide support for individual staff development, develop high expectations for everyone, and model the behaviors and values of a learning organization (Leithwood et al., 2001).

Using the transformational leadership model as a construct, eight indicator areas for leadership in a learning organization were developed. The areas included (1) vision, (2) modeling, (3) individualized support, (4) intellectual stimulation, (5) communicates group goals, (6) encourages high performance, (7) acknowledges good work, and (8) strongly supports individual improvement.

The consistency of principal mean scores was continued in the analysis of the leadership variable. The mean score for the leadership variable (Table 6) was the same as the mean score for the combined variables.

Table 6

Mean Score for All Principals for the Variable of Leadership

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Org.</td>
<td>40</td>
<td>1.58</td>
<td>2.87</td>
<td>1.88</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Table 7 illustrates the frequency distribution for principal's leadership. The distribution indicated significant agreement between the combined principal scores and the scores for leadership. Three out of four principals agreed or strongly agreed with the statements. While only 22.5% were somewhat in agreement and one principal disagreed.
with the statements. Mean scores distribution for the variable of leadership was similar to mean score distribution for culture.

Table 7

Frequency Distribution for All Principals for the Variable of Leadership

<table>
<thead>
<tr>
<th>Scale</th>
<th>Average</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Agreement</td>
<td>1.0–1.50</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Strong Agreement</td>
<td>1.51–2.00</td>
<td>28</td>
<td>70%</td>
</tr>
<tr>
<td>Agreement</td>
<td>2.01–2.50</td>
<td>9</td>
<td>22.5%</td>
</tr>
<tr>
<td>Disagree</td>
<td>2.51–3.00</td>
<td>1</td>
<td>2.5%</td>
</tr>
<tr>
<td>Strong Disagreement</td>
<td>3.01–3.50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total Disagreement</td>
<td>3.51–4.00</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Further analysis of the leadership indicator areas, as seen in Table 8, reinforced the consistency of the principals' perception about the leadership variable. No indicator area mean scores were dramatically different from each other.

Research Question Two

To What Extent Do Teachers View Their Schools As Learning Organizations?

The teachers in the study were asked to respond to the same survey as the principals. Teachers responding to the survey had a mean of 2.20 on the combined variables of leadership and culture. The teacher's minimum mean was 1.67 and a maximum mean of 2.67. This data indicated that teacher perceptions were in moderate
agreement with statements that would identify their schools as learning organizations.

Table 9 indicated below summarizes these scores.

Table 8

<table>
<thead>
<tr>
<th>Indicator Area</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision</td>
<td>1.00</td>
<td>2.80</td>
<td>1.86</td>
<td>0.405</td>
</tr>
<tr>
<td>Models Behavior</td>
<td>1.14</td>
<td>2.71</td>
<td>1.92</td>
<td>0.345</td>
</tr>
<tr>
<td>Provides Individual Support</td>
<td>1.25</td>
<td>2.50</td>
<td>1.69</td>
<td>0.299</td>
</tr>
<tr>
<td>Provides Intellectual Stimulation</td>
<td>1.00</td>
<td>3.00</td>
<td>2.03</td>
<td>0.470</td>
</tr>
<tr>
<td>Fosters Commitment To Group Goals</td>
<td>1.00</td>
<td>3.00</td>
<td>1.88</td>
<td>0.471</td>
</tr>
<tr>
<td>Encourages High Performance</td>
<td>1.00</td>
<td>2.75</td>
<td>1.74</td>
<td>0.463</td>
</tr>
<tr>
<td>Provides Rewards</td>
<td>1.20</td>
<td>3.00</td>
<td>2.01</td>
<td>0.462</td>
</tr>
<tr>
<td>Encourages Individual Improvement</td>
<td>1.00</td>
<td>2.67</td>
<td>1.84</td>
<td>0.469</td>
</tr>
</tbody>
</table>

Table 9

<table>
<thead>
<tr>
<th>Indicator Area</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lrn. Org.</td>
<td>105</td>
<td>1.63</td>
<td>2.67</td>
<td>2.20</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Teachers' mean scores were then analyzed using frequency distribution. Table 10 combined scores on the variables of culture and leadership. Teachers as a group did not
fall in the strong agreement range. Only 18 or 17.1% were in agreement. While 76.2%
indicated moderate agreement, and 6.7% were in disagreement with the survey
statements.

Table 10

<table>
<thead>
<tr>
<th>Scale</th>
<th>Average</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Agreement</td>
<td>1.0–1.50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Strong Agreement</td>
<td>1.51–2.00</td>
<td>18</td>
<td>17.1%</td>
</tr>
<tr>
<td>Agreement</td>
<td>2.01–2.50</td>
<td>80</td>
<td>76.2%</td>
</tr>
<tr>
<td>Disagree</td>
<td>2.51–3.00</td>
<td>7</td>
<td>6.7%</td>
</tr>
<tr>
<td>Strong Disagreement</td>
<td>3.01–3.50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total Disagreement</td>
<td>3.51–4.00</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

It is clear that some teachers viewed their schools as learning organizations but
the overall level of agreement was significantly lower than the level of agreement with
the survey statements of the principals. Further disaggregating of teacher data into the
measured independent variables of culture and leadership indicated the teachers’ support
was different for each variable. Table 11 illustrates the mean scores for the variable of
culture for teachers. Teachers’ perceptions were similar on this variable as indicated by a
minimum mean score of 1.58 and a maximum mean score of 2.53.

The frequency distribution in for the variable of culture supports the consistency
of perception for teachers on the variable (Table 12). Almost all (99.1%) teachers
indicated agreement or somewhat agreed that their school culture was indicative of a learning organization.

Table 11
Mean Score for All Teachers for the Variable of Culture

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lrn. Org.</td>
<td>105</td>
<td>1.58</td>
<td>2.53</td>
<td>2.07</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Table 12
Frequency Distribution for All Teachers for the Variable of Culture

<table>
<thead>
<tr>
<th>Scale</th>
<th>Average</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Agreement</td>
<td>1.0–1.50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Strong Agreement</td>
<td>1.51–2.00</td>
<td>35</td>
<td>33.4%</td>
</tr>
<tr>
<td>Agreement</td>
<td>2.01–2.50</td>
<td>69</td>
<td>65.7%</td>
</tr>
<tr>
<td>Disagree</td>
<td>2.51–3.00</td>
<td>1</td>
<td>0.9%</td>
</tr>
<tr>
<td>Strong Disagreement</td>
<td>3.01–3.50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total Disagreement</td>
<td>3.51–4.00</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Looking closer at the cultural indicator areas revealed a similar concern for teachers as for principals. In the area of improvement of teacher and learning practices, called form in the survey, the mean score for teachers was 2.59. This mean score was more than 0.50 higher than all but one other indicator area. Table 13 summarizes the results of this analysis.
Table 13

Indicator Areas Mean Scores for All 105 Teachers for the Variable of Culture

<table>
<thead>
<tr>
<th>Indicator Area</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength of Culture</td>
<td>1.20</td>
<td>2.67</td>
<td>2.00</td>
<td>0.348</td>
</tr>
<tr>
<td>Form of Culture</td>
<td>1.40</td>
<td>3.50</td>
<td>2.59</td>
<td>0.384</td>
</tr>
<tr>
<td>Safety of School</td>
<td>1.22</td>
<td>2.78</td>
<td>1.92</td>
<td>0.360</td>
</tr>
<tr>
<td>Positive Environment</td>
<td>1.00</td>
<td>4.00</td>
<td>1.83</td>
<td>0.482</td>
</tr>
<tr>
<td>Student Centered</td>
<td>1.00</td>
<td>2.67</td>
<td>1.99</td>
<td>0.296</td>
</tr>
<tr>
<td>Foster Learning</td>
<td>1.00</td>
<td>4.00</td>
<td>1.96</td>
<td>0.488</td>
</tr>
<tr>
<td>Professional Work Environment</td>
<td>1.29</td>
<td>2.86</td>
<td>2.12</td>
<td>0.368</td>
</tr>
</tbody>
</table>

Teachers’ perception of school leadership, however, was much less supportive. Analyzing mean scores indicated a minimum mean for the variable of leadership was the same as for culture, 1.58. However the maximum mean score was 3.08 indicating much less perceptual agreement between teachers on the leadership variable. In addition the mean score for all teachers for the variable was 2.33 significantly different than for principals (Table 14).

Looking at the frequency distribution in Table 15 also provides evidence of perceptual differences between teachers on the leadership variable and between teachers and principals on the same variable. Only 8.6% of teachers were in agreement with the statements. This contrasted significantly with the 26 teachers that indicated disagreement and two teachers who strongly disagreed with the statements.
Table 14

Mean Score for All Teachers for the Variable of Leadership

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lrn. Org.</td>
<td>105</td>
<td>1.58</td>
<td>3.08</td>
<td>2.33</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Table 15

Frequency Distribution for All 105 Teachers for the Variable of Leadership

<table>
<thead>
<tr>
<th>Scale</th>
<th>Average</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Agreement</td>
<td>1.0–1.50</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Strong Agreement</td>
<td>1.51–2.00</td>
<td>9</td>
<td>8.6%</td>
</tr>
<tr>
<td>Agreement</td>
<td>2.01–2.50</td>
<td>68</td>
<td>64.7%</td>
</tr>
<tr>
<td>Disagree</td>
<td>2.51–3.00</td>
<td>26</td>
<td>24.7%</td>
</tr>
<tr>
<td>Strong Disagreement</td>
<td>3.01–3.50</td>
<td>2</td>
<td>2.0%</td>
</tr>
<tr>
<td>Total Disagreement</td>
<td>3.51–4.00</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 15 indicated that teachers had only minimal support for the statements in the survey that focused on the school leadership traits necessary to create a learning organization. A closer analysis of the indicator areas for leadership reveals strong disagreement in the perception of appropriate rewards for excellence in teaching where the mean score was 2.55. There was also significant disagreement with the survey statements in the area of intellectual stimulation with a mean score of 2.42. The other indicator areas also received, at best, somewhat of an agreement as indicated by overall mean scores. Table 16 summarizes these results.
Table 16
Indicator Areas Mean Scores for All 105 Teachers for the Variable of Leadership

<table>
<thead>
<tr>
<th>Indicator Area</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision</td>
<td>1.40</td>
<td>3.40</td>
<td>2.32</td>
<td>0.493</td>
</tr>
<tr>
<td>Models Behavior</td>
<td>1.57</td>
<td>3.29</td>
<td>2.37</td>
<td>0.407</td>
</tr>
<tr>
<td>Provides Individual Support</td>
<td>1.00</td>
<td>3.25</td>
<td>2.24</td>
<td>0.484</td>
</tr>
<tr>
<td>Fosters Commitment To Group Goals</td>
<td>1.60</td>
<td>3.00</td>
<td>2.20</td>
<td>0.361</td>
</tr>
<tr>
<td>Encourages High Performance</td>
<td>1.00</td>
<td>3.25</td>
<td>2.09</td>
<td>0.490</td>
</tr>
<tr>
<td>Provides Rewards</td>
<td>1.60</td>
<td>3.60</td>
<td>2.55</td>
<td>0.446</td>
</tr>
<tr>
<td>Encourages Individual Improvement</td>
<td>1.00</td>
<td>3.67</td>
<td>2.33</td>
<td>0.580</td>
</tr>
</tbody>
</table>

In summary the data indicated a different perception for the two variables in how teachers viewed their schools. They were supportive of the statements that indicted a school culture was conducive to a learning environment. However, teachers perceived that school leadership lacked the ability to create a learning organization.

Research Question Three

Is there a difference in perception of the extent to which high schools are learning organizations as perceived by principals of large high schools (Class A) and principals of small high schools (Class D)?

A t-test for equality of means was used to analyze the mean scores for principals surveyed. Table 17 shows the mean for principals of Class A high schools was 1.90 and the mean for principals of Class D high schools was 1.85. The t-test indicated that there
Table 17

Comparison of Mean Scores of Principals of Different Sized High Schools on the Extent to Which Their School was a Learning Organization

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>24</td>
<td>1.90</td>
<td>0.178</td>
<td>0.820</td>
<td>0.417</td>
</tr>
<tr>
<td>D</td>
<td>16</td>
<td>1.85</td>
<td>0.186</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

was no statistically significant difference in perception of their high school as a learning organization between Class A and Class D principals. Principals, no matter what size high school they were leading, agreed that their high school was a learning organization when the variables of leadership and culture were combined.

Further analysis by variable indicated that no significant difference existed in perception for variables, culture or leadership, between Class A and Class D principals. The results of this analysis are indicated in Table 18.

Table 18

Comparison of Means for Principals of Different Sized High Schools on the Variables of Culture and Leadership

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>A</td>
<td>24</td>
<td>1.92</td>
<td>0.314</td>
<td>1.05</td>
<td>0.301</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>16</td>
<td>1.84</td>
<td>0.154</td>
<td>1.19</td>
<td></td>
</tr>
<tr>
<td>Leader</td>
<td>A</td>
<td>24</td>
<td>1.89</td>
<td>0.130</td>
<td>0.207</td>
<td>0.242</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>16</td>
<td>1.87</td>
<td>0.328</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Research Question Four

Is there a difference in perception of the extent to which high schools are learning organizations as perceived by the teachers from large high schools (Class A) and teachers from small high schools (Class D)?

The mean for teachers of Class A high schools was 2.25 and the mean for teachers of Class D high schools was 2.12. The t-test indicated that a statistically significant difference in perception of their high school as a learning organization existed between Class A and Class D teachers. Table 19 indicates that Class D teachers perceived their schools as learning organizations statistically more often than teachers in Class A schools.

Table 19

Comparison of Mean Scores of Perceptions of Teachers of Different Sized High Schools on the Extent to Which Their School was a Learning Organization

<table>
<thead>
<tr>
<th>Size</th>
<th>Number</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>65</td>
<td>2.25</td>
<td>0.176</td>
<td>3.39</td>
<td>0.001</td>
</tr>
<tr>
<td>D</td>
<td>40</td>
<td>2.12</td>
<td>0.217</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

However, when the responses of teachers of different sized high schools are analyzed by the two variables of culture and leadership, a difference in perception is strongly indicated in the area of leadership. The data indicated, however, that teacher perception of school culture is not significantly different. Table 20 indicates these findings.
Table 20

Comparison of Means for Teachers of Different Sized High Schools on the Variables of Culture and Leadership

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>A</td>
<td>65</td>
<td>2.09</td>
<td>0.172</td>
<td>1.44</td>
<td>0.154</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>40</td>
<td>2.03</td>
<td>0.223</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader</td>
<td>A</td>
<td>65</td>
<td>2.41</td>
<td>0.254</td>
<td>3.98</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>40</td>
<td>2.20</td>
<td>0.264</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Research Question Five

Overall is there a difference of the extent to which high schools are perceived as learning organizations between principals and teachers regardless of school size?

The following analysis compares all the mean scores for the principal and teacher(s) of individual high schools. The variables for culture and leadership have been combined for this analysis. Table 21 and Table 22 indicate the mean scores for principals and for teachers of individual schools. Schools that are included in the table had data from the principal and at least one teacher. Thirty-one schools meet the criteria, 20 were class A and 11 were class D. Twenty-two of the 31 schools (71.0%) had mean scores for teachers that were higher then the means scores for principals. Indicating that the principals in those schools perceived their schools as learning organizations more than the teachers of the school. This finding supports the findings in the previous questions.
<table>
<thead>
<tr>
<th>School</th>
<th>Principal Mean</th>
<th>Teacher Mean</th>
<th>Difference in Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>1.25</td>
<td>2.24</td>
<td>-0.99</td>
</tr>
<tr>
<td>A2</td>
<td>2.87</td>
<td>2.06</td>
<td>+0.81</td>
</tr>
<tr>
<td>A6</td>
<td>1.71</td>
<td>2.78</td>
<td>-1.07</td>
</tr>
<tr>
<td>A17</td>
<td>2.89</td>
<td>2.23</td>
<td>+0.66</td>
</tr>
<tr>
<td>A29</td>
<td>2.14</td>
<td>1.91</td>
<td>+0.23</td>
</tr>
<tr>
<td>A30</td>
<td>1.72</td>
<td>2.09</td>
<td>-0.37</td>
</tr>
<tr>
<td>A33</td>
<td>1.94</td>
<td>1.97</td>
<td>-0.03</td>
</tr>
<tr>
<td>A40</td>
<td>1.78</td>
<td>2.26</td>
<td>-0.48</td>
</tr>
<tr>
<td>A42</td>
<td>1.84</td>
<td>2.15</td>
<td>-0.31</td>
</tr>
<tr>
<td>A44</td>
<td>1.54</td>
<td>1.84</td>
<td>-0.30</td>
</tr>
<tr>
<td>A47</td>
<td>1.55</td>
<td>2.92</td>
<td>-1.37</td>
</tr>
<tr>
<td>A57</td>
<td>1.80</td>
<td>2.97</td>
<td>-1.17</td>
</tr>
<tr>
<td>A67</td>
<td>1.12</td>
<td>1.66</td>
<td>-0.54</td>
</tr>
<tr>
<td>A74</td>
<td>2.11</td>
<td>1.97</td>
<td>+0.14</td>
</tr>
<tr>
<td>A78</td>
<td>2.05</td>
<td>1.95</td>
<td>-0.10</td>
</tr>
<tr>
<td>A81</td>
<td>1.54</td>
<td>1.57</td>
<td>-0.03</td>
</tr>
<tr>
<td>A85</td>
<td>1.63</td>
<td>2.20</td>
<td>-0.57</td>
</tr>
<tr>
<td>A86</td>
<td>2.57</td>
<td>2.29</td>
<td>+0.28</td>
</tr>
<tr>
<td>A88</td>
<td>1.29</td>
<td>2.71</td>
<td>-1.47</td>
</tr>
<tr>
<td>A90</td>
<td>2.60</td>
<td>3.01</td>
<td>-0.41</td>
</tr>
</tbody>
</table>

Fourteen of the 20 Class A schools (70%), that meet the criterion, had principal mean score that was lower (therefore perceiving their school as more of a learning organization) than the teacher(s) mean score.
Table 22

Comparison of Combined Mean Scores Between Teachers and Principals for Individual High Schools in Class D (N=11)

<table>
<thead>
<tr>
<th>School</th>
<th>Principal Mean</th>
<th>Teacher Mean</th>
<th>Difference in Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2</td>
<td>2.26</td>
<td>2.03</td>
<td>+0.23</td>
</tr>
<tr>
<td>D8</td>
<td>1.64</td>
<td>2.62</td>
<td>-0.98</td>
</tr>
<tr>
<td>D10</td>
<td>1.04</td>
<td>1.93</td>
<td>-0.89</td>
</tr>
<tr>
<td>D13</td>
<td>1.56</td>
<td>2.71</td>
<td>-1.15</td>
</tr>
<tr>
<td>D28</td>
<td>2.10</td>
<td>3.30</td>
<td>-1.20</td>
</tr>
<tr>
<td>D45</td>
<td>2.37</td>
<td>2.25</td>
<td>+0.12</td>
</tr>
<tr>
<td>D51</td>
<td>2.37</td>
<td>1.85</td>
<td>+0.52</td>
</tr>
<tr>
<td>D56</td>
<td>1.92</td>
<td>1.75</td>
<td>+0.17</td>
</tr>
<tr>
<td>D64</td>
<td>1.84</td>
<td>2.25</td>
<td>-0.41</td>
</tr>
<tr>
<td>D73</td>
<td>1.58</td>
<td>1.85</td>
<td>-0.27</td>
</tr>
<tr>
<td>D85</td>
<td>2.07</td>
<td>2.33</td>
<td>-0.26</td>
</tr>
</tbody>
</table>

A slightly lower percentage (63.5%) of the Class D principals had a lower mean score than the teacher(s) mean score from the same school. This may indicate less of a perceptual difference between teachers and principals of the smaller (Class D) schools than of the larger (Class A) schools. However, the sample is very small and caution should be exercised in drawing too many conclusions from this data.

After visual examination of the combine the mean score differences and development of a frequency distribution for the scores, a \( t \)-test of the combined principal and teacher mean scores was conducted. Table 23 indicates the results of a \( t \)-test for comparison of the means of the two groups of principals and teachers from the same
The results reveal statistically significant differences in perceptions of their schools as learning organizations for the combined variables culture and leadership. Additional analysis of this data is displayed in Table 24 as a frequency distribution. The frequency distribution revealed that, although 71% of all principals had lower mean scores than did their teachers, 17 of the schools (54.9%) were within the mean differential range of \(-0.50\) and \(+0.50\). This would indicate in many schools a similar perception between principals and teachers as to the extent to which their school is a learning organization.

Although the reader must be mindful of this data, it does not negate the fact that almost one in two schools (45.1%) had mean differentials that were greater than 0.50 and one in every five schools (19.4%) had mean differentials greater than 1.00. Each of these distributions would indicate significant difference in perception between teachers and principals on the extent to which their school is a learning organization. Thus supporting the \(t\)-test analysis indicated above in Table 19.

### Table 23

**Comparison of Means of Teachers and Principals of all Paired High Schools on the Extent to Which Their School was a Learning Organization**

<table>
<thead>
<tr>
<th>Size</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>(t)-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals</td>
<td>31</td>
<td>1.93</td>
<td>0.563</td>
<td>(-2.57)</td>
<td>0.016</td>
</tr>
<tr>
<td>Teachers</td>
<td>31</td>
<td>2.25</td>
<td>0.433</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 24

Frequency Distribution of Mean Differential Scores Between Teachers and Principals for all Paired High Schools for both Variables (N=31)

<table>
<thead>
<tr>
<th>Mean Differential (PM–TM)</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1.49 to -1.00</td>
<td>6</td>
<td>19.4%</td>
</tr>
<tr>
<td>-0.99 to -0.50</td>
<td>5</td>
<td>16.1%</td>
</tr>
<tr>
<td>-0.49 to 0.00</td>
<td>11</td>
<td>35.5%</td>
</tr>
<tr>
<td>+0.01 to +0.50</td>
<td>6</td>
<td>19.4%</td>
</tr>
<tr>
<td>+0.51 to +1.00</td>
<td>3</td>
<td>9.6%</td>
</tr>
<tr>
<td>+1.01 to +1.50</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Breaking the data set down further for the schools that had one principal and at least one teacher allows for a closer focus on the specific differences between teachers' and principals' perceptions of their high schools as learning organizations. Table 25 illustrates specific indicators developed by Leithwood and his associates. The table depicts the principal and teacher mean scores for each indicator subsection. Differences in indicators were strong in the areas of perception of a safe and orderly environment. Teachers perceived schools as less safe and orderly than principals. Teachers also perceived that principals did not provide an adequate professional work environment and that decisions were not always made with students in mind. There was relative agreement in perceptions on the strength of the culture in schools, the form of the culture, and that the culture attempted to foster learning.
Table 25
Comparison of Mean Scores for all Principals and all Teachers for the Culture Indicators (N=40)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Principal (M1)</th>
<th>Teacher (M2)</th>
<th>M2-M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength</td>
<td>1.93</td>
<td>2.00</td>
<td>0.06</td>
</tr>
<tr>
<td>Form</td>
<td>2.55</td>
<td>2.59</td>
<td>0.04</td>
</tr>
<tr>
<td>Safety</td>
<td>1.61</td>
<td>1.92</td>
<td>0.31</td>
</tr>
<tr>
<td>Positive</td>
<td>1.71</td>
<td>1.82</td>
<td>0.12</td>
</tr>
<tr>
<td>Student Centered</td>
<td>1.81</td>
<td>1.98</td>
<td>0.18</td>
</tr>
<tr>
<td>Fosters Learning</td>
<td>1.87</td>
<td>1.96</td>
<td>0.09</td>
</tr>
<tr>
<td>Professional Work Environment</td>
<td>1.89</td>
<td>2.12</td>
<td>0.23</td>
</tr>
</tbody>
</table>

A similar analysis of leadership indicators revealed significant differences in means of teacher and principal perception. Table 26 summarizes principal and teacher means. The three areas of providing individual support, rewarding professional excellence, and encouraging improvement were especially striking. Teachers perceived that principals did a poor job in each of the three indicator areas mentioned above.

Principals, on the other hand, perceived that they do a good job in the area of individual support, rewarding professional excellence, and encouraging improvement. Two additional indicator areas had mean differences almost as large. Teachers perceived that principals did not model appropriate learning behavior and did not provide a clear vision for the school. Principals perceived that they did a good job in each area. All mean differences for the indicators for leadership were greater than the greatest mean difference for the culture indicators. Although the perceptual differences between
Table 26  
Comparison of Means for all Principals and all Teachers  
for the Leadership Indicators (N=40)  

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Principal (M1)</th>
<th>Teacher (M2)</th>
<th>M2-M1</th>
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<tr>
<td>Provides Intellectual Stimulation</td>
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<tr>
<td>Fosters Commitment</td>
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<td>Encourages High Performance</td>
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<td>Provides Rewards</td>
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<td>Encourages Improvement</td>
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The next chapter will discuss these findings and their implications for educational change. In addition, recommendations for future research will be offered.
CHAPTER V

SUMMARY, FINDINGS, AND RECOMMENDATIONS
FOR FUTURE RESEARCH

Summary

American public education has been under significant attack during the last twenty years for failing to fulfill its job of educating American children (Dufour & Eaker, 1998). Noted educational authors have blasted the educational establishment for what they consider to be the system's fundamental failures (Gross, 1999; Ravitch, 2000). This despite increased spending well beyond the rate of inflation for the same time period (Gross, 1999). A study by the Carnegie Council on Adolescent Development (1989) indicated that eventually there would be a loss of competitiveness in the global marketplace for America unless a radical transformation occurs in the way children are educated.

Despite very negative educational statistics, the attempts at educational reform have been unsuccessful and in many situations they have made the situation worst (Cuban, 1995; Fullan, 1993; Ravitch, 1983; Sarason, 1990). Reformers have attempted to change the edges of the educational system and not the basic structure of the educational system (Sarason, 1990). The long history of failed past reform efforts seemingly leaves public education without hope for improvement (Fullan & Hargreaves, 1997). Yet a growing amount of research literature on systemic change in business and industry has indicated that systems can make transformational structural changes by becoming
learning organizations (Senge, 1990). Public schools can also fundamentally change themselves by becoming learning organizations. Transforming themselves by continually growing and evolving, changing and recreating, and always learning (Senge, 2000).

The principal of a school must be at the forefront of the change from bureaucratic structures to learning organizations (Dufour & Eaker, 1998; LeZotte, 1997; Louis et al., 1996). Leithwood et al. (2001) identified nine areas of school life that, when measured, could indicate where a school falls on the continuum from traditional bureaucratic to learning organization as perceived by teachers and administrators. Two critical areas in the school analysis are principal leadership and overall school culture. This research has focused on these two areas for the largest and smallest of Michigan high schools. The following section explores the findings of that research.

Discussion

The findings reported in Chapter IV indicated that principals, no matter what size high school, view high schools as learning organizations. Teachers, on the other hand, take a much more pessimistic view of the extent that their schools are learning organizations, with Class A teachers much more negative than Class D teachers. Significant differences in perception, without significant commitment to dialogic communication that might change those perceptions, may doom the movement of a high school toward becoming a learning organization before it can even start. The following discussion offers an explanation of these findings.

A phenomenon at work in these findings was the principal’s perception that many small changes in the school equated to creating a learning organization. Leithwood et al.
(2001) labeled this a learning disability of school administrators. A perception that minor changes in curriculum or in professional development or in staff meetings resulted in a changed work culture and thus created a learning organization in their school. In addition, principals in the study perceived that their leadership behavior was the type of behavior needed for a learning organization. Educational authors, however, have indicated that principals still lead in a transactional manner consistent with the traditional bureaucratic structure and philosophy (Fullan, 2000; Leithwood et al., 2001; Owens, 2001, Senge, 2000). These same authors and numerous others have indicated that only through transformational leadership can schools become learning organizations.

Yet principals have primarily traditional models to follow. have too little knowledge of what transformational behavior in a school looks like, spend a majority of their time in conflict resolution not leadership. and lack a personal emphasis on continuing education. This basic lack of understanding by principals of the transformational type of leadership necessary to create schools as learning organizations has been and will continue to be a major barrier to substantive structural change needed in schools.

Research Question One

To What Extent do the Principals View High Schools as Learning Organizations?

Principals perceived themselves as having a school that is a learning organization. This is not a surprising result. Individuals who are in the role of principal many times move up through the system. Principals genuinely believe that they have created a safe and orderly environment. Principals also believe that they and their school share a vision
with a consistent set of values that focus on student learning. Their models of their schools would naturally have them be learning organizations.

The perception by principals that they already have a learning organization is a major stumbling block to the systemic change that the research, presented in Chapter II, indicated had to happen if schools were going to become learning organizations. Mental models represent the images of the way we view the world (Senge, 1990). They affect our ability to change because they cause us to filter the information that comes into our consciousness (Argyris, 1982; Senge 1990). Usually, information that is contradictory to our model of the world is either ignored or interpreted in a manner that is consistent with our mental construct (Gardner, 1985). The danger is not the model itself, but rather that fact that it is below our level of consciousness; it is tacit in nature (Mitroff, 1988).

Information on the necessity of schools becoming learning organizations, in order to meet the challenges of the 21st century, is more and more abundant. Yet schools do not change in any systemic significant fashion (Ravitch, 2000; Sarason, 1996). The results of this study question indicate a reason for this lack of change. It is the imprinted, tacit mental models about the way schools should be run that blocks substantive change. A mental model that filters out or restructures information about creating a school that is a learning organization. The mental model is so strong that it defines the status quo as a learning organization.

There were two critical exceptions to the principal perception of their school as a learning organization. The first exception to the principals’ overall perception of the school as a learning organization was in the area of substantive conversations about teaching and learning. Principals, whose time is focused on putting out immediate fires,
have precious little time to initiate and participate in significant conversations on critical topics in education. Yet, persistent, tacit mental models can only be changed through the process of dialogic conversations described by Bohm & Peat (2000). This becomes a double problem for schools. Mental models that cause principals to perceive that they already have a school that is a learning organization coupled with no time or structure to examine and talk about the existing mental models. It is of little wonder that there is very little substantive change in public education.

The second exception to this perception was in the area of instructional leadership. In this indicator area principals disagreed with statements that focused on their being in classrooms and teaching the craft of teaching. This finding paralleled the finding for teachers in the same indicator area. Reinforcing the perception that principals have a little or no effect on classroom instruction found in the school culture section of the survey. This result is consistent with the research done on principal work done by Morris et al. (1984) and by Doud & Keller (1998). These previous studies indicated that many principals have responsibility, either primary or shared for instructional improvement of the staff, yet spent less then 7% of their time in staff instructional development. Principals spent an average of more then 50% of their time dealing with problems of students and staff. The multitude of daily activities and distractions for a principal seemed to keep them from one of their primary duties, the improvement of teaching and learning.

Without leadership by the principal in the area of instructional improvement, schools will not improve in their basic function of teaching and learning. The inability to impact instruction, for whatever the reason, will greatly inhibit the school from becoming...
a learning organization. Principals who perpetually focus on putting out the fires of day-to-day operation cannot offer the leadership necessary to develop their schools as learning organizations.

The data from this question, plus the research, indicate that the possibility of principal led structural change toward a learning organization is very limited at best.

Research Question Two

To What Extent are High Schools Learning Organizations as Perceived by the Teachers?

Teachers perceived their schools as being learning organizations in some areas and not in other areas. There was general agreement in perception of teachers about the culture of their school as being supportive of a learning organization. The teachers perceived their schools as being positive and student centered places that foster student learning. Being part of a system that has student-centered learning as an espoused cultural norm, it is not surprising that teachers generally agreed with questions focused in these areas.

However, teachers' perception about the leadership of their school indicated moderate support mixed with a large amount of disagreement that their school was a learning organization. It is important to look more closely at the disaggregated data for the variable of leadership to understand why teachers' perceptions of school leadership were so different then their perception of school culture. The disagreement was focused in several areas. Teachers were concerned most with the area of safety. It is apparent from the data that teachers viewed their teaching environments as not being safe and orderly. A basic foundation for a learning organization is a safe environment in which to
learn (Urban et al., 2001). The perception of a lack of safety in the school will greatly reduce any chance for it to become a learning organization (Achilles & Smith, 1994). The concern over safety and security in schools cuts across schools from rural to urban and from large to small. The recent shootings in schools has all staff on edge. It becomes imperative for a school to address the area of security as a first step in developing themselves as a learning organization. The person in charge of coordinating and ensuring a safe and orderly learning environment is the principal (Wager, 1993).

Teachers did not perceive their schools as learning organizations in the area of intellectual stimulation. An environment without intellectual stimulation is an environment without substantial learning. The intellectual stimulation to constantly improve in their craft relates directly back to the results in research question one. Principals who cannot find the time to go into classrooms, to engage in conversations about the craft of teaching, to challenge their teachers to be the best at what they do, will not develop a school that is a learning organization.

Finally, teachers did not feel their schools were learning organizations in the indicator area of giving of contingent rewards for doing a good job (Urban et al., 2001). These rewards may be monetary, but primarily are “pat on the back” type of rewards. The simple acknowledgement of a job well done or a thank-you for doing special work is what teachers are looking for. Principals without sufficient time and an ingrained mindset that focuses on catching them doing something wrong will never alter this perceptual reality of teachers. An adequate rewards system is another basic building block of a learning organization.
Research Question Three

Is There a Difference in Perception of the Extent a High School is a Learning Organization as Perceived by School Principals of Schools from Large High Schools (Class A) and Principals from Small High Schools (Class D)?

The study showed an incredible amount of uniformity of views by principals of all schools, no matter what size. Principals have a remarkable consistency in their responses to the survey. They, as a group, saw themselves as having the culture in their school that would foster the growth of a learning organization. Their perception that they exhibited the type of leadership necessary to foster a learning organization was even more striking. For all the indicator areas the principals, Class A or D, had means that were within 0.01 of each other. This amazing similarity in perception may speak to the selective model used by schools to pick their administrators. The basic beliefs of a school system, reflected in their requirements for administrators, bias the selection process toward inside candidates and maintenance of the status quo (Schlechty, 1997). Most school systems require principals to have a minimum number of years of teaching and time spent as assistant principals or in other central office positions. These principals have been educated in department of education schools at universities that focused on classroom teaching not administration. Add to this mix a basic mistrust of outsiders, evidenced in union contracts for administrators that eliminate prospective applications from anyone outside of education.

This creates rigid ideas about the principalship by the principals themselves and teachers who work for them. The ideas develop into an unquestioned mental model as described by Senge (1990). The progression from teacher, to assistant principal, to
principal all within the same educational structure does not allow for "new blood" to enter school systems at the administrative levels.

Senge (1990) wrote of the need to examine mental models if an organization is going to learn. Groupthink is a block to mental model examination. If principals' know only one model of running a school and perceive that the model is working, examining the model doesn't even come into their mind. Without examination of the basic bureaucratic model of most schools the possibility of them becoming learning organizations is very slim.

Research Question Four

Is There a Difference in Perception of the Extent High Schools are Learning Organizations as Perceived by Teachers of Schools from Large High Schools (Class A) and Teachers from Small High Schools (Class D)?

The data indicated that there was a difference between the perceptions of teachers of large (Class A) and small (Class D) schools on the degree their schools were learning organizations. Four recent publications revealed that small schools tend to have a more collaborative structure than do larger schools. Collaboration is always easier with fewer numbers of individuals who need to collaborate. Smaller schools also allow the development of relationships within the school between the principal, teachers, parents, and students. It is also much easier to involve stakeholders in key decision-making. Union rules and regulations are less in small schools and flexibility in the manner in which children are educated is higher. Finally, the amount of bureaucracy is minimized by a reduction in the hierarchy of the smaller school district. All of these factors would tend to cause the teachers of a smaller school to view their school as more of a learning
organization then the larger schools (Bracey, 2001; Hill & Celio, 1998; Lee & Loeb, 2000; Wesley, 2002).

The larger schools are more bureaucratic with more structured ways of doing business. Many teachers and high staff turnover adds to isolation and a lack of collaboration between teachers and administrators (Bidwell, 1975; Lieberman & Miller, 1984). Larger schools also have more difficulty in involving teachers in key decisions. All of this taken together would create a culture that is less supportive of a learning organization and influence teacher perceptions.

Research Question Five

Overall is There a Difference in Perception of the Extent a School is a Learning Organization Between Principals and Teachers Regardless of School Size?

For the 31 schools that had teachers and principals respond, there was a significant difference in the perception of the extent to which their school was a learning organization between all principals and all teachers. This is the key finding of the study. Significant differences in perception that are not examined will block any systemic change toward creating schools as learning organizations. The reasons for these perceptual differences are evidenced in the disaggregated data. Combining the research found in Chapter II with additional information can provide an explanation for the perceptual differences between teachers and principals.

In Chapter II the research indicated several keys to developing a learning organization. Developing personal mastery and a shared vision were two necessary prerequisites for a learning organization. In the area of developing and providing a vision
that is inspiring to all stakeholders, the perceptions of teachers and principals differed significantly. Principals agreed or strongly agreed with the statements in this subsection. Teachers, on the other hand, disagreed with several of the statements. Principals viewed themselves as providing a vision that excites the staff with what may be accomplished if all of them work together. Teachers didn’t see it that way.

Many principals have a personal vision for what they want to happen in their school (Stolp & Smith, 1995). However, their vision blinds them to the vision of others within their schools (Fullan, 1992). The data pointed to this dynamic between principals and teachers. The principals perceived themselves as having a strong vision for their schools. It was not, however, a shared vision. The principals had not taken the necessary time to listen to the visions of the teachers in their schools. Building a learning organization is based on the development of a shared vision (Senge, 1990; Fullan, 2000).

The development of personal mastery requires a work environment that allows for experimentation and risk-taking (Senge, 1990). Principals perceived that they had established an environment for experimentation and risk-taking. Yet the data indicated that the perceptual difference between teachers and principals was tremendous. In a traditional educational setting in the high school, with set rules of behavior, set reporting structures, set curricula, set testing, and a bureaucratic structure the amount of experimentation and risk-taking allowed is minimal. Principals, as the protector of the existing system would have very strict guidelines for innovative behavior. Teachers perceived the small parameters for experimentation and risk-taking as an indication that there are few real chances for such behavior.
Modeling appropriate learning behavior was another significant requirement of school leadership if a school was to become a learning organization. Principals lead by doing rather than by telling others what to do. Principals perceived themselves as exhibiting this behavior by strongly agreeing with the statement. Teachers perceived just the opposite by basically disagreeing with the statement. Teachers related that principals just talk the talk and do not walk the walk.

Consistency of principal behavior is essential in this area. A study conducted by Tarter, Sabo, and Hoy (1995) on middle school principals underscored the consistent modeling of valued behavior as essential to building trust as a vital component of the culture. The data indicated that principals viewed their behavior as being consistent with all staff and students. Once again, teachers' perceptions were not consistent with the principals. Principals apparently perceive their behavior as being consistent and representing the values of the school. This cannot be true if the principal has not done the work necessary to determine the vision and values of the school. It also becomes problematic for a principal to exhibit consistent modeling behavior if he is unable to communicate with his/her staff in any meaningful sense. This type of communication assists staff in understanding seemingly contradictory principal behavior.

There was also a difference in perception of decision-making. The gap in perception between principals and teachers was the widest of any area. Principals perceived themselves as including teachers in critical decisions by strongly agreeing to the statement. Teachers significantly disagreed with the statement. Viewing decision-making within the school as an activity that occurred without their input. Coming from different perspectives causes this discrepancy in perception. Many principals feel they
have solicited teacher input into critical decisions if they have simply talked to the teachers about the issue. But teachers view true input as occurring if a true collaboration has taken place (Dufour & Eaker, 1998). Another key aspect of this perceptual difference is the lack of power sharing by most principals. Speaking about empowerment, but clinging to the bureaucratic model of administration, many principals keep the final decision making power for themselves (Sarason, 1990).

Another indicator area of significant perceptual difference between teachers and principals was the area of providing rewards for professional improvement. It is interesting to note that principals perceived themselves as being deficient in this area by disagreeing with the statements. Teachers’ disagreement was exceptionally strong with the lowest mean score of any indicator area. Research on the subject of employee appreciation has been established for decades (Geroy et al., 2000). The studies have indicated that being appreciated for work done and making significant contributions to work have a positive effect on performance (Nelson, 1996). Bennett and O’Brian (1994) indicated that rewards and recognition were essential to creating a learning organization.

The principal is vital in offering recognition and reward for teachers (Dufour & Eaker, 1998; Lippitt, 1997; Fullan, 2000). Cahill (1997) found that the intrinsic rewards (appreciation, a thank-you, a verbal or written pat on the back) are the most powerful and cost the organization nothing. Tobin (1998) concluded that it is impossible to build a learning organization without positive recognition and reward for risk-taking and superior performance. Unfortunately, the bureaucratic system of management found in most schools creates a system where principals play the game of catch someone doing something wrong. This is the antithesis of the structure necessary for a learning
organization. The lack of reward and recognition for risk-taking and superior performance presents a very significant problem for schools attempting to become learning organization.

The differences between the teachers and principals were also indicated by the data in the area of culture of the school. Although not as striking as in the leadership indicators the difference was still statistically significant. The area of creating a safe and orderly environment in the school demonstrated the largest difference between teachers and principals. This is especially significant as the research in chapter two indicated a strong school culture is based on a safe and secure environment (Deal & Peterson, 1991; Marriott, 2001; Sergiovanni, 1992). Once again the lack of any significant interchange between principals and teachers about the area of safety and security leads to perceptual differences. The safety of the school is in the hands of the principal without teacher input. The principal will naturally perceive the school environment as safer than the teachers who live in the environment.

The other area of perceptual difference in the culture between teachers and principals was providing a professional work environment. Principals perceived their schoolwork environment as being typified by positive relationships between administration and teachers, in an atmosphere that allows for professional development of the staff and encourages risk-taking and experimentation in the classroom. Teachers, on the other hand, perceived a much less positive atmosphere, with less experimentation and risk-taking. In bureaucratic structures that exist in most schools, experimentation and risk-taking is punished rather than supported (Fullan, 2000). The power of the principal in this type of organizational structure is coercive. Coercive power creates negative
relationships between staff in an environment that controls the employee, punishing members for exhibiting behaviors outside the bureaucratic guidelines (Owens, 1991). Because most schools still adhere to the traditional bureaucratic structure, the perceptual difference is an evitable outcome of the organizational structure of most schools.

The perceptual differences between principals and teachers are critical to creating a learning organization and effecting true structural change in our public school system. Although the reasons for the significant differences are varied, the lack of significant communication on educational issues underscores many of the perceptual differences discovered in the study. To develop shared vision takes communication (Senge, 1990). To improve instructional practices takes communication (Darling-Hammond, 1995; Garvin, 2000). To develop a culture of learning takes a great deal of communication (Deal & Peterson, 1991). To change perception takes a concerted effort at communication (Bohm & Peat, 2000).

The data has indicated that all teachers and principals bring a very definite set of perceptions. These perceptions can enhance or inhibit communication in a school. The more rigidly held the perceptions, the less the perceptions are examined, the more the perceptions will inhibit real communication. Numerous writers in business and industry and education have documented that significant structural change can only be accomplished by continual dialogic communication (Argyris, 1993; Bohm & Peat, 2000; Garvin, 2000; Senge, 1990; Watkins & Marsick, 1993). Only by having communications that acknowledge rigidly held assumptions by all involved, then attempting to forge new perceptions, will schools come up with the creative solutions necessary to become
learning organizations (Bohm & Peat, 2000; Senge, 1990). It is therefore vital that principals and teachers create opportunities for serious conversations about teaching and learning. Unfortunately, communication of any sort, let alone serious communication, between teachers and principals are in short supply in schools. The amazing part of this problem is that both principals and teachers recognize this inability to communicate on any significant level. The data indicated communication was a significant concern for both teachers and principals. Both teacher’s and principal’s mean scores for the communication area were in the disagreement range.

Several factors contribute to the school systems inability to establish time for meaningful communication into the basic structure. First, the basic model for the way school is structured and operated is thoroughly entrenched (Elmore, 1996; Owens, 1991; Ravitch, 2000). This model has been codified within rigid school union contracts for both principals and teachers (Trubowitz, 2000). Contracts that specify almost every aspect of a school day, detailing start and stop times, training times, meeting times, official and unofficial contact between teachers and principals, and numerous other aspects of the work day for the school. The historical practices are set in the stone of a union contract and the general bureaucracy of the school (Sergiovanni & Starratt, 2002). This historical model of schools has not included meaningful conversations between principals and teachers about substantive issues in educating children. Therefore, they are not codified in the contract. Items not codified in rigid contracts become extremely difficult to implement. An additional stumbling block to meaningful communication and therefore meaningful structural change is the very restrictive nature of unions and union contracts. They reinforce and attempt to continue the status quo (Trubowitz, 2000;
If schools are to become learning organizations, teacher contracts will have to codify a different set of values. Urbanski and Erskine (2000) indicated that unions must take a leadership role in the change to learning organizations. The teachers' union must insist on a greater voice in the change effort. The union must significantly influence professional development. In addition, the union must take leadership in changing the way that tenure and compensation are done. Administrations and the teachers' unions must form a working partnership to change the culture and create schools as learning organizations.

Second, schools have developed a bureaucratic organizational structure that further inhibits communication (Sergiovanni & Starratt, 2002). An important part of this structure is the deeply developed belief that the principal is the holder of all knowledge in the school, the solver of school problems, the person in control of the situation (Argyris, 1993; Senge, 2000). This role, bureaucratically reinforced and culturally imprinted, does not allow for open and honest communication to occur in a school. If a principal is totally in charge and has all the important information, then teachers need not have input, but simply need to follow directions. Keedy and Achilles (1998) indicated that their research results provided little evidence that the basic teacher principal relationship has changed in the manner necessary to create learning organizations in the schools.

Third, this basic model is so ingrained that it is accepted without question by principals (and by many teachers as well). This presents an interesting twist to the problem of change in the public school system because the role of the principal is the pivotal role in change effort (Dufour & Eaker, 1998; Fullan, 2000; Louis et al., 1996). It is the principal who must provide the leadership necessary to start the conversations
about educational change. Conversations that will result in shared visions, the
development of collaborative structures, improved decision-making, and organizational
learning that will positively impact student achievement. Yet the perceptions of the
principals in the study indicated that they were already exhibiting the aforementioned
types of behaviors. It brings to mind the question, if principals already think they are
exhibiting the behaviors necessary to change their schools into a learning organization, as
evidenced by their perceptions, then why would they think they had to open a significant
conversation about all aspects of the way children are educated? The answer to this is
question is obvious. The principals were not motivated to enter into the conversations
necessary to institute the structural changes essential to the reinvention of education
through creating learning organizations in the schools. Based on the data, meaningful
change is extremely unlikely.

An ancillary outcome of this study is the highlighting of the perceptual difference
between principals and teachers as it relates to school safety. The safety issue in schools
has taken on a heightened importance in the wake of Columbine and other high school
shootings. Principals perceived that they were doing a very good job in insuring a safe
and orderly environment, while teachers perceptions were less in agreement with the
statements. As mentioned earlier, a safe and orderly environment is essential for
developing a learning organization. The isolation that teachers experience in school,
being confined to their classrooms with students who are disrespectful and potentially
violent, is a factor in this difference of perception. The sense of isolation also leads to a
sense of powerlessness to change the situation. Couple this perception with a perception
indicated in the data that administrators do not deal appropriately with disruptive students
and the rational for the perceptual difference between teachers and principals begins to take focus. Additionally, school safety is rarely a topic of conversation between teachers and administrators. Teachers are supposed to teach and administrators will take care of discipline with very little teacher input. Finally, principals and teachers are often at odds on how a particular student should be disciplined. The principal is limited on what they can do by school, state, and federal laws and guidelines. This is especially true for special education students. Teachers do not have information on the limitations and therefore perceive that the principal is being soft on another student offender.

Limitations and Recommendations for Further Study

This study examined the perceptions of a randomly selected group of principals and teachers in the largest (Class A) and smallest (Class D) schools as to whether their schools were learning organizations. The variables of leadership and culture were studied in this manner.

The study has several limitations. The sample population was low with only 105 teachers and 40 principals responding to the survey. Second, only the largest and smallest schools were surveyed. Third, only schools in the state of Michigan were studied. Fourth, only sections of Leithwood's survey were used instead of the complete survey.

Recommendations for Further Study

The above limitations and analysis of the data collected indicated the need for further investigations, including:

• Conduct a similar study on a larger population of principals and teachers.
Randomly select a grouping of schools from around the state and administer the full array of surveys developed by Leithwood and associates (2001) at the school and the district level. This would offer a more complete picture of a school system, its structures, and its culture. It would also help the studied school system to use the data to develop strategies that would help them become a learning organization.

Conduct more focused studies in those areas that indicated the most divergent perceptions between principals and teachers. The area of school safety might be a most interesting follow up study. Other possibilities include a study into providing individualized support, encouraging high performance, and rewarding excellence in teaching.

Determine if principals and teachers actually understand how to create a learning organization in their school.

Conclusion

This study indicated that a significant perceptual difference exists between teachers and principals in the largest and smallest high schools in the state of Michigan concerning the degree their school is a learning organization. Much work needs to be done by Michigan high schools if they are to become learning organizations.

The indication that principals already perceive that they have a learning organization raises red flags for any school reformer attempting to change basic school structure in the direction of a learning organizations. There will be no motivation for change for the principal if he/she perceives that they already have a learning organization. The emphasis falls on changing the perceptions of principals. Their role in the change
process is too vital to expect change to take place without their support. Principals must begin to examine their basic beliefs about what is the best way to educate children. They must include teachers, parents, students, and other key stakeholders in the planning and decision-making process. The change process starts with self-examination that leads to significant conversations with all involved about how to best educate our school children. The final result will be systemic change that creates schools that learn. Schools that learn have the ability to change over time. The continual capability to adapt over time for those schools will result in a much higher level of teaching and learning. Only by elevating teaching and learning to that higher level will we finally educate all of our children.
Appendix A

Survey Instrument
INSTRUCTIONS TO RESPONDENTS:

The purpose of this survey is to obtain information about what you think of certain aspects your school. The information will be used in an effort to improve education for students throughout the State of Michigan. Therefore, please read the instructions carefully and answer each question as honestly as possible. You should be able to complete this survey in about 15 minutes. Your response to the questionnaire will be anonymous and will be combined with those of others to reveal patterns. Responses from your school will be combined with responses from other schools.

We are interested in the extent to which you agree or disagree with the following statements. For each statement, select and check ONE of the following responses:

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<td>agree</td>
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<td>strongly disagree</td>
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School Culture

1.1 Strength

1. Most teachers in our school share a similar set of values, beliefs, and attitudes related to teaching and learning.
2. I have close working relationships with my colleagues in our school.
3. There is ongoing, collaborative work among teachers in our school/department.
4. Our school administrators share teachers' values, beliefs, and attitudes related to teaching and learning.
5. There is a strong, positive relationship between students and staff in our school.
6. Our school celebrates the achievements of staff and students.

1.2 Form

7. I have frequent conversations about teaching practices with colleagues in our school.
8. I frequently work with colleagues in our school to prepare unit outlines and/or instructional materials.
9. I share my professional expertise by demonstrating new teaching practices for colleagues.
10. We observe each other teaching and then discuss our observations to gain better understanding of our own teaching strategies.
11. I adhere to school curriculum decisions agreed on in collaboration with my colleagues.

1.3.1 Content is safe and orderly

12. I usually work through problems with my students, rather than refer them to the administration.
13. I feel safe in our school.
14. Students feel safe in our school.
15. Our school is virtually free of vandalism.
16. Our school monitors student behavior.
17. I feel comfortable interacting with the students in our school.
18. Our school has relatively few discipline problems.
19. Inappropriate student behavior is dealt with effectively in our school.
20. The consequences for inappropriate behavior in our school are immediate and consistent.
### 1.3.2 Content is positive

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<tbody>
<tr>
<td>21</td>
<td>Our school emphasizes creating a positive atmosphere for our students.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>Our staff praise and reward students' exemplary efforts and behavior.</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</table>

### 1.3.3 Content is student centered

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<tbody>
<tr>
<td>23</td>
<td>Students in our school need to meet or exceed clearly defined expectations.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>I meet with students informally outside school hours.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>I hold high expectations for individual student learning and behavior.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>I model lifelong learning for my students.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>27</td>
<td>Our school recognizes teachers who are exemplary in their classroom and school wide practices.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>28</td>
<td>Our school administration acts in the best interests of the individual students.</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

### 1.3.4 Content fosters learning for students

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</thead>
<tbody>
<tr>
<td>29</td>
<td>Planning for and helping students learn is my most important work.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30</td>
<td>My school administrators protect my classroom instructional time.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>31</td>
<td>My colleagues make effective use of classroom time.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 1.3.5 Content is designed to provide a professional work-environment for staff

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<table>
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</thead>
<tbody>
<tr>
<td>32</td>
<td>Strong, positive relationships between staff and school administration facilitate implementation of new programs.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33</td>
<td>I frequently implement new programs or new teaching strategies.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>34</td>
<td>I engage in ongoing, professional development for myself.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>35</td>
<td>I am motivated to implement new programs.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>36</td>
<td>I am satisfied with my job</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>37</td>
<td>Administrators in my school encourage professional risk taking and experimentation.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>38</td>
<td>Administrators in my school adjust priorities to support professional risk taking and experimentation.</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

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### 2.4.1 School Leadership—Provides vision and/or inspiration

Leadership in this school:

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<tbody>
<tr>
<td>26</td>
<td>Has both the capacity and judgment to overcome most obstacles</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>27</td>
<td>Excites us with visions of what we may be able to accomplish if we work together.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>28</td>
<td>Makes us feel and act like leaders</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>29</td>
<td>Gives us a sense of overall purpose for our work</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30</td>
<td>Encourages innovation/change in consultation with staff</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

### 2.4.2 School Leadership—Models behavior

Leadership in this school:

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</thead>
<tbody>
<tr>
<td>31</td>
<td>Leads by &quot;doing,&quot; rather than simply by &quot;telling&quot;</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>32</td>
<td>Symbolizes success and accomplishment</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33</td>
<td>Demonstrates effective interpersonal skills</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>34</td>
<td>Commands respect from most staff in our school</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>35</td>
<td>Demonstrates exemplary pedagogical skills</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>36</td>
<td>Participates actively in classroom instruction</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>37</td>
<td>Demonstrates consistent behaviors and attitudes when interacting with staff and students</td>
<td>0</td>
<td>0</td>
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</table>
### 2.4.3 School Leadership—Provides individualized support

<table>
<thead>
<tr>
<th>Question</th>
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</thead>
<tbody>
<tr>
<td>Leadership in this school:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38 Provides the necessary resources to support my implementation of new programs</td>
<td></td>
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<td></td>
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<tr>
<td>39 Treats me as an individual with unique needs and expertise</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>40 Consulti me when initiating actions that affect my work</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>41 Responds to my personal and professional concerns with consideration</td>
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</table>

### 2.4.4 School Leadership—Provides intellectual stimulation

<table>
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<tr>
<th>Question</th>
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</thead>
<tbody>
<tr>
<td>Leadership in this school:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>42 Challenges me to reexamine some basic assumptions I have about my work</td>
<td></td>
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<tr>
<td>43 Stimulates me to think about what I am doing for my students</td>
<td></td>
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<tr>
<td>44 Provides information that helps me think of ways to implement new programs</td>
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<tr>
<td>45 Provides for extended training to develop my knowledge and skills</td>
<td></td>
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<tr>
<td>46 Provides me with information on current educational thought on a variety of issues</td>
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</table>

### 2.4.5 School Leadership—Fosters commitment to group goals

<table>
<thead>
<tr>
<th>Question</th>
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</thead>
<tbody>
<tr>
<td>Leadership in this school:</td>
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<tr>
<td>47 Provides for our participation in the process of developing school goals</td>
<td></td>
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<tr>
<td>48 Encourages teachers to work toward the same goals</td>
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<tr>
<td>49 Uses the consultative approach with staff to generate school goals</td>
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<tr>
<td>50 Works toward whole staff consensus in establishing priorities for school goals</td>
<td></td>
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<tr>
<td>51 Encourages us regularly to evaluate our progress toward achievement of school goals</td>
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</table>

### 2.4.6 School Leadership—Encourages high performance

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<tbody>
<tr>
<td>Leadership in this school:</td>
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<td></td>
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<tr>
<td>52 Has high expectations for us as professionals</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>53 Encourages high performance from us</td>
<td></td>
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<tr>
<td>54 Informs us of what high performance means</td>
<td></td>
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<tr>
<td>55 Helps us feel and act like leaders</td>
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### 2.4.7 School Leadership—Provides contingent reward

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</thead>
<tbody>
<tr>
<td>Leadership in this school:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>56 Frequently acknowledges our performance</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>57 Pays us personal compliments for our work</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>58 Provides recognition for special work</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>59 Helps us get those resources we decide we want</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>60 Uses a reward system for professional improvement</td>
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</table>

### 2.4.8 School Leadership—Encourages individual improvement

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</thead>
<tbody>
<tr>
<td>Leadership in this school:</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61 Enhances my professional growth by sharing leadership responsibility with me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62 Encourages me to take initiative in my work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63 Encourages me always to improve my performance</td>
<td></td>
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</tbody>
</table>
Appendix B

Letter to Principals and Instructions on How to Conduct the Survey
To Principals and Teachers,

I am working on my dissertation that is examining the perception of principals and teachers as to the extent that your high school is a learning organization. As a high school principal or teacher, I ask for your help in completing the accompanying surveys. I greatly appreciate your assistance. Your responses are very important in getting the results that accurately reflect the perceptions of principals and teachers throughout the state of Michigan.

Procedures

The survey instruments were developed as part of a system for monitoring school progress in becoming a learning organization. They ask for your perceptions of your school in the areas of school culture and leadership. You may choose not to participate, or if you do decide to participate you may choose not to answer any question and simply leave it blank. The total time to complete the surveys is about fifteen minutes.

Confidentiality and voluntary participation

Your replies will be completely anonymous; so do not put your name anywhere on the surveys. No individual identifiers have been used on the surveys; the data collected will be used only in aggregate form. If you choose not to participate in this survey, you may simply discard it. Returning the survey, however, indicates your willingness to participate in the study.

Risks and Benefits

There are no physical, psychological or social risks are likely to result from participation in this study. The study takes approximately fifteen minutes to fill out. The potential benefit to you, of the research, is that you will have an opportunity to reflect upon the culture and leadership of your high school. This may offer you critical insights on your high school. You will also be significantly benefiting a colleague by helping him complete his requirement for a doctoral degree. This researcher anticipates that you will find some intrinsic satisfaction knowing that you are helping someone.
If you have questions or should problems arise during this study, please contact Dr. Van Cooley at 616-387-3891, Scott Kemple at 616-337-0324, the Human Subjects Institutional Review Board at 616-387-8293, or the vice-president for research at 616-387-8298.

The Human Subjects Institutional Review Board (HSIRB) as indicated has approved this consent for use for one year by the stamped date and signature of the board chairperson in the upper right hand corner. You should not participate in this project if the corner does not have a stamped date and signature.

Once again, I want to thank-you for taking the time out of your busy schedule to participate in this study. Please return the completed survey in the stamped envelope provided for you.

I appreciate your help in this project.

Scott Kemple
Athletic Director/Assistant Principal
Doctoral Candidate
To All Principals

Guidelines for Conducting the Survey

Please follow the guidelines listed below for conducting the survey:

1. The yellow survey is for you to complete and place in the appropriate envelope.

2. Have your secretary or another administrator select the teachers to be surveyed by the following method:
   - Obtain an alphabetized list of the teaching staff.
   - Number your staff from 1 for the first teacher listed until all teachers have been assigned a number.
   - To fulfill the design of the study, and guarantee that each respondent has been selected at random, I have provided you with six random numbers. If the teaching staff numbers less than fifty, please use the numbers in Set A. If the teaching staff numbers more than fifty use the numbers in Set B.
     Set A - 02, 05, 12, 14, 20, 24
     Set B - 07, 10, 19, 26, 38, 47
   - Identify teachers who occupy the numbers on the list and give them a white survey.
   - Supply each identified teacher with a letter of introduction, a survey, and a return envelope.
   - The survey will take about 15 minutes to complete.
   - Indicate to the teachers that participation is strictly voluntary, all information is confidential, and their answers will be pooled with the answers from teachers around the state.
   - Also indicate that once they complete the survey they should place the survey in the envelope provided and place it in the mail.

3. Inform your secretary or assistant principal that you do not want to know the identity of the study participants.

4. Please attempt to complete the survey by Friday, May 3, 2002.

Thank-you so much for your help in completing the survey!


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