An examination of individual, team and organizational learning and factors influencing learning in a comprehensive high school

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An examination of individual, team and organizational learning and factors influencing learning in a comprehensive high school

by

John Paul Robbins Jr.

A Dissertation Submitted to the Graduate faculty in Partial Fulfillment of the Requirements for the Degree of

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CHAPTER I. INTRODUCTION

Insanity is continuing to do the same thing over and over and expecting different results.  
Albert Einstein

American education has been constantly challenged to improve since the 1980's. The report, A Nation At-Risk, (National Commission on Excellence in Education, 1983) painted a picture of America's position in the world as being no longer secure and of individual citizens becoming effectively disenfranchised. The rationale for this bleak outlook emanated from what was seen as kindergarten through twelfth grade students' lack of literacy and skills. This inadequacy was inhibiting prosperity; knowledge is wealth in an information society. Higher levels of education for students are needed now more than ever. Unfortunately, for the first time in our history, the educational skills of the current school-age generation will not surpass, will not equal, and will not even approach, those of the previous generation. (Copperman, National Commission on Excellence in Education, 1983, p. 11). Seemingly it appears that the average high school graduate is not as well-educated as the average graduate of 25 to 35 years ago (p. 11).

As a reaction to the A Nation At-Risk report, numerous reform efforts have been initiated across America. Regrettably, the first reform efforts were inflexibly grounded in an "industrial age" mentality. This turn-of-the-century disposition encouraged schools to be more bureaucratic so they could yield standardized products (students) by way of carefully specified procedures. Legislative mandates, back-to-basics movements, stipulated curriculum, standardized textbook
adoption, new management processes, and regulated student promotion characterized efforts designed to “teacher proof” schools (Darling-Hammond, 1993). While education in developed countries is perpetually shaped by constant change, high schools in the United States were trying to recreate the past through “grandpa’s curriculum” (Dagget, 1992). Consequently, American high school graduates still haplessly trailed the international competition after the first wave of reforms.

A second wave of reform ensued which was driven by a basic philosophic change; instead of trying to teacher-proof schools by standardization, reform efforts started focusing on improving education by breaking down regulated bureaucratic practices and restructuring schools (Darling-Hammond, 1993). Site-based management, shared decision-making, child-centered schools, learning styles, age-appropriate learning, and alternative assessment are just a few strategies that were unveiled. All of these strategies had two things in common; they required education to be decentralized, and teaching to be professionalized by investing in the knowledge and skills of educators. But teachers, and school systems in general, were not mentally geared to move away from their turn-of-the-century teaching and management practices. Reform of teaching and learning requires teachers to acquire new knowledge, learn new skills, and abandon outdated practices (Darling-Hammond, 1993).

Successful educational reform may be largely dependent upon successful learning. Perrow (1979), Marshall and Tucker (1993) and Senge (1990) echo this sentiment. Organizations must adapt to ever-changing needs, find new solutions to problems and employ new knowledge and skills if they are to be competitive (Perrow, 1979). Marshall and Tucker contend, “The future belongs to societies that
organize themselves for learning ... The prize will go to those countries that are organized as national learning systems, and where all institutions are organized to learn and act on what they learn" (1993, p. 22). “Over the long run, superior performance depends upon superior learning” (Senge, 1990, p. 7). Superior learning among high school educators is critical if we are to improve the quality of American high school graduates; superior learning may be contingent upon fully understanding school culture and promoting ideas and structures which facilitate learning.

**Need for the Study**

How can we expect kids to become committed to learning if the overall environment isn’t committed to learning?

Jim Daniel, President Kentucky Educational Foundation

“For any organization to survive, its rate of learning must be equal to, or greater than, the rate of change in its environment” (Garratt, 1987, p. 38). For more than a decade, criticism of American education has been abundant, centered around the perception that the learning rate of American students has not kept pace with their international environment/competition. Since American students aren’t keeping pace, the logical scenario is that school organizations, themselves, aren’t keeping pace.

Acquiring new knowledge, learning new skills and abandoning outdated practices is the prerequisite learning needed for schools in the United States to keep pace internationally. Teachers cannot be expected to create effective learning environments if they are not engaged in learning themselves (Senge and Lannon, 1991).
If learning is so important to the delivery of quality education, then there is a need to find answers to questions related to teachers and to the schools in which they work. Can schools know if their teachers are truly a team of learners? Do teachers understand the organizational factors in their school culture that facilitate or suppress their own learning? Senge, in *The Fifth Discipline*, (1990) identifies seven learning disabilities that stand in an organization's way of learning; do teachers know if there are learning disabilities present in the school in which they work? Seligman in his book entitled *Learned Optimism*, (1990) attests that optimism has a direct relationship to achievement as well as job performance; is optimism a factor that affects teacher learning? Above all, is there a relationship between the extent of teacher learning, the presence of learning disabilities, the level of teacher optimism, and the nature of the school culture?

For maximum learning to occur, educational leaders must be able to understand the dynamic complexities associated with teacher learning and analyze the learning attributes of teachers in the schools which they direct. The first step in this process is to explore possible answers to the previously stated questions. This researcher has not found a study for comprehensive high schools that examines the extent of teacher learning in relation to the presence of learning disabilities, the level of teacher optimism and the nature of school culture. A study such as this would fulfill an important need as it relates to enhancing teacher performance in high schools. This, in turn, can lead to the conscious development of strategies designed to accelerate the rate of learning and the accompanying reform efforts. Consequently, the ability for American high school graduates to compete on an international basis could be enhanced.
Statement of the Problem

The teacher must remain the key. The literature on effective schools is meaningless, debates over educational policy are moot, if the primary agents of instruction are incapable of performing their functions well. No microcomputer will replace them, no television will clone and distribute them, no scripted lessons will direct and control them, no voucher system will bypass them.

(Schulman, 1983, p. 504)

School systems in the United States have come under fire for not delivering quality education. Students who graduate from America's high schools are perceived as ill-prepared to compete in a dynamically-complex world. Schools have not kept pace or made the necessary changes in order to be internationally competitive. "All change involves risks, but for the contemporary American school, the "safe" strategy of maintaining old structures and yesterday's curriculum is often a poor choice" (Rosenblum, 1981, p. 1).

The literature strongly suggests that continued learning of teachers in the school organization is of paramount importance to the reformation of public education. The acquisition of knowledge and the development of new skills are pivotal factors in improving the quality of public school education. Learning enables educators in our schools to skillfully analyze environmental factors, assess viable strategies, tactically implement innovations, and precisely monitor progress (Fiol & Lyles, 1985).

Pessimism (a lack of optimism), organizational learning disabilities, and individualistic cultures are collaborating factors which impede learning when they are present and facilitate learning when they are absent. Rosenholtz (1989) describes optimism and hope as two qualities that "keep teachers reaching for new teaching challenges, fresh opportunities, and ever-expanding technical
knowledge" (p. 165). Senge (1990-Fall) maintains that organizational learning disabilities establish almost undetectable barriers to effective learning among the teachers in a school system. Hargreaves and Fullan (1992) argue that an individualistic culture makes staff development efforts temporary in nature and unsuccessful in their overall efforts (p. 17).

Being able to accurately analyze the characteristics which facilitate or impede learning among teachers in a school organization would have obvious value in systemic school improvement efforts. Schools in which the teachers engage in organizational learning have the capability of providing a higher level of education for their students. An instrument exists that assesses the level of optimism (hope). However, a process that accurately reflects the extent of teacher learning in relation to the level of hope, the presence of learning disabilities, and the impact of organizational factors among educators in a comprehensive high school has not been found. We don't know how these factors are interrelated and to what extent they may be a function of the school's culture. Since the public's desire for quality schools should not be taken lightly, there is a need to investigate the role optimism (hope), learning disabilities, organizational factors and the school's culture play in the development of teachers, the extent to which they learn their craft, and what they need to know or be able to do improve schools.

The problem for this study is to determine: 1) The extent teachers in a comprehensive high school engage in learning; 2) The level of optimism (hope) for teachers in a comprehensive high school; 3) The specific learning disabilities which impede teacher learning in a comprehensive high school; 4) The impact of organizational factors on teacher learning; 5) The factors in the school culture that facilitate or impede teacher learning; 6) The relationship of teacher learning in a
comprehensive high school to the level of optimism (hope), to the presence of specific learning disabilities, to the impact of organizational factors, and to the nature of the school culture.

**Purposes of the Study**

In a growing organization, new assignments and new responsibilities are inherent in the situation. By contrast, in a stable organization, changes in assignments that broaden the manager or the professional must be planned for deliberately. Otherwise, they may not happen. In a declining organization, increased responsibilities often take on a negative connotation: We feel we are asked to perform someone else’s function as well as our own.

(Miller, 1977, p. 69)

The focus of this study is on teacher learning as found in a comprehensive high school. Individual, team and organizational teacher learning will be examined in view of factors found within the context of the school system that impede or facilitate this learning. These factors include learning disabilities, optimism, structures, processes, purposes, culture, environment and ecology. This study is designed to provide valid and reliable information to school officials and teachers. In conjunction with other school culture audit information, it gives the school an opportunity to make systemic changes in order to employ new and different practices that will enhance learning.

The purposes of this study are to determine:

1. The extent to which teachers in a comprehensive high school are learning enriched or learning impoverished.

2. The extent to which teachers in a comprehensive high school engage in, and value, team learning.
3. The extent to which teachers in a comprehensive high school engage in organizational learning.

4. The extent to which teachers in a comprehensive high school are optimistic (hopeful) or learned helpless.

5. The extent to which learning disabilities are present among teachers in a comprehensive high school.

6. Structures, such as departments, schedules, policies, etc., which facilitate or impede learning among teachers in a comprehensive high school.

7. Purpose-strategy factors which facilitate or impede learning in a comprehensive high school.

8. Culture factors, such as values, beliefs and needs, which facilitate or impede learning among teachers in a comprehensive high school.

9. Process factors, such as decision making, planning and evaluating, which facilitate or impede learning among teachers in a comprehensive high school.

10. Environment factors which facilitate or impede learning among teachers in a comprehensive high school.

11. The extent to which ecology factors of interdependency, dynamism and entropy facilitate or impede learning among teachers in a comprehensive high school.

12. The extent to which there is systemic interaction of learning, optimism, learning disabilities, structures, purposes, processes, culture, environment and ecology.
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Research Questions

The following research questions guided the investigation of this study.

1. To what extent are teachers at Anytown High School learning enriched or learning impoverished?
2. To what extent do teachers at Anytown High School engage in team learning, and what is the reported value of team learning?
3. To what extent do teachers at Anytown High School engage in organizational learning?
4. To what extent are teachers at Anytown High School optimistic (hopeful) or learned helpless?
5. What learning disabilities are present among teachers at Anytown High School?
6. What structures, such as departments, schedules, policies, facilitate or impede teacher learning at Anytown High School?
7. What purpose-strategy factors (mission, goals, vision, etc.) of Anytown High School facilitate or impede teacher learning?
8. What factors in the culture, such as values, beliefs and needs, facilitate or impede teacher learning at Anytown High School?
9. What process factors, such as decision making, planning and evaluating, facilitate or impede teacher learning at Anytown High School?
10. What environmental factors facilitate or impede teacher learning at Anytown High School?
11. To what extent do ecology factors of interdependency, dynamism and entropy facilitate or impede teacher learning at Anytown High School?
10

12. To what extent is there interaction between learning, optimism, learning disabilities, structures, purposes, processes, culture, environment and ecology at Anytown High School?

Summary

This study examines the extent of individual, team, and organizational learning among teachers at Anytown High School. Chapter II reviews the literature related to teacher learning and how it is impacted by organizational factors, school culture, optimism and learning disabilities. Chapter III describes the methodology used to conduct the study. The findings of the study are presented in Chapter IV. Discussion of findings, implications and recommendations are presented in Chapter V.
CHAPTER II.  REVIEW OF LITERATURE

This study investigated teacher learning and the factors that impact teacher learning at a comprehensive high school. This review highlights: 1) the importance of teacher learning in facilitating educational reform; 2) the research model that provided the theoretical framework for the study; 3) teacher learning and personal mastery; 4) methods of teacher learning; 5) factors which impact teacher learning including optimism, school culture, organizational learning disabilities, and organizational system factors; and 6) qualitative case study research methodology used in this study.

Teacher Learning and Educational Reform

Over a decade has passed since schools in the United States were labeled as "mediocre" and challenged to improve to meet the "economic and intellectual demands" of our society (U. S. News & World Report 1993, p. 46).

Our nation is at risk. Our preeminence in commerce, industry, science, and technological innovation, is being challenged by competitors world-wide. The education foundations of our society are being eroded by a rising tide of mediocrity that threatens our very future as a nation and people. What was once unimaginable a generation ago has been to occur; others are marching and surpassing our educational attainments. (National Commission on Education 1983, p. 5)

The literature strongly suggests effective teacher learning is of paramount importance to educational reform; keeping pace with the international community necessitates changes in the manner by which educators conduct business.
Darling-Hammond (1993), Senge (1990 & 1991), and Fiol and Lyles (1985) echo this sentiment. Darling-Hammond claims the reform of teaching and learning requires teachers to acquire new knowledge, learn new skills, and abandon outdated practices. Senge (1991) asserts that teachers cannot be expected to create effective learning environments if they are not engaged in learning themselves. Fiol and Lyles contend that learning enables educators to skillfully analyze environmental factors, assess viable strategies, tactically implement innovations, and precisely monitor progress.

Ultimately, teacher learning must have direct ties to organizational learning if educational reform is to be truly successful (Senge, 1990). In Senge's words:

"If anything, the need for understanding how organizations learn and accelerating that learning is greater today than ever before. The old days when a Henry Ford, Alfred Sloan, or Tom Watson learned for the organization are gone. In an increasingly dynamic, interdependent, and unpredictable world, it is simply no longer possible for anyone to "figure it all at the top." The old model, must now give way to integrating thinking and acting at all levels. While the challenge is great, so is the potential payoff. (p. 7)

"Organizational learning occurs when members of the organization act as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors in organizational theory in use, and embedding the results of their inquiry in private messages and shared maps of organization" (Argyris, 1978, p. 29). Organizational learning, as it pertains to education, must be sufficient to allow teachers and schools to solve ambiguous problems, design innovative strategies, implement new practices, incorporate ever-changing technology, develop curriculum, and reject obsolete procedures.

Individual learning is at the heart of organizational learning. "Organizations
learn only through individuals who learn. Individual learning does not guarantee organizational learning, but without it no organizational learning occurs" (Senge, 1990, p. 139). Jelinek (1979) claims for learning to be organizational rather than individual, "knowledge must be accessible to others beyond the discoverer, subject to both their application or use, and to their change and adaptation" (p. 161). He also contends organizational learning is a communication phenomenon; "only through communication does individual insight become accessible to others, and thereby transcend its discoverer, making synergy possible" (p. 143).

Organizational learning which goes beyond simple replication to application, change or refinement constitutes a higher level of organizational learning (Lawson and Ventriss, 1992). Learning at this level focuses on adjusting overall rules and norms rather than specific activities or behavior. As a result new skill development, knowledge, cultural norms, and insights are created. Moreover, a key characteristic of higher level organizational learning is how the organization, "unlearns previous behaviors and develops new cognitive frameworks or interpretive schemes in confronting problems that are ambiguous or ill-defined" (p. 207).

Individual learning is at the heart of team learning. Senge (1993) contends that teams are the fundamental learning unit in modern organizations; unless teams can learn, the organization cannot learn (p. 10). Team learning is the process of aligning and developing the capacity of a team to create the results members truly desire. Like individual learning, team learning coincides with organizational learning when there is joint development of new skills, knowledge and insights in order to further the mission, goals, and organizational outcomes.

Team learning has three critical dimensions within organizations: 1) the
need to think with insight about complex issues; 2) the need for innovative, coordinated action; and 3) the need for a learning team to continually foster other learning teams (Senge, 1993).

Educational reform is needed for schools in the United States to keep pace internationally. Educational reform is dependent upon organizational learning which in turn drives school improvement. Organizational learning occurs when individual and team learning furthers the mission, goals, and outcomes of the school.

**Research Model**

Teacher learning is dynamic and complex. Senge (1991), Darling-Hammond (1993), and others have described how an enormous set of complex and ever-changing factors impact learning in organizations such as school. The purpose of the research model (Reference Figure 1) is to promote a basic understanding of the complexities of teacher learning by identifying relationships and specifying factors that influence learning within an organizational system. These relationships and factors will be briefly introduced in this section, and will be more comprehensively described in ensuing sections.

*(Cell A)* illustrates that individual teachers are part of a teaching faculty within a given school building. In the learning process, individual teachers constantly interact with, and are impacted by, other teachers as well as a variety elements within the school. These interactions may facilitate or impede learning.

*(Cell B)* contains four learning elements which are investigated in this study. These elements include individual factors, culture factors, organizational learning disabilities, and organizational factors. Individual factors consist of the
Figure 1: Research model for teacher learning
personal qualities possessed by teachers. Optimism and personal mastery are the primary individual factors which are examined. The culture of the school consists of shared beliefs, values and norms. Culture establishes such things as what is desirable, common behavioral expectations, and specific rights and duties.

Organizational learning disabilities are individual and collective mind sets that impede or prevent learning from taking place. Organizational factors are presented within the context of an organizational systems model. Sweeney (1993) contends that organizational behavior, such as learning, cannot be understood unless one understands the dynamic-complexity of the factors in the organizational system. Organizational factors investigated include those within the confines of structure, process, purpose, ecology and environment.

As previously stated, the learning elements (Cell B) have an impact on learning within the context of the school organization. Individual learning (Cell C) is impacted by the learning elements (Cell B). Individual learning contributes to team learning (Cell D) and the development of knowledge and skills (Cell E). Team learning (Cell D) is also impacted by the learning elements (Cell B). Team learning is derived from individual learning and contributes to the development of knowledge and skills (Cell E). Knowledge and skills (Cell E) are derived from individual and team learning (Cells C & D). Developed within the context of the organization's mission, outcomes, and goals, they contribute to organizational learning (Cell F). Outcomes of the organization (Cell G) encompass fulfilling the mission and goals of the school in conjunction with productivity, job satisfaction, and client satisfaction. These outcomes are successfully, or unsuccessfully, achieved on the cumulative basis of individual learning, team learning, the development of knowledge and skills, and organizational learning (Cells C-F).
Teacher Learning and Personal Mastery

As teachers face up to rising and widening expectations in their work, as well as the increasing overload of innovations and reforms, it is important they pursue personal mastery and work with colleagues to develop expertise (Fullan & Hargreaves, 1991; Senge, 1990). As previously noted, educational reform is dependent upon teachers who engage in organizational learning through individual and team efforts. This section of the review of literature describes the salient qualities of individual learning (also referred to as personal mastery). It is followed by a section which describes five primary methods by which individual and team learning takes place.

Senge (1990) describes personal mastery as the discipline of continually expanding one's ability to create the results in life one truly seeks. Personal mastery, the quest for continual learning, embodies two underlying movements: 1) continually clarifying what is important; and 2) continually learning how to see current reality more clearly.

Besides continuous learning, Senge identifies two other qualities associated with personal mastery, namely vision and creative tension. Vision is described as a calling rather than simply a good idea. Vision is different than purpose; vision is a specific destination, a picture of a desired future. People with a high level of personal mastery have a special sense of purpose that lies behind their vision and goals. It can be expressed as genuine caring; when people genuinely care they are naturally committed and exhibit an abundance of energy and enthusiasm.

Creative tension comes from clearly seeing where one wants to be while truthfully knowing one's current status. Learning through creative tension is different than solving problems; problem solving is "reactive" in nature - the energy
for change comes from attempting to get away from an undesirable current reality. On-the-other-hand, creative tension is "proactive" in nature. Energy for change comes from the vision of what one wants to create.

**Methods of Teacher Learning**

Sims and Gioia (1986) claim learning is determined by the interaction of knowledge and experience, and experiences which contradict current rules promote the most learning. Thus, a prerequisite to facilitate widespread learning includes an awareness of contradictions. Needless to say, a realization of the need to learn does not imply that learning will occur or even be error free. "Broadly speaking, what is learned depends on the salience of information in the environment and the kind of relationship one expects" (p. 277).

Prominent methods which promote a realization among teachers of the need to learn as well as provide a vehicle for learning include inquiry (or enquiry), dialogue, practice, observation, and reflection. These methods of learning do not necessarily occur in isolation from each other. In fact, several methods may operate simultaneously with one another in any given learning experience. In addressing the merits of the aforementioned methods of learning, Barth (1990), Little (1992), Fullan and Hargreaves (1991) and Louden (1991) often cite the concurrent roles that other learning methods play.

Inquiry is a systematic investigation that is designed to yield desired information. According to Barth (1990), inquiry involves teachers observing, examining, questioning, and reflecting on specific educational practices. Inquiry can take place both in and out of the view of students, but to teacher and student alike there must be continuous evidence that it is occurring. When teachers are
learning students are alive; likewise, when teachers stop growing, so do their students. Unfortunately, according to Barth, “schools are seen as places where children learn and adults teach” (p. 50).

Little (1982) provides a second illustration of how learning methods interact. She contends that continuous professional development appears to be most surely and thoroughly achieved when teachers engage in frequent, continuous, and increasingly concrete and precise talk (dialogue) about teaching practice. In conjunction with dialogue Little claims teachers learn by: 1) frequently observing and critiquing each other’s teaching; 2) planning, designing, researching, evaluating, and preparing teaching materials together; and 3) teaching and practicing with each other the art of teaching (p. 331).

Senge (1993) and Gitlin (1992) also cite the merits of dialogue and assert that practicing dialogue with the inclusion of research is an important step in validating views and gaining receptivity. The range of benefits from dialogue includes sharing ideas, expansion of knowledge, and easing teacher isolation. Successful dialogue in schools allows teams to practice and develop needed skills. Three basic conditions must exist for successful dialogue to occur. First, all members of the team are together; a team is comprised of all of those who need one another in order to act. Second, ground rules need to be explained so team members can distinguish between “discussion” and “dialogue” (dialogue requires that members suspend their assumptions). Third, team members need to be encouraged to raise the most difficult, subtle, and conflicting issues essential to the team’s work.

Hargreaves and Fullan (1992) argue that reflection is the key to teacher development. They insist “there is no other way to further the advancement of
teachers along the lines that lead to a deepened and intensified appreciation of the social and cultural complexities of their work" (p. 72). Other forms of teacher development exist, but they cannot substitute for the kind of enriched understanding that only prolonged reflection, from a variety of perspectives, can ultimately produce (p. 72).

Hargreaves and Fullan (1991) categorize four forms of reflection which range from a thinking process that is separated from action to one which takes place in the moment of action. The first form of reflection, introspection, takes place away from the action and involves looking inwards and rethinking one's thoughts and feelings about some issue (p. 193). Replay and rehearsal also takes place at some distance from action. It not only involves teachers' discourse about events that have occurred, but also the possibility of future actions (p. 195). Enquiry is a form of reflection which involves both action and discourse about action. It includes a process of deliberate movement between action and discourse (p. 200). The fourth form of reflection, spontaneity, is tacit reflection which takes place within the stream of action. Spontaneity occurs when teachers seize the moment and change the direction of their action without turning their attention away from the action (p. 204).

Like Fullan and Hargreaves, Louden (1991) asserts that reflection is the method most frequently associated with changes in professional knowledge. He identifies two dimensions in which reflection takes place, namely, interest and form. Interest refers to the purpose of the reflection, such as problem solving, developing deeper personal understanding, critiquing conditions of personal action, or application of theory. Form refers to the characteristics of the act such as introspection, thinking, feeling, replay, rehearsal, systematic enquiry, or
spontaneous action.

In summary, inquiry (enquiry), dialogue, practice, observation, and reflection are predominant methods by which teachers learn as individuals and as members of a team. These methods often operate concurrently and, when consistently used, lead to creating, sustaining, and motivating teachers throughout their careers.

Factors Which Impact Teacher Learning

Rosenholtz (1989) and Byham (1992) contend that teacher learning, whether it be individual, team or organizational, does not just happen on its own; it needs to be facilitated. In her study of elementary schools in Tennessee, Rosenholtz was able to classify a significant number of teachers as being "moderately learning impoverished" as well as "learning impoverished." Byham in his writings asserts that continuous improvement is a difficult concept to implant; teachers struggle with putting in extra effort to try out new ideas, helping students with particular difficulties, reducing the amount of paperwork, and taking on difficult learning challenges. It appears that schools, supposed to be our primary institutions of learning, may also suffer from a lack of effective learning among those who are the primary agents of instructional delivery.

Traditional wisdom, stressing the sole importance of talent and desire in determining success (learning), may be erroneous; evasive barriers may prevent learning. Seligman (1990), Senge (1990) and Hargreaves and Fullan (1992) have written extensively about these barriers; Seligman posits that a lack of optimism prevents learning from taking place; Senge claims that organizational learning disabilities are prohibiting factors; and Hargreaves and Fullan contend that the very nature of the school's culture may be an impediment.
Sweeney (1993) insists a *systemic view of the whole organization* is necessary in order to uncover the factors that facilitate or impede teacher learning. In his "Organizational Systems Model" (Reference Figure 2) Sweeney depicts the dynamic interaction of six elements in an organization which directly impact how an organization functions.

The next four subsections are devoted to factors which impact teacher learning, namely optimism, school culture, learning disabilities and organizational system elements.

**Optimism**

Why don't teachers just learn what they need to know and develop the new skills they need to employ? Seligman (1990) offers a provocative explanation. He claims traditional wisdom has erroneously accepted that a combination of talent and desire comprise the keys to success in the workplace and learning in school; when failure occurs, it is assumed one or the other must be missing.

Seligman (1990) concurrently argues that the lack of optimism, or pessimism, is an overlooked obstacle to learning. While talent and desire may be important for success in workplaces and for learning in schools, "failure takes place when optimism is missing even though talent and desire may be present in abundance" (p. 13). Seligman describes an optimistic person as one who sees defeat as a temporary setback. The optimist knows the causes of defeat are no fault of his/her own. These causes are confined to a given circumstance and are not pervasive. Confronted by a bad situation, the optimist will try harder. Optimists will "do better in school, win more elections, and succeed more at work than pessimists. They even seem to lead longer and healthier lives" (p. 97).

Rosenholtz (1989) and Lawson and Ventriss (1990) concur with Seligman in
regards to the role of optimism plays in facilitating teacher learning. Rosenholtz describes optimism and hope as two qualities that “keep teachers reaching for new teaching challenges, fresh opportunities, and ever-expanding technical knowledge” (p. 165). Lawson and Ventriss contend if people consistently perform well over a period of time and observe others around them performing at high levels within the organization, they develop personal as well as collective efficacy (optimism) (p. 216).

On the other end of the spectrum, Seligman (1990) asserts that pessimists tend to believe a bad event will last a long time and will undermine everything they do. Pessimists who personally blame themselves for unfortunate occurrences will eventually develop a learned helpless frame of mind (p. 4). Those who are learned helpless give up or they quit trying to acquire knowledge and skills because of their pessimistic belief that “whatever they do doesn’t matter.” Faced with adversity those who are learned helpless will simply give up (p. 15). Fullan (1982) and Rosenholtz (1989) concur with Seligman. Fullan cites pessimism or discouragement about one’s work as being directly tied to decline in motivation, apathy and a tendency to rationalize failure by blaming others (p. 112). Likewise, Rosenholtz claims teachers devise self-protective strategies when feel they are unable to control situations; they may refuse to participate or simply not try.

One’s personal level of optimism/pessimism can be attributed to individual personality characteristics as well as work place conditions. Seligman (1990) posits that pessimism is a personality trait that can be changed. In his book entitled Learned Optimism, he provides an approach that, with concerted practice, allows the learned helpless to view the world differently, acquire an optimistic disposition and enhance learning. Rosenholtz (1989) contends that teachers’
regard for their work and their workplace conditions also impact their level of optimism/pessimism. These conditions can make them feel professionally empowered and self-fulfilled or professionally stymied and unappreciated.

Examples of workplace conditions which detract from optimism are reported by Henson (1987) and Kilmann, Saxton and Serpa (1985). Henson claims today's teachers are often overwhelmed with innovations which leads to feelings of hopelessness. "Too often teachers become enthusiastic about the opportunity to be creative only to see their invested time, energy and talents wasted as the innovation is discontinued shortly after its development" (p. 126). Kilmann et al. contend that workplace conditions can contribute to a feeling of helplessness as a result of constant exposure to simple solutions and crash programs. "When not combated, learned helplessness can nurture a pervasive negativity that presents a formidable obstacle to cultural change" (p. 347).

In summary optimism facilitates teacher learning; teachers who are optimistic are inclined to take on new challenges, search for new opportunities, and continuously acquire knowledge. At the other end of the spectrum, pessimism impedes teacher learning; teachers who are pessimistic lack motivation to learn and give up in the face of adversity.

**School Culture**

A second factor which impacts teacher learning is school culture. This section of the review will define, characterize, report the uniqueness of, and illustrate the impact of culture in an organization. An assumption being made in this section is that schools are examples of organizations, thus the terms "organizational culture" and "school culture" will be used interchangeably.

A broad definition of organizational culture as found in Hoy and Miskel
(1987) is "the set of shared orientations that holds a unit together and gives it a distinctive identity" (p. 262). The concept of "shared orientations" as found in the preceding definition is complex in nature and represents a variety of perceptions among authorities in the field: Ouchi (1981) claims shared orientations in organizational culture are the underlying values and beliefs of an organization which are communicated to employees through symbols, ceremonies, and myths; Kilmann et al. (1985) view them as "the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes, and norms that knit a community together" (p. 5); while Schein (1992) posits that shared orientations (beliefs and assumptions) in the culture operate subconsciously in a basic "taken-for-granted" manner, and they define an organization's view of itself and its environment.

Characteristics of culture can be described in many different ways. Six major characteristics, which are of particular importance for this study, are briefly outlined below. These characteristics are grounded in research and provide a deeper insight into the nature of culture. 1) **Culture is a complex whole comprised of many mutually interdependent parts.** To understand culture one must look at the entire whole and not attempt to explain individual parts until their relationship to the whole has been made clear (Schusky and Culbert, 1967). 2) **Culture is learned.** Cultural learning takes place as group members interact socially and engage in a complex learning process that allows the group to solve its problems as it learns (Schein, 1992). 3) **Culture is shared.** Culture is shared basic assumptions and therefore is attributed to groups of people rather than individuals (Schein, 1992). 4) **Culture is cumulative.** All of the habits and ideas are successively passed on to newcomers (Schein, 1992). 5) **Culture is diverse.** A pluralistic view of culture implies members of the larger group can also belong to a smaller group(s).
within the organization. Any social unit will produce subunits, which in turn lead to
the establishment of subcultures (Sackmann, 1991; Schein, 1992). 6) Cultures do
change, sometimes slowly. Cultures are not static but are dynamic complexities
with the capacity for change (Schneider, 1990).

Every organization has a unique culture, likewise each organization
operates, reacts, changes, rejects, accepts, grows, stagnates, learns, etc., in a
unique fashion (Denison, 1990; Kilmann, 1984 & 1985; Ouchi, 1981; Schein,
1992; Schneider, 1990). Understanding the uniqueness of culture in a given
organization requires a dual examination of elements and levels of existence
(Schein, 1992). Three key elements of culture which warrant examination include:
1) the history of shared learning experiences; 2) how values, rituals, behaviors and
norms are integrated (patterned) in order to comprise the coherent whole; and 3)
the shared basic assumptions that allow learning to take place at a conceptual
level. Existence of culture warrants inquiry at three levels. Level one consists of
artifacts (visible manifestations of the culture) such as language, art, and behavior
patterns. Level two consists of consciously espoused values which direct the
development of organizational goals and philosophies. Level three consists of the
subconscious, taken-for-granted beliefs and assumptions which intuitively guide
group behavior (Schein).

Culture impacts an organization in a number of ways; the writings of
Denison (1990), Kilmann (1984), and Hargreaves and Fullan (1992) illustrate just
three examples. Denison contends that the underlying beliefs, values, and
principles found in the organization’s culture serve as the foundation for its
management system, management practices, and behaviors that represent those
basic principles. These principles and practices endure because they have
meaning for the members of the organization. Organizational effectiveness can best be understood by examining the underlying beliefs and values which are linked to desired motivation and behaviors among its members.

According to Kilmann (1984), culture is the energy that moves an organization into action by providing meaning and direction. Shared commitments and mutual influence among group members are the sources of energy. Energy can promote behaviors which cause an organization to flourish or promote dysfunctional behaviors which cause an organization to be ineffective.

Hargreaves and Fullan (1992) expound on organizational culture as it specifically relates to teacher learning. They stress that teacher learning, and subsequent improvement, is contingent upon understanding the dynamics of the school's culture. They maintain teachers are holistic beings that cannot be arbitrarily separated from the context, or culture, in which they perform their duties; Teachers are part of a wider teaching faculty and are impacted by interactions with other teachers, and by collective norms, beliefs and values which are ingrained in the school's organizational system. Opportunities for teachers to acquire new knowledge skills must be ingeniously structured and presented in harmony with the nature of the school's culture if they are to be successful; merely providing learning opportunities for teachers and universally expecting them to acquire knowledge and skills is unrealistic.

Collaboration is a major cultural trait that Hargreaves and Fullan have identified as critically important in facilitating teacher learning. Unfortunately an individualistic form of culture dominates schools. They describe teachers in an individualistic culture as, "standing alone, behind closed doors in the insulated and isolated environment of their own classroom" (p. 220). Classroom isolation affords
teachers the psychic rewards of privacy and protection from outside interference. However, isolation stymies accountability, criticism and praise. Isolated teachers also suffer from being uncertain of their own worth and value because of a lack of adult feedback.

Teacher learning flourishes when a school’s culture is collaborative. Collaborative culture is related to successful implementation of educational change, a strong record of school-fostered improvement, good practices in professional development, positive outcomes in pupil achievement, and improvement in the health of the organization. Schools need to develop collaborative cultures where teachers routinely support and learn from each other (Hargreaves & Fullan, 1992; Joyce, Wolf, & Calhoon, 1993). Unfortunately, Lortie (1975) found most teachers falsely believe their own learning and instructional success are the product of interactions with the students in the classroom; other persons, including other teachers, are potential hindrances.

To summarize, culture is a shared set of assumptions that hold an organization together and give it a unique identity. Assumptions include such things as beliefs, values, norms and expectations. Culture is complex, learned, shared, cumulative, diverse, and subject to change. Collaborative cultures (as opposed to individualistic cultures) are more conducive in promoting teacher learning. Ultimately, learning opportunities for teachers must be ingeniously designed and presented in harmony with a school’s culture.

**Learning Disabilities**

Learning disabilities comprise a third factor which impacts teacher learning. Learning disabilities are deeply embedded attitudes, ways of thinking, and habitual patterns of interaction which impede learning from taking place. Senge (1990)
claims learning disabilities may have tragic effects for organizations due to their undetectable nature and their repressive influence on learning. In his book, *The Fifth Discipline*, (1990) he identified a number of organizational learning disabilities which have been causing organizational learning havoc for hundreds of years. Other researchers, such as Lieberman and Miller, Fullan, Tewel, Muncey and McQuillan, March, Lawson and Ventriss, Rosenholtz, Lortie, Sarason, Shrivastva, and Gitlin, concur with Senge and have identified additional learning disabilities. Learning disabilities that are of particular significance for this study include: 1) I am my position; 2) the enemy is out there; 3) the delusion of learning from experience; 4) the fixation on events; 5) uncertainty; 6) rationalization; 7) paradigm paralysis; and 8) immediacy of learning.

*I am my position*

The learning disability, "I am my position," occurs when people confuse their jobs with their identities ("I’m a teacher") (Fullan, 1982; Lieberman & Miller, 1991; Senge, 1990; Tewel, 1993). Senge asserts that focusing on a given position makes it very difficult to see how one’s actions have an effect beyond the position. Fullan contends that this confusion stems from the accumulated wisdom of how to handle the job which is derived from one’s own experience and the experience of all who have had the job before or share it with them. Trying to change the “I am my position” mentality is personally threatening to teachers because it “may invalidate their history of experience, rob them of the skills they have learned, confuse their sense of purpose, and upset the subtle rationalizations and compensations by which they reconciled the different aspects of their situation” (p. 29).

The impact of a narrow job definition (I’m a teacher) leads to little or no
sense of obligation to the improvement of the school as a whole. Lieberman and Miller assert teachers who lack a sense of self are the kinds of people who sit back and affirm that they are defined, indeed identified by their roles. The critical point is that teachers must be interested as well as reflective. If not, teachers are likely to become bored and uninterested - “They had dreamed; they had wandered; they had taken no responsibility. Then they blamed chance, circumstances, the times into which they were born” (p. 8).

While teachers understand their daily tasks, they don’t always understand the purposes of the organization in which they work. It is nearly impossible to build a good school when teachers see themselves in a system where they have little power, assume no responsibility for poor results, and thus confine their involvement to their own classroom (Tewel).

The enemy is out there

A second learning disability, “the enemy is out there,” occurs when an external agent is blamed when problems arise (Muncey & McQuillan, 1993; Senge, 1990; Tewel, 1993). Senge argues this is a result of looking at the world in non-systemic ways; focusing on an external enemy is almost always a mistake - usually “out there” and “in here” are part of the same system (Senge, 1990).

Muncey and McQuillan (1993) claim that even in schools characterized by poor attendance, low scores on standardized tests, and high dropout and failure rates - schools in which outsiders might assume that there would be consensus about the need for change - there was none. Instead, faculties felt “that society needed to change because of present social conditions (eg. single-parent families drug abuse, general disrespect for authority) made it difficult for successful teaching to occur” (p. 487).
Tewel (1993) supports the preceding arguments and contends some teachers have elevated avoidance of responsibility into a fine art - finding someone or something other than themselves to blame for everything that goes wrong. In other words, the enemy is everything "out there" that prevents the staff from doing a good job.

The delusion of learning from experience

People often learn from experience, consequently they repeat actions associated with good outcomes and discontinue actions associated with bad ones. "If the world makes simple sense, and is stable, then repeating actions associated with good outcomes is intelligent" (March, 1981, p. 568). However, relying on experience alone can create a learning disability. The dynamic nature of modern society requires examining new solutions to problems. Perpetually sticking with what has worked in the past creates a real vacuum in exploring new methods and potentially better ways of conducting business.

Lieberman and Miller (1991) assert that in order for teachers to learn from experience they must have time to think about that experience. "Having an experience does not constitute learning about it; having an experience and then thinking about it to make sense of it does" (p. 113). Unfortunately, schools are not organized for teachers to have time to make sense of their experiences; teachers rarely have time to think about what they do, about what works, and what does not (and why). Traditionally, schools are not organized to allow teachers to work and think together.

Fixation on events

This learning disability occurs when people are dominated by events: new budget cuts, who got fired, new innovative procedures, and so on (Senge, 1990;
Tewel, 1993). Senge posits the issue for the staff becomes how to respond to the "event," rather than seeing the underlying causes. Events cause distractions in the recognition of long-term patterns of change and the causes that lie behind them. That, of course, inhibits the understanding of patterns. Slow gradual processes like environmental decay or the erosion of the educational system are much more destructive than sudden events.

Learning how to discover slow, but important, underlying changes requires taking the time to pay attention to subtle shifts. The old adage - you can't redesign an aircraft when it is in flight while the minds and bodies of the crew are devoted to keeping it airborne - also applies to schools; "It is impossible to rethink a school's structure and instructional program while staff energy is fully engaged on keeping it operating; just managing to get by, so to speak" (Tewel, 1993, p. 51).

Uncertainty

A fifth learning disability found in research is uncertainty. Fullan (1982) describes uncertainty and factors that contribute to uncertainty among teachers as:

- being unsure about how to influence students, especially about non-cognitive goals, and even whether they are having an influence; they experience students as individuals in specific circumstances who, taken as a classroom of individuals, are being influenced by multiple and differing forces for which generalizations are not possible;
- teaching decisions are often made on pragmatic trial and error grounds with little chance for reflection or thinking through the rationale; teachers must deal with constant daily disruptions, within the classroom managing discipline and interpersonal conflicts, and from outside the classroom in collecting money for school events, making announcements, dealing with the principal, parents, central office staff, etc., they must get through the daily grind; the rewards are having a few good days, covering the curriculum, getting a lesson across, and having an impact on one or two individual students (success stories); they constantly feel the the critical shortage of time. (p. 27)
The research of Rosenholtz (1989) and Lortie (1975) also support the adverse impact uncertainty has on teacher learning. Rosenholtz claims many teachers face uncertainty as they go about their work - uncertainty about how teaching should best be done to enable their students to learn. Their technical culture is labeled as being uncertain because outcomes of the work are highly unpredictable due to the variable characteristics of students. Consequently, they do not automatically reach for solutions to the myriad of learning problems they confront. Lortie claims the teaching profession is "marked by the absence of concrete models for emulation, unclear lines of influence, multiple and controversial criteria, ambiguity about assessment timing, and instability in the product" (p. 136). Some teachers find it difficult to maintain their self-esteem when they work for long periods of time without sure knowledge they have had any positive impact on their students (p. 144).

If uncertainty is on one end of the continuum, efficacy would be at the opposite end. Efficacy is a belief that the teacher can help even the most difficult or unmotivated students. Efficacy is a powerful individual teacher attitude about his/her own professional competence. It has a fundamental and critical influence on what happens as a result of planned change efforts (Lieberman & Miller, 1991).

Lawson and Ventriss (1992) view self-efficacy as a person's judgment of his/her own capabilities to organize and implement courses of action in order to attain desired results. They claim that "efficacies can be shaped systematically at the individual and organizational levels when cultural change programs include specific goals, performance standards, incentives, performance feedback mechanisms, and the promotion of higher level organizational learning" (p. 215).
Rationalization

A sixth learning disability of importance is rationalization. Rationalization is finding excuses, often unconsciously, for something one desires. Teachers tend to rationalize that the way they conduct instruction is just as good, if not better, than any new proposed change could possibly yield. Lortie (1975) claims the rational assumptions, abstraction, and description of various educational related components do not make sense in the capricious world of the teacher. Lortie states, “many proposals for change strike them as being frivolous - they do not address the issues of boundedness, psychic rewards, time scheduling, student disruption, interpersonal support, and so forth” (p. 235).

There is little or no reason for teachers to believe in change. House (1974) contends that the personal cost of trying new innovations is often high; there are very few incentives to change and seldom is there any indication that innovations are worth the investment. Innovations are acts of faith; “they require that one believe that they will ultimately bear fruit and be worth the personal investment, often without the hope of immediate return” (p. 27).

Paradigm paralysis

Paradigm paralysis is a seventh learning disability. Shrivastva (1983) describes paradigm paralysis among teachers as the tendency to reject messages which contradict their personal opinions, while being receptive to messages that reinforce their opinions. “It involves not only selective retrieval from memory of information that supports existing opinion but also active construction of new arguments required to refute novel, opinion-opposing arguments” (p. 213). Through paradigm paralysis people manage knowledge in a variety of ways to promote the selective availability of information which confirms judgments already
concluded.

Sarason (1971) concurs with Shrivastva by contending teachers are “too conforming, intellectually and personally, and resist new ideas and the need to change” (p. 16). Sarason cites three factors which promote paradigm paralysis including: 1) teachers tend to teach the way in which they themselves were taught; 2) professional preparation for teachers minimally exposes the relationship between theory and practice; and 3) the predetermined curriculum suggests teachers cover a certain amount of material within certain time intervals with the expectation that their pupils as a group will perform at certain levels at certain times. These factors reinforce regularity among teachers which leads to paradigm paralysis. Sarason claims the relationship between paradigm paralysis and the culture of the school by stating, “failure to consider or recognize a universe of alternatives is one obstacle to change occurring from within the culture, and makes it likely that recognition of this universe of alternatives will await events and forces outside the culture” (p. 86).

Immediacy of learning

Immediacy of learning becomes a learning disability when teachers care less about tasks and activities rooted in organizational matters than those rooted in the classroom. Teacher purposes revolve around classroom events, and when a conflict arises between classroom demands and organizational demands, teachers favor those originating in the classroom (Gitlin, 1992; Lortie, 1975).

In his research Lortie identified a pattern he labeled as being “striking”; positive events and outcomes were directly associated by teachers with the relationship between themselves and their own students. However, negative events were associated with everyone who would be an "outside intruder" on
classroom events, such as parents, the principal, the school nurse, colleagues, etc. Lortie claims teachers define school-wide tasks as negative because they take time and energy away from the primary setting, the classroom. Teachers want to maintain a time-bound but definite monopoly over students' attention and involvement. A key erroneous belief perpetuating this mind set is that student attention and response flourish when there is a bounded and protected space. Teachers clearly prefer boundedness.

Summary

Learning disabilities are deeply embedded in attitudes, ways of thinking, and habitual patterns of interaction which adversely impact teacher learning. Learning disabilities of particular importance include I am my position, the enemy is out there, the delusion of learning from experience, the fixation on events, uncertainty, rationalization, paradigm paralysis, and immediacy of learning. Senge (1990) posits that learning disabilities can be remediated through concerted practice of the five disciplines of the learning organization which include developing personal mastery, using mental models, facilitating shared vision, fostering team learning and employing systemic thinking.

Organizational System Factors

Organizations, such as schools, are comprised of interdependent systems of social interaction. Hoy and Miskel (1987) have identified three contemporary perspectives of systems, namely rational, natural, and open. Each perspective is relatively unique, yet has overlapping, complimentary, and even contradictory viewpoints.

Achievement of specific organizational goals is the focus of the rational-systems perspective. Hoy and Miskel describe rationality as "the extent to which a
set of actions is organized and implemented to achieve predetermined goals with maximum efficiency” (p. 17). Goals direct decision making, guide the formal structure, specify tasks, prioritize the allocation of resources, and determine design decisions. A key aspect of this perspective is formalization. Formalization refers to the formal structure of rules which explicitly govern behavior, job descriptions, policies, procedures, and the work flow. The intent of formalization is to standardize and regulate behavior so it can be readily identified and modified when changes are required.

The natural-systems perspective focuses on the survival of social groups in an organization. From this perspective the specificity of goals and formalization, that are of primary importance in the rational-systems perspective, are truly of secondary importance. From the natural-systems perspective, “the organization strives to survive and maintain its equilibrium, and this striving may persist even after its explicitly held goals have been successfully attained. This strain toward survival may even on occasion lead to the neglect or distortion of the organization’s goals” (Gouldner, cited in Hoy & Miskel, 1987, p. 18).

The open-systems perspective is grounded in the belief that organizations cannot be separated from their environments. Organizations are not only influenced by their environments, they are dependent upon them. Hoy and Miskel describe this dependent relationship as taking inputs from the environment, transforming them, and producing outputs. In an educational setting this involves taking resources, such as labor, students, and community direction from the environment, subjecting these inputs to the educational process, and producing literate students and graduates. Key characteristics of open-systems include: 1) the capacity for cyclic feedback through the “input-transformation-output” process;
2) growing dynamically, yet seeking new states of equilibrium when confronted by disruptive forces in the environment; and 3) maintaining a favorable position with their environment by adapting to changing environmental demands (p. 20).

Organizational systems model

Modern organizations are dynamic and complex. Senge (1990), Luthans (1985) and others have described how an enormous set of complex and ever changing factors interact to create problems unresolvable without systems thinking. Consequently, an organizational systems model (Reference Figure 2) was designed by Sweeney (1993) to help understand that complexity, and clearly identify the factors at play in the system.

The organizational systems model depicts the interdependent factors which must be considered in studying or providing leadership in an organization. These factors include purpose/strategy, structure, culture, process, ecology, and environment. Purpose/strategy is reflected in an organization's mission, goals and work technology; it interacts with the environment, structures, processes, and the human system in an ecological system that is dynamic and suffers entropy. There is no "straight line" relationship between factors; they constantly interact to influence productivity and client and employee job satisfaction. The environment influences the goals, mission and work technology of the organization. The goals, mission and work technology of the organization influence the environment, structures, processes and the human system that must achieve organizational purposes. These purposes are, in turn, influenced by those same structures, processes, and human system. Structures influence the environment, processes and the human system and in like manner are influenced by each of those three elements. Each of the six factors are constantly interacting and changing due to
the interdependent, ecological essence of the elements.

Included in the organizational systems model are specific facets of each of the six factors. They reflect components identified in the literature as instrumental in producing organizational outcomes.

Figure 2: Organizational systems model
The element of school culture has already been presented in a previous section of the literature review and will not be addressed further. The remaining five elements will be summarized in the remainder of this subsection.

**Purpose-strategy**

The organizational systems element, purpose-strategy, is comprised of purpose, vision, mission and goals. These factors are interdependent and provide the necessary focus and energy for teachers to assist in achieving the desired outcomes of the school.

*Fullan and Hargreaves (1991)* contend that change in education necessitates attention to teacher's purpose. Instituting a sense of purpose resides in "embodying a particular culture of teaching, a particular set of working relationships among teachers and their colleagues that bind them together in a supportive, inquiring community, a community committed to common goals and continuous improvement" (p. 36). Practices which facilitate embedding purpose into the context of the culture include giving voice to the teacher's purpose; encouraging teacher dialogue; providing opportunities for teachers to confront the assumptions and beliefs underlying their practices; actively listening and learning from what teachers have to say about change; empowering teachers and their schools to engage in substantial decision making responsibility for curriculum and instruction; and instigating a forum for teachers to discuss and formulate their purposes together.

*Senge (1993)* describes vision as an ever-present mental picture of what one wants to create. Vision has the ability to uplift individual aspirations as well as to create a sense of commonality (shared vision) that binds people together for a greater good. Both personal vision and shared vision must be present for an
organization to flourish.

Personal vision emerges through the development of personal mastery. As previously described in the review of literature, personal mastery is the discipline of continually expanding one's ability to create the results s/he truly seeks. Personal mastery encompasses a commitment to the truth and employing creative tension.

Shared vision in an organization emerges from the personal visions held by its members. In essence, shared vision is collectively rooted in the sets of values, concerns and aspirations of individuals. Within the right cultural context, individuals seek to build shared visions in their desire to be connected in an important undertaking.

Educational leaders intent on building shared visions must be willing to continually share their personal visions. The process of building shared vision is not glamorous. Being a visionary leader is not about giving speeches and inspiring troops; it is about solving problems with one's vision in mind.

Hoy and Miskel (1987) describe organizational goals as future states of affairs the organization is attempting to achieve; they are images and desired ends. The importance of goals in an organization is touted by a number of researchers, two of which include Gerloff (1985) and Rosenholtz (1989). Gerloff contends "goals are the centerpiece of an organization. Without goals an organization is nothing more than a crowd ... an aimless mingling" (p. 7). Likewise, Rosenholtz claims, "If there is any center to the mystery of schools' success, mediocrity, or failure, it lies deep within the structure of the organizational goals: whether or not they exist, how they are defined and manifested, the extent to which they are mutually shared" (p. 13).

Hoy and Miskel (1987) identify three types of organizational goals - official,
operative, and operational. Official goals are formal statements of purpose formulated by the administration to articulate the mission of the school. Operative goals reflect the true intentions of the organization, irrespective of what officials claim, they mirror the actual tasks and activities of the organization. Operational goals are characterized as containing specific criteria to measure student achievement (For example, eighty percent of the students will pass the minimum competency exam in vocabulary).

Organizations face dynamic and complex situations which require establishing specific and challenging goals of all types, accepting the specified goals, continuously monitoring progress towards goal achievement, and making systematic adjustments on the basis of desired results.

Structure

Structure is a second element in the organizational systems model. Simply defined, structure is the manner by which an organization divides its labor into tasks and achieves coordination among them. Tewel (1993) states, “if an organization is to have a common purpose and goals it must have a structure to support development to that end, one that is capable of transforming both the process of work and its effects” (p. 53).

Hoy and Miskel (1987) posit that an organization has both formal and informal structures. Formal structures are consciously and carefully planned in order to achieve explicit goals and carry out administrative tasks. Formal structure is comprised of such things as official processes, policies, rules, procedures, chain of command, and division of labor, which are designed to attain goals effectively. Authority relationships are integral components in the formal structure of an organization. Authority refers to subordinates’ willingness to suspend their own
criteria for making decisions and comply with directives from a superior. The beneficial result is that the formal structure has the right, within limits, to define role expectations which influence social behavior and resulting goal attainment.

Informal organizational structures include a system of interpersonal relations that develop in response to opportunities created by the formal structure. It is a system not included in the organizational chart or official blueprint; the official rules and regulations as found within the formal structure must be broad enough to cover a wide variety of situations. Consequently, the application of general procedures leads to informal practices. Hoy and Miskel (1987) argue that "teachers, administrators and students within schools inevitably generate their own informal systems of status and power networks, communication, and working arrangements and structures" (p. 217). The informal system in an organization may be favorable and supportive, or unfavorable and destroy the formal structure.

Gitlin, Fullan and Hargreaves, Krajewski and Zintgraff, Rosenholtz, Fiol and Lyles, Tewel, Shrivastva, and Lortie have identified structural factors that act as barriers to organizational goal achievement and educational reform. Gitlin (1992) and Hargreaves and Fullan (1992) claim that such things as teacher isolation, job intensification and job overload act as barriers. Teaching has changed dramatically over time due to intensified expectations and diffuse obligations. As teachers face up to rising and widening expectations in their work and to the increasing overload of innovations and reforms, it is important they work and plan more with their colleagues, sharing and developing their expertise together, instead of trying to cope with the demands alone. Unfortunately, Tewel (1993) claims many organizations have created a structural teaming disability that, "is no less crippling than the one experienced by a dyslexic child trying to make sense of
Krajewski and Zintgraff (1977) identified structural constraints to innovation in the physical plant itself; building size, space arrangement, classroom size, teacher's lounge, traffic/movement of people, climate control features, lighting control features, efficiency of office space, lack of special-use spaces (nurse's office, gym, resource center, auditorium) can restrict the effectiveness of an organization.

Rosenholtz (1989), Fiol and Lyles (1985), and Shrivastva (1983) identify the theme of bureaucracy and limited decision making as structural barriers to change. Rosenholtz claims bureaucratic structure is most efficient when organizational tasks are routine and people can perform them over and over with exactly the same result. But when tasks are not well understood, people require more direction in their performance and more interaction between them is needed. "Because teaching is non-routine, because there are more art, craft, and finely honed skills involved, traditional bureaucratic structures are operationally dysfunctional to the work of successful schools" (p. 167).

Organizations need the flexibility to employ centralized and decentralized decision making structures. Centralized decision making structures facilitate efficiency and reinforce past behaviors, whereas a decentralized structure allows shifts of beliefs and actions (Fiol & Lyles, 1985; Shrivastva, 1983). The predominant structure in Western culture is centralized, primarily geared for production and efficiency. Such structure serves to effectively allocate work, control costs, and delegate responsibilities. The drawback of this structure is the lack of sensitivity and adaptability to emergent problems; in essence, centralized structures retard learning. Organizations can be designed to encourage learning
and reflective action taking, but this usually means moving away from centralized structures. Employing a decentralized structure gears the organization towards knowledge generation and problem solving.

Lortie (1975) claims “teaching is exacerbated by teaching’s somewhat unique structural characteristics” (p. 160). He cites two characteristics in particular that appear to be common, namely the pattern of eased entry and the unstepped nature of the career line. Teachers are inclined to talk about their training as easy; education courses were not too difficult, or did not demand too much effort. Consequently, teachers do not perceive their preparation as conveying something special. Deference can reassure people of their worth and competence. Unfortunately, teaching careers typically offer little support of this kind. A common practice which exemplifies this scenario is a teacher with forty years of experience being replaced by a rank beginner. Older teachers, in fact, may find that students tend to give more deference and affection to their younger colleagues.

Process

Process is a third factor in an organizational system. Process in organizations defines choice, effort, and the persistence of certain behaviors. Process components include such things as leadership, human resource development, decision making, implementation, and evaluation.

In regards to leadership, Barth (1990) argues, “it is impossible for one person to run an institution as complex as a public school. The person who attempts to do it all may get a measure of control and uniformity but pays for these successes with ineffectiveness and exhaustion” (p. 60). The stereotype of a leader as a “charismatic decision-maker” must fall by the way side. Complexities in society call for: leadership generated at all levels; leadership entailing designing,
teaching, and stewardship; and leadership that is vigorous, integrative, supportive, and exhortative (Joyce, Wolf & Calhoon, 1993; Senge & Lannon, 1991).

Three important dimensions of the aforementioned leadership style include: 1) The ability to generate a collaborative community. A collaborative community incorporates a democratic framework and process which binds the organization together productively as opposed to embodying a strong man/strong woman who manipulates others; 2) The ability to effectively diagnose problems and lead others to find needs and create solutions as opposed to simply following established formulas to get things done; 3) Building organizations where people are continually expanding their capabilities to shape their future.

The second component in the process element is human resource development. According to Joyce et al. (1993), teacher (human resource) development efforts must "include provisions for immediate and sustained classroom practice, championship and peer coaching, and the study of implementation" (p. 29). Obviously, leadership directly affects the success of these efforts. Fullan and Hargreaves (1991) have identified leadership strategies which directly support and promote these initiatives, including freeing up time and resources to facilitate initiatives; being present at training sessions that are devoted to the initiatives; avoiding attachment to quick training fixes; and committing themselves and their staffs to long term improvement programs to in order to avoid the uncertainties and disappointments of early implementation difficulties (p. 14).

Decision making is a third component of the process element in the organizational systems model. Joyce et al. (1993) contend, "in the self-renewing school, priorities and coordination guide decision making to ensure that initiatives
in curriculum, instruction, and technology support one another and that excessive numbers of initiatives are not engaged in at any one time” (p. 29). Teacher involvement in this type of decision making process is of paramount importance; involving teachers in the decision making process lends substance and structure to collaboration and pursuit of implementing school goals (Rosenholtz, 1989). Joyce et al. claim student learning significantly increases when faculties develop a rigorous and supportive process for decision making.

Employing good decision making processes not only facilitates student learning and the accomplishment of school goals, it concurrently improves the effectiveness of teachers as well. Fullan and Hargreaves (1991) identified three decision making strategies that facilitate teacher improvement: 1) Teachers as a group are allowed greater latitude and discretion in making decisions that affect their students; 2) Teachers make decisions in collaboration with their colleagues in cultures which are characterized as helpful and supportive; 3) Joint teacher decisions extend beyond sharing of resources, ideas and other immediate practicalities. As colleagues sift through and reflect on strategies they also deliberate, evaluate, suggest, and modify their own classroom practices.

The decision making process often sets the stage for the implementation of initiatives (goals and strategies) that are generated. Implementation is only as good as the quality of the decisions that are made, the degree of decision acceptance, the level of the accompanying human resource development, the extent of on-going technical assistance and support, and the degree of commitment in the culture to successfully implement.

Implementation of new classroom initiatives by the teaching faculty is challenging. Lortie (1975) argues that teachers do “people work,” but they do it
under somewhat difficult conditions. Three unique qualities which typify these difficult conditions include the low degree of volunteerism in the teacher-student relationship, the problem from eliciting quality work from juveniles, and the group context of teacher endeavors (p. 37).

Formative evaluation is essential to successful implementation of initiatives. To be successful, evaluation must be embedded in the implementation strategy from the onset and include the study of the use of the initiative, the ability to modify the initiative while implementation is in progress, the determination of how much actually changed as a result of the initiative, and the effects it had on student learning (Joyce et al., 1993).

Evaluation of initiatives is particularly challenging at the classroom level where teachers work with inherently changeful materials. According to Lortie (1975), the objects of teacher efforts (maturing children) are suppose to keep changing after they have been taught. “The teachers craft, then is marked by the absence of concrete models for emulation, unclear lines of influence, ambiguity about assessment timing, and instability in the product” (p. 37).

Another pertinent facet of evaluation is teacher evaluation. The most useful evaluation systems place emphasis on improving individual and collective teaching practices within the school. Teachers and principals decide what to evaluate, how to evaluate, and what to do with the results (Rosenholtz, 1989). Unfortunately Barth (1990) asserts that formal teacher evaluation fulfills many purposes, few of them related to professional learning or improvement. He claims that evaluation is, “frequently organized around the needs of the school system to assemble a competent staff, to determine who should be hired, rehired, promoted, granted tenure, or dismissed, and to convince taxpayers and school committees
the system enforces rigorous expectations and is getting the most from its employees" (p. 56).

In summary, the process element in an organization defines choice, effort, and persistence of certain behaviors. Key process components include leadership, human resource development, decision making, implementation, and evaluation. All components are interdependent with each other and with other organizational elements as well.

Ecology

Ecology is a fourth element in the organizational systems model. Ecology describes the interdependent relationship an organization has with its environment. An interdependent relationship equates with schools being influenced by environmental factors, as well as being dependent upon them. Feedback provides self-correcting information to the school; feedback has the capability to create equilibrium (stability) within the school if it is as seen as being positive, or entropy (disorder) if it is seen as being negative.

Gerloff (1985) cites four factors which facilitate ecological change: 1) internal and external pressures to change; 2) a belief by some that they will gain influence and control via change; 3) an opportunity for the dominant coalition to enhance its control; and 4) a feeling among groups in the organization their interests are not currently being served.

Forces which push for ecological change in a given organization tend to reach a balance point between stability and change. Stability and change are at opposite ends of the spectrum and therefore in conflict. Forces in an organization which influence members to prefer stability include: 1) the costs of change, both tangible and intangible; 2) resistance to change in organizations that are
traditionally stable; 3) the potential for increased uncertainty and ambiguity for members; 4) the potential for conflict and need for renegotiation; 5) the threat to power structure; and 6) the risk of failure (Gerloff).

Fullan and Hargreaves (1991) contend that the nature of the ecological context of the school can make or break teacher development efforts. Therefore, understanding and attending to this context must be given full consideration. There are two broad ways in which the ecological context is important. First, the context of teachers' working environment provides for conditions in which teacher development initiatives fail or succeed; there are a multitude of factors which may facilitate or hinder teacher development initiatives, such as planning time, time taken away from class, class sizes, instructional resources, leadership, etc. Second, the context of teaching can be a source for teacher development itself; developing collaborative cultures where teachers consistently support, learn, and work with each other, is related to "successful implementation of educational change, a strong record in school-fostered improvement, good practices in professional development, and positive outcomes in student achievement" (p. 13).

Environment

The final element in the organizational systems model is environment. Theoretically, environment consists of relevant physical and social factors outside the boundaries of the organization. In reality, systems and organisms cannot be separated from their environments, because "their meaning and even their existence depends on their interactions with other systems and organisms" (Guba, 1989, p. 92). Rosenblum and Louis (1981) purport a similar relationship as Guba by claiming that the distinction between an organization (system) and its environment is never clear cut.
Although the distinction between an organization and its environment is blurred, an examination of the layers in two categories can assist in analyzing distinctions. The first category is the American educational system which has five layers - school, school district, state educational system, regional educational system, and national educational system. The second category reflects the system's sociocultural environments and includes the layers of neighborhood, community, state, region and society. Both categories and all layers are interdependent (Rosenblum and Louis, 1981).

Hurst (1989), Daft and Huber (1987), and Schein (1985) insist schools do not thrive unless they are actively plugged into their environments; schools must purposely look, listen, acquire, interpret and respond to accurate information in the environment as well as make positive contributions to it. Hurst (1989) argues there can be no significant change in how a school operates unless the larger community of learners is nurtured; "you never educate a child without educating a community" (p. 5). Daft and Huber (1987) claim the key to organizational success is for organizations to learn what their environment is, and determine which organizational design features work best in their particular environment. Schein (1985) insists "the environment initially determines possibilities, options, and constraints for an organization," and "external realities define the basic mission, primary task, or core functions of the organization" (p. 51). The organization must figure out how to successfully accomplish and maintain its primary mission in the face of a changing environment.

Maintaining a viable relationship to a changing environment in an organization is not without problems. Schein (1985) identifies four problems of external adaptation and survival: 1) obtaining a shared understanding of the
primary mission; 2) developing consensus on goals, as derived from the primary mission; 3) developing consensus on the means to be used to attain the goals, such as the organization structure, division of labor, reward system, and authority system; and 4) developing consensus on the criteria to be used in measuring how well the group is fulfilling its goals.

Pursuing organizational mission and goals, building consensus, and designing accompanying strategies require organizational learning. Fiol and Lyles (1985) argue learning will not take place in overloaded situations when either the internal or external environment is too complex and dynamic for the organization to handle. Learning requires both change and stability between learners and their environments. Too much stability within an organization can be dysfunctional to learners. Likewise, too much change and uncertainty make it difficult for learners to assess and understand their environment.

Section summary

Organizational system factors comprise this study's fourth factor which impacts teacher learning. (The three other factors include optimism, school culture, and learning disabilities.) Organizations, such as schools, are comprised of interdependent systems of social interaction. Three contemporary perspectives of organizational systems include: rational systems which focus on goal achievement, natural systems which focus on survival of social groups within an organization, and the open systems perspective which is grounded in the belief organizations cannot be separated from their environments.

Sweeney's (1993) Organizational Systems Model was used for the basis of this study. This model blends rational, natural, and open systems perspectives and is comprised of six elements which operate on a dynamic and interdependent
Purpose-strategy is comprised of purpose, mission, vision, and goals. It provides the organization with the necessary focus and energy so the outcomes of the school may be achieved.

Structure is the manner by which an organization divides its labor into tasks and achieves coordination among them. Structure provides the supporting system for organizational goal achievement through policies, rules, procedures, physical structure, chain of command, schedules and job descriptions.

Process in an organization defines choice, effort, and the persistence of certain behaviors. Key process factors include leadership, human resource development, decision making, implementation, and evaluation.

Ecology conceptualizes the interdependent relationship an organization has with its environment; organizations are influenced by environmental factors as well as being dependent upon them. A healthy organization reaches a balancing point between stability and change; too much stability causes dysfunctional operations while too much change creates chaos.

Environment theoretically consists of relevant physical and social factors outside the boundaries of the organization. In reality, it is questionable whether or not an organization can be distinctly separated from its environment. Effective organizations are plugged into their environments and maintain a viable relationship by developing consensus in mission, goals, and strategies.

Culture, as described earlier in the review of literature, consists of a shared set of assumptions which holds an organization together and gives it a unique identity. Shared assumptions include such things as beliefs, values, norms and attitudes. Culture is characterized as being complex, learned, shared, diverse, and
subject to change. Being able to develop a culture that can be described as collaborative will ultimately yield higher levels of organizational success.

**Qualitative Case Study Methodology**

The previous sections of this review of literature revealed a complex interaction of organizational factors which influence teacher learning. Yin (1989) claims case study may be the most appropriate research methodology to understand the complexity of organizational phenomena, because case study allows "an investigation to retain holistic and meaningful characteristics of real-life events" (p. 14).

Schneider (1990) and Marshall and Rossman (1989) describe the merits of qualitative research processes, commonly found in case studies, and support Yin's claim. They contend complexity requires members of a given organization to actively provide information and interact with others in their interpretation of this information before outsiders can understand and represent them. In other words, complicated phenomena cannot be understood unless one understands the contextual framework in which members interpret their thoughts, feelings, and actions. To be concise, qualitative research processes are imperatively important in understanding organizational phenomenon.

Teacher learning is an example of an organizational phenomenon to which Yin, Schneider, Marshall and Rossman refer. Likewise, Patton (1980), Cronbach (1980), Guba and Lincoln (1981) report that case studies have a distinctive place in evaluation research. The most important application is to explain casual links in real-life interactions which are too complex for survey or experimental strategies. Merriam (1988) concurs and identifies qualitative case study as "an ideal design for
understanding and interpreting observations of educational phenomena" (p. 2).

Qualitative case study research methods provide a legitimate means for accessing, understanding and accurately representing a variety of elements found within the contextual framework of an organization. An understanding of case study research methodology and accompanying qualitative processes were essential for conducting research.

The following sections in this review will describe and establish the appropriate application of case study research; present its validity, reliability and generalizability; and discuss the qualitative processes associated with individual interviewing, data analysis, and reporting of data.

**Description of Qualitative Case Study**

In its simplest form, case study involves an investigator who makes a detailed examination of a single subject or group or phenomenon. It often involves an extensive collection of data in order to produce an in-depth understanding of the entity being studied (Borg & Gall, 1989, p. 402). Forsythe (1994) recently composed a truly comprehensive description of qualitative case study. Rather than duplicating her thorough efforts, a verbatim description is included, starting with the ensuing paragraph and concluding at the end of this section on page 59.

Case study research is one form of descriptive, non-experimental design which is inductive in nature and results in words and pictures rather than numbers (Merriam, 1988). Bogdan and Biklen (1982) define case study as the observation of a specific situation, program, strategy, or group which involves the detailed examination of one setting, single subject, depository of documents, or particular event. Yin (1984) contends that case study is an empirical inquiry which uses multiple sources of data to investigate contemporary phenomenon within its real-
life context when the boundaries between the phenomenon and context are not clear. While Yin remains closest to the quantitative or positivist research paradigm in his definition and Merriam has moved solidly into the qualitative or naturalist research paradigm, these definitions seem to agree that case study in educational research is an examination of educational phenomena within one setting that uses multiple resources of data to provide a rich description of the “case” being studied.

In her discussion of case study research in education, Merriam (1988) includes a review of sources which offer characteristics and terminology related to qualitative case study. Her review yields four characteristics which she labels “essential properties of a qualitative case study” (p. 11). Case study is particularistic, meaning that it focuses on a particular or specific situation, event, program, or phenomenon. It is descriptive, providing a “thick” description of the phenomenon under study; heuristic, providing insight and illumination of the relationships of variables within the phenomenon; and inductive, allowing the generalizations, concepts, and hypotheses to emerge from the data which is grounded in the context of the phenomenon.

Implicit in the definitions, descriptions, and characteristics of case study research presented by various authors are conditions under which case study is the appropriate research design. Case study is suggested as the preferred research design for the study of contemporary events within which behavior of participants cannot be manipulated and the boundaries of the interacting phenomena cannot be delineated (Merriam, 1988; Yin, 1984). “How” and “why” questions are most appropriately examined with qualitative design, including case study (Marshall & Rossman, 1989; Merriam).

The desired end product of the research study also influences the selection
of the research design; a “holistic, intensive description and interpretation of contemporary phenomena” suggests qualitative case study (Merriam, 1988, p. 9). Because case study is an examination of a specific situation, program, or event (Bogdan and Biklen, 1982), a deciding factor in the decision to use case study design is whether a “bounded system” can be identified for the study (Smith, 1978). The bounded system is the case to be studied and is selected based on its characteristics such as being a representative example of the issue or phenomenon being studied (teacher learning), or on its intrinsic interest, such as a particular program of interest.

The focus of qualitative case study is influenced by the discipline within which the case study is grounded. Ethnographic case study is grounded in anthropology and involves an “intensive holistic description and analysis of a social unit or phenomenon” (Merriam, 1988, p. 23). Ethnographic case study is primarily concerned with culture as it attempts to describe the shared values and beliefs, stories, practices, and behaviors of the group being studied (Goetz & LeCompte, 1984). Historical case studies in education are descriptors of programs, institutions, and/or practices in terms of evolution over time as well as the context, the assumptions behind the phenomenon, and the impact on the participants. Psychological case study focuses on the individual and uses theories and techniques from psychology to examine human behavior. In education, psychological case studies have been used to study learning, the most well known being Piaget’s study of his own children to develop his own theory of cognitive developmental stages (Merriam). Sociological case studies in education differ from ethnographic or psychological through a focus on society and socialization rather than culture or the individual.
Sociological case studies contribute to the development of “grounded theory” which is theory that is developed from descriptive data “grounded” in real-life situations (Glaser & Strauss, 1967). In his discussion of sociological understanding, Douglas (1970) concludes that “any scientific understanding of human action...must begin with and be built upon an understanding of the everyday life of the members performing those actions” (p. 11). Educational case study is an attempt to understand the actions (behaviors) of humans within the school context and specifically actions and beliefs related to teaching and learning to build grounded theory to educational phenomena.

Qualitative case study can be described, not only in terms of its characteristics or its disciplinary foundations, but also in terms of the nature of the final report (Merriam, 1988). Descriptive case study in education provides basic information and rich description of the phenomena being studied without an attempt to develop or support theoretical constructs. Interpretive or analytical case studies use rich description to “illustrate, support, or challenge theoretical assumptions” Merriam, p. 28). Using an inductive analysis model, theory is abstracted and conceptualized from the data. Analytical case studies are characterized by complexity, depth, and theoretical operation (Shaw, 1978). Evaluative case study is similar to the analytical case study but uses rich description and explanation to make judgments regarding the phenomenon being studied (Goetz & LeCompte, 1984; Merriam; Patton, 1980; Stake, 1983).

Once defined and understood, case study research design does not dictate any particular set of methods for data collection or analysis; although interview, observation, and examination of documents (artifacts) are common techniques (Merriam, 1988). The purposes of the case study, however, do provide some
insight into the role of the researcher in the case study design. Qualitative researchers are more concerned with process, the how and the why questions, than with a product or outcome. They tend to be interested in meaning, and meaning is assumed to be embedded in the experiences of the participants in the phenomenon. The qualitative researcher is the primary instrument for data collection and analysis, and all data is filtered and mediated through the researcher (Merriam). Qualitative research, by nature, involves fieldwork in order for the researcher to observe the phenomenon in the natural context.

**Validity, Reliability and Generalizability**

As previously stated, the nature of qualitative research lends itself most appropriately to discovering and understanding complex organizational phenomena. Understanding cannot be gained by distancing oneself from the organization under study by using traditional quantitative surveys or like processes; complex organizational phenomena must be examined in the real-life context in which they are found. In order to be successful the researcher must interact directly with the subjects who comprise the membership of the organization. Direct interaction with the subjects of an organization through qualitative research methods can lead to rich, thick descriptions of the phenomena under study. However, this direct interaction can raise concerns of internal validity and reliability. Without internal validity and reliability research studies lose credibility. Internal validity is the degree to which the findings match reality, while reliability is the ability to produce consistent results. Internal validity and reliability are sources of concern when conducting research. However, the nature of qualitative research can make them special concerns.

When internal validity is undermined, the researcher has a difficult time in
differentiating between true representation of results and results that are artifacts of the research process (Borg and Gall, 1989). Borg and Gall identify four extraneous biases that pose the most serious threats to internal validity and include history, maturation, experimental mortality, and instrumentation. History refers to the distortion of results due to the presence of extraneous variables during the course of study. Maturation causes distortion in the results when there are changes in the subjects during the course of study. Experimental mortality can create distorted results if a significant number of subjects are lost during the course of study. Instrumentation can distort results if the instruments used to collect data change during the course of study. Since the researcher is the main instrument of data collection in qualitative research, biases, changes in perception, and subjectivity can all bring about changes in the human instrument (p. 406).

As previously stated, internal validity is defined as the extent to which the findings match reality. Forsythe (1994) describes the “reality” derived from qualitative research by citing Merriam (1988) and Bloor (1983). Qualitative research assumes that reality is “holistic, multi-dimensional, and ever-changing” (Merriam, p. 167). What is “real” is determined and defined by the participants in the event or phenomenon; therefore, what seems to be true is more important than what is true. "Qualitative findings are validated to the extent that collectively members recognize and endorse the sociologists account of their social world" (Bloor, p. 156).

Lincoln’s (1989) reflection of reality supports the statements of Merriam and Bloor and adds the perspective of multiple realities. "What is interesting and important will be revealed as multiple realities of actors and members of the setting, and of their shaping influence, exerted on one another and on the researcher" (p.
The qualitative researcher establishes validity by ensuring that research findings accurately represent the perceptions of the participants under study. According to Yin (1989), processes used to ensure validity include using multiple sources of evidence during the data collection phase (triangulation); using key informants to review the draft case study report during the composition phase; and using pattern matching, explanation building, and time-series analysis during the data analysis phase. Another concept in ensuring validity encompasses the concept of "grounded theory." Lincoln (1989) describes grounded theory as "theory that grows out of the context-embedded data" (p. 145). Grounded theory is likely to reflect more accurately the multiple realities that are infused within the context. Qualitative researchers realize that they bring their own values, beliefs, attitudes, prejudices, biases, etc. into the situation. They also realize that grounded theory is the most likely avenue for exposing multiple strains of values, including the researcher's own. As a result, "grounded theory is less amendable to inquirer shaping, and truly more anchored in respondent reflections of value positions" (p. 145).

Reliability is the ability to produce consistent results. Ensuring the reliability of a study is consistently a problem in educational research due to the unstable nature of the behavior of students and teachers in schools and the highly contextual nature of social investigations (Merriam, 1988). To establish reliability the case study researcher uses case study protocol and data base during the collection phase. The goal of reliability is to minimize errors and biases in the study (Yin, 1989). Goetz and LeCompte (1984) concur with Yin and assert that reliability of a study is established through explanations of assumptions and theory...
behind the study, triangulation, and creating an "audit trail" which presents the methods in such detail that the study can be used as a guide by which another researcher can replicate the study.

The third concept in this section is generalizability, also known as external validity. Generalizability is the extent to which the results of a study can be applied to other situations. Qualitative researchers are concerned less with the question of whether their findings are generalizable to other subjects or settings, but rather with generating grounded theory (Yin, 1989). The researcher's primary goal is to provide a rich, thick description of the phenomenon being studied and deriving universal statements of general social processes. Statements of commonality between similar settings is not an issue because of the assumption that human behavior is not random or idiosyncratic (Yin). The task of understanding and determining the application of the research is left to the user of the research. The user must analyze the research in conjunction with the context of his/her own setting.

Data Collection Techniques

Qualitative case study research does not mandate or exclude any particular data collection technique which helps establish validity and reliability through the triangulation process. Case study research may involve only those techniques which are qualitative in nature, or they may also incorporate quantitative techniques, such as surveys, to comprise the total data collection picture. Quantitative data typically provides answers to the "what" and "how many" questions by quantifying an identified quality. Qualitative methods, particularly interviewing and observation, are those that "can accommodate and explicate multiple, conflicting, and often inherently unaggregable realities, and they are
sensitive to - and, indeed, depend on - the interaction or exchange between the researcher and the objects or respondents of the study” (Lincoln, 1989, p. 142). Qualitative data provides answers to the “why” questions which in turn lead to the rich, thick descriptions, the development of grounded theory, and establishes the basis for validity.

**Qualitative interviewing**

Interviewing is frequently used by qualitative researchers as a primary data collection technique. According to Patton (1990), the purpose of interviewing is to “find out what is in and on someone’s mind ... to enter into the other person’s perspective” (p. 278). The interview allows the researcher to learn about behaviors, events, thoughts, feelings, intentions, situations, etc., that cannot be directly observed.

The interview involves interaction between the interviewer and respondent. The goal of the interviewer is to collect quality information that is reliable and valid. The quality of information collected is largely dependent on the skill of the interviewer; the interviewer must make it possible for the respondent to bring the interviewer into his or her world (Patton).

Three basic design approaches may be employed by the interviewer to access the respondent’s world, including informal conversational, interview guide, and standardized open-ended. Each approach has its own strengths and weaknesses, and each addresses somewhat different purposes (Patton, 1990).

The informal conversational interview is used most frequently in conjunction with participant observation. This approach consists of generating questions spontaneously in whatever direction the conversation is flowing. The questions are open-ended in nature and usually target something in which the participant is
involved. The strength of this approach is that it is highly responsive to individual differences and situational changes. The inherent weaknesses center upon the greater amount of time required to collect systemic information and the difficulty of pulling data together for analysis purposes.

The interview guide approach encompasses an outline of questions or topics to explore, it ensures that common information is obtained from each respondent. Standardized questions are not written in advance, consequently the interviewer is free to explore and probe various responses within the context of the interview. The basic strengths of this approach reside in the efficient use of limited interview time and making interviewing across a number of people more systematic and comprehensive. The basic weakness of this approach is the inherent flexibility in sequencing and wording questions that can result in substantially different interviews which, in turn, make comparability more difficult.

The standardized open-ended interview approach consists of a set of specific, sequentially arranged questions. In essence, each respondent is asked the same questions with essentially the same words and in the same order. The strength of this approach is that it reduces bias that comes having different interviews with different people, and it reduces variability when a large number of people are conducting interviews on the same topic. The weakness of this approach is the loss of flexibility and spontaneity to pursue topics or issues that were not written when the interview was formatted.

It is possible to combine two or even all three interview approaches during the course of an interview. For example, standardized open-ended questions could be asked in the first part of the interview, probes and questions coming from an interview guide could comprise the second part of an interview, and informal
conversation could be utilized during the last part of the interview. The key point, regardless of the approach or combination of approaches used, is that people being interviewed respond in their own words to express their own personal perspectives (Patton).

Questioning

"The value of an interview, of course, depends on the interviewer's knowing enough about the topic (phenomenon) to ask meaningful questions" (Merriam, 1988, p. 78). Experienced researchers review the literature on the phenomenon not to determine the answers about what is known, but to develop sharper and more insightful questions about the phenomenon (Yin, 1989).

The way in which the questions are worded is critically important in unearthing desired information (Merriam, 1991). Merriam, Borg and Gall (1989), and Patton (1990) have all written about the qualities of a good interview question. Incorporating common qualities cited by these researchers would necessitate: 1) framing questions in language that the respondent clearly understands; 2) structuring open-ended questions to enable respondents to respond in their own terms; 3) ensuring questions are neutral in nature; 4) taking a presuppositional stance by the interviewer in order to convey to the respondent that s/he has something of value to contribute; and 5) narrowing questions so they are singular in nature, only one thought or one idea is conveyed in any given question.

The content of interview questions can be categorized according to the type of information sought and/or the type of response stimulated (Patton, 1990). Experience/behavior questions inquire about what a person does or has done. These questions elicit descriptions of behavior, etc., at an event or experience which would have been observed had the researcher been present. Opinion/value
questions develop an understanding of respondent's thinking and perceptions about the phenomenon being studied. *Feeling* questions develop an understanding of the emotional response of the respondents to their experiences with the phenomenon. *Knowledge* questions are asked to find out what factual information the respondent has about the phenomenon. *Sensory* questions provide an avenue for the researcher to learn about the respondent's experiences through the senses as related to the phenomenon. *Background/demographic* questions identify the characteristics of the person being interviewed with the population being studied and provide information about the context in which s/he operates.

All of the above categories of interview questions might be used in any given interview. Naturally the goals of the interview session, the manner by which the questions are worded, and the approach by which the interviewer interacts with the respondent will ultimately determine the success of the interview.

**Interviewer and respondent interaction**

The researcher generally chooses to make him/herself the interviewer, or the primary data collection instrument. Lincoln (1989) describes the human-as-instrument not as being perfect, but as being "infinitely more adaptable" (p. 142). This adaptability allows the researcher to assess meaning, to identify, take into account, to cope with, and to learn from expressed and unexpressed values (p. 142). As stated in the previous section, a positive interaction between the respondent and the interviewer is critically important for an interview to be successful. Without a positive interaction, the researcher is severely hampered in deriving meaning and value associated with the phenomenon within the context of the organization.
The responsibility for a successful interaction between the respondent and the researcher resides with the researcher. Successful interaction is contingent upon establishing positive rapport, revealing the purpose of the interview, clearly communicating what information is desired, and letting the respondent know how the interview is progressing (Patton, 1990). Positive rapport is built and maintained throughout the interview by communicating respect for the respondent as well as demonstrating that his/her knowledge and expertise is valued. Understanding the purpose and what information is sought is often conveyed in the opening statement. Patton (1990, p. 328) outlines five key components that need to be communicated in an opening statement: 1) what will be asked in the interview; 2) whom the information is for; 3) how the information will be handled including confidentiality; 4) the purpose of collecting the information; and 5) how the information will be used.

Feedback and reinforcement are given to the respondent in order to maintain the flow of communication and to let the respondent know how the interview is going. Listening carefully, using words of thanks, nodding approval, taking notes, and even giving praise will make the respondent feel that the interview process is worthwhile and will thus yield better interview results (Patton, 1990).

Recording interview data

Regardless of interview style, how carefully questions are worded, or how the sequence of questions are arranged, it all becomes meaningless if the interviewer fails to secure the actual words (raw data) of the person being interviewed (Patton, 1990, p. 347). Valid data interpretation is contingent on recording, fully and fairly as possible, each interviewee’s perspective. Raw data is
of pivotal importance in looking for patterns, synthesizing, analyzing and evaluating what all of the respondents have said.

Patton recommends a verbatim process for recording the respondent's responses via tape recording, transcription, note taking, reflection and elaboration. Tape recording eliminates the possibility of altering the respondents' words and thus makes direct quotations possible. Tape recording also allows the interviewer to be free of the task of taking verbatim notes and to focus more directly on the flow of the interview. Note taking is important during the interview even though a tape recording is being made. Taking notes allows the interviewer to return to key points for clarification or probing purposes, to facilitate data analysis at a later time, and to help pace the interview so that all key issues are addressed. Immediately after the interview has concluded it is essential for the researcher to reflect on the interview and elaborate on what was witnessed through additional notes. Elaboration would include salient points, areas of ambiguity, observations, new issues to probe, and any additional information that would help establish a context for interpreting and making sense out of the interview.

Qualitative case study research can yield rich, thick description if the interview is carefully planned in regards to the flow of the interview, the integrity of the data, and the comfort of the respondent. A researcher who is sensitive to the needs of the respondent, who uses open ended questions, clarifications, and probes, and who allows time for reflection will enhance his/her chances of achieving the desired results.

**Qualitative Data Analysis**

Analysis is one of the most engaging components of qualitative research; it begins from the moment a problem is selected by the researcher and concludes
when the final report is completed (Fetterman, 1989; Marshall & Rossman, 1989; Patton, 1990). The process of data analysis occurs at several levels and serves different purposes. The first level of analysis takes place in the field as data is collected. At this level the purpose is to assist in directing subsequent data collection during an interview, from interview to interview on a given day or from day to day. The second level of analysis occurs between visits. The purposes at this level are to organize the data and bring them together under a taxonomy, and to guide subsequent data collection. The third level of analysis occurs when all interviews have been completed, and the researcher begins examining the total picture of the data. The third level is the most critically important level of analysis.

Spradley (1979) identifies the goal of analysis as employing methods that lead to discovering the order and patterns of an organization. Patton (1990) claims there are no absolute methodological rules to follow when analyzing data, except “to do the very best with your full intellect to fairly represent the data and communicate what the data reveal given the purpose of the study” (p. 372). Every study is unique and every researcher has his/her own analytical style. Even though there are no absolute rules of analysis, there are appropriate procedures that should be fundamentally applied. “Qualitative analysis, like any other form of analysis, requires procedures that breaks down material into its constituent elements, which must be compared, named and classified so that their nature and interaction becomes clear” (Pfaffenberger, 1988, p. 26).

Pfaffenberger identifies three procedures in the analysis process: “rewriting, coding, and comparison” (p. 26). Rewriting field notes provides the researcher with an opportunity to fill in the details, frame contextual knowledge, and reflect on missing information. Erlandson (1993), Lincoln (1985), Patton (1990), and Skrtic
(1989) also include the writing of field notes in the data collection process and start analysis by organizing data into single units for the purposes of coding and comparison. Organization of the data into single units requires identifying and recording a single piece of information that is able to stand by itself. In other words, it is interpretable in the absence of additional information. This type of organization is accomplished through copying the units onto note cards, cutting copies of the original data into pieces, or creating separate computerized files. Rewriting notes and identifying single-idea units are the first steps in the analysis process which, in turn, leads to further analysis through coding.

Coding is a process whereby single units are sorted and categorized so that cards relating to the same content are brought together into a loose taxonomy. Pfaffenberger (1988, p. 28) identifies five strategies to employ when coding data: 1) Use inclusive codes rather than exclusive codes; the inter-linkage of data is maximized when units have two or more codes. 2) Let coding categories emerge from the data as much as possible; indigenous codes often fit the data better. 3) Develop predetermined categories; exclusively using indigenous categories makes it difficult to compare one's data with data derived from other contexts. 4) Classify data and create typologies; develop a structure that allows both indigenous and exogenous data units to be linked together. 5) Change and refine categories as understanding improves so that the coding structure allows for modification when new theoretical patterns are discovered.

Regardless of the strategies used, categorizing data and coding data involves examining each data unit and determining where to put it or how to code it. Lincoln (1985) and Erlandson (1993) describe the inductive coding process in steps: First, read the first data unit, and note its content. This card represents the
first entry in the first yet-to-be-named category. Second, read the second card and note its contents. If it is similar to the first card place it with the first card; if not, the second card represents the first entry in the second yet-to-be-named category. Third, repeat the process with all remaining cards determining if it is essentially similar with a previous card or represents a new category. Fourth, when all data units are sorted into categories, the categories are examined and labeled, and the membership characteristics are defined. Fifth, repeat the previous four steps within each category to further define the data.

Coding by using a deductive strategy is similar to the inductive strategy with the exception that data is sorted into predetermined categories (Lincoln, 1985). An a priori theoretical framework is used to sort data in what Lincoln terms “typological analysis.” Frequency counts of data comprise “enumeration analysis” in this model. By using a deductive process, analysis and coding can begin as soon as any piece of data has been collected.

Whether categorizing data inductively or deductively, the researcher must closely examine the categories to ensure that they are credible, unique, and salient (Patton, 1990). Guba (1978) posits that categories should be judged by two criteria: “internal homogeneity” and “external heterogeneity.” The first criterion relates to the degree to which the data fit or relate in a meaningful way within a given category. The second criterion delves into the degree to which the differentiation between categories is bold and clear.

The integrity or trustworthiness of analysis is established through triangulation, testing rival explanations, and examining negative cases. Through triangulation the researcher seeks several different types of sources that can provide insights about the same events or relationships. Erlandson (1993) claims
triangulation may establish whether the gathered information is generally supported or disconfirmed, and usually enhances meaning through the use of multiple sources. Testing rival explanations entails looking for other ways of organizing data that might lead to different findings. Patton (1990) describes this process as thinking, logically and inductively, about other rational possibilities and seeing if those possibilities can be supported by the data. Negative case analysis entails searching for data that does not fit the trends and patterns that have been identified. By considering instances that are unique the researchers may uncover exceptions that prove the rule, broaden the rule, change the rule, or cast doubt on the rule altogether (Patton, 1990). The search for alternative or negative explanations enhances the opportunity for rich, thick description and facilitates the study as being intellectually honest.

Interpretation of data flows from categorization. Patton (1990) claims interpretation goes beyond description and defines it as "attaching significance to what was found, offering explanations, drawing conclusions, extrapolating lessons, making inferences, building linkages, attaching meanings, imposing order, dealing with rival explanations, disconfirming cases, and data irregularities" (p. 423). The researcher has the responsibility to interpret data findings and to make a final report that clearly differentiates interpretation from description.

**The Final Report**

The last step in the process of data analysis entails writing the final report. The researcher's primary goal is to add to knowledge, not to pass judgment on a setting. The worth of the final report is the degree to which it generates theory, description, or understanding.

Lincoln (1985) espouses case study as the reporting mode of choice for
naturalistic or qualitative research. The rationale supporting this statement stems from two points. The first point centers on the ability to fulfill the purpose of improving the reader’s understanding of the phenomenon by providing a rich, thick description. The second point is derived from the accommodating nature of case study which harmonizes well with the characteristics of qualitative research; case study allows for the continuous reporting process and the “culmination and codification of myriad formal and informal reports” (p. 358).

Lincoln (1985), Merriam (1988) and Patton (1990) identify a number of operational steps in case writing. The first step is to organize the case study data so materials can be recovered as quickly as needed. A majority of this task is completed through the data analysis process. An ensuing step is to determine the target audience, which in turn helps determine the relative emphasis of parts and the technical level of the report. Patton emphasizes the need of researchers to focus on ideas that are essentially important and omit those that are not. Merriam suggests focus should entail such things as themes, theories, or propositions to be argued and defended. An outline that encompasses the aforementioned salient points needs to be composed before the actual writing process begins.

The final report can be composed once the researcher has organized case study data, identified the target audience and accompanying focus, and outlined salient points. There are many methods and organizational approaches that can be used to write the final report. Ely (1991) stresses the importance for the qualitative researcher to develop his/her own style. Whether the case report is written for the participants in the study or for sharing the findings in the academic field, the writing of the report becomes the creation of the narrative. Patton (1990) reports the major decisions the writer must make center around striking a balance between
description and interpretation. "An interesting and readable report provides sufficient description to allow the reader to understand the basis for an interpretation, and sufficient interpretation to allow the reader to understand the description" (p. 430).

Yin (1984) identifies five criteria by which the quality of a case study can be judged: 1) The case study must be significant; 2) The case study must be complete; 3) The case study must consider alternative perspectives; 4) The case study must display significant evidence; and 5) The case study must be composed in an engaging manner. Measuring up to these criteria will result in an informative, inviting, and engaging study (p. 140-145).

**Summary**

Qualitative research methodology provides a legitimate means for accessing, understanding, and accurately representing the complex interaction of factors surrounding organizational phenomenon. This review of literature has identified qualitative research as the appropriate methodology for this study and described the accompanying strategies which would most efficiently and judiciously answer the defined research questions.

In its simplest form case study research involves an investigator who makes a detailed examination of a single subject group or phenomenon in its natural setting. It often involves an extensive collection of data in order to produce an in-depth understanding of the entity being studied. One of the most common techniques for data collection involves interview; however, no specific data collection methods are required. Data analysis is one of the most engaging components of qualitative research; it begins the moment a problem is selected by the researcher and concludes when the final report is completed. Data analysis
involves unitizing, categorizing, and interpreting the data. Writing the research report is the final step in the qualitative research process, the primary goal of which is to add knowledge, generate theory, and enhance understanding.

The nature of the research questions in this study indicate that qualitative case study is an appropriate, dominant methodology to employ. Survey, a quantitative method, is utilized in a minor role to collect information in regards to "how many" teachers are optimistic or learned helpless. These strategies provide a rich, thick description of the phenomenon of teacher learning at a comprehensive high school.
CHAPTER III. METHODOLOGY

It is of paramount importance the research design allows the purpose of the study to be fulfilled. The purpose of this study was to understand, interpret, and provide a rich, thick description of the cultural phenomenon "teacher learning" at Anytown High School. Fulfilling this purpose necessitated providing a match between the research questions and the methods used to address those questions.

The culture of an organization cannot be understood unless one understands the contextual framework in which members interpret their thoughts, feelings, and actions (Marshall & Rossman, 1989, p. 49). The contextual framework consists of, among other things, elements and phenomena. For this study, elements were identified in the research and organizational systems models, while "teacher learning" was the phenomenon under investigation. Naturally, the phenomenon of teacher learning is directly influenced by the elements in the study models and by other factors in the culture as well (Reference Chapter II).

Elements and phenomena are complex in nature and vary in their degree of accessibility to outsiders. Qualitative research allows the researcher access to elements and phenomena through engagement in joint inquiry. Joint inquiry enlists members of a given organization in actively providing information and interacting with the researcher in its interpretation. Qualitative research that includes the method of joint inquiry provides a legitimate means for uncovering, understanding, interpreting, and accurately representing a variety of cultural elements and phenomena found within the contextual framework of the insiders'
This chapter will present the methodology used to understand and accurately interpret the phenomenon of teacher learning at Anytown High School. Ensuing sections in this chapter include a chronology of research activities, the background of the study, site access and participation, and research strategies. The research strategy section contains numerous subsections, two of which are devoted to data collection and data analysis.

**Chronology of Research Activities**

A chronology of major research-related activities is presented herein.

February, 1993 - August, 1993: Site access and participation is secured for the purpose of conducting a culture audit (case study) at Anytown High School. Concurrently, case study researchers are assembled.

August, 1993 - October, 1993: Case study researchers begin meeting on a monthly basis to discuss research strategies. Instruments used in collecting and analyzing data are developed and include the interview guide, the respondent consent form, interview summary forms, and the quantitative survey form. Telephone contacts are made with on-site coordinators to confirm research logistics.

October, 1993: Phase one research is conducted; twenty-two (22), one-on-one qualitative interviews and a quantitative survey on optimism are completed. Concurrently, the processes of data collection and data analysis begin.

October, 1993 - May, 1994: Data analysis continues. Monthly meetings with case study researchers continue and focus on discussion of research results (triangulation) and research strategies. An interview guide for phase two research
is developed. Contacts with on-site coordinators are made, logistical arrangements for phase two research are confirmed.

May, 1994: Phase two research is conducted; eleven (11), one-on-one qualitative interviews are completed. Concurrently, the processes of data collection and analysis continue.

June, 1994: A presentation of case study findings is made to the faculty of Anytown High School.

June, 1994 - April, 1995: The process of data analysis continues. A written report of the research study is composed.

Activities found in this chronology are presented, in greater detail, within the ensuing sections of this chapter.

**Background**

Culture has emerged as an important element related to quality and productivity in organizations in the private sector and more recently in educational institutions. Dr. James Sweeney has been examining school climate for the past decade. Lately he has focused on the culture of K-12 schools, particularly secondary schools, because they appear more impervious to change.

During contacts with administrators and school principals in selected school districts across the country, Dr. Sweeney shared information pertaining to school culture and its implications for school improvement. He also shared his plans to examine culture and the factors which influence the development of culture such as the norms, values, and beliefs. As a result of Dr. Sweeney’s efforts, nine high schools across the United States and one school in Canada agreed to participate in this study. Each school serves a diverse population ranging from 1000 to 2500
The culture audit at Anytown High School encompassed the examination of the "staff work culture" by Dr. Sweeney and his research associate Ms. Sandra Barnes, the "student work culture" by Ms. Jan Beatty, Iowa State University Ph.D. student, and the "school/community culture" by Ms. Laura Studer, Iowa State University Ph.D. student. This researcher's study on "teacher learning" was a part of the "staff work culture". A synthesis of findings from the three aforementioned components of the Anytown High School case study was completed by Ms. Debra Hunter, Iowa State University Ph.D. student.

Site Access and Participation

The success of field research lies in part with not only the researchers' accepted entry into the field, but also the participants' willingness to become involved. Dr. Sweeney secured the participation of Anytown High School along with other schools through a series of meetings. The first meeting was held with high school principals on February, 10, 1993. During the meeting, a written summary about the culture audit was provided. Specific questions were answered as to the purpose of the audit, how it would benefit the school, and how it would be conducted. At the conclusion of the meeting, the principals requested that an additional presentation be given to teacher representatives from each high school to help facilitate a better understanding.

That follow-up presentation occurred on March 3, 1993. An explanation of the culture audit was sent to teacher representatives prior to the meeting. Three to four teachers from each of the six buildings attended the two hour information session. The purpose of the audit, how it would benefit the school, and how it
would be conducted was discussed. Teachers reported the information back to their respective building staffs.

On March 12, 1993, letters were sent to all schools which had expressed an interest to participate requesting they notify the researcher of their decision by March 22, 1993. On March 18, 1993, the principal of Anytown High School confirmed his school's intent to participate.

Upon receiving Anytown High School's letter of intent to participate, a follow-up letter was sent to Anytown High School by Dr. Sweeney to request that they designate a school contact person, provide scheduling information, and collect and send artifacts for examination (Appendix A). Follow-up phone calls were made to answer specific questions about the requested information and the logistics of the audit. Additional correspondences were made to confirm dates for the site visitation; it was determined that Anytown High School's visitations would be held during the weeks of October 11, 1993, and January 11, 1994.

On August 31, 1993, a packet of information was sent to the principal at Anytown High School. Included in the packet was a letter to staff members explaining the procedures to be used by the researchers conducting the culture study, requesting contact people provide two rooms where interviews could be conducted privately, and providing supplies for each room. Contact people were asked to schedule staff for individual interviews and group sessions in compliance with the school's daily schedule and staff availability (Appendix B).

**Research Strategies**

The nature of the research questions in this study called for the use of qualitative research, quantitative research, and triangulation strategies. The
qualitative technique “one-on-one interview” was selected and employed in investigating nearly all research questions. This technique was chosen because 1) it afforded the means for joint inquiry through interaction between the researcher and the interviewees; 2) it fit into the structure of the overall case study at Anytown High School; and 3) it was a workable strategy to employ in regards to the availability of teachers to interview.

The traditional quantitative research method incorporated the use of a standardized written survey. Research questions which dealt with teacher optimism were investigated, in part, by this method since a valid standardized survey was available to assess the extent to which teachers were optimistic or learned helpless.

Triangulation is the, “act of bringing more than one source of data to bear on a single point” (Marshall & Rossman, 1989, p. 146). Methodological triangulation combines research techniques to enable weaknesses of one technique to be overcome by strengths of others. The result of triangulation is stronger internal validity and reliability of the research study (Merriam, 1988). This study had two primary sources of triangulation. The first source came from within the study where data derived from qualitative and quantitative methods were synthesized. The second source came outside of the study, data from this study was compared with the data derived from the other four case study researchers at Anytown High School. The four researchers employed qualitative methods of one-on-one interviews, small group interviews and observation. Furthermore, two of the four utilized written quantitative surveys.
Procedures

The research plan for the study on teacher learning included two phases. Phase one took place during the week of October 11, 1993, and consisted of one-on-one interviews with twenty-two teachers, and a quantitative survey on optimism which was given to all teachers on staff. Phase two was originally scheduled to take place during the week of January 3, 1994, and include approximately twenty teacher interviews. Unfortunately phase two was delayed. The delay was caused by an unavoidable lapse of time in obtaining written transcripts from the audio recordings of the phase one interviews; the transcripts were crucially important in analyzing the initial findings and preparing the focus for phase two research. Phase two research took place during the week of May 16, 1994, and consisted of conducting eleven one-on-one teacher interviews, two of which included teachers who had already participated in phase one interviews. More detail regarding the techniques used within the research phases is given in the discussion of data collection and data analysis later in this chapter.

Human Subjects Release

Iowa State University's "Use of Human Subjects in Research" committee reviewed this study to determine if the rights and welfare of the human subjects were adequately protected, whether the risks were outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data was assured, and that informed consent was obtained by the appropriate procedures. Documentation of the Human Subjects Research review, including the respondent consent form, are found in Appendix C.
Coordination of On-Site Research

Two teachers at Anytown High School served as on-site coordinators and liaison with the researcher. Prior to the first research phase, telephone conversations and written correspondence between the researcher and the on-site coordinators took place in order to plan interview schedules, review proper interview logistics, and make arrangements for completion of the quantitative survey.

Teacher participation in the one-on-one interview sessions was facilitated by the on-site coordinators who solicited volunteer participation, composed a master interview schedule based upon teacher and researcher time availability, made arrangements for the availability of an interview room, and notified teachers and the researcher of their designated interview times.

For the most part, teachers were scheduled for interviews during their planning period. However, a substitute teacher was hired at times to cover teachers' class assignments to alleviate conflicts so participation in this study could be increased. Interview sessions were approximately fifty minutes in length. Each interview began with an explanation of the research being conducted, and written Respondent Consent was obtained. A copy of the Respondent Consent Form is included in Appendix C. An interview guide (Reference Appendix D) was used to facilitate the interview process; the questions therein were developed by the researcher in conjunction with consultation from principal researcher, Sweeney. All interviews were tape recorded and transcribed for analysis.

The quantitative survey on optimism (Reference Appendix E) was distributed to all teachers. The distribution process entailed the principal's secretary placing the survey information in the teachers' personal school mailboxes in the afternoon.
of Wednesday, October 13. The survey information included a written copy of the survey and a cover letter by the principal. Teachers recorded their responses to the survey on the survey form itself and returned them to the principal's secretary by the afternoon of October 14. Survey forms were coded to identify those teachers who participated in the one-on-one interview sessions and those who did not. An overall return rate of fifty-eight percent was obtained.

Between the first and second research phases data from the first phase were analyzed. This analysis was used to guide the subsequent interviews in phase two.

The purpose of phase two research was to validate initial findings from phase one, probe more deeply into the initial findings, obtain additional information to answer certain research questions more thoroughly, and elicit suggestions for improving teacher learning.

Phase two consisted entirely of one-on-one interviews with teachers. Eleven interviews were conducted, the procedures of which, were identical to those used during phase one with one exception: a new interview guide was used in conducting the sessions. The new interview guide (Appendix F) contained new key questions and probes as well as key carryover questions and probes from the interview guide used in phase one. The phase two interview guide was designed to accommodate the purposes as stated in the preceding paragraph.

Data Collection

The interdependent and engaging nature of data collection and data analysis makes it difficult to completely differentiate one from the from the other during research. Interdependency occurs as tentative research questions direct interviews and accompanying data collection. Insights gained through on-going
analysis of the collected data, in turn, leads to refinement and expansion of the research questions.

Analysis is one of the most engaging components of qualitative research; it begins from the moment a problem is selected by the researcher and concludes when the final report is completed (Fetterman, 1989; Marshall & Rossman, 1989; Patton, 1990). Likewise, data collection continues until the on-going analysis process indicates that the sources have been exhausted and categories are inundated. This section describes the data collection process.

**Qualitative data collection**

Valid and reliable data interpretation is contingent on recording, fully and fairly as possible, each interviewee's perspective. Consequently, the procedures used in the collection of data are of pivotal importance to the integrity of the study. Ensuring the integrity of a study is invariably a problem in educational research due to the unstable nature of student and teacher behavior in schools and the highly contextual nature of social investigations (Merriam, 1985).

Measures taken to minimize errors and biases in the study promote validity and reliability. In data collection, such measures include explanations of assumptions and theory behind the study; triangulation; and creating an audit trail which presents the methods in such detail that the study can be used as a guide by which another researcher can replicate the study (Goetz and LeCompte, 1984).

The research model and the organizational systems model (See Chapter II, Figures 1 & 2) explained the assumptions and theories supporting the study. To briefly summarize, the key assumption/theory identified specific learning elements and factors that interdependently impact teacher learning within a school. The learning elements are comprised of organizational elements, individual factors,
culture factors and learning disabilities. All factors were used to focus data collection efforts and concurrently played a key role in analysis of data.

A second tactic used in data collection was to collect data from multiple sources which, in turn, could be used later for triangulation. Data was collected from two sources. The first source came from within the study where data was collected through both qualitative and quantitative methods. The second source came from outside the study where data was collected/received from the other four case study researchers at Anytown High School. The four other researchers provided written and oral data in regards to the staff work culture, the student culture, and the school/community culture.

A methodological audit trial was established through the consistent use of four routine strategies. The first strategy involved using an interview guide (Appendix D). The interview guide was used to direct interviews, ensure the coverage of key concepts, and provide for latitude and flexibility in questioning. Latitude and flexibility afforded the participants the opportunity to provide all the information necessary to explain their unique experiences. The questions were open-ended but focused on the theoretical constructs of the study. A second strategy involved taking written notes during the course of the interview. A third strategy employed was the tape recording all interview sessions. Selected segments were reviewed at the conclusion of an interview to verify the accuracy and completeness of the written notes. The fourth data collection strategy involved obtaining written transcripts of all tape recordings. According to Patton (1990), all of the well intended efforts of the interviewer "come to naught" if the interviewer fails to secure the actual words (raw data) of the person being interviewed (p. 347). Raw data is of pivotal importance in looking for patterns, synthesizing, analyzing
and evaluating what all of the respondents have said (Patton).

**Quantitative data collection**

Data concerning the individual factor of optimism (hopefulness) was collected through the use of Seligman's "Optimism Survey" as found in his book, *Learned Optimism* (1990) (Appendix E). Seligman's survey was reduced from forty-eight (48) questions to thirty-two (32) questions in order to accommodate a suitable time frame for teacher participation; questions on "permanence" and "pervasiveness" were incorporated, while "personalization" questions were omitted. Permanence and pervasiveness fully comprise the "hope score." Seligman states, "people who make permanent and universal explanations for their troubles tend to collapse under pressure, both for a long time and across situations. No other score is as important as the hope score" (p. 49). Surveys were scored and results tabulated in accordance with Seligman's standards.

**Data Analysis**

As stated previously, data analysis begins from the moment a problem is selected by the researcher and concludes when the final report is completed. Data analysis for this study involved the analysis of the qualitative interviews, the statistical analysis of the quantitative data, and the triangulation of two primary sources of data.

**Qualitative data analysis strategies for phase one research**

The goal of analysis is to employ methods which lead to discovering the order and patterns of an organization (Spradley, 1979). Patton (1990) claims there are no absolute methodological rules to follow when analyzing data, except "to do the very best with your full intellect to fairly represent the data and communicate what the data reveal given the purpose of the study" (p. 372). Although there are
no absolute rules to follow in analysis, Pfaffenberger (1988) identifies three general strategies which incorporate careful and systematic analysis methodology. These strategies include rewriting, coding/categorizing, and comparison (p. 26).

Rewriting field notes provides the researcher with an opportunity to fill in the details, frame contextual knowledge, and reflect on missing information. Through the rewriting process the researcher begins identifying factors for the purpose of coding/categorizing. In conducting this study interview notes were methodically rewritten, which in turn, created an audit trail. Notes were rewritten through a systematic process which included four steps:

1) During the course of each interview: Key comments were written to ensure that an accurate description of the interviewee's information was portrayed; potential probes were recorded to delve deeper into intriguing concepts that were discovered; and interviewee responses were constantly summarized to ensure clarity.

2) After the conclusion of each interview an interview summary form was completed (Appendix G). Completing this form required reflecting on the interview, listening to selected segments of the tape recording, and elaborating on what was witnessed through additional notes. Elaboration included salient points, areas of ambiguity, observations, new issues to probe, and any additional information that would help establish a context for interpreting and making sense out of the interview.

3) At the conclusion of each day a daily summary form was completed (Appendix H). This was accomplished by reflecting on and synthesizing all of the individual interview summaries compiled that day.

4) After the conclusion of each phase (week) a "Teacher Learning Analysis
Form" was completed, which provided a total summary form for the week (Appendix I). Information contained in this form was derived from analysis, synthesis, and reflection on individual summaries, daily summaries, and auditory tape recordings.

A second procedure that Pfaffenberger identified in the process of data analysis was "coding/categorizing." As previously mentioned, coding/categorizing occurs interdependently with the process of rewriting field notes. Pfaffenberger describes this as a process whereby data and factors are identified and sorted so that those of the same content are brought together in a loose taxonomy.

Initial coding/categorizing began after the conclusion of each interview when four key questions from the "interview summary form" were completed. Completion of key questions required: 1) Inductive analysis whereby data and factors which impacted learning were identified first (emerging from the data) and subsequently sorted into categories based on shared common meaning; 2) Deductive analysis, whereby predetermined (a priori) categories were established through the review of literature and through the theoretical framework of the study first. Data and factors that fit the criteria of the categories were identified second; 3) Reexamining all data and factors and reassessing all categories in which they were placed; and 4) Resorting data and factors into different categories or new categories based on reexamination and reassessment.

The first key question from the interview summary form was, "What was the extent of the individual subject's involvement in individual and team learning activities and was the involvement significant?" Examples of individual learning categories included inquiry outside of Anytown High School (AHS), inquiry at AHS, dialogue at AHS, dialogue outside of AHS, professional reading, reflection of practice, reflection of observations, reflections of workshops, observation, informal
interaction at AHS, graduate school, continuing education workshops, working with parents, learning by experience, trial and error, learning from students, travel, and practice.

Examples of team learning categories included the School Improvement Team, small group inservice at AHS, district-wide inservice, half-day inservice at AHS, District Phase 3, Anytown Phase 3, School Within a School team, district-wide departmental meetings, AHS departmental meetings/interactions, and continuing education through Heartland AEA.

Categories of "significance" that were established for the first interview summary question included valuable, moderate value, and little or no value.

The second key question on the interview summary form was, "What organizational factors influenced specific learning behavior?" Organizational factors reported by the interviewees were identified and sorted into broad a priori categories associated with the theoretical constructs of the study as illustrated in the organizational systems model. In this model these categories are referred to as elements and included "environment," "purpose/strategy," "structure" and "process."

By using the same inductive and deductive processes, as previously outlined, numerous organizational factors were able to be identified and categorized within each element. Categories established within the element of environment included the proximity of other educational institutions downtown/central office, societal/juvenile problems, and the nature of the community. The element of purpose/strategy included categories such as visionary teachers who model and inspire others, mission to meet the needs of a changing student body, and shared/internalized vision. Categories within the element of structure included the School Improvement Team, AHS Phase 3 activities, half-day
inservices, lack of time and energy, large, maze-like building, lack of common planning/release time, downtown staff development, and lack of funds. Categories within the element of process included the operation of the school improvement team, principal's leadership, implementing AHS Phase 3, implementing half-day inservices, decision making, and teacher evaluation.

The third key question in the interview summary form was, "What mind sets of the subject, if any, would contribute to organizational learning disabilities?" Predetermined categories of learning disabilities were used to sort data and included the immediacy of learning, learning by experience, paradigm paralysis, fixation on events, rationalization, the enemy is out there, uncertainty, and I am my position.

The fourth question in the interview summary form was, "What beliefs, values, or norms in the school culture affect teacher learning?" Examples of categories identified within the element of culture included controlling of the conditions of student success, mutual trust, academic freedom, willingness to change to meet the needs of students, commitment to school-wide improvement, and sharing and learning from each other.

In conjunction with the aforementioned key questions from the interview guide, deductive categories were incorporated to identify factors which contributed to the extent of personal mastery an individual teacher possesses. These categories included commitment to continuous learning, creative tension, and sense of vision/purpose.

The deductive and inductive coding/categorizing processes were used in analyzing all interviews and completing the accompanying interview summary forms. As each interview was completed and summarized, each new analysis
provided an opportunity to see if categories, subcategories, generalizations, etc., from one interview supported, or conflicted with, those derived from other interviews.

Categorical information that was analyzed and summarized from the first research phase of interviews was recorded into a database. The database included the aforementioned categories and factors as well as the frequency of individual teacher responses per category. The database enabled the researcher to identify significant patterns in light of the constructs of teacher learning, and to obtain an overall learning profile of each interviewee.

Once transcripts of the tape recorded interviews were obtained, all initial results from the first research phase were reexamined. The process of reexamination included 1) Reading the transcript holistically in order to obtain a proper contextual view of the interviewee's statements; 2) Identifying and highlighting (with a marker) data and factors in the transcripts which fell into the broad categories of the study, such as individual learning, team learning, organizational factors, individual factors, and factors in the culture; 3) Reviewing the highlighted data and factors in the transcripts once again to identify which categories they were aligned with; 4) Comparing categorized, data and factors from each interview transcript with the initial findings as recorded in the interview notes, the interview summary forms, and the database. Like comparisons validated the findings. Unlike comparisons caused reconsideration of all pertinent data. Reconsideration led to modifying the findings, rejecting one finding in favor of another, or establishing new findings; 5) Analyzing and synthesizing newly discovered findings in order to make more connections between information, identify new categories, and collapse categories; 6) Constantly refining the
original database due to processing new information, making new connections, and identifying new categories.

The third strategy Pfaffenberger cited in conducting systematic data analysis is “comparison.” Comparison strategies included testing rival explanations, examining negative cases, and triangulation. Testing rival explanations is described by Patton (1990) as looking for other ways to organize data that might lead to different findings. Negative case analysis entails searching for data that does not fit the trends and patterns that have been identified. Testing rival explanations and negative case analysis were incorporated through the aforementioned data analysis strategies of rewriting notes and coding/categorizing. As new interview data was collected and analyzed, data that did not fit into, or even contradicted, existing patterns led to reexamination of all pertinent data. Likewise, analyzing new data resulted in new patterns and categories being considered and sometimes established. Rival explanations and instances of negative trends were given full consideration during the course of data collection and data analysis; once encountered they led to the inclusion of new interview questions, and subsequent analysis, in order to determine their merit.

Comparison also took place by way of triangulating data from internal and external sources. Triangulation took place internally by comparing data derived through qualitative methods and data derived through a quantitative method. The quantitative method involved the use of a written survey to determine the extent of teacher optimism. Concurrently, qualitative interview questions were used to discover factors related to optimism (or a lack thereof), such as teacher efficacy, teacher uncertainty, ability or willingness to change to meet the needs of students, helplessness, and rationalization. The results of the quantitative and qualitative
processes were analyzed, synthesized, and reported in Chapters IV and V.

Triangulation took place externally through both oral and written exchanges of data findings with the other four case study researchers at Anytown High School. Monthly meetings were held to discuss the research process as well as to share initial data findings. Discussion and finalized written reports were exchanged after the on-site research had concluded.

Triangulation also occurred when the final report of findings was presented to the faculty at Anytown High School. This presentation took place during a two-day workshop after the conclusion of the school year and after the completion of the second research phase. Formal presentations were made by researchers Sweeney, Barnes, Studer, and Beatty. This researcher helped facilitate the presentations and gleaned information that assisted in confirming the results of this study. This confirming information came from the presenters as well as from personal interaction with the faculty as they discussed the results and the ramifications thereof.

**Qualitative data analysis strategies for phase two research**

Phase two research was designed to validate the findings of phase one, probe deeper into areas of intrigue, address certain aspects of various research questions which were not sufficiently covered during phase one, and derive suggestions to improve teacher learning at Anytown High School. The same data analysis procedures (rewriting notes, coding/categorization, data base entry, triangulation, etc.) that were used for the first research phase were also employed in the second research phase.

There was, however, a difference between the two research phases in terms of the interview guide that was used. The phase two interview guide had a
narrower focus of topics and specifically delved into greater detail associated with those topics. For example, one interview topic was organizational learning. Questions and probes were used to discover richer information in regards to why teachers were involved or why they were not involved in organizational learning; if involved, how often they were involved; under what circumstances were they involved; and what was the significance of their involvement. Other interview topics and accompanying probes in phase two research centered on personal mastery, team learning, and organizational factors which facilitate or impede teacher learning.

Information gleaned from phase two interviews was placed into a new data base. The new data base was established through the same procedures as the original data base that was compiled for phase one research. However, the categories and factors contained therein, directly reflected of the analysis and synthesis of the data generated from phase two interviews.

Quantitative data analysis

Quantitative data came from one source, Seligman's (1990) survey on teacher optimism (hope). The quantitative survey data was scored and tabulated according to Seligman's (1990) standards and norms. Statistical analysis was conducted in terms of measures of central tendency. Further explanation of this analysis process can be found in the "analysis related to research question" section in this chapter.

Development of the Case Study

A rich description of teacher learning at Anytown high School emerged from the data analysis processes associated with phase one interviews, phase two interviews, the quantitative survey, and the sources of triangulation. Throughout
the data collection and data analysis processes, preliminary findings and perceptions of the descriptions were shared through discussions with other case study researchers in order to validate the conclusions from the analysis process. The data derived from all research efforts was organized according to the theoretical constructs of the study, and then used to write a case study which centered on the evidence relevant to the constructs.

Analysis Related to the Research Questions

The research questions were examined within and against the background of information provided by the case study, as well as the ideas and concepts from the review of related literature. A discussion of each research question and the application of the research techniques used ensues.

1. To what extent are the teachers at Anytown High School learning enriched or learning impoverished?

The answer to this research question was derived by synthesizing the learning attributes of each teacher for placement on a linear continuum. The continuum was theoretically grounded in qualities of personal mastery as espoused by Senge in his book entitled, *The Fifth Discipline* (1990). Learning in the context of personal mastery, does not mean acquiring more information, but expanding the ability to produce the results truly wanted (p. 142). Qualities (categories) of personal mastery included possessing a special sense of purpose that lies behind visions and goals, a continual commitment to learn, and creative tension. Creative tension is defined as the motivational energy to work through constraints in order to narrow the gap between one’s current reality and one’s vision.

The learning continuum was comprised of four major points: "learning
enriched," "learning," "learning impaired," and "learning impoverished." Placement on the continuum represented the extent to which teachers are learning enriched or learning impoverished. Placement was made in view of all interview data related to personal mastery. Placement at or in between major points on the continuum was done in view of the standards of the four major continuum points as defined below.

1) Learning Enriched - Possessing all three qualities of personal mastery - a special sense of purpose that lies behind vision/goals, a continual commitment to learn, and creative tension. Learning in this context is equated with expanding the ability to produce desired results. The learning methods of inquiry, reflection, dialogue, observation, reading and practice are of primary importance.

2) Learning - Two of the three qualities of personal mastery are apparent.

3) Learning Impaired - One quality of personal mastery is apparent.

4) Learning Impoverished - There is minimal development of personal mastery; all three qualities appear to be missing or are extremely diminutive. Learning at this level is virtually non-existent outside of what is incidentally learned through required school or district required meetings/inservices.

2. To what extent do teachers at Anytown High School engage in team learning, and what is perceived value of team learning?

Ten categories of team learning were identified through the course of teacher interviews. The extent of participation was classified as being high, medium or low based on the number of different team learning categories in which teachers reported participation. The ten categories were collapsed into two major groups: One group included categories which involve most, or all of the faculty; The second group included categories that involved subgroups of the faculty which
pursue specific targeted goals.

The overall value of a given team learning category was based on the percent of teachers who identified it as being valuable, moderately valuable, or of little or no value. The valuable percentage was derived from the number of teachers who identified the activities in a team learning category as being significant in terms of what was learned or what outcomes were derived. The moderately valuable percentage was derived from the number of teachers who identified the activities in a team learning category as being somewhat valuable, or identified some activities as valuable and other activities as being of little or no value. The “little or no value” percentage was derived from the number of teachers who identified the activities in a team learning category as not significant in terms of what was learned or what happened as a result.

3. To what extent do teachers at Anytown High School engage in organizational learning?

Organizational learning was assessed by examining the underlying purpose of the individual and team learning activities in which teachers reported participation; learning activities were identified as being organizational if, in the words and the experiences of the teachers, they purposely advanced the implicit mission or goals of the school.

Teachers engaging in individual learning activities were identified as engaging in organizational learning if their underlying sense of purpose was to change in order to meet the needs of their students, and thus fulfill the implicit mission of the school.

Three team learning structures were assessed in determining the extent of organizational learning. The structures of the School Improvement Team,
Anytown Phase 3, and Anytown half-day inservices were specifically designed to facilitate organizational learning. Teachers who found these learning experiences to be valuable, as found in research question two, were identified as engaging in organizational learning.

4. To what extent are teachers at Anytown High School optimistic (hopeful) or learned helpless (hopeless)?

Seligman's Optimism Survey (Appendix E) was used to collect, score and tabulate the extent of optimism among teachers at Anytown High School. Teachers were asked to read a one-sentence scenario and circle response "A" or "B," whichever best characterized their reaction to the scenario. A sample survey scenario is shown below:

#16. You are frequently asked to dance at a party.
   A. I am outgoing at parties
   B. I was in perfect form that night.

Response "A" corresponded to having a higher degree of optimism. If the respondent selected response "A" he/she would receive no points on this item. On this survey, the lower the number of points attained equates to a higher degree of optimism.

Responses to Seligman's survey data were scored and charted in accordance with Seligman's standards and norms as illustrated below:

<table>
<thead>
<tr>
<th>Score</th>
<th>Optimism Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Extra-Ordinarily Hopeful</td>
</tr>
<tr>
<td>3-6</td>
<td>Moderately Hopeful</td>
</tr>
<tr>
<td>7-8</td>
<td>Average</td>
</tr>
<tr>
<td>9-11</td>
<td>Moderately Hopeless</td>
</tr>
<tr>
<td>12-16</td>
<td>Severely Hopeless</td>
</tr>
</tbody>
</table>
Survey scores were divided into two groups: one group was composed of those who took part in the one-on-one interviews during the first research phase; the second group was composed of those who were not involved in one-one-one interviews during the first research phase.

Statistical analysis was conducted for each individual group, and for the combined group scores. Statistical analysis centered on measures of central tendency such as mean, range, median and mode. In addition, a "t-score" was calculated using the "Cochran and Cox/Satterwaite" procedure to determine if there was a significant difference between means of the two groups (alpha = .0).

5. **What learning disabilities are present among teachers at Anytown High School?**

The answer to this research question was derived by analyzing statements made by teachers in response to a wide variety of questions from the interview guides. Mind sets which impeded or prevented learning from taking place were identified as learning disabilities. Once identified, mind sets were analyzed in view of their unique characteristics and placed into predetermined categories. Predetermined categories were established through reviewing the literature and included paradigm paralysis, I am my position, rationalization, immediacy of learning, uncertainty, the enemy is out there, learning by experience, and fixation on events. One learning disability, victims of previously failed reforms, emerged from data analysis. The frequency of occurrence was tabulated for each learning disability to establish an order of prevalence, which in turn, was used in subsequent analysis.
6 - 11. What (structure), (purpose-strategy), (culture), (process), (environment) and (ecology) factors facilitate or impede teacher learning at Anytown High School?

Research questions six through eleven delved into the impact the elements (as found in the organizational systems model) had on teacher learning. All six questions are addressed within one section of Chapter IV.

Once again, two strategies were used to identify factors associated with the organizational elements. In the first strategy, inductive analysis, was used to identify factors which emerged from the data. Once identified, factors were categorized based on common characteristics. The second strategy entailed using deductive analysis by way of predetermined categories. During data analysis, factors were identified, matched with the characteristics of the predetermined categories, and sorted accordingly.

Once factors were identified and categorized they were classified according to their impact on teacher learning. Classifications included "facilitating," "impeding," or "varied influence." Facilitating factors promote teacher learning. Impeding factors deter teacher learning. Varied influence factors promote learning in some teachers, while deterring learning in other teachers.

Ten categories of structures emerged from the data and included the School Improvement Team, Anytown Phase 3, lack of time and energy, lack of funds, the sheer size of the building, lack of common planning time, release time, half-day inservices, downtown driven staff development efforts, and the lack of release time.

Purpose-strategy factors emerging from the data were sorted into two categories, namely the implicit mission to change to meet student needs and the influence of visionary teachers. One category, shared vision, was examined deductively.
Culture factors were examined. The factor of academic freedom was inductively identified, while factors associated with commitment to learning, learning from other teachers, controlling the conditions of student success, and mutual trust were deductively identified.

Process factors emerged from the data and were categorized in terms of implementation of the School Improvement Team, implementation of half-day in-service, and implementation of Anytown-centered Phase 3. Predetermined categories were established for deductive identification of factors which included leadership, decision making, and teacher evaluation.

All environmental factors emerged from the data and were sorted into categories which included the nature of the community, the proximity of educational institutions, societal/juvenile problems, and downtown/central office.

Ecology factors of dynamism, interdependency and entropy were examined as they impacted teacher learning individually and collectively.

12. To what extent is there systemic interaction of learning, optimism, learning disabilities, structures, purposes, processes, culture, and environment at Anytown High?

Interactions between organizational elements/categories and accompanying factors were analyzed during, between, and after the completion of both research phases. General interactions were described.

Chapter III explained how data on teacher learning was collected, analyzed, and triangulated through the use of qualitative and quantitative research strategies. The findings, implications, and recommendations from this study are discussed in Chapters IV and V.
CHAPTER IV. REPORT OF FINDINGS

Findings are presented in conjunction with the research questions established for this study.

Research Question One

To what extent are teachers at Anytown High School learning enriched or learning impoverished?

The presentation of findings for this research question includes a brief review of how the extent of teacher learning is measured; the placement of teachers on a learning continuum, which has one endpoint as “learning enriched” and the other endpoint as “learning impoverished;” and excerpts from interview transcripts which characterize learning enriched and learning impoverished teachers.

The extent of teacher learning is measured by the degree teachers possess the three qualities of personal mastery. These qualities include possessing a sense of purpose that lies behind visions and goals, a continual commitment to learn, and creative tension (Senge, 1990).

Teachers are placed at various points on a learning continuum based on their degree of personal mastery. The learning continuum consists of four major points - “learning enriched,” “learning,” “learning impaired,” and “learning impoverished.” Standards of personal mastery are established for each continuum point. Teachers with personal mastery qualities which meet the standard for a
given point are placed at that point on the continuum. Likewise, teachers with personal mastery qualities identified as falling between the standards of two continuum points are placed in between the points. Standards for the continuum points follow.

To meet the standard established for the continuum point “learning enriched,” teachers must possess of all three qualities of personal mastery. Learning in this context expands the ability to produce desired results. Learning through methods of inquiry, reflection, dialogue, reading, observation, and practice are of primary importance.

To meet the standard established for the continuum point “learning,” requires possession of two qualities of personal mastery.

To meet the standard established for the continuum point “learning Impaired,” requires possession of one quality of personal mastery.

To meet the standard established for the continuum point “learning impoverished,” requires minimal development of personal mastery; all three qualities are either missing or extremely diminutive. Learning at this level is virtually non-existent outside of what is incidentally learned through required school meetings or inservice sessions.

Teacher placement on the learning continuum leads to the following conclusions:

• One out of six teachers is “learning enriched.”
• One out of ten teachers is “learning enriched-learning.”
• One out of four and one-third teachers is “learning.”
• One out of seven and one-half teachers is “learning-learning impaired.”
• One out of ten of teachers is “learning impaired.”
• One out of six teachers is "learning impaired-learning impoverished."
• One out of ten teachers is "learning impoverished."

The aforementioned conclusions are charted as frequency distributions in Figure 3, and lead to the following interpretations: 1) The extent of teacher learning covers the entire continuum range; 2) The continuum point with the highest frequency is "learning." 3) The lowest frequency points on the continuum are "learning enriched-learning," "learning impaired," and "learning impoverished." 4) When one uses "learning-learning-impaired" to represent the midpoint of the continuum, half of the teachers are at the high end of the continuum - from "learning enriched" to "learning," while approximately one-third of the teachers were at the bottom end of the continuum - from "learning impaired" to "learning impoverished." It can be concluded the extent of teacher learning is distributed across the continuum, but is skewed towards "learning enriched."

Figure 3. The extent of teacher learning at Anytown High School
The following interview excerpts illustrate the qualities of personal mastery (vision/goals, creative tension, sense of purpose, and continual commitment to learn) found at the extremities of the learning continuum.

The following excerpts illustrate a learning enriched degree of personal mastery:

Vision/Goals

I always wanted to have, and I can see it too, it's one of those promos for an old television program called "Room 222" and the teacher walked in and said, "Today class we are going to be talking about the Civil War" and all of a sudden in the background there is an eruption and all the cheers, "That sounds great, let's do it!" Let's go for it!" Like everybody is prepared and I would have to so much trouble keeping the kids quiet that I could just walk out of the room and they would still be engaged ... It happens every once in a while.

Creative Tension

I can't see that it is good to continue doing things the same old way. I'm tremendously big on change, an advocate of changing our methods. I do think that students have to buy into our educational system ... This matters and I want something out of my time here. I don't want to just go through the paces. Until they have more ownership of what they are trying to do, what they are trying to accomplish, I can't see that we are meeting their needs. And their needs are certainly different now than they used to be.

Sense of Purpose

I believe now that rather than subject matter it is most important to create a caring, humane environment in my classroom. Kids are coming to us with more and more psychological needs than I think even ten years ago they had when I came back to teaching. I think that it is real important that a teacher who is with them an hour a day present a role model, treat them with dignity and respect, try to give them information.

Continual Commitment to Learn

I think what motivates me most about my own self improvement is what I can do. That's where it comes from. ... I think the key is continual...
learning, what I always try to remember, that I should always try to better myself...

The following excerpts illustrate a learning impoverished degree of personal mastery:

Vision/Goals and Creative Tension

Researcher: ... lets say you could wave a magic wand and have the perfect classroom, what would your classroom be like?

Interviewee: Once in a while somebody would do homework.

Researcher: If someone is not performing in your class (not doing homework) what do you do?

Interviewee: Get frustrated. Try not to get frustrated.

Sense of Purpose

... over the years, I have taught freshmen for twenty five years, I know pretty much what works for freshmen, you know, how to cope and survive with middle school kids. Being able to survive is more important, the most important thing is my survival, and so you develop activities that they can handle, and they can learn, you know, in the classroom so it keeps them busy on something, because they want to be busy, they don't want to be talked to and they don't want like a lot of discussion.

Continual Learning

Researcher: Your last Phase III district class was a couple of years ago and you have been participating in the inservices here that all staff members are expected to participate in, have you been doing anything else outside of what is required as far as learning?

Interviewee: No

Researcher: Is there any reason why you haven't been?

Interviewee: Don't care to.

In summary, the extent of teacher learning is measured by the degree of
personal mastery an individual teacher possesses. Teachers are placed on a learning continuum which has one end point as learning enriched and the opposite end point as learning impoverished. Distribution frequencies show teacher learning is distributed throughout all points on the continuum, but is skewed toward learning enriched.

Research Question Two

To what extent do teachers at Anytown High School engage in team learning, and what is the perceived value of team learning?

Team learning is working, studying and growing together as a faculty, or as faculty subgroups, in order to improve teaching/learning skills. Ten major categories of team learning activities emerge from the interview data and include half-day inservices, district Phase 3 classes, Anytown Phase 3 workshops, district-wide inservices, School Improvement Team sessions, small group inservice at Anytown, School Within a School Team meetings, district-wide departmental workshops, Anytown departmental meetings, and workshops at Heartland AEA. These ten categories were collapsed and classified into two major groups. The first group includes team learning experiences which involve most, or the entire faculty. The second group includes team learning experiences that involve subgroups of the faculty with specific target goals.

All teachers at Anytown engage in team learning activities. However, the extent of involvement and the learning benefits derived from involvement varies among teachers. The presentation of findings for this research question includes the degree of teacher involvement in team learning activities; team learning activities involving most of, or the entire faculty; and team learning activities which
involve small groups of the faculty.

The results in Table 1 illustrate the extent (level) of participation in team learning activities. Teachers are classified into three levels of participation based on the number of categories in which they report participation. Seventeen (17) percent report high levels of participation - involvement in seven to nine different categories of team learning activities. Sixty-seven (67) percent report medium levels of participation - involvement in four to six different categories of team learning activities. Seventeen (17) percent report low levels of participation - involvement in one to three different categories of team learning activities. The frequency distribution of teachers in the three levels of participation resembles a leptokurtic curve.

Table 1. The extent of involvement in team learning categories

<table>
<thead>
<tr>
<th>Level of Participation</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High 7-9 Categories</td>
<td>17%</td>
</tr>
<tr>
<td>Medium 4-6 Categories</td>
<td>67%</td>
</tr>
<tr>
<td>Low 1-3 Categories</td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>101%(^a)</td>
</tr>
</tbody>
</table>

\(^a\) Figures comprising percent are rounded to the nearest whole number.
As previously mentioned, ten categories of team learning activities were collapsed and classified into two major groups. The first major group, "activities involving most, or the entire faculty," includes half-day inservices, district Phase 3 classes, Anytown Phase 3 workshops and district-wide inservices. The second major group, "activities involving subgroups of the faculty which have specific target goals," includes the School Improvement Team sessions, small group inservice at Anytown, School Within a School Team meetings, district-wide departmental workshops, Anytown departmental meetings, and workshops at Heartland AEA.

The most significant pattern which emerges from the data on team learning shows that activities which involve subgroups of the faculty are more valuable than those involving most, or all, of the faculty. This pattern is illustrated in Table 2 and Table 3. The remainder of this section presents the learning categories/activities of which the two major groups are contrived, and how they contribute to the pattern of value.

**Team Learning Activities Involving Most, or the Entire Faculty**

Team learning experiences involving most, or the entire faculty, are of moderate value in regards to improving knowledge or skills. During the course of interviews a minority of teachers report these activities as a source of learning new methods, implementing new strategies in their classrooms, or impacting school effectiveness.

Table 2 reports the value of these team learning activities. Phase 3 activities at Anytown provide the most valuable team learning experiences, while district-wide inservices are least valuable. Teachers report the overall average value of this major group of team activities as being nearly evenly divided between valuable, moderately valuable, and of little or no value.
Teachers have the option of participating in Phase 3 activities which are developed by the administration and staff at Anytown and/or Phase 3 activities which are district-directed. This represents an important departure from Phase 3 being exclusively district-directed activities. Teachers at Anytown share the responsibility for planning, coordinating and presenting the sessions. Consequently, most teachers like Anytown Phase 3 activities better than the district-directed activities because they focus on issues that are of particular significance to them. Thus, the value of these activities receive the highest rating in this group. Examples of Anytown Phase 3 activities include an awareness of current issues impacting education at Anytown, problem solving, sharing ideas, learning about the history of Anytown, self-improvement, and getting to know each other.

The main value of the district Phase 3 Program centers around the ability to select from a wide variety of activities. This allows specific instructional needs to be met such as learning to incorporate computer technology, or learning instructional
techniques through networking with constituents throughout the district. Comments which reflect the drawbacks of this category of team learning are reflected in such paraphrased statements as, "They are just a bunch of parlor games," "I participate just for the money," "My time is more valuable than to waste it in Phase 3," "I never use the material, but I can dump the material and use the nice binders," "The touchy, feely topics are ok, but I cannot use them in the classroom," and "I had nothing in common with the content or with the other teachers who were taking the same session."

Half-day inservices are relatively new and are designed to help meet the perceived needs of Anytown High. A common structure for this activity consists of conducting regular student classes in the morning, dismissing students early, and implementing two teacher sessions in afternoon - one session for a faculty meeting, the other for staff development.

Teachers report mixed feelings, at best, about the benefits derived from this structure. There are two themes of supporting comments for the half-day inservices: 1) Teachers like the structure of releasing students early from school to engage in learning activities; and 2) The issues presented are pertinent to Anytown.

Criticisms of the half-day inservices include: 1) The topics are too general in nature to be of significant value; 2) There is little or no follow-up to ideas /concepts presented in the development sessions; 3) There is no support system to try new things that are presented; 4) Sessions are demoralizing because of the pessimistic behavior of a group of teachers; 5) There is an overload of information presented - teachers are expected to absorb too much too fast; and 6) Sessions are too short and too fragmented - trying to incorporate both a presentation and a
Staff meeting in the same afternoon session does not work well.

Overall, district-wide inservice days have moderate, or less, value to teachers. This level of value centers around two predominant themes. This first theme is the lack of applicability; teachers report the presentations are too general in nature to efficiently derive benefits for Anytown. The second theme is redundancy; teachers report a lot of topics/concepts are presented time and time again.

**Team Learning Activities - Subgroups with Specific Targeted Goals**

Unlike the learning activities involving most, or the entire faculty, team learning activities that involve subgroups of the faculty are valuable and are reported as sources for learning new methods, implementing new strategies, and impacting school effectiveness.

Table 3 reports the value of these team learning activities. Their value is impressive; ninety-four percent identify them as valuable, two percent as moderately valuable, and five percent as little or no value.

The School Improvement Team (SIT) has a real positive impact on team learning for those who participate. Approximately forty (40) teachers voluntarily serve on the SIT which normally meets once a month in the evenings. At one time membership included a select group of teachers, but now anyone can belong. Dialogue and reflection among SIT members focuses on the need for Anytown High to change in order to meet the needs of a changing student population. One major accomplishment of the SIT was to move away from district-centered staff development programs and establish their own staff development programs to better meet their needs. A second accomplishment involved devising and implementing a new attendance policy. The new attendance policy established a
### Table 3. Team learning activities involving faculty subgroups with target goals

<table>
<thead>
<tr>
<th>Activity</th>
<th>Valuable</th>
<th>Moderate Value</th>
<th>Little or No Value</th>
<th>Totala</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Improvement Team</td>
<td>100%</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>School Within a School Team</td>
<td>100%</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>District-Wide Departmental</td>
<td>100%</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Heartland AEA Workshops</td>
<td>100%</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Departmental Meetings</td>
<td>81%</td>
<td>10%</td>
<td>10%</td>
<td>101%</td>
</tr>
<tr>
<td>Small Group Inservice @ Anytown</td>
<td>82%</td>
<td>18%</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Average Percent</strong></td>
<td>94%</td>
<td>2%</td>
<td>5%</td>
<td>101%</td>
</tr>
</tbody>
</table>

a Figures comprising the total percent are rounded to the nearest whole number.

The maximum number of days a student could miss school before being dropped from classes; a review committee to hear student appeals for reinstatement; and a night school program to provide opportunities for students who were dropped from classes due to poor attendance. A third accomplishment involved devising and implementing the School Within a School program. This program is designed to improve the success of freshmen high-risk students.

The remaining team learning activities in this group are very diverse in nature, yet have very similar perceived benefits. To be brief, diversity can best be illustrated by departmental meetings, School Within a School interactions, small group inservices and workshops which give teachers a chance to dialogue and reflect on teaching methods, incorporate new strategies, and improve the overall quality of their programs. Heartland AEA workshops promote dialogue on school improvement issues through professional readings such as Sizer's book entitled
Horace's Compromise, present seminars which focus on collaborative learning, and conduct strategy sessions which incorporate such skills as writing across the curriculum. District sponsored workshops for special education teachers provide teams of teachers with a chance to network with other district teachers while learning about new IEPs (Individual Education Plans) and Renewed Special Delivery Service programs. District sponsored workshops for math teachers use Eisenhower dollars as a funding resource for secondary math teachers to develop new skills as outlined in the NCTM (National Council for the Teachers of Mathematics) standards. As a bonus for participating, math teachers receive vouchers redeemable for classroom supplies and equipment.

Four patterns of perceived benefits are derived from participation in the aforementioned team learning activities and include meeting the changing needs of students, improving instruction, reducing the feeling of professional isolation, and improving student learning.

In summary, all teachers engage in team learning activities. However, the extent of involvement and the learning benefits derived from involvement varies among teachers. Team learning activities involving subgroups with specific target goals are valuable learning experiences, while activities that involve the entire faculty have moderate value. Keys to successful team learning experiences include 1) a specific agenda which has a definite purpose - general awareness sessions in which there is an overload of information reduces value; 2) sufficient time is allowed to reflect and dialogue about the learning experience; 3) follow-up action to the topics/concerns that are presented; 4) specific application to Anytown or to the classroom; 5) a support structure to try new strategies or ideas that are presented; and 6) something significant happens as a result of the
Research Question Three

To what extent do teachers at Anytown High School engage in organizational learning?

Organizational learning occurs through individual and team efforts when new skills, insights and knowledge are acquired, which, in turn advance the mission, goals, or outcomes of the school.

Simply put, the main force driving organizational learning at Anytown is change; the school, and some teachers therein, believe they must change in order to fulfill the implicit mission of meeting the evolving needs of the students which they serve. Change at Anytown has been initiated through individual learning, and also through team learning efforts in conjunction with the School Improvement Team, half-day inservices, and Anytown Phase 3 activities.

All teachers have opportunities to participate in organizational learning activities, but not all learn new skills or knowledge from these experiences. Consequently, the extent of participation is one-hundred (100) percent, but the extent of actual organizational learning can vary dramatically from person to person. The response to this research question reports the extent of organizational learning derived through individual and team learning efforts. Illustrations from interview transcripts describing teacher involvement in organizational learning are included to enhance reader understanding.

As previously noted, individual learning leads to organizational learning when the impetus for the learning is derived from the implicit organizational mission of pursuing change to meet the needs of students. During the course of
interviews, it became apparent that a significant number of teachers, forty-two (42) percent, have this impetus driving their individual learning efforts. The following series of excerpts provide insight into this pursuit of change. A performing arts teacher who understands that meeting the needs of students requires change on her part exclaims,

I have been kind of branching off and developing on my own, I have found different things from other people, like right now I have been working with Broadlawns Hospital helping them to develop a diversity council, I have a lot of books that have activities in them that I can come back and use in my classroom, so I am just learning a lot of things on my own in branching out ... It's exciting to me to come here and see kids change. I think everyone I have talked to wants kids to change, not realizing that they have to change. The kids are not going to change until we change, we have to work on ourselves first, and I don't think most people do or want to go through that process because it is a lot of work.

An industrial education teacher who saw the need to change his instructional approach so students could assume more ownership in his classes contends,

We don't have the advantages that we had twenty six years ago when students came, they just automatically came with the idea that this is serious ... Until they have more ownership of what they are trying to do, what they are trying to accomplish, I can't see that we are meeting their needs. And their needs are certainly different now than what they used to be.

A social studies teacher agrees with the premise that change is necessary in order to meet the needs of students, especially students coming from dysfunctional families. When asked if he was still learning and growing he replied,

Of course! We do see our student population change and we are much more aware as a faculty of dysfunctional families and the problems kids bring to school. So this is another challenging situation which requires learning.
A guidance counselor realizes the current structure of the guidance department is ineffective in meeting student's needs. Consequently, she began to inquire about alternative strategies that would be more effective. She states,

In some ways I would hate to give up the group of kids I have, but the consensus is at the high school level we're not probably not doing a very good job servicing our 1750 kids the way we are doing it right now. We are probably servicing 10 or 15% very well, and another 10 or 20% a little bit, and we are missing half of the kids, except for big general things. So I'm excited about at least looking into this. I think we have to come up with a better way to serve everybody.

Organizational learning occurs through team activities, as found in the School Improvement Team (SIT) where thirty-three (33) percent of the teachers are involved, through Anytown Phase 3 activities where eighty (80) to ninety (90) percent of teachers are involved, and through half-day inservices where one hundred (100) percent of teachers are involved.

If it can be assumed that there is a positive correlation between team learning activities which teachers report as valuable and the actual development of new organizational skills and knowledge, then the following conclusions can be reached: 1) One hundred (100) percent of teachers who are members of the SIT describe their SIT experiences as valuable. Thus, all engage in organizational learning. 2) Fifty-eight (58) percent report Anytown Phase 3 activities to be valuable, and thus engage in organizational learning. 3) Fourteen (14%) percent find half-day inservices to be valuable, and thus engage in organizational learning.

Organizational learning occurs most successfully through the efforts associated with the SIT. The SIT evolved out of a three day retreat held at Drake University five years ago. Approximately fifteen people attended with the purpose of analyzing what was good about Anytown, what was bad about Anytown, and
what could be improved. An extremely important revelation came out of this meeting and was captured in the words of a retreat participant who said,

Within I would say the first two hours of the first morning after we had listed what is good and what is bad, we were just dumbfounded as a group to realize that probably what needed to be improved in this building is not the kids, because the kids are going to be a given, but the teaching, and maybe it meant teachers' behavior, maybe it meant the curriculum, maybe it meant the way we provided structure for our students, but we were definitely on to something.

Since that time the SIT has evolved and now includes approximately forty (40) teachers who volunteer their time to participate in monthly meetings. Over the years this group has reflected and dialogued on various organizational aspects of Anytown. As a result, it has a positive impact on organizational effectiveness in terms of improving student attendance through a new attendance policy, facilitating the success of freshmen students through the School Within a School program, and changing the structure of the Phase 3 program so that it better meets the needs of Anytown. However, the most significant outcome of this team involves setting the overall tone for school change based on the premise that schools and teachers must change in order to meet the needs of a changing student population. The remarks of an English teacher typifies the impact that the SIT has on the attitudinal approach of teachers to change.

... we are seeing some changes and we are beginning to understand that we are capable of making changes. It is slow and some of us want to move fast, and we know we can't move fast, because it is a very slow process, but we can see some progress being made. And once you understand progress is being made, you feel good that you are a part of something that is evolving and our school is not stagnant by any means. We are an old school but yet we are brand new.

In relation to the School Improvement Team, organizational learning is less
apparent (valuable) within the team structures of half-day inservices and Phase 3 activities. Half-day team learning sessions and Phase 3 activities attempt to raise teacher awareness of organizational factors through highlighting the history of Anytown High, describing how Anytown High interacts with its surrounding community, developing an understanding for the necessity of schools to change, and engaging in problem solving. However, in comparison to SIT learning experiences, these two structures provide experiences that have less value; some teachers describe them as being great, others are antagonistic, others are apathetic, still others find them to be frustrating because of the hostile attitude of ten (10) to twenty (20) percent of the teachers in attendance.

Transcribed below are representative statements which reflect perceptions of value, or the lack thereof, associated with half-day inservices and Phase 3 activities.

A teacher who finds the half-day sessions to be valuable states,

I felt they were excellent. I am not saying 100% of the staff would say that, but they were very good. We hit cultural diversity, we hit consensus building, one of our teachers did something on manipulatives and new techniques to use in the classroom. That is what our staff did. Then we had speakers. One came on demographics, one, he was an idea person, talked about the workplace of the future, I think those things are very fascinating.

One teacher reports that half-day inservices are a good idea, but finds them to be of questionable value because of the antagonistic behavior of “naysayers” who overtly try to undermine the activities. She is obviously frustrated by this situation and describes her feelings in the following excerpt.

... when we do some group processing, especially in faculty meetings where you have the entire staff and we definitely have some naysayers that don’t buy into the process, they have been the same for thirty years, they have no intentions of doing anything different, they real group
blockers, and I find it very frustrating to be in groups with people like that. I don't like to spend the time justifying what I think the group activity is supposed to be. For example, the last group that I was in when we were going over the results of the culture audit, and all we were trying to decide was the way we can expand, bringing more people into the school-improvement team, a pretty simple task. The group that I was in couldn't get onto that question because the majority of time was spent on why are we questioning this? We can't get to the task of yes, do we need to engage more people? That was the question.

The value of Phase 3 activities is endorsed by a teacher who takes pride in the fact that Anytown has its own tailor-made classes while all other schools have to go through the district to take classes. She expresses her pleasure with this arrangement by exclaiming, "the fact that we have our building centered Phase 3 class is just wonderful. We are lucky because we are big enough to make it worth our while."

An antagonistic view of Phase 3 activities is expressed by a teacher who claims that his time is more valuable than watching the "blind leading the blind." He contends that these activities are,

The biggest joke in the world ... I personally think it is a ripoff ... Because its the same thing over and over, we have the blind leading the blind ... We have this Phase 3 stuff, highly anticipated, I did and I'm losing money in this respect. My time is my most valuable commodity. I don't need the money they are offering. I wanted to go and learn something and I didn't learn anything, because it seems like a closed society, again the blind leading the blind.

In summary, organizational learning occurs through individual and team efforts when new knowledge and skills advance the implicit mission and goals of the school. The implicit mission centers on changing to meet student needs. All teachers have opportunities to engage in organizational learning as individuals and as members of teams. However, not all take advantage of these opportunities.
Teachers who are excited about organizational learning typically describe their experiences as being personally rewarding, they feel challenged and invigorated, they believe they are making a difference with kids, they feel important because of their involvement in decision making, and they feel a sense of accomplishment through their involvement in problem solving. Teachers who are indifferent about organizational learning experiences find them to be lacking a legitimate purpose. Consequently, the information, activities, etc., which are presented are not viewed as being relevant/valuable. This prevailing, indifferent attitude encompasses an underlying belief that it is the students who must change to meet the teacher’s standards/needs.

**Research Question Four**

To what extent are teachers at Anytown High School optimistic (hopeful) or learned helpless (hopeless)?

Optimism (hopefulness) was measured through the use of Seligman’s Optimism Survey. Surveys were distributed to all teachers, collected, scored and assigned a number (from one to sixteen) based on established standards. Survey numbers were tallied and recorded into predetermined optimism categories as shown in Table 4.

Prior to distribution, surveys were coded so scores could be separated into two groups; one group included teachers who were involved in one-on-one research interviews, the second group included those who were not involved. Group results were statistically analyzed through Cochran and Cox/Satterwaite procedures to see if there was a significant difference between the mean scores of the two groups. It was determined that there was not a significant difference
Table 4. Optimism scores and distributions by categories

<table>
<thead>
<tr>
<th>Optimism Category</th>
<th>Score</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra-Ordinarily Hopeful</td>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Extra-Ordinarily Hopeful</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
<td>4</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
<td>5</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
<td>6</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>Average</td>
<td>7</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Average</td>
<td>8</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Moderately Hopeless</td>
<td>9</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Moderately Hopeless</td>
<td>10</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Moderately Hopeless</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Severely Hopeless</td>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Severely Hopeless</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Severely Hopeless</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Severely Hopeless</td>
<td>15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Severely Hopeless</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

N   70.00
Mean 5.28
Median 5.00
Mode 4.00
Range 9.00

(p < .05) (Appendix J). Consequently, the findings include all scores reported as one group.

In accordance with Seligman’s standards, the following conclusions can be made: 1) The range of scores encompasses the categories of “extra-ordinarily
hopeful" at the top end to "moderately hopeless" at the bottom end. Ten (10) percent of teachers are identified in both categories. The range of scores does not extend to the very bottom category of the scale. Thus, no teachers are reported as being "severely hopeless." 2) Fifteen (15) percent are "average." 3) Sixty (60) percent of teachers are clustered at scores 4, 5 and 6 in the "moderately hopeful" range. 4) Seventy-five (75) percent of teachers are above average - as found in the "moderately hopeful" to "extra-ordinarily hopeful" categories, while ten (10) percent are reported as below average - as found in the "moderately hopeless" category.

In summary, teachers score in the moderately hopeful range as a group. In relation to Seligman's optimism scale, the average teacher at Anytown possesses optimism that is above average.

Research Question Five

What learning disabilities are present among teachers at Anytown High School?

Learning disabilities are deeply embedded attitudes, ways of thinking, and habitual patterns of interaction which impede learning. This research question will be addressed by defining and identifying learning disabilities, and providing teacher comments which illustrate how learning disabilities manifest themselves at Anytown High School.

Learning disabilities detected at Anytown include "paradigm paralysis," "I am my position," "rationalization," "immediacy of learning," "uncertainty," "learning by experience," "the enemy is out there," and "victims of previously failed reforms." Table 5 (column one) lists the learning disabilities in order of their prevalence in the organization. Column two reports the number of teachers identified (by the
Table 5. The prevalence of learning disabilities

<table>
<thead>
<tr>
<th>Disability</th>
<th>Possessed</th>
<th>Reported in Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paradigm paralysis</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>I am my position</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Rationalization</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Immediacy of learning</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Learning by experience</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>The enemy is out there</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Victims of previously failed reforms</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Fixation on events</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>36</td>
<td>33</td>
</tr>
</tbody>
</table>

The two most prevalent learning disabilities, "paradigm paralysis" and "I am my position," are ones that teachers are most likely to identify in other teachers, but not in themselves. *Paradigm paralysis* is associated with a strong tendency to reject any information, strategies, etc., that conflicts with, or is not congruent with, an instructor's approach to his/her instructional duties. Teachers impacted by paradigm paralysis are characterized by others as "inflexible." This interview excerpt provides an example of how one teacher sees other teachers suffering from paradigm paralysis.

I think we have a significant contingent of staff and faculty who have their days counted to retirement and they have their heads down and they are going to go to that end, and they are going to do it the way they have always done it. They are not going to rewrite lesson plans that they have used. You know, day 85 of the semester, this is what the kids are doing. It is discouraging to me.
The learning disability, *I am my position*, is the second most prevalent learning disability. Teachers suffering from this disability are dedicated to their own instructional position, and could care less about school affairs outside of their classroom walls. The root of this disability may come from a lack of concern, or it may come from a sense of helplessness in making a difference at a level beyond their classroom. This interview excerpt illustrates how one teacher firmly believes that it is her responsibility to take care of her instructional performance, and not to take responsibility beyond her classroom.

... so I haven't learned that much from Anytown because my learning has been in these different types of experiences and the principal has asked me several times to teach others how to teach the way I teach. However, I have seen what jeopardy has happened to me personally in the past and other teachers coming into observe and learn and try to change. I won't be responsible for somebody else changing. I will be responsible for what I do and how well I do it ... plus the fact that I don't get paid what a consultant gets paid to teach people how to teach, and I'm just looking after myself now.

The next five learning disabilities listed in Table 5 are dominated by teachers who are identified, by the researcher, as personally possessing the disability. *Rationalization* is the third most prevalent learning disability. Teachers who rationalizes do not feel good about their performance or their impact as an educator. Instead of trying to improve to become more effective, they just try to survive. The following interview dialogue illustrates the rationalization disability of a teacher whose top priority is her own survival.

Interviewer: ... What have you learned along the way?
Teacher: I am into survival
Interviewer: What do you mean by survival?
Teacher: You learn to push, to strive for learning without pushing
too hard, without pushing hard enough and without getting yourself into situations where you are just so over extended that you cannot function.

(At a later point in the interview on the topic of sharing and learning from others, additional supporting data was identified.)

Interviewer: What types of things do you share with others?

Teacher: I really think it's a survival thing, just helping each other survive and get through the day.

_Immediacy of learning_ is the fourth most common learning disability. Teachers impacted by immediacy of learning are only interested in learning about things that are pragmatic to their classroom setting. The following interview excerpt illustrates how one teacher focuses his learning on pragmatic classroom-based activities, and "puts in his time like the kids do" on learning activities which have a school-wide focus.

Teacher: I have always felt that inservice and staff development should help us to stay current with the trends in our teaching areas, and many times it isn't that specific.

Interviewer: When you feel a teacher staff development meeting or workshop is maybe a little bit more global than your own specific classroom, do you get a little frustrated?

Teacher: I think I probably don't pay as close of attention as when it is something that I am really interested in. I tend to put in my time like the kids do.

Interviewer: If it does not pertain to your classroom directly, you won't be as focused.

Teacher: I think that pretty well sums it up.

_Uncertainty_ is a learning disability that is closely associated with a lack of efficacy and is identified as the fifth most common learning disability. Taken to the
extreme, teachers impacted by uncertainty believe they cannot make a significant
difference in the degree to which their students learn. Consequently, there is a
reduction in their efforts to learn new strategies, techniques, etc., because to them,
it really won't matter anyway. The interview excerpt illustrates the uncertainty of a
special education teacher whose learning has become at least temporarily
stagnant because she is unable to set goals.

Right now special ed. is going through kind of a change and
nobody knows exactly what the direction is in the district and that
has been real frustrating this year. Unless you know where the
resource program is headed, I am not sure what kind of goals I should
set, whether they are going to change the whole structure of it, or keep
it the same. So its been kind of a frustrating year.

*Learning by experience* is the sixth most prevalent learning disability.
Teachers who suffer from this learning disability cling to what has worked in the
past at the expense of trying something new; a reliance on old methods and
practices (which are believed to have worked for many years) prevents learning
from taking place - learning which may lead to more effective instruction in today's
world.

This disability appears during an interview with a social studies teacher.
When asked to describe how he has learned to be a better teacher over his twenty-
nine years of teaching he reports the near total dominance of learning by
experience via the trial and error method. When asked to elaborate on the trial and
error method he states, "Well, you try something and if it works you keep doing it."
This approach could possibly be viable on its own if there is a constant infusion of
new ideas from a variety or sources, or used in conjunction with a variety of other
methods, but it wasn't. Sources of new ideas are restricted to reading magazines
"once in a while," "reading the teacher's edition of the textbook," or interacting with
other departmental teachers by “exchanging videos, filmstrips, and worksheet assignments.”

When commenting on exchanging assignment activities with other departmental teachers, his reliance on using what has worked for him through past experience and his reluctance to try something new is reaffirmed when he says, “Sometimes an assignment will work for another teacher and won't work for me, I just don’t want to try it if I don’t think that it is my style, my way of doing something.”

The enemy out there is identified as the seventh most prevalent learning disability. Blaming others (parents, kids, society, etc.) is the trademark of this disability. Instead of examining problems systemically and analyzing how they may be contributing to the problem, teachers fault others for poor performance. The following excerpt illustrates how one teacher laments about the enemy out there mind set that she sees in some of her fellow teachers. When talking about a lack of student motivation and performance she claims these teachers,

.. do their job, get their paycheck, and go home ... blaming the kids for the problems of the times or blaming the parents ... I am amazed at what my kids can do on their own, and you can’t tell me that I have exceptional kids. I have the same kids that everyone else has, only they are motivated so I don’t believe that we have to sit back and blame the parents and blame kids.

The learning disability with the lowest degree of prevalence is victims of previously failed reforms. This disability is not addressed in the review of literature, but is found to be in existence at Anytown. The mind set of teachers who suffer from this disability are characterized as: 1) contending that an instructional strategy being promoted has already been tried years ago - it did not work then, and it will not work now; or 2) being skeptical of any current reform strategy - personal investment of time in energy on past reform efforts ultimately proved to be a waste
of time. This disability is illustrated in the next interview excerpt. A teacher reports how other teachers are negative and readily vocalize their complaints. When asking her about why this antagonistic attitude exists she makes the following statement.

There is some cynicism I guess you would call it, because I think when you have been in education a while, you see things kind of come around again, you know, and like this tech prep thing, we had our Tech High School and they did away it, well this is the same thing coming back again, a really good idea, but people have criticized that movement because it is the same thing as Tech High and it didn’t work then, so why would it work now.

Fixation on events is identified in the review of literature as a mind set that impedes learning (Senge, 1990). This disability is not detected.

Eight learning disabilities are identified and discussed in response to this research question. The most prevalent learning disability is "paradigm paralysis," which is exclusively identified as adversely impacting other teachers, but not interviewee him/herself. Other learning disabilities in descending order of prevalence include: “I am my position,” “rationalization,” “immediacy of learning,” “uncertainty,” “learning by experience,” “the enemy is out there,” and “victims of previously failed reforms.” The “fixation on events” mind set is not detected at Anytown.

Research Questions Six - Eleven

What (structure), (purpose-strategy), (culture), (process), (environment) and (ecology) factors facilitate or impede teacher learning at Anytown High School?

Research questions six through eleven address the impact organizational factors have on teacher learning at Anytown High School.
**Structure**

Teachers at Anytown High identify ten major structures which impact their learning. Five of these structures facilitate learning, while five impede learning.

Structures which facilitate learning include the School Improvement Team Anytown Phase 3 activities, release time, district-directed activities, and half-day inservices. All teachers on the School Improvement Team are very positive about how this structure promotes team and organizational learning. Successes of the School Improvement Team include such things as setting the overall tone of change to meet student needs, designing and implementing the School Within a School program, and developing and instituting a new attendance policy.

Teachers at Anytown have the opportunity to participate in Phase 3 programs that are “Anytown” directed or “district” directed. As presented earlier in this chapter, teachers report the structure of Anytown Phase 3 are more valuable than district based Phase 3 activities. The basis of this perception stems from Anytown learning activities specifically address issues concerning Anytown High School.

Half-day in-services were new to Anytown starting with the 1992-93 school year. The structure sets aside half of the allotted time for staff development and the other half to conduct a general staff meeting. As reported earlier, approximately one in seven find these experiences to be valuable, two out of three report them to be of moderate value, while one out of four claims they are of little or no value.

District-driven staff development activities include district Phase 3 and district-wide inservices. Both activities have a moderate impact on learning; approximately one in three find them to be valuable, one in four reports they are of moderate value, while two out of five find them to be of little or no value.
Release time (relieving teachers of classroom duties to engage in learning activities) is viewed as a structure which supports teacher learning. One out of every three teachers identifies release time as leading to valuable learning benefits.

Teachers report five structures impede learning including a lack of time and energy, the maze-like physical structure of the building, a lack of funds, a lack of common planning time, and lack of release time.

A lack of time and energy is reported by over half of the teachers as a barrier to learning. The number of preps, the number of classes, the number of students taught are very time consuming and exhausting. Consequently, contending with day-to-day to "stuff" leaves little time and energy for engaging in learning activities.

One in four teachers claims a "lack of funds" impedes learning. The most important shortcoming is a lack of resources to acquire technology which would enable the implementation of technology-based instruction.

One in six teachers reports the sheer size and the maze-like physical structure of the building is an isolating barrier to teacher learning. The building structure has much sentimental value, but its size and "chopped up" arrangement impedes teacher interactions, and subsequently hampers, communication, observation, and teachers learning from each other.

One in six teachers claims there is not enough release time to meet learning needs. Even though one in three teachers reports the release time given facilitates learning, half of these same teachers claim the amount of release time is not enough; more time is needed to attend conferences, workshops, seminars, etc.

One in ten teachers reports a lack of common planning time as an obstacle to learning. Planning meetings occur on an irregular basis, usually squeezed in
before school, after school or over a noon break. These meetings do not afford teachers sufficient time to get of anything of significance accomplished.

In summary, ten structures impact on teacher learning. Five (5) structures (School Improvement Team, Anytown Phase 3, half day inservices, downtown driven staff development efforts, and release time) facilitate learning. Five structures (lack of time and energy, lack of funds, the sheer size of the building, lack of release time, and lack of common planning time) impede learning.

**Purpose-Strategy**

Three (3) purpose-strategy factors influence teacher learning. Two (2) of those, facilitate teacher learning, while one (1), by virtue of its absence, impedes learning.

Approximately one-half of the teachers subscribe to the belief that the school, and the teachers therein, must change in order to meet the implicit mission of the school (changing to meet student needs). Subscribing to this belief facilitates learning. One teacher in eight cites the positive influence of visionary Anytown High teachers in facilitating learning. These teachers model high levels of professionalism and growth and inspire others to learn and grow.

A shared vision is vitally important for an organization to progress towards its goals and purposes (Senge, 1990). Vision provides an organizational focus for action, including action involving teacher learning. Unfortunately a shared vision is found to be lacking. When asking teachers about the vision for Anytown, two out of three teachers could not verbalize a clear and consistent vision. One in six teachers indicated that there is a vision for Anytown, but could not verbalize it with clarity or consistency. One teacher claims that a vision statement is in the process of development through the School Improvement Team.
Culture

The culture of Anytown is comprised of many factors which can impact teacher learning. Five major factors are examined and include academic freedom, learning from other teachers, commitment to learning, efficacy, and mutual trust.

Academic freedom has a varied impact on teacher learning; it affords teachers the opportunity to learn and grow professionally if they so desire; likewise, it enables teachers to remain stagnant. A consistent patterns of teacher responses during the interview dialogues verified that teachers have much academic freedom. One such pattern emerged when teachers were asked if they ever felt pressure to try new classroom strategies or to perform their classroom duties in a specific way. Not one teacher felt pressure to change outside of what they personally put on themselves - regardless if they were learning enriched or learning impoverished.

Much academic freedom promotes the establishment of two distinct subcultures. One subculture is comprised of teachers (40%-50%) who pursue learning and school change, while the other subculture (10%-20%) strongly resists learning tied to school change. There is conflict between the two subcultures; one side pushes for change while the other side fights for stability.

Teachers in the subculture promoting learning and school change believe that change is a must. The basis for this belief is that student clientele is dramatically different than it used to be; “Dick, Jane and Spot” don’t live here anymore, and to meet student needs of today’s society, teachers must learn and grow professionally.

Teachers in the subculture resisting learning tied to school change believe they are doing a good job. They are convinced their approaches to instruction are
correct because they have been found them to be effective in the past. Instead of changing their approaches to instruction to meet student needs, they are confident that students are the ones who need to change their approaches to school if they want to be successful.

A second culture factor of importance is "learning from other teachers." This factor has been identified by Little (1982) in research as being important to facilitating teacher learning. Teachers at Anytown can chose to learn from their peers or not, which is consistent with the atmosphere of academic freedom.

Many teachers at Anytown High share and learn from one another, especially when they do so within their own department and/or when discussing strategies to use to help struggling students whom they have in common. Over one-half of the teachers report they actively share and learn from interactions with other teachers. Over one-third of teachers report infrequent sharing and learning, while approximately one teacher in ten apparently does not share or learn from colleagues. Alarmingly, one whole department is unable to share or learn from one another.

Commitment to learning as a professional is a third factor of importance. Commitment occurs at the classroom level and at the building level. Research indicates teachers must have a commitment at both levels for the school to be effective (Fullan and Hargreaves, 1991; Senge, 1990). Like "learning from other teachers," "commitment" is tied to academic freedom. Academic freedom allows teachers to predominately focus on classroom duties, at the expense of team and organizational learning. Taken to the extreme, a severe lack of commitment at the building level manifests itself as intentional isolation. Only one teacher in ten is identified as having a severe lack of commitment outside of the classroom.
A fourth culture factor is efficacy. Efficacy is a belief among staff that they possess the knowledge and skills to facilitate student learning. Efficacy has strong ties with optimism. It was assessed by asking teachers if they thought they can "control the conditions of student success in school." Approximately one teacher in three indicated the ability to control most of the conditions of success; two out of five report the ability to control some of the conditions; and one in four reports having little or no ability to control the conditions of success. These findings support the findings from the written optimism survey (reference research question number four) in which teachers are identified as "moderately hopeful."

Mutual trust, a fifth factor, has been identified as important in facilitating team and organizational learning (Hargreaves and Fullan, 1992). When asked if there is mutual trust among teachers, one in three teachers report there is trust, one in three is unsure, and one in three indicate there is a lack of trust. When asked if there is mutual trust between teachers and administrators, two of four teachers report there is trust, one out of ten is unsure, and two out of five claim trust is lacking.

In summary, five major culture factors are examined. Teachers have the academic freedom to pursue learning or not to pursue learning. Academic freedom promotes learning and learning-resistant subcultures. In general, teachers in the learning subculture are comfortable learning from each other and have a commitment to learn at the classroom and building levels. The most significant culture element is a strong feeling among staff members that they can control some, or most of, the conditions of student success in school. This moderately hopeful attitude is of fundamental importance to teacher learning. Mutual trust promotes teacher learning, and is found to be lacking between teachers and between teachers and administrators.
Process

Six process factors are discussed in this section and include the implementation process associated with the School Improvement Team, the implementation process associated with half-day inservices, the implementation process associated with Phase 3 activities, leadership, shared decision making, and teacher evaluation.

There are very positive feelings about the structures of the SIT, half-day inservices, and Phase 3 activities. Teachers appreciate the attempt to personalize learning experiences. However, there are varied reports about the learning benefits derived from these activities due to the processes by which they are implemented. The ensuing paragraphs present the varied learning benefits.

There is a very strong, positive feeling about the value of learning from the members who serve on the School Improvement Team. In fact, all SIT members describe their experiences as valuable. Through the implementation process SIT members dialogue about school improvement, attend conferences and workshops, bring in speakers, and develop specific improvement committee responsibilities. SIT members derive satisfaction from seeing their ideas on change materialize in the form of new programs.

The SIT, however, is not connected in a meaningful way to the faculty at large. Some faculty members have no understanding of what the team is up to. Even though membership on the SIT is open to anyone who wants to join, it does not have broad-based representation.

Participation in half-day inservices includes all teachers, but does not generate the same level of learning value as the SIT. As reported earlier, only fourteen (14) percent report half-day inservices are valuable. Teachers like the
structure of releasing students early to engage in learning activities. However, the structure calls for splitting the half-day in two segments - one segment is for a staff meeting, the other segment is for staff development. Dividing the available inservice time between two activities hinders successful implementation; despite a shortness of time, presenters frequently try to squeeze in as much information as possible into the staff development sessions. Thus, sessions are characterized as containing an overload of information with little time devoted for reflection or dialogue.

Fifty-eight (58) percent of teachers report involvement in Phase 3 activities is valuable. The dramatic increase in the perceived value of Phase 3 activities in comparison to the half-day inservice activities (58%-14%) is attributable to a number of factors (which will be presented in Chapter V) one of which, is the implementation process. The implementation process, gives teachers sufficient time and opportunity to comprehend, reflect, and engage in meaningful dialogue.

More than ninety (90) percent of the teachers report the leadership of the building principal facilitates teacher learning. His leadership is described as supportive, encouraging and nurturing. There is common agreement that he welcomes innovations, allocates money to fund workshop participation, and coordinates release time so teachers can participate in educational activities.

Shared decision making, as it impacts teacher learning, occurs most prevalently through the structure and process associated with the School Improvement Team. One hundred (100) percent of SIT members report they are collectively empowered by the principal to make decisions/recommendations on a variety of issues such as student attendance, staff development, and student performance. The decisions/recommendations from the SIT are presented to the
faculty at large. Implementation occurs unless a serious concern is raised from the faculty.

Research identifies teacher evaluation as a factor which facilitates teacher learning (Little, 1982). Four teachers were asked if teacher evaluation facilitates learning. All who were asked indicated that it was not a facilitating factor. During the course of all other interviews, no one reported teacher evaluation as a method by which new knowledge, developed new skills, etc. are learned.

In summary, the implementation process of the School Improvement Team, the leadership of the building principal, the making of shared decisions are valuable in facilitating teacher learning. The implementation process for Phase 3 activities is more than moderately valuable, while the implementation process of the half-day inservices is less than moderately valuable in facilitating teacher learning. The process of teacher evaluation is not a factor that facilitates teacher learning.

Environment

The effects of four environmental factors are examined to determine if they impact teacher learning. These factors include the nature of the community, the close proximity of educational institutions, societal/juvenile problems, and the downtown/central administrative office.

Anytown High enjoys a unique, rich tradition with its surrounding community; teachers believe Anytown High acts a unifying force in the community, and that Anytown is something special to parents and community members. Anytown High boasts of the “Worlds Largest Alumni Club.” Members do give money and are abundantly present at gatherings which celebrate Anytown. In regards to parents, there is good news and bad news; the good news is that teachers do not have to
deal with overzealous and interfering parents; the bad news is that parents are either apathetic about their child's academic progress, or default this responsibility to the school. Either way, this lack of interest creates a sense of frustration among the teaching staff (Sweeney, 1994). All factors considered, the nature of the environment is found to have little or no impact on teacher learning.

The close proximity of educational institutions such as Drake University, Iowa State University, and Heartland AEA helps facilitate learning. New ideas, methods, strategies, etc., appear to diffuse to Anytown rather efficiently; approximately one out of every two teachers reports taking classes at one of these three institutions.

The number of societal and juvenile problems has risen significantly over the years and impacts teacher learning. For approximately twenty (20) percent of teachers this creates a learning disability (enemy is out there) due to blaming uninterested students and apathetic parents for the shortcomings in educational performance. However, for forty-two (42) percent teachers, it has been a stimulus for growth; they feel the need to change to effectively deal with a student body that is changing.

The downtown/central administrative office is also examined as a factor which may impact teacher learning. It is found to have impact, but only to a minor degree; one teacher out of seven identifies it as an obstacle to learning, one teacher in twenty identifies it as facilitating factor, while one teacher out of ten views it as having a varied impact - some things facilitate learning while other things impede learning. Overall, the downtown/central administration has a slightly negative impact, but has little effect on teacher learning.
Ecology

The ecology factors interdependency, dynamism and entropy appear to have impact on teacher learning as individual factors, and collectively they appear to have a systemic effect. These findings support the underlying theory of the organizational systems model (reference Chapter II). The extent of impact these factors have on teacher learning is undetermined due to the complexity of their existence. This complexity is described in the report of findings for research question number twelve; the systemic interaction of all organizational elements and all teacher learning factors are presented therein.

Research Question Twelve

To what extent is there a systemic interaction of learning, optimism, learning disabilities, structures, purposes, processes, culture, environment and ecology at Anytown High School?

It seems possible learning, optimism, and learning disabilities may interact within the organizational elements of structure, purpose, process, culture, environment and ecology. To illustrate, teacher learning may be associated with "human resource development" within the process element; associated with "knowledge" in the culture element; associated with "mission" in the purpose/strategy element; and associated the "procedures" in the element of structure. Optimism may be aligned with the "sense of efficacy" factor as found in the element of culture. Learning disabilities maybe aligned with the "behavior" factor in the element of culture.

During the course of research two things became apparent; there appears to be systemic interaction between the organizational elements/factors, and it appears to be extremely difficult to specifically describe systemic interactions.
The interaction of elements/factors in an organization is complex and dynamic; each element is comprised of a multitude of factors; each element and its accompanying factors are constantly changing because they are part of an organization which, by its very nature, is dynamic and not stagnant; and each element/factor does not lend itself to analysis by examining straight line relationships - a change in one factor in one element has a ripple effect across all other factors in the entire organization.

While it would be impossible to describe the specific interactions, it is possible to describe the general influence elements/factors have on one another. The organizational systems model presented in Chapter II serves as the basis for this examination. The organizational systems model depicts the interdependent elements/factors of purpose/strategy, structure, culture, process, ecology, and environment. As previously identified, teacher learning, optimism, and learning disabilities are factors embedded in the elements. Interaction between the six organizational elements is described below. As the organizational elements interact, so do the corresponding factors associated with teacher learning, optimism, and learning disabilities.

Purpose/strategy is reflected in an organization's mission, goals and work technology; it interacts with the environment, structures, processes, and the human system in an ecological system that is dynamic and suffers entropy. There is no straight line relationship between factors; multiple interactions influence productivity and client and employee job satisfaction. The environment influences the goals, mission and work technology of the organization. The goals, mission and work technology of the organization influence the environment, structures, processes and the human system that must achieve organizational purposes.
These purposes are, in turn, influenced by those same structures, processes, and human system. Structures influence the environment, processes and the human system, and in like manner are influenced by each of those three elements. Each of the six elements are constantly interacting and changing due to their interdependent, ecological essence.

Summary of Findings

1) The extent of teacher learning varies among teachers. Frequency distributions across the learning continuum identify seventeen (17) percent as "learning enriched," ten (10) percent as "learning enriched-learning," twenty-three (23) percent as "learning," thirteen (13) percent as "learning-learning impaired," ten percent (10) as "learning impaired," seventeen (17) percent as "learning impaired-learning impoverished," and ten (10) percent as "learning impoverished." When one uses "learning-learning impaired" to represent the midpoint of the continuum, one-half of teachers are identified at the top end of the continuum, while approximately one-third are identified at the bottom of the continuum. Thus, the extent of teacher learning is skewed towards "learning enriched."

2) All teachers participate in team learning activities, but the extent of participation varies. Frequency distributions within participation categories resembles a leptokurtic curve; seventeen (17) percent report a high level of participation, sixty-seven (67) percent report a medium level of participation, and seventeen (17) percent report a low level of participation.

Team learning activities involving subgroups with specific targeted goals are reported as valuable. These activities include the School Improvement Team, the School Within a School Team, district-wide departmental meetings, Heartland AEA
workshops, Anytown departmental meetings, and small group inservice at Anytown.

Team learning activities involving most, or the entire faculty, are of moderate value. These activities include Anytown Phase 3, district Phase 3, half-day inservices, and district-wide inservices.

3) All teachers have opportunities to engage in organizational learning as individuals and as members of teams. However, not all take advantage of these opportunities. Forty-two (42) percent of teachers engage in organizational learning through individual learning efforts. Likewise, involvement in three team learning structures designed to facilitate organizational learning yield varied results; one hundred (100) percent of SIT members, fifty-eight (58) percent of Anytown Phase 3 participants, and fourteen (14) percent of half-day inservices attendees, find activities within these structures to be valuable, and thus engage in organizational learning.

4) Teachers at Anytown score above average on Seligman's optimism scale and, as a group, are "moderately hopeful." Ten (10) percent are "extraordinarily hopeful," sixty-six (66) percent are "moderately hopeful," fifteen (15) percent are "average," ten (10) percent are "moderately hopeless," and no one is "severely hopeless."

5) Eight learning disabilities are identified. Listed in the order of declining prevalence, with the number reporting disabilities, include "paradigm paralysis" (13), "I am my position" (12), "rationalization" (11), "immediacy of learning" (9), "uncertainty" (8), "learning by experience" (6), "the enemy is out there" (6), and "victims of previously failed reforms" (4). A ninth learning disability "fixation on events" (Senge, 1990), has no reported occurrences.
6) Ten major structures impact teacher learning. Listed below are the structures which facilitate learning in order from the most powerful to the least powerful. The number in parentheses is the percentage of teachers who report the structure as being valuable to learning: The School Improvement Team (100%), Anytown Phase 3 (58%), release time (33%), district-directed activities (33%), and half-day inservices (14%).

Listed below are the structures which impede teacher learning in order from the most powerful inhibitor to the least powerful inhibitor. The number in parentheses is the percentage of teachers who report the structure impedes learning: Lack of time and energy (50%), lack of funds (25%), maze-like building structure (17%), lack of release time (17%), and lack of common planning time (10%).

7) Three purpose-strategy factors impact teacher learning. The implicit mission to change to meet student needs is the most powerful factor, over one-half of the teachers report that it facilitates learning. The influence of visionary teachers is the second most powerful factor; one teacher in eight reports that it facilitates learning. One factor, the lack of a shared, internalized vision, by its very absence is found to impede learning. The magnitude of this factor is undetermined, but it appears to have a detrimental effect on the success of team learning when all, or nearly all, of the faculty are involved.

8) Five major culture factors impact teacher learning. The most powerful culture factor in facilitating learning is efficacy; seventy (70) percent of teachers members believe they can control some, or most of, the conditions of student success in school. Academic freedom is the most pervasive factor in the culture because it allows teachers the latitude to pursue or not to pursue learning.
Academic freedom promotes the existence of “learning” and “learning-resistant” subcultures. Forty (40) to fifty (50) percent of teachers belong to the learning subculture. Teachers in this subculture are comfortable in learning from each other and have a commitment to learn at the classroom and building levels. Members of the learning-resistant subculture comprise ten (10) to twenty (20) percent of the staff. Teachers in this subculture may have a commitment to learn and share at the classroom level, but not at the building level. The least powerful factor in promoting teacher learning is mutual trust. Fifty (50) percent report there is trust between teachers and administrators, while only thirty-three (33) percent of teachers report there is trust among teachers.

9) Five process factors are found to facilitate teacher learning. The two most powerful factors include the implementation of the School Improvement Team, and the shared decision making responsibility assumed by this team. One hundred (100) percent of SIT members report their learning experiences are valuable. Likewise, all SIT members report their involvement in making shared decisions leads to significant results. The third most powerful factor is the leadership provided by the building principal; ninety (90) percent of teachers report that he promotes teacher learning. The fourth most powerful factor is the implementation of Anytown Phase 3; fifty-eight (58) percent find these activities to be valuable. The least powerful factor is the process by which the half-day inservices are implemented; only fourteen (14) percent find these experiences to be valuable. Teacher evaluation is examined as a sixth process factor, but it does not appear to impact teacher learning.

10) Four environmental factors are examined in view of their influence on teacher learning. The most influential factor is the close proximity of educational
institutions, such as Iowa State University, Drake University and Heartland AEA. Approximately fifty (50) percent report these institutions facilitate teacher learning. The second most powerful factor is societal/juvenile problems; forty-two (42) percent of teachers report this factor facilitates learning, while it impedes learning in twenty (20) percent of the staff. The nature of the community is reported to have little or no influence on teacher learning. The fourth factor, downtown/central administrative office, is found to have a minor, impeding degree of impact on teacher learning.

11) There appears to be systemic interaction in the organization, and therefore ecology factors of interdependency, dynamism, and entropy influence teacher learning.

12) There appears to be systemic interaction between learning, optimism, learning disabilities, structures, purpose-strategies, processes, culture, environment and ecology. Together they impact teacher learning, but specific comprehensive interactions involving all factors are impossible to clearly describe.

All research findings will be discussed in Chapter V.
CHAPTER V. FINDINGS, DISCUSSION AND IMPLICATIONS

Chapter V provides an overview of the study, discusses the research findings and presents implications for practitioners, summarizes the study, describes the limitations of the study, outlines recommendations based on the findings, and lists suggestions for future study.

Overview of the Study

This study was part of a larger case study at Anytown High School and was designed to: 1) determine the extent teachers in a comprehensive high school engage in individual, team and organizational learning; and 2) determine the impact on teacher learning attributed to learning disabilities, optimism, and the organizational systems elements of structure, process, purpose, culture, environment and ecology.

Research strategies incorporated qualitative research, quantitative research and triangulation. Qualitative research consisted of conducting thirty-three (33) individual teacher interviews during the course of two research phases. Teacher interviews were inductive in nature and consisted of open-ended questions which explored teacher learning and organizational factors which influence learning. All interviews were tape recorded and written transcripts were obtained in order to capture actual raw data.

A written quantitative survey was distributed to all teachers. The survey consisted of thirty-two (32) questions designed to assess the extent of personal
optimism/hope. Surveys were coded so scores could be separated into two groups. One group included teachers who participated in the research interviews; the second group included those who did not participate in the interviews. Group results were statistically analyzed through Cochran and Cox/Satterwaite procedures to determine if there was a significant difference between the mean scores of the two groups. It was determined that there was not a significant difference (p < .05) (Appendix J).

Triangulation took place both internally and externally. Internal triangulation consisted of synthesizing data derived from qualitative and quantitative methods within the study. External triangulation consisted of: 1) comparing data derived from this study and the data obtained from the other four case researchers; and 2) interacting with the faculty at Anytown High as they were presented the findings of the case study and reflected on the significance of the findings.

Findings were derived by coding/categorizing, analyzing, quantifying, summarizing and synthesizing all collected data regarding teacher learning at Anytown High School. Findings of the study and implications for practitioners are reported in this document.

Findings, Discussion and Implications

The findings of the study report effective, as well as ineffective teacher learning strategies, and factors which facilitate, as well as impede, teacher learning. Findings of this nature permit implications to be made as to what does, and does not work, in the realm of teacher learning. Provided below are findings, discussion and implications for practitioners.
The Extent of Teacher Learning

The extent of teacher learning varies dramatically among teachers. Frequency distributions across the learning continuum identify seventeen (17) percent as "learning enriched," ten (10) percent as "learning enriched-learning," twenty-three (23) percent as "learning," thirteen (13) percent as "learning-learning impaired," ten percent (10) as "learning impaired," seventeen (17) percent as "learning impaired-learning impoverished," and ten (10) percent as "learning impoverished." When one uses learning-learning impaired to represent the midpoint of the continuum, one-half of teachers are at the top end of the continuum, while approximately one-third are at the bottom of the continuum. Thus, teacher learning is skewed towards learning enriched.

It is not surprising that teacher learning spreads out across the entire learning continuum. Rosenholtz (1989) in her studies of elementary schools found teachers to be "learning enriched," "moderately impoverished," as well as "learning impoverished."

There is a rather stark contrast between teachers who are learning enriched and those who are learning impoverished. Teachers who are learning enriched express excitement about what they do; they report they are challenged and invigorated. They convey a sense of accomplishment, and they feel they are making a difference with their students by motivating them to achieve at high levels. On the other end of the spectrum, teachers who are learning impoverished say they are "burned out" and see their work as drudgery. They lower their expectations for student performance, and tend to be preoccupied with their own survival rather than doing what is best for students.

It is promising that teacher learning in this school is skewed towards
learning enriched. These teachers can produce a learning organization. However, it is also encouraging that a sizable group of teachers (approximately 33%) are approaching a learning enriched level.

These findings send a clear message: practitioners must recognize that teachers develop new knowledge, skills and strategies at different levels. The key to developing a learning organization is to raise the level of personal mastery in all teachers. Efforts need to be made to capture the bottom group who are not moving forward; additional help, guidance, and support is needed to ensure these teachers do not deter the progress of the school.

**Extent and Value of Team Learning**

All teachers participate in team learning activities, but the extent of participation varies. Frequency distributions within participation categories resembles a leptokurtic curve; seventeen (17) percent have a high level of participation; sixty-seven (67) percent have a medium level of participation, and seventeen (17) percent have a low level of participation.

Team learning activities involving subgroups with specific targeted goals are described as valuable. Such activities include the School Improvement Team, the School Within a School Team, district-wide departmental meetings, Heartland AEA workshops, Anytown departmental meetings, and small group inservice at Anytown.

Team learning activities involving most, or the entire faculty, are collectively reported to be of moderate value. These activities include Anytown Phase 3, district Phase 3, half-day inservices, and district-wide inservices.

It is not surprising teachers are at different levels of involvement in team learning activities. The distribution somewhat parallels the distribution of teachers
along the learning continuum where ten (10) to twenty (20) percent are at either extreme, and a significant majority of teachers fall somewhere in between.

It is not unexpected that team learning activities involving faculty subgroups with specific targeted goals are more valuable than team activities which involve all (or nearly all) faculty. Teachers involved in subgroup activities participate by choice. Choosing to be involved implies they perceive it to be valuable to them. However, choice does not fully explain the value of these activities; once involved, teachers find these experiences are valuable in terms of what is learned and/or find something of significance happens as a result of their participation. In addition, the dynamics of small groups encourage active participation, while incorporating targeted goals creates a common sense of purpose.

The dynamics of teacher involvement associated with the half-day teacher inservices is intriguing. It appears the "inflexible" teachers, comprising ten (10) to twenty (20) percent of the staff, are detrimental to nearly everyone's learning. Some teachers who are motivated to excel find working with the "inflexible" frustrating, even to the point of being depressing. Only fourteen (14) percent of teachers find half-day inservices to be valuable; a major contributing factor to this low level of value is the negative impact of the "inflexible" teachers.

Other contributing factors to the low reported value of half-day inservices are associated with structure and process. Teachers like the structure of releasing students early to engage in learning activities. However, the structure calls for splitting the half day in two segments - one segment is for a staff meeting, the other segment is for staff development. Dividing the available inservice time between two activities appears to hinder successful implementation (process). Despite a shortness of time, presenters frequently try to squeeze in as much
information as possible into the staff development sessions. Consequently, sessions are characterized as containing an overload information with little time devoted for reflection or dialogue.

It is encouraging that fifty-eight (58) percent report Anytown Phase 3 activities as valuable. Involvement is optional, yet (depending on the activity) seventy-five (75) to eighty-five (85) percent of teachers participate. The dramatic increase in perceived value of Phase 3 activities as opposed to half-day inservice activities (14% - 58%) appears to be attributable to different characteristics of participants, structure, and process. In regards to participants, a significant number of “inflexible” teachers choose not to participate, which in turn dilutes their negative influence. The structure sets up learning activities to take place over two day-long sessions in the summer. Day-long sessions afford a more effective implementation process; teachers have the time and opportunity to comprehend, reflect, and engage in meaningful dialogue about the presented topics. In addition, the summer time context provides an atmosphere that is more conducive to learning; teachers are not as preoccupied with the daily rigors of school, which in turn leads to greater concentration.

It is encouraging to report that a large urban high school has experienced success in implementing team learning activities. The lessons for practitioners to learn from this success include 1) Instigate subgroup teaming learning activities. The dynamics associated with subgroups facilitate learning more effectively. 2) Establish target goals for teams to achieve. Goals create a common sense of purpose, which, in turn provides focus and directs efforts towards achieving something significant (Gerloff, 1985). 3) Allow sufficient time for teachers to dialogue and reflect on their learning experiences; “having an experience does
not constitute learning about it; having an experience and then thinking about it to make sense of it does" (Lieberman and Miller, 1991, p. 113).

**Organizational Learning**

All teachers have opportunities to engage in organizational learning as individuals and as members of teams. However, not all take advantage of these opportunities. Forty-two (42) percent of teachers engage in organizational learning through individual learning efforts. Likewise, involvement in three team learning structures designed to facilitate organizational learning yields varied results. One hundred (100) percent of SIT members, fifty-eight (58) percent of Anytown Phase 3 participants, and fourteen (14) percent of half-day inservice attendees, find activities within these structures to be valuable, and thus engage in organizational learning.

It's interesting that forty-two (42) percent of teachers have an underlying purpose (change to meet student needs) influencing their individual learning efforts. Whether this percentage is below average, average, or above average is unable to be determined. However, the significance of the percentage is apparent; the proliferation of this sense of purpose has been very instrumental in terms of moving the organization forward and enhancing its overall effectiveness.

It is intriguing to note the value of the organizational learning declines as the number of teachers involved in an activity increases. Factors contributing to this trend have been previously described and include participation by choice and the dynamics of small groups. However, the major factor contributing to declining value appears to be the lack of a shared sense of purpose. A shared sense of purpose unifies teachers and gives them a clear focus for action (Fullan and Hargreaves, 1991).
As team learning activities include more teachers, the shared common sense of purpose appears to diminish. To illustrate, the sense of purpose among members of the School Improvement Team (fewest number of teachers) is seen as unified and focused on changing to meet student needs. However, the sense of purpose associated with the half-day inservices (greatest number of teachers) is not unified. In fact, there are two senses of purpose which conflict. One sense of purpose held among a group of teachers is that the school, and the teachers therein, need to change to meet student needs. Conversely, the other sense of purpose held among a different group of teachers is that students are the ones who need to change in order to succeed.

To succeed in organizational learning, practitioners must help teachers develop a common sense of purpose which advances the mission and goals of the school through individual and team learning efforts. The greater the commitment to a common sense of purpose, the more efficiently and effectively the organization moves forward.

Optimism

Teachers at Anytown score above “average” on Seligman’s optimism scale and, as a group, are “moderately hopeful.” Ten (10) percent are “extra-ordinarily hopeful,” sixty-six (66) percent are “moderately hopeful,” fifteen (15) percent are “average,” ten (10) percent are “moderately hopeless,” and no one is “severely hopeless.”

The moderately hopeful disposition of teachers is very encouraging. Optimism and hope are two qualities that, “keep teachers reaching for new teaching challenges, fresh opportunities, and ever-expanding technical knowledge” (Rosholtz, 1989, p. 165). This obviously facilitates teacher learning.
It is not surprising that the level of teacher optimism is moderately hopeful, especially when compared with the extent of their learning. It appears to be logical that learning enriched and high optimism are correlated.

It is interesting to note that no teachers are severely hopeless. It may be that the environment at Anytown elevates this sense of optimism, or severely hopeless teachers do not come to Anytown.

Practitioners must realize teachers exhibit diverse levels of optimism. Consequently, there may be diverse levels of receptiveness among teachers when asked to learn new information or skills; optimistic teachers may actively pursue learning, while learned helpless teachers bemoan the futility of learning something new - in their eyes it won't matter anyway.

The key to success is to raise the level of optimism in teachers, individually and collectively. Optimism can be learned, but special efforts will need to made to get the "learned helpless" out of the doldrums.

Learning Disabilities

Eight learning disabilities are reported and/or identified at Anytown High. Listed in the order of declining prevalence with the number reporting these disabilities, they include "paradigm paralysis" (13), "I am my position" (12), "rationalization" (11), "immediacy of learning" (9), "uncertainty" (8), "learning by experience" (6), "the enemy is out there" (6), and "victims of previously failed reforms" (4). A ninth learning disability "fixation on events" (Senge, 1990), was not reported.

It is not surprising that the two most prevalent learning disabilities, "paradigm paralysis" and "I am my position," are almost exclusively identified as mind sets that "other teachers" possess. Teachers with these mind sets are in the learning-
resistant subculture. As presented previously, there is a conflict between the subcultures related to the need to change and the need for commitment at the building level.

It is interesting that the three least prevalent learning disabilities are "learning by experience," "the enemy is out there," and "victims of previously failed reforms." Few teachers rely on "learning by experience"; most teachers engage in multiple methods of learning.

The low incidence of "the enemy out there" disability is also interesting. Few teachers believe they can not control some (if not most) of the conditions of student success. Teachers do not place blame for poor student performance on others. Perhaps this correlates with the "moderately hopeful" nature of the staff presented in conclusion number four.

It is not unexpected that the least prevalent learning disability is "victims of previously failed reforms." First, most teachers appear to want to grow and change because they believe they can make a difference. Second, change is new to Anytown High School. Teachers who have never invested much time and energy in pursuing change through past reform efforts are not likely to feel like victims.

The only disability that is not found to be present at Anytown is "fixation on events" (Senge, 1990). Either the teachers' sense of efficacy and their tendency not to blame "enemies" or "events" does foster this disability, or there is a lack of events that teachers cause to blame students for poor performance.

The presence of learning disabilities in an organization can be devastating (Senge, 1990). Learning disabilities may impede teacher learning at Anytown. Practitioners in all schools must diagnose what learning disabilities are present in their schools and the degree to which they impede learning. This is the first step in
developing strategies to counteract their impact.

**Structure**

Ten major structures impact teacher learning. Listed below are the structures which facilitate learning in order from the most powerful to the least powerful. The number in parentheses is the percentage of teachers who report the structure is valuable to learning: The School Improvement Team (100%), Anytown Phase 3 (58%), release time (33%), district-directed activities (33%), and half-day inservices (14%).

There are five structures which impede teacher learning. These are provided below in order from the most powerful inhibitor to the least powerful inhibitor. The number in parentheses is the percentage of teachers who report the structure impedes learning: Lack of time and energy (50%), lack of funds (25%), maze-like building structure (17%), lack of release time (17%), and lack of common planning time (10%).

The structures associated with the School Improvement Team, Phase 3 activities, and half day inservices have been previously discussed. To briefly summarize, activities that are structured to incorporate subgroups, have specified target goals, and allow time for dialogue and reflection yield valuable results.

It is not surprising that the most significant structural barrier to teacher learning is time - as in a lack of time and energy, lack of common planning time, and the lack of release time. Tewel (1993) claims that schools create a "structural teaming disability" when they don't allocate sufficient time for teachers to learn. Contending with the daily rigors of teaching leaves little time (and energy) for professional learning or reflection on current practices.

It is not unexpected that one in four teachers report a lack of funds inhibits
their learning; lack of funds is primarily linked to the lack of available technology. Teachers believe if technology is readily available, they would be motivated to learn how to use it and how to incorporate it into instruction. Staying current in the field of technology is a constant struggle; equipment and software are constantly changing. Once purchased they can become obsolete rather quickly.

After touring the Anytown High building and seeing its sheer size and maze-like physical structure, it is not surprising that there is a feeling of structural isolation among one out of every six teachers. Krajewski and Zintgraff (1977) report that structural arrangements of the building itself are a constraint to innovation.

Practitioners contending with aforementioned structural barriers may wish: 1) More time for teachers to meet, reflect, dialogue, plan, etc. Lack of time should not be used as an excuse for insufficient teacher learning. It is obvious that more time must be allocated if schools are serious about improving teacher learning. Creative solutions should be explored. 2) More communicative interaction. It would be impractical to remodel the building to facilitate more physical interaction. However, it is important to promote more personal interaction through meetings, workshops, etc., or electronic interaction through technology. 3) More money to purchase services, supplies, and equipment (such as technology) to meet student and instructor needs. Lack of funds is an on-going problem in education; there never seems to be enough money. Strategies should be examined that promote additional funding through outside sources, if internal sources are not sufficient.

**Purpose-Strategy**

Three purpose-strategy factors impact teacher learning. The implicit mission to change to meet student needs is the most powerful factor; over one-half of the teachers report that it facilitates learning. The influence of visionary teachers is the
second most powerful factor; one teacher in eight report visionary teachers facilitate learning. One factor, the lack of a shared internalized vision, by its very absence is found to impede learning. The magnitude of this factor is undetermined, but it appears to be a real detriment to the success of team activities where all (or nearly all) of the faculty are involved.

The implicit mission to change to meet student needs has been previously discussed in conjunction with individual, team, and organizational learning and will not be discussed further. What is surprising is the inspirational impact that some teachers have on other teachers. It seems that through modeling admirable learning qualities they motivate others to learn. Although just one teacher in eight reports that it facilitates learning, it is worthy to note. The lack of a shared vision for Anytown is a concern. Vision is a mental picture of what one wants to create; it has the ability to uplift individual aspirations as well as creating a sense of commonality (Senge, 1993). Shared vision in an organization emerges from the personal visions held by its members. It is collectively rooted in the sets of values, concerns and aspirations of individuals. Within the right cultural context, individuals seek to build shared visions in their desire to be connected in an important undertaking (Senge).

Practitioners should recognize and support visionary teachers. Teachers who take risks should also be commended. "All change involves risks, but for the contemporary American school, the "safe" strategy of maintaining old structures and yesterday's curriculum is often a poor choice" (Rosenblum, 1990). Vision should also be emphasized. As long as there is not a shared vision, there will likely be subcultures within the school who intentionally block school improvement efforts. Building a shared vision focuses teachers' learning efforts on common
goals. Teachers need opportunities to clarify and define their personal vision and share their personal visions with others in order to build a shared vision.

Culture

Five major culture factors impact teacher learning. The most powerful culture factor in facilitating learning is efficacy; seventy (70) percent of the teachers believe they can control some, or most of, the conditions of student success in school. Academic freedom is the most pervasive factor in the culture because it allows teachers the latitude to pursue or not to pursue learning. Academic freedom promotes the existence of learning and learning-resistant subcultures. Forty (40) to fifty (50) percent of teachers belong to the learning subculture. Teachers in this subculture pursue learning from each other (a third factor) and have a commitment to learn at the classroom and building levels (a fourth factor). Members of the learning-resistant subculture comprise ten (10) to twenty (20) percent of the staff. Teachers in this subculture may have a commitment to learn and share at the classroom level, but not at the building level. The least powerful factor in promoting teacher learning is mutual trust. Fifty (50) percent report there is trust between teachers and administrators, while only thirty-three (33) percent report there is trust among teachers.

The four culture characteristics that surfaced are not surprising: 1) Teachers, in general, have a sense of efficacy evidenced by their belief that they can control some or most of the conditions of students success. This correlates with their collective level of optimism being moderately hopeful. 2) Teachers have much academic freedom; teachers in general desire individualistic environments (Hargreaves and Fullan, 1992). 3) Academic freedom affords teachers the option not to engage in professional learning, even though they may be ineffective
instructors (Byham, 1992). 4) There is some mistrust between teachers and administrators; this is common.

Some culture characteristics were surprising: 1) The emergence of two distinct subcultures: One characterized as being collaborative (committed to learning and sharing from each other); the other characterized by a lack of commitment to learn at the building level, and a lack of interest in learning from one another. 2) The degree of resentment and ill feelings between the two subcultures. 3) The degree of trust between teachers and the building principal is higher than the degree of trust among teachers; fifty (50) percent of teachers claim there is trust between teachers and the building principal, while just thirty-three (33) percent claim there is trust among teachers.

There are implications for practitioners connected to culture. A pervasive sense of efficacy promotes learning (Lieberman and Miller, 1991). If the staff of a large urban high school (from the “wrong side of town”) can possess a sense of efficacy, why can’t all schools? Practitioners must find ways to raise the level of efficacy in their buildings. Collaboration is critically important in facilitating teacher learning (Hargreaves and Fullan, 1992). Practitioners must find more ways for teachers to collaborate, especially when it comes to building level issues. Practitioners must identify and use strategies factors which promote trust, and reduce or eliminate factors which erode trust.

**Process**

Five process factors facilitate teacher learning. The two most powerful factors include the implementation of the School Improvement Team and the shared decision making responsibility this team assumes. All SIT members report their learning experiences are valuable and their involvement in making shared
decisions leads to significant results. The third most powerful factor is the leadership provided by the building principal; ninety (90) percent of the teachers report that he promotes teacher learning. The fourth most powerful factor is the implementation of Anytown Phase 3; fifty-eight (58) percent find these activities to be valuable. The least powerful factor is the processes by which the half-day inservices are implemented; only fourteen (14) percent find these experiences to be valuable. Teacher evaluation is examined as a sixth process factor, but it does not appear to impact teacher learning.

Processes by which the School Improvement Team, the Anytown Phase 3, and the half-day inservices operate have already been discussed. In essence, processes which allow teachers sufficient time to engage in meaningful dialogue and reflection promote learning.

It is not unexpected that the building principal's leadership and the process of shared decision making facilitate teacher learning. Leadership characteristics which Anytown teachers identify in their building principal parallel leadership characteristics Fullan and Hargreaves (1991) cite as facilitating teacher learning. These characteristics include supporting and promoting innovations, freeing up time and resources for learning, and making a commitment to long term improvement. Shared decision making, as witnessed through the School Improvement Team, facilitates teacher learning (Joyce et al., 1993; Rosenholtz, 1989); it lends substance and structure to collaboration and to the pursuit of implementing school goals.

It is intriguing that teacher evaluation is not a factor in teacher learning. This contradicts Rosenholtz's (1989) contentions about the value of teacher learning derived from teacher evaluation and support Barth's (1990) claim that teacher
evaluation has little to do with teacher learning and subsequent improvement. Perhaps it is time to really examine the worth of teacher evaluation.

There are implications for the practitioner. Leadership of the building principal is fundamentally important in facilitating learning. Each building leader should examine his/her leadership characteristics and establish goals for improvement. Shared decision making promotes teacher learning. Consequently, shared decision making should be expanded whenever it is possible and prudent. Finally, if teacher evaluation has little to do with teacher learning, consider dropping or changing it.

**Environment**

Four environmental factors influence teacher learning. The most influential factor is the close proximity of educational institutions, such as Iowa State University, Drake University and Heartland AEA. Approximately fifty (50) percent report these institutions facilitate teacher learning. The second most powerful factor is societal/juvenile problems; forty-two percent of teachers report this factor facilitates their learning, while it impedes learning in twenty (20) percent of the staff. The nature of the community has little or no influence on teacher learning. The fourth factor, downtown/central administrative office, is a slight impediment to teacher learning.

It is interesting to note that teacher learning seems to be unaffected by the nature of the Anytown community. The rich tradition, the unifying influence that the school has on the community, and the droves of enthusiastic alumni are not reported by teachers as factors which impact their learning. Perhaps any academic progress that Anytown makes is just fine with its constituents.

In view of the results of this study, it is not surprising that societal/juveni
problems have a varied impact on teacher learning. Twenty (20) percent possess the “enemy is out there” learning disability which inhibits their learning. On the other hand, this factor plays a significant role in promoting teacher learning among teachers (42%) who believe that schools, and the teachers therein, must change to meet the needs of a changing student population. It is not surprising the downtown/central office is perceived to play a minor role in teacher learning. The collective level of optimism and sense of efficacy among teachers permits them to promote their own learning programs, and not to rely on downtown/central office.

Practitioners must be attuned to environmental factors that influence teacher learning. Factors that promote learning, such as the proximity of educational institutions, should be examined to see if their influence can be expanded. Environmental problems should be viewed as challenges and opportunities rather than excuses for poor performance. If a significant number of teachers from a large urban high school (from the “wrong side of town”) can view rising societal/juvenile problems as a stimulus for change, what excuses do other high schools have for not changing?

Systemic Interaction of Elements and Factors

There appears to be interaction between learning, optimism, learning disabilities, structures, purposes, processes, culture, environment and ecology. Together as factors they appear to impact teacher learning, but specific relationships among these factors are impossible to determine. This dynamic complexity of the organization is intriguing. Even though the number of factors studied is limited, it was still not possible to define and specify the interactions among these factors and to clearly identify their impact on teachers. Factors at play in an organization appear to have a ripple effect on each other as well as on
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teachers in the organization. In addition, these factors are not static; they constantly change.

The context of the school organization contains other factors that are not included in this study. The bottom line is that there is no simple way to determine what impacts learning in an organizational system. Merely providing opportunities for teachers and universally expecting them to acquire knowledge and skills is probably ineffective (Hargreaves and Fullan, 1992). Practitioners must understand the unique dynamics of the school culture in which they work. Opportunities for teachers to acquire new knowledge and skills must be ingeniously structured and presented that are in harmony with the culture of their school.

**Summary of the Research Study**

This study was designed to address twelve research questions regarding teacher learning at Anytown High School. The twelve questions include 1) To what extent are teachers learning enriched or learning impoverished? 2) To what extent do teachers engage in team learning, and what is the perceived value of team learning? 3) To what extent do teachers engage in organizational learning? 4) To what extent are teachers optimistic or learned helpless? 5) What learning disabilities are present? 6 - 11) What structure, process, purpose/strategy, culture, environment, and ecology factors facilitate or impede teacher learning? 12) To what extent is there a systemic interaction of learning, optimism, learning disabilities, structures, purposes, processes, culture, environment, and ecology? Below is a narrative that briefly summarizes the findings.

The extent of individual, team and organizational learning varies among teachers. In regards to the extent of learning, teachers are identified as learning
enriched as well as learning impoverished. Participation in team learning activities range from low involvement to high involvement. Team learning activities are more valuable in faculty subgroups where target goals are established and sufficient time is allowed for dialogue and reflection. Organizational learning takes place through individual learning and through team learning. Individuals whose learning efforts are guided by the implicit mission to change to meet the needs of students engage in organizational learning. Teachers who find team learning activities associated with the School Improvement Team, Anytown Phase 3, and half-day inservices to be valuable also engage in organizational learning.

The extent of optimism ranges from moderately hopeless to extraordinarily hopeful. These teachers, as a group, are moderately hopeful.

Eight learning disabilities surfaced, and in order of declining order they are paradigm paralysis, I am my position, rationalization, immediacy of learning, uncertainty, learning by experience, the enemy is out there, and victims of previously failed reforms.

Each of the organizational system elements studied, as well as other factors, had an impact on teacher learning. The most powerful structure factor facilitating learning is the School Improvement team, whereas the most powerful inhibiting factor is the lack of time and energy. Three purpose-strategy factors are reported, the most powerful of which is the implicit mission to change to meet student needs. Five major culture factors were examined: the most powerful is efficacy; the most pervasive is academic freedom. Five process factors were reported, the most powerful is the implementation of the School Improvement Team. Of the four environmental factors examined, the most powerful is the close proximity of educational institutions. Finally, there appears to be systemic interaction within
the school organization, thus the ecology factors of interdependency, dynamism and entropy all appear to impact teacher learning. There is also systemic interaction between learning, optimism, learning disabilities, structures, purposes, processes, culture, environment, and ecology. Together they impact teacher learning, but specific comprehensive interactions involving all factors is impossible to determine or clearly describe.

**Limitations of the Study**

1. Because one researcher investigated teacher learning there is a threat to internal validity due to personal bias.

2. Because qualitative methodology was predominately used, the "human as instrument" in data collection and analysis poses a threat to internal validity due to instrumentation.

3. Because the sample size in qualitative interviews was relatively small and participant volunteers were used, it cannot be established that participants were representative of the population. Thus, internal validity may be questionable.

4. Because this study involved one comprehensive high school, conclusions should not be generalized.

**Recommendations for Practitioners**

Recommendations are presented in this section for practitioners who are interested in raising the level of teacher learning in their schools, increasing the effectiveness of their schools, and ultimately improving student performance.

There are three key concepts to consider when developing and implementing strategies to improve teacher learning: 1) Teacher learning is only
one phenomenon found within the culture of a school; there are many other phenomena which are simultaneously interacting. 2) Factors which impact teacher learning are interdependent, dynamic and complex. There are no straight line relationships between factors; a change in one factor in the organization will have a varied ripple effect across the organization. 3) There are no easy solutions. Whatever strategies are employed to enhance teacher learning must be designed through systemic thinking and planning. Practitioners must keep these key concepts in mind as they incorporate any recommendation found herein.

1. Extent of teacher learning: Raise the level of personal mastery.

Senge (1990) identifies three qualities of personal mastery which include possessing a sense of purpose that underlines vision/goals, creative tension, and a continuous commitment to learn. Sufficient time and opportunities must be provided for teachers to reflect and formulate their sense of purpose, define their personal vision, and dialogue with others about their sense of purpose and accompanying vision. Creative tension may be fostered by providing teachers time to reflect and accurately assess where they currently are in relation to where they want to be (vision). Subsequently, goals need to be established to facilitate progress towards realizing their visions. Commitment to continual learning, like a commitment to anything, requires intrinsic motivation. However, learning opportunities and a variety of resources should be readily available to support teachers in pursuit of their visions.

2. Team learning activities: Develop and implement learning activities whereby subgroups of the faculty have sufficient time to reflect and dialogue with each other as they pursue specific goals.

Anytown High School provides two powerful examples of team learning
activities which incorporate the aforementioned qualities. The first example is the School Improvement Team which includes forty (40) teachers who meet as a study group once a month in the evenings. The designed purpose of this team is to improve various (but specific) aspects of the school such as student attendance and staff development. The second example is the School Within a School Team which includes approximately six (6) teachers who have common planning time scheduled into their work day. The goal of this team is to provide coordinated programming to keep at-risk freshmen students in school.

3. Organizational learning: Develop and proliferate a common sense of purpose in alliance with the mission/goals of the school. Subsequently promote individual and team learning activities which are guided by the common sense of purpose.

A retreat conducted by Anytown High School serves as an example of a method by which a common sense of purpose can be developed. This retreat incorporated fifteen (15) teachers who met at Drake University over the course of three days. The goal was to analyze what was good about Anytown, what was bad about Anytown, and (most important) what could be done to improve Anytown. The sense of purpose which emerged from this retreat was that the school, and the teachers therein, must change to meet student needs.

The sense of purpose is proliferated through the implementation of the School Improvement Team. Forty (40) members meet regularly to study, dialogue and reflect on change issues. Additional strategies will need to be implemented so more teachers internalize the common sense of purpose.

Organizational learning occurs when individual and team learning promotes progress towards accomplishing the mission/goals of the school. Promoting
personal mastery (as outlined in recommendation one) and team learning (as found in recommendation number two) can also facilitate organizational learning if there is a common sense of purpose which promotes progress in meeting the mission/goals of the school.

4. Optimism: Raise the level of individual and collective optimism.

Strategies for raising individual optimism are found in Seligman's book, *Learned Optimism* (1990). Seligman outlines an "ABC" approach which is designed to promote appropriate responses to adversity, distinguish harmful beliefs, and yield more favorable consequences.

Collective optimism is enhanced when teachers, as a group, experience success. Anytown High School provides an example of how collective optimism can be raised. Teachers on the School Improvement Team were allowed to design and help implement a new student attendance policy. When implemented, the new attendance policy led to a dramatic increase in daily student attendance. This success instilled confidence among teachers to tackle difficult problems and make positive changes.

5. Learning disabilities: Employ strategies to counteract the impact of learning disabilities.

Senge (1990) advocates practicing the five disciplines of learning organizations to combat the negative impact of learning disabilities. The first discipline is *systems thinking*; the ability to see patterns and reinforce or change them effectively. The second discipline is *personal mastery* which has been described previously (see recommendation number one). The third discipline is *mental models*; shaping notions or assumptions residing deeply in the psyche which allows an organization to move forward. The fourth discipline is *shared*
vision; a genuine vision breeds excellence and learning because people in the organization want to pursue these goals. The fifth discipline is team learning; members suspend assumptions and think together to solve problems or chart the future.

6. Organizational system factors: Provide leadership to promote teacher learning in view of the factors in the elements of structure, purpose-strategy, culture, process and environment.

Four strategies may be incorporated to facilitate learning in view of the organizational systems factors. The first strategy is tied most closely to the element of purpose-strategy and incorporates building a shared vision. A school cannot become great without goals, values and mission that become shared throughout the organization. Shared vision bubbles up from personal vision, without personal vision there can be no shared vision. Teachers need time to reflect as they develop their personal visions, as well as time to share their visions with each other.

The second strategy is tied most closely to the elements of structure and process. It incorporates designing learning opportunities which allows sufficient time for subgroups of teachers to interact, innovate, collaborate, reflect, dialogue, and engage in problem solving with each other. Anytown provides examples of three such opportunities which lead to valuable learning experiences. These opportunities include involvement in the School Improvement Team, the School Within a School Team, and Anytown Phase 3.

A third strategy is most closely tied to the elements of process and culture and incorporates empowering teachers through shared decision making. Anytown High School provides two examples where shared decision making is instituted,
which in turn has led to a greater sense of efficacy/optimism. Members of the School Improvement Team have been empowered to make decisions and implement programs which has led to improved student attendance and staff development. Likewise, members of the School Within a School Team are empowered to make programming decisions which has led to a higher percentage of at-risk freshmen students staying in school instead of dropping out.

A fourth strategy is most closely tied to the element of environment. It incorporates assessing environmental factors which impact teacher learning, and designing approaches which lead to enhanced learning. The environment surrounding Anytown is used to provide examples for the following recommendations. A) Expand the role of factors which facilitate teacher learning. Teachers report that activities at Heartland AEA, Drake University and Iowa State University are valuable. Strategies should be designed for teachers to become more involved in the opportunities provided by these organizations. B) Establish new relationships with factors which have the potential to impact teacher learning, but currently do not. For example, parents are viewed as either apathetic about their children's academic progress, or default this responsibility to the school. Designing programs to encourage active parent involvement would enhance understanding of the backgrounds of students as well as parental expectations. An enhanced understanding can lead to instructional/program changes which would better meet the needs of students. C) Turn problems into challenges and opportunities. For example, rising societal/juvenile problems has led to the establishment of an implicit mission; the school, and the teachers therein, must change to meet the needs of a changing student population. Instead of allowing a problem be a scapegoat, make it be a call to action.
7. Systemic interaction: Understand the unique dynamics of a school's culture and ingeniously design learning activities in the harmony with the nature of the culture.

Anytown consciously started its school reform efforts in earnest on a small scale. A group of fifteen (15) dedicated teachers attended a retreat which resulted in the emergence of a common sense of purpose (schools, and the teachers therein, must change to meet student needs). The common sense of purpose led to the establishment of the School Improvement Team and staff development programming designed to meet the specific needs of Anytown High. During the course of the past two years this group has grown in size, and now at least forty (40) teachers possess this common sense of purpose. Additional strategies are currently being contemplated at Anytown to capture and align more teachers with the common sense of purpose.

Starting reform efforts on a small scale has given teachers time to adopt a unified purpose, share in decision making, and claim ownership in the change process. Consequently, a long-term commitment to reform/change is being established among a growing number of teachers.

If reformation efforts would have started on a large comprehensive scale driven by centralized bureaucratic decisions, it is likely a majority of Anytown teachers would have rebelled. There may have been short term compliance to change decisions, but it is likely that long term commitment to change would have been sacrificed. Faster is slower at Anytown. Organizations have an optimal rate of growth that is far slower than than most people think is desirable. The system will compensate for fast growth by slowing down even if it means destruction (Senge, 1990).
Recommendations for Further Study

1. Each factor in this study could be a viable separate study in and of itself. Separate studies could lead to specific and detailed understandings in the areas of individual learning, team learning, organizational learning, learning disabilities, process, structure, environment, culture, ecology and purpose-strategy.

2. The entire study could be replicated at a different comprehensive high school to see if similar results surface.

3. Factors which contribute to teachers being “learning enriched” or “learning impoverished” could be made to develop more specific and detailed understandings.
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APPENDIX A. PARTICIPATION LETTER

Dear

We are very pleased that your school is going to participate in the culture audit and are very excited about the work that we are going to do together. Enclosed in this communication is a tentative list of the high schools that will be participating in the audit. We believe it is going to make a difference for your school and want to do everything we can to make the audit successful. It will take considerable preliminary preparation to ensure that we do this well together. Below are three suggested activities for ensuring its success. Please review them and follow as closely as you can. If any of these is a problem, please call so we can discuss how to go about it in another way.

I. Designate Contact Person and/or Group

We would like to work through a faculty group with a contact person. We are suggesting this for these reasons: (1) it will promote faculty ownership and receptivity, (2) faculty will be very helpful in helping us to be sure we ensure confidentiality, minimize disruption, and enable the audit to be conducted most effectively and efficiently and, (3) it will reduce strain on the principal and assistant principals. We would like to have a contact person. Would you please designate a faculty member to work with us or assign the task to an existing group. Provide us with the name of the contact person(s) or ask her or him to contact us. You may wish to have them deal with the other requests in this communication.

II. Provide Scheduling Information

We will be spending five consecutive days during each semester. We want to be sure to avoid times that are bad for faculty or that will not provide us an opportunity to observe school activities. Would you please use the enclosed calendars to indicate those times during which there are vacations/holidays, or other dates that you consider to be undesirable for the visitation. We will make a tentative schedule and return it to the contact person for final approval.
III. Collect Artifacts for Examination

One of the ways that the culture can be determined is by examining artifacts such as school policy, procedures, etc. Enclosed is a list of the artifacts we would like to examine. Please understand that we do not want or expect you to provide any information that you do not now have in a form you can give us. We suspect that this information is available because it is typically required by central office or others. If you encounter a problem please contact us. We will return anything that you need returned but would prefer to keep it.

It would be greatly appreciated if you would collect these artifacts and get them to us by the end of the school year.

Thanks so much for your help. If you have any questions please call Jim Sweeney at 294-4871 or Sandra Barnes at 294-2971. Looking forward to doing great things together.

Sincerely,

Jim Sweeney
APPENDIX B. LETTER TO ANYTOWN HIGH STAFF MEMBERS

August 31, 1993

TO: All Staff

FROM: Dr. Jim Sweeney, Professor
       Iowa State University

RE: Culture Audit

During the week of October 11-15, 1993 I will be visiting your school to conduct Phase I of the culture audit. Sandy Barnes and John Robbins, ISU Ph.D. students, will be interviewing teachers and other staff members to collect information about the culture of your school. John will only be interviewing teachers and his specific interest will be in the school learning community. During the year, Jan Beatty, ISU Ph.D. student will be interviewing East High students and Laura Studer, ISU Ph.D. student will be interviewing community members to further clarify elements of the school culture. Sandy, John and I will be returning second semester to conduct more interviews. The audit is designed to provide you with information that will help you to better understand your school culture and the factors that appear to influence your culture. It will be very valuable as you continue to work towards providing the very best environment and learning for your students. To further clarify what will happen during the week of October 11-15, I have provided below, answers to frequently asked questions about the audit.

1. How and when will the information be collected?

Sandy, John and I will conduct one-on-one and small group interviews. The contact person(s) in your building will be asking you to participate and to provide days and times when you are available for a 45 to 50 minute interview. We want these to be held at a time that is most convenient for you. We will also be walking around and collecting information about the environment by observing the physical setting and interactions within the building. We will not observe any classrooms unless someone asks us to visit his or her classroom.

2. How will the interviews be conducted?

The one-on-one interviews will consist of open ended questions about the culture. We will ask questions and take notes. We would like to tape record each session but will only do so with
your permission. The tape recording will help us to further examine the data; it is difficult to take notes that capture all the important information provided. We will not ask your names nor will you be identified in any way. The small group interviews will not be tape recorded. We will collect your ideas by putting them on newsprint.

3. Who will have access to the data?

The data are the property of the researcher and will only be shared with your school staff. No data about your building will be shared with central office or others. Data used in reporting the research will not identify buildings by name.

4. Do I choose to participate?

Participation in interviews is voluntary. The contact person(s) will provide you an opportunity to participate and we hope you will be a participant; we need to hear from everyone. Should we be unable to schedule you in Phase I, we will do our best to schedule you for an interview in the second semester. At the beginning of each interview you will receive an informed consent form clarifying responsibilities and process. Your signature formalizes your voluntary consent to participate.

5. What will happen with the results?

A written report will be prepared as soon as possible but definitely during this school year. The report will describe the facets of the culture and identify factors influencing the culture. Suggestions for strengthening the culture will be provided if requested. I will present and discuss the results to staff and/or building level teams if requested. I am willing to continue to work with staff to strengthen the culture if I can help in any way.

Trust is an elusive but essential element if we are to collect valid information about your culture. I have two major goals in completing this project. The first is to provide information that will be helpful to you in improving your school and the culture of the school. The other is to learn something that will be helpful to faculty and staff in other high schools. I look forward to meeting and working with you.
APPENDIX C. HUMAN SUBJECTS RESEARCH

Information for Review of Research Involving Human Subjects
Iowa State University
(Please type and use the attached instructions for completing this form)

1. Title of Project: An examination of individual and team learning and factors influencing learning in a comprehensive high school

2. I agree to provide the proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures alter the project has been approved will be submitted to the committee for review. I agree to request removal of approval for any project continuing more than one year.

Dr. James Sweeney 9/20/93
Typed Name of Principal Investigator

3. Signature of other investigators:

John P. Robbins 9/20/93 Ph.D. Student/Major Professor

4. Principal Investigator(s) (check all that apply)

☐ Faculty  ☐ Staff  ☐ Graduate Student  ☐ Undergraduate Student

5. Project (check all that apply)

☐ Research  ☐ Thesis or dissertation  ☐ Class project  ☐ Independent Study (940, 590, Honors project)

6. Number of subjects (complete all that apply)

50  # Adults, non-students  # ISU student  # minors under 14  # minors 14 - 17

7. Brief description of proposed research involving human subjects: (See instructions, Item 7. Use an additional page if needed.)

(See attachment)

8. Informed Consent: ☐ Signed informed consent will be obtained. (Attach a copy of your form.)

☐ Modified informed consent will be obtained. (See instructions, item 8.)

☐ Not applicable to this project.
9. **Confidentiality of Data**: Describe below the methods to be used to ensure the confidentiality of data obtained. (See instructions, item 9.)

The confidentiality of all participants will be insured in all phases of this study. Small group and one-on-one interview sessions will be conducted in private rooms. Names of any other means to identify specific individual participants will not be incorporated. The only coding that will take place is a group coding for the completion of the optimism survey. All teachers at High School will complete this survey; teachers who are participants in the one-on-one or small group interview sessions in this study will have a special code on their survey form.

10. **What risks or discomfort will be part of the study? Will subjects in the research be placed at risk or incur discomfort?**

Describe any risks to the subjects and precautions that will be taken to minimize them. (The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological or emotional risk. See instructions, item 10.)

There are no anticipated risks or discomforts, of any nature, for the participants in this study.

11. **CHECK ALL of the following that apply to your research:**

- A. Medical clearance necessary before subjects can participate
- B. Samples (Blood, tissue, etc.) from subjects
- C. Administration of substances (foods, drugs, etc.) to subjects
- D. Physical exercise or conditioning for subjects
- E. Deception of subjects
- F. Subjects under 14 years of age and/or Subjects 14 - 17 years of age
- G. Subjects in institutions (nursing homes, prisons, etc.)
- H. Research must be approved by another institution or agency (Attach letters of approval)

If you checked any of the items in 11, please complete the following in the space below (include any attachments):

**Items A - D**  Describe the procedures and note the safety precautions being taken.

**Item E**  Describe how subjects will be deceived; justify the deception; indicate the debriefing procedure, including the timing and information to be presented to subjects.

**Item F**  For subjects under the age of 14, indicate how informed consent from parents or legally authorized representatives as well as from subjects will be obtained.

**Items G & H**  Specify the agency or institution that must approve the project. If subjects in any outside agency or institution are involved, approval must be obtained prior to beginning the research, and the letter of approval should be filed.
Last Name of Principal Investigator: Swonney

Checklist for Attachments and Time Schedule

The following are attached (please check):

12. [ ] Letter or written statement to subjects indicating clearly:
   a) purpose of the research
   b) the use of any identifier codes (names, #s), how they will be used, and when they will be
      removed (see item 17)
   c) an estimate of time needed for participation in the research and the place
   d) if applicable, location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, note when and how you will contact subjects later
   g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. [ ] Consent form (if applicable)

14. [ ] Letter of approval for research from cooperating organizations or institutions (if applicable)

15. [ ] Data-gathering instruments

16. Anticipated dates for contact with subjects:
   First Contact: October 11, 1993
   Last Contact: January 7, 1994

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual
    tapes will be erased:
    Target Date = December 31, 1994

18. Signature of Departmental Executive Officer

15. Decision of the University Human Subjects Review Committee:
   Project Approved   Project Not Approved   No Action Required

Patricia M. Keith
Name of Committee Chairperson

Date
Signature of Committee Chairperson

GC: 1/90
Attachment for Question #7

The problem for this study is to determine: 1) The extent teachers in a comprehensive high school engage in learning; 2) The level of optimism (hope) for teachers in a comprehensive high school; 3) The specific learning disabilities that impede teacher learning in a comprehensive high school; 4) The impact of organizational factors on teacher learning; 5) The factors in the school culture that facilitate or impede teacher learning; 6) The relationship of teacher learning in a comprehensive high school to the level of optimism (hope), to the presence of specific learning disabilities, to the impact of organizational factors and to the nature of the school culture.

The methods for gathering data will consist of one-on-one interviews, small group session interviews and written completion of a survey. One-on-one interviews will be used to discover the extent of teacher learning and the factors that facilitate or impede this learning. Small group sessions will be used to probe more deeply into initial findings discovered in the one-on-one interview sessions, validate findings and obtain suggestions for improving teacher learning. Teachers will record their own responses to "Seligman's Optimism Survey". These responses will be tabulated and analyzed in order to determine the level of optimism (hope).

The nature of the gathered data will be in three forms; 1) The interviewer's written notes of teacher responses to questions in the one-on-one and small group interview sessions; 2) Tape recorded teacher responses, with the interviewee's permission, in the one-on-one interviews; and 3) Teacher written responses to questions on "Seligman's Optimism Survey".

Subjects participating in one-on-one and small group interview sessions will be selected at random from a pool of teachers at High School in who have volunteered to be a part of this study. Interview sessions will be approximately fifty (50) minutes in length. Subject participation will consist of answering questions; Oral responses to questions in one-on-one and small group interview sessions; and Written responses to questions on the "optimism survey. Subjects will not be provided any incentives or compensations for their involvement in this study. Follow-up techniques to obtain data from the subjects are not a part of this study.

Seligman's optimism survey is attached. Data gathering instruments for the one-on-one and small group interview sessions are yet to be completed. Samples of potential questions include: "What future plans do you have for your classroom?" "What do you do in your classroom that makes you particularly proud?" "What things help you learn or develop skills?"
RESPONDENT CONSENT FORM

Purpose of the Audit

The primary purpose of the "audit" is to provide information to educators at High School that will lead to a better understanding of the school's culture. A detailed description of the culture will be developed through the review of policies, observations of programs and events, and interviews with faculty, staff and administrators. It is the researchers' intent to provide significant and accurate data that can be used in the process of school improvement.

The secondary purpose of the "audit" is provide this individual researcher with an opportunity to collect data on the culture of teacher learning. This information will be summarized in a dissertation in order to fulfill requirements as a Ph.D. candidate at Iowa State University.

I understand that:

(Please Print)

1. the information obtained will be summarized for the purposes of writing a report for High School and will also be used in a dissertation.

2. the recordings and notes obtained in the interview will not be reviewed by anyone other than the researchers.

3. my participation in this study is voluntary. I understand that I may withdraw at any time by speaking to a researcher and the information collected from me will not be used in the study.

I agree to participate in this research project according to the preceding terms.

(Signature)

Address __________________________

_______________________________

Telephone _______________________

I agree to conduct this research according to the preceding terms.

Researcher _______________ Date: ______________

Address: 1608 Crescent Drive • Iowa Falls, Iowa 50125
Telephone #: (515) 648-3361
APPENDIX D. PHASE ONE INTERVIEW GUIDE

1) When you think back to when you were a new teacher - just fresh out of college ... and into your first year in the classroom ....
   - How well were you prepared to teach?
   - Did you know everything you needed to know to be successful?
   - How did you learn what you needed to know?

2) How frequently do you try a new strategy in your classroom?
   - Tell me .... What ...... How .... Why ....
   - Do you ever feel “forced” to try something new?
   - How successful have your attempts been?

3) Have you ever thought about not being able to reach kids?
   - Who did you talk to?
   - What did you try?
   - How did you know what to try?
   - What happened when you tried it?

4) As you think about your own professional learning today ....
   - Do you consciously try to acquire new knowledge or develop new skills?
   - Do you have a specific plan?
     * What do you do?
     * How do you learn?
       - Reading
       - Observation
       - Practice
       - Reflection
       - Inquiry
       - Dialogue
   - What have you learned by engaging in _________?
   - Why is _________ particularly important?
   - When do you _________?
   - Do you engage in _________ with others?
   - Where does _________ occur?
   - Is there an incentive/ motivation to learn through _________?
   - How does the learned knowledge or developed skill gained through _________ change the way you conduct your classroom?
(5) If I was to observe teacher interactions at Anytown High, would I see teachers learning from each other?

• What kinds of things do they learn?
• Is there anything particularly important about this learning?
• How does the learned knowledge or developed skill gained through _________ change the way classrooms are conducted?

(6) As you look at your own professional learning as a member of the Anytown High Faculty .....  

• Are there any factors that help you learn?
• Are there any factors that hinder your learning?

TRANSITION

I'm going to shift gears in this interview and ask a few questions about team learning.

(7) One way team learning can occur is through staff development ...

• How often does staff development occur?
• Who determines what is presented?
• What kind of things are presented?
• Do teachers ever talk about what was presented in the teacher's lounge?
• Do teachers incorporate what they learn in their classrooms?
• Do you think staff development is worthwhile?

(8) Does Anytown High ever provide learning opportunities for the faculty in general that is optional to attend?

• What .... When .... Why .....  
• Do you ever attend?
• What .... When .... Why .... Why not

(9) Are there other ways Anytown High teachers learn as a Team?

(10) Suppose I was a member of the faculty at Anytown High School, what kind of school would I say we are striving to become?

• How was this determined?
• Why is this important?
• Does teacher learning fit into this picture?
(11) Evaluation:
- If I was an instructor at Anytown High School, would I find the teacher evaluation process to be beneficial to my professional growth?

(12) Personal Vision:
- If You Could Wave a Magic Wand and Have the Perfect Classroom, What Would Your Classroom Look Like?
  Feel Like?
  Be Like?
- Do you have any plans that would allow you to progress towards your ideal of the perfect classroom?

CHARACTERISTICS of a LEARNING CULTURE

Organization-Environment Relationship:
- As you look at Anytown High School in view of the community in which it resides, is it possible for educators at Anytown to control the conditions for student success?

Nature of Human Activity:
- Do educators at Anytown High try to identify and remediate problems that seem to be lurking "just around the corner"?

Nature of Reality & Truth:
- When a problem is identified at Anytown High, who is responsible for finding a solution to the problem?

The Nature of Human Nature:
- If a prospective faculty member of the faculty at Anytown High were to ask you if there was mutual trust amongst the teachers, what would you tell them?
- What if the potential faculty member asked if there was mutual trust between the teachers and the building principals, what would you tell them?
The Nature of Time:

• When a problem is targeted and an accompanying solution is designed and implemented, how do educators know if the solution was effective?

Information and Communication:

• If I was a teacher at Anytown, would I find a network that would allow me to easily communicate with any other teacher at Anytown in an open and honest manner?

Uniformity vs Diversity:

• Suppose educators in another subject department at Anytown had a different instructional philosophy or approach than your department's, would you try to learn from each other?

Task vs Relationship Orientation:

• Would faculty members at Anytown High School claim that the administrative drive to successfully accomplish specified goals comes at the expense of maintaining good working relationships?

Linear vs Systemic Logic:

• Poor student attendance seems to be a problem that plagues many high schools, what appears to cause students to miss so much school?
APPENDIX E. OPTIMISM SURVEY

Directions:
Read the description of each situation and vividly imagine it happening to you. You have probably not experienced some of the situations, but that doesn't matter. Perhaps neither response will seem to fit; go ahead anyway and circle either A or B, choosing the cause likelier to apply to you. You may not like some of the responses sound, but don't choose what you think you should say or what would sound right to other people; choose the response you'd be likelier to have. Circle only one response for each question.

Take as much time as you need to answer each of these questions. On average the test takes ten minutes to complete. There are no right or wrong answers.

1. You and your spouse (boyfriend/girlfriend) make up after a fight.
   A. I forgave him/her.
   B. I'm usually forgiving.

2. You forget your spouse's (boyfriend/girlfriend's) birthday.
   A. I'm not good at remembering birthdays.
   B. I was preoccupied with other things.

3. You get a flower from a secret admirer.
   A. I am attractive to him/her.
   B. I am a popular person.

4. You run for a community office position and you win.
   A. I devote a lot of time and energy to campaigning.
   B. I work very hard at everything I do.

5. You miss an important engagement.
   A. Sometimes my memory fails me.
   B. I sometimes forget to check my appointment book.

6. You host a successful dinner.
   A. I was particularly charming that night.
   B. I am a good host.

7. You owe the library for an overdue book.
   A. When I am really involved in what I am reading, I often forget when it's due.
   B. I was so involved in writing the report that I forgot to return the book.

8. Your stocks make a lot of money.
   A. My broker decided to take on something new.
   B. My broker is a top-notch advisor.

   A. I was feeling unbeatable.
   B. I train hard.
10. You fail an important examination.
   A. I wasn't as smart as the other people taking the exam.
   B. I didn't prepare well for it.

11. You prepared a special meal for a friend and he/she barely touched the food.
   A. I wasn't a good cook.
   B. I made the meal in a rush.

12. You lose a sporting event for which you have been training for a long time.
   A. I'm not very athletic.
   B. I'm not good at that sport.

   A. He/she is always nagging me.
   B. He/she was in a hostile mood.

14. You are penalized for not returning your income tax forms on time.
   A. I always put off doing my taxes.
   B. I was lazy about getting my taxes done this year.

15. You ask a person out on a date and he/she says no.
   A. I was a wreck that day.
   B. I got tongue-tied when I asked him/her on a date.

16. You are frequently asked to dance at a party.
   A. I am outgoing at parties.
   B. I was in perfect form that night.

17. You do exceptionally well in a job interview.
   A. I felt extremely confident during the interview.
   B. I interview well.

18. Your boss gives you too little time in which to finish a project, but you finish it anyway.
   A. I am good at my job.
   B. I am an efficient person.

19. You've been feeling rundown lately.
   A. I never get a chance to relax.
   B. I was exceptionally busy this week.

20. You save a person from choking to death.
   A. I know a technique to stop someone from choking.
   B. I know what to do in crisis situations.

21. Your romantic partner wants to cool things off for a while.
   A. I'm too self-centered.
   B. I don't spend enough time with him/her.
22. A friend says something that hurts your feelings.
   A. She always blurts things out without thinking of others.
   B. My friend was in a bad mood and took it out on me.

23. Your employer comes to you for advice.
   A. I am an expert in the area about which I was asked.
   B. I am good at giving useful advice.

24. A friend thanks you for helping him/her get through a bad time.
   A. I enjoy helping him/her get through a bad time.
   B. I care about people.

25. Your doctor tells you that you are in good physical shape.
   A. I make sure I exercise frequently.
   B. I am very health conscious.

26. Your spouse (boyfriend/girlfriend) takes you away for a romantic weekend.
   A. He/she needed to get away for a few days.
   B. He/she likes to explore new areas.

27. You are asked to head an important project.
   A. I just successfully completed a similar project.
   B. I am a good supervisor.

28. You fall down a great deal while skiing.
   A. Skiing is difficult.
   B. The trails were icy.

29. You win a prestigious award.
   A. I solved an important problem.
   B. I was the best employee.

30. Your stocks are at an all-time low.
   A. I didn't know much about the business climate at the time.
   B. I made a poor choice of stocks.

31. You gain weight over the holidays and can't lose it.
   A. Diets don't work in the long run.
   B. The diet I tried didn't work.

32. They won't honor your credit card at a store.
   A. I sometimes overestimate how much money I have.
   B. I sometimes forget to pay my credit-card bill.
APPENDIX F. PHASE TWO INTERVIEW GUIDE

Research Question #1 - Personal Mastery
Premise:
There are many facets to teacher learning. The first group of questions will center around the facet of personal mastery. Personal mastery is comprised of three elements including sense of purpose, commitment to continual learning and creative tension.

Questions:
1. As a teacher have you established goals/vision for your classroom?
   • What are they?
   • Why established?
   • Have always had goals?
   • Impacting factors? (Eg. Is there any about AHS that promotes setting and progressing towards personal goals?)

2. Do you feel that you have overcome barriers in order to accomplish classroom goals/vision?
   • To what extent?
   • Can you give me some examples in which you worked through constraints to progress towards your goals?
   • Do you ever get discouraged?
   • Impacting factors?

3. Would you describe yourself as someone who is constantly learning new things about teaching?
   • How so
   • To what extent / How frequently?
   • Examples?
   • Always been that way?
   • Impacting factors?

Research Question #2 - Team Learning

Premise:
Another facet of teacher learning is the involvement in team learning. Team learning is defined as experiences where AHS teachers engage in learning activities that involve the entire faculty (or) involve smaller sub-groups of the faculty.
Questions:
1. Think of a specific team learning experience at AHS which you thought was really valuable ....
   • What did it focus on?
   • Who was involved?
   • How was it presented?
   • Why was it valuable?
   • What happened as a result?

2. Think of a specific team learning experience at AHS which you thought was of little or no value ...
   • What did it focus on?
   • Who was involved?
   • How was it presented?
   • Why was it not a good learning experience?
   • What happened as a result?

Research Question #3 - Organizational Learning
Premise:
A third facet of teacher learning involves organizational learning. Organizational learning involves teachers learning about the school in which they work. If you were to engage in organizational learning at AHS you would purposely learn about its strengths, weaknesses, policies, goals, mission, and other such things. Organizational learning allows teachers to make better site-based management decisions, to more effectively solve problems, etc. This, in-turn, would ultimately improve AHS.

Questions:
1. Have you been engaged in organizational learning at AHS?
   Yes:
   • How often?
   • Under what circumstances?
   • Why engaged?
   • Anything significant happen as a result?
   No:
   • Why haven't you been involved?

2. What are some things that could be done to facilitate organizational learning at AHS?
Research Questions #7, #8, #9, #10, #11 - Organizational Factors

Premise:
There are many factors that can influence teacher learning at AHS. These factors could be in the form of external influences coming from the environment such as societal characteristics or issues at the local, state, national or international levels. They could be in the form of goals or mission statements that AHS has established. These factors could also be in the form of beliefs and values that are commonly held among the members of this teaching staff. These factors could also be derived from the way the AHS is structured in terms of departments, schedules, or policies. (or) These factors could be derived by the way decisions are made, the way plans are developed, or by the way evaluation of programs occur.

I'm interested in finding out which factors are the heavy-weights -- the ones that have a big impact.

Questions:
1. Can you identify some factors that significantly facilitate teacher learning?
   • Why are they significant?
   • What are the driving forces behind them?
2. Can you identify some factors that significantly impede teacher learning?
   • Why are they significant?
   • What are the driving forces behind them?
   • What needs to be done differently?

Research Question #12

Question:
Suppose a new instructional strategy was deemed to be valuable in promoting student learning at AHS. Before implementing this strategy teachers would first have to learn about it and practice it. On a scale of one to ten, how efficiently could this new instructional strategy be put in place so that nearly every teacher was using it effectively?
   • What factors would facilitate its implementation?
   • What factors would impede its implementation?

Other - Explore The extent teachers at Anytown High School learn by:

- Inquiry?
- Reflection?
- Dialogue?
- Reading?
- Practice?
- Observation?
APPENDIX G. INTERVIEW SUMMARY FORM

1. What was the extent of the subject’s involvement in individual, team and organizational learning activities and was the involvement significant?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Individual/Team</th>
<th>Significance</th>
</tr>
</thead>
</table>

2. What organizational factors influenced specific learning behavior?

<table>
<thead>
<tr>
<th>Organizational Factor</th>
<th>Influenced Learning Behavior</th>
</tr>
</thead>
</table>

3. What mind sets of the subject, if any, would contribute to organizational learning disabilities?

<table>
<thead>
<tr>
<th>Mind Set</th>
<th>Learning Disability</th>
</tr>
</thead>
</table>

4. What beliefs, values, or norms in the school culture affect teacher learning?

<table>
<thead>
<tr>
<th>Beliefs/Values/Norms</th>
<th>Affect on Teacher Learning</th>
</tr>
</thead>
</table>

5. What was salient, interesting, illuminating, or important in this contact?

6. What new or remaining contacts do I have in considering the next interview?

7. What aspects of the interview need to be reviewed by listening to the tape?
APPENDIX H. DAILY SUMMARY FORM

Date __________

1. What did I learn about the extent of individual and team teacher learning?

2. What did I learn about the organizational factors that influence learning?

3. What did I learn about the mind sets of the subjects that may create learning disabilities?

4. What did I learn about the beliefs, values and norms in the school culture and their effect on learning?
APPENDIX I. TEACHER LEARNING ANALYSIS FORM

1. What is the extent of individual, team and organizational learning?

2. What organizational factors influence teacher learning?

3. What collective mind sets cause learning disabilities?

4. How culture factors of norms, beliefs and values effect on learning?

5. What role does optimism play in teacher learning?

Separate page statements:
- Describe the learning environment and the extent to which teachers learn.
- Present and explain the presence of specific learning disabilities, and the group mind sets that create them.
- Describe how and why organizational factors impact learning and what seems to be the underlying causes for the impact.
- Describe how and why beliefs, values and norms impact learning and what seems to be the underlying factors for the impact.
- Describe the role that optimism plays in teacher learning, is the extent of teacher learning linked to being optimistic? Why, or why not?
- Describe the relationship between the extent of teacher learning and the interaction of organizational factors, culture factors, learning disabilities, and optimism.
- Outline suggestions and recommendations for strengthening teacher learning.
### APPENDIX J. OPTIMISM GROUP SCORES

<table>
<thead>
<tr>
<th>Optimism Category</th>
<th>Score</th>
<th>Interview</th>
<th>Non-Interview</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra-Ordinarily Hopeful</td>
<td>1</td>
<td>(2)</td>
<td>(2)</td>
<td>(4)</td>
<td>(6)</td>
</tr>
<tr>
<td>Extra-Ordinarily Hopeful</td>
<td>2</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
<td>3</td>
<td>(0)</td>
<td>(5)</td>
<td>(5)</td>
<td>(7)</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
<td>4</td>
<td>(3)</td>
<td>(13)</td>
<td>(16)</td>
<td>(23)</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
<td>5</td>
<td>(3)</td>
<td>(9)</td>
<td>(12)</td>
<td>(17)</td>
</tr>
<tr>
<td>Moderately Hopeful</td>
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<td>(5)</td>
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<tr>
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(t score derived from Cochran & Cox/Satterwaite procedure = -0.108)

(Degree of Freedom (df) = 67)

(Critical value of t = 1.67)

(Alpha = .05)