

THE LEARNING ORGANIZATION IN THE
EDUCATIONAL SETTING

CENTRE FOR NEWFOUNDLAND STUDIES

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**The Learning Organization
in the Educational Setting**

by

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ABSTRACT

In this fast-changing world where advances in science and technology threaten to outpace the effectiveness of schools, there is a dire need for a new model of educational leadership to effectively manage the changes encountered. Schools can no longer prepare people to fit in the world of twenty years ago, because that world will no longer exist (Senge, 2000). The purpose of this study was to examine the new emerging model of leadership, the concept of the learning organization in a school setting, and to determine the degree to which characteristics of the learning organization were present. In doing so, this thesis explores (a) the applicability of organizational learning theory to the understanding of schools and (b) practical images of organizational learning in school settings

The study was conducted through a qualitative research approach consisting of interviews, participant observation and document analysis. The study built on baseline data already collected by Brown and Sheppard (1996). From this earlier research, a school was identified using a unique-case selection.

The findings from on-site field work reveals that this school portrays many of the characteristics of the learning organization, and although it is evolving towards a learning organization, it has not yet institutionalized the five disciplines to an ideal

state. The study confirms that the learning organization theory fits well in the educational setting. There are strong implications for this theory to be included in district strategic planning and professional development such that administrator themselves have the knowledge to promote effective organizational learning in the educational settings in which they work. The findings suggest that leaders should consider an approach which encompasses systems thinking, personal mastery, shared vision and team learning as they look for new solutions to educational challenges.

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CHAPTER ONE

INTRODUCTION

Today, more than ever before, change is occurring in our society at an ever increasing exponential rate. Governments, federal, provincial, and municipal, are zealously grappling with issues concerning health care, education, taxes and unemployment. The school systems are no exception. They too must adapt to our rapidly changing society in order for their product, the students, society's most valuable resource, to be well prepared to function effectively and chart the course for themselves and for societies of the future.

Generally, people oppose mandated change and in today's turbulent society it is easy to succumb and be swallowed into the arena of hopelessness and despair. However, there is an approach that offers much optimism. Current leadership theorists advise educators to confront the changes and to regard them as challenges. Educators are being asked to look inward, within themselves and within the organization, as well as to the external environment to look for solutions. In doing so, it is possible to construct new ideologies and apply new theories of management which can lead to both personal and professional success.

Key theories that emerge in organizational and administrative theory are

applied not only in the private and public administration but also in educational settings. Current theory in educational administration draws from theories such as the traditional bureaucratic theory, scientific management, human resource development and transformational leadership theory. An emerging theory today is that of the learning organization (Kline and Saunders, 1993, Senge, 1994) and major companies such as Xerox and IBM have attested to its viability. This theory holds significant potential for educational settings (Leithwood, 2000, Sheppard & Brown, 1996). The term "learning organization" may be somewhat misleading in the education context as many simply view schools as organizations where learning takes place. However, the concept of the learning organization speaks more specifically to the culture of the school, to how teachers and administrators learn and apply their learning to the creation of an effective learning environment.

According to Senge (1994), in learning organizations there is a life long commitment to learning based on intrinsic rewards which are fostered by the practice of five disciplines: Systems thinking, personal mastery, mental models, shared vision, and team learning. Currently in a struggle to cope with change, many schools have active school improvement programs and are attempting to implement new styles of leadership. However, the research shows that all too often good theories tend to fail because of the implementation process (Fullan,

1993; Sergiovanni, 1995). Conner (1993) refers to this scenario as the "black hole", where the crucial element, implementation, gets lost or swallowed up, thus destroying the crucial link between theory and practice. The learning organization concept suggests that there are ongoing implementation strategies that can lead to the desired results, that it is a natural progression, and the use of such strategies can contribute to the success of school improvement programs and leadership approaches.

Background to the Study

Anecdotal and research studies confirm that there are effective and efficient ways in managing change that would lead to more job satisfaction for teachers and administrators, as well as higher achievement for the students. All too often top-down and bureaucratic decision making leads to solutions that are ineffective, even at times compounding the original problem (Depree, 1989; Fullan, 1993; Kline & Saunders, 1993; Sergiovanni, 1995). The results can be staffs that are disillusioned, apathetic and at times downright cynical of the administration process (Senge, Kleiner, Roberts, Ross and Smith, 1994). In such

scenarios it appears as if little thought has been given to the human element and its worth, and more significantly, the decisions made are not always student-focussed, and in many cases were actually to the detriment of the students (Sergiovanni, 1995). It is an administration system characterized by fragmentation and isolation with most individuals involved struggling to survive (Conner, 1993).

Transformational leadership, according to Sergiovanni (1995), has tremendous potential to offset such fragmentation and isolation in that it embraces human concern, equality and dignity and leads to participatory decision-making by those involved. Followers themselves become leaders and become motivated by the intrinsic rewards associated with job satisfaction. Depree (1989) relates the immense benefits of shared decision-making and highlights the value being placed on human worth. This type of leadership is compatible with the concept of schools as learning organizations (Senge, 1994). There is little research on the learning organization in schools, despite its perceived potential. However, Leithwood (2000) in *Understanding Schools as Intelligent Systems* has brought the topic to the forefront with authors both nationally and internationally analyzing and discussing schools as learning organizations.

Purpose of the Study

The purpose of this study is to examine the concept of the learning organization in a school setting. It will build on the research of Brown and Sheppard (1996) and Leithwood (2000). A school identified as experiencing success with change and improvement will be studied in an in-depth case study, to determine the degree to which characteristics of the learning organization are present.

Significance of the Study

The significance of this research is twofold. First it contributes to the advancement of knowledge about the learning organization concept and the implementation process. Second, from a practical sense, it will seek to capture images of teachers and administrators working in an environment characterized by strategies for school improvement policies, a focus on genuine teamwork, intrinsic motivation, and life long learning that directly benefits the students and all those involved in the process along the way.

School improvement and new leadership approaches are urgent topics in the

current focus on school reform and curriculum. All too often good theories such as school improvement do not succeed because the humanistic element in the process is not a critical concern. The learning organization emphasizes the human element in administration and delineates the role and significance of the individual as well as the synergy that such a group of individuals can bring forth to any organization. Knowledge and understanding of the learning organization concept as it relates to schools' promises to be a useful concept to ensure effectiveness in reform efforts.

CHAPTER TWO

CONCEPTUAL FRAMEWORK

Although the learning organization concept is becoming more visible in recent administrative literature and is gradually becoming more common in relation to educational administration, its origins date back to the cybernetic models of the early 1960's (Cyert and March, 1963). The learning organization concept was expanded a decade later when Argyris and Schon (1978) put forth their psychological model of single and double loop learning (Louis, 1994). Double-looped learning involves a double feedback loop which connects the detection of error not only to strategies and assumptions for effective performance but to the very norms which define effective performance (Argyris and Schon, 1978, p. 22).

The focus in the early literature on organizational learning was on individual learning as a prerequisite to organizational learning. Argyris and Schon (1978) moved beyond that, concluding that individual learning is a necessary but insufficient condition for organizational learning. As well, they identified the following paradox of organizational learning: organizations are more than collections of individuals, yet there are no organizations without such collections. In other words, organizational learning is more than individual

learning, yet organizations only learn through the experience and actions of individuals.

More recent literature on management techniques indicates growth and advancement on the earlier works pertaining to learning organizations. In *The Fifth Discipline*, Senge places responsibility on all members of the organization to be leaders and change agents, disposing of the view that visionary leadership from the top is the answer. Fullan (1997) supports Senge, contending that future leaders will have to focus on systemic forces and collective learning rather than short-term events and charismatic leadership styles. He endorses Senge's description of the work of the new leader being that of designer, steward and teacher. As designer, the leader's task is designing the learning process; as steward, the leader continually seeks and oversees the broader purpose and direction of the organization; and as teacher, the leader fosters learning for everyone through developing systemic understandings.

In his critique of management techniques, Fullan (1997) suggests that Henry Mintzberg (1994) wrote the definitive critique, *The Rise and Fall of Strategic Management*. Mintzberg's conclusion was that there are dangers inherent in following any one strategy. Mintzberg, Ahlstrand & Lampel (1998) elaborated in depth on this comment some four years later and in doing so makes

several references to the learning organization concept. In commenting on new directions for strategic learning, Mintzberg et al.(1998) says that in recent years, interest in the "learning organization" has burgeoned. They support the premise that the learning organization is the antithesis of the old bureaucratic organization in that it is decentralized and encourages open communication and teamwork with value placed on risk taking, honesty and trust. Mintzberg and his colleagues are also supportive of the premise that organizations that are capable of learning from their experiences do better than organizations that adapt to their environment. Although supporting the concept that learning approaches have come into great prominence, especially under the guise of the "learning organization", Mintzberg et al.(1998) caution that the greatest failings of strategic management have occurred when one point of view is taken too seriously. Therefore, they suggest that now that learning organizations are all the rage practitioners have to be cognizant that learning and change needs to be given both capacity and time and that it is but one building block in strategic management. Mintzberg's view is that although the literature of the learning school is small, it has already made a major contribution to management theory and will likely continue to do so.

Another prominent author in organization theory, March (1999) in *The Pursuit of Organizational Intelligence*, also refers to the potential of the concept

of the learning organization. In his analysis of learning in organizations, he makes reference to the future and organizational adaption of the concept. March (1999) states that, in the past, change in the world were likely to be seen as leading to specific changes within the organization. This was viewed as a survival strategy. However, he contends that today's rapid environmental change favours organizations that are able to be flexible and adapt quickly to change. He believes that this shift has lead to considerable enthusiasm for designing organizations that are capable of learning and adapting to the changes they face, or in other words, to become learning organizations as designed by Senge. March (1999) supports the attention presently being given to learning organizations in management circles and in the exploration of learning models of adaption by students of organizations.

Hesselbein, Goldsmith, & Beckhard (1996), in *The Leader of the Future* also explore leadership for learning in organizations. They describe organizations as living systems and see them within the context of the larger systems of which they are a part. They suggest that the leadership challenges in building learning organizations represent a microcosm of the current leadership issues. They make the argument that none of today's pressing issues will be resolved through hierarchical authority. Instead, significant change will require imagination, perserverance, dialogue, deep caring and a willingness to change and these

challenges of systemic change will result in new views of leadership based on new principles.

Although these and other theorists are currently writing about the learning organization, the framework for this study draws on the works of Senge (1990). Educational researchers have used a variety of organizational frameworks and Sheppard & Brown (1996) have pioneered the use of Senge's framework for educational studies and have made significant contributions to research and practice. It is within this larger research effort of Sheppard & Brown that this research falls. To apply this concept to a case study of a school, a framework developed by Lieberman (1995) was used. This chapter provides a review of the main ideas from Senge (1990) and Lieberman (1995) and concludes with a discussion of schools as learning organizations.

Senge's Concept of the Learning Organization

Senge's book, *The Fifth Discipline*, (1990) provides the theoretical framework of the components of the learning organization used in this research. Follow-up work in *The Fifth Discipline Fieldbook* by Senge, Kleiner, Roberts,

Ross, and Smith (1994) as well as *Ten Steps to a Learning Organization* by Kline and Saunders (1993) offer the tools to implement the theory into practice. Since this literature is based on examples from public settings, rather than administration in the educational settings, examples from school settings are provided for each of Senge's five disciplines, and these elaborated examples provide the framework to evaluate the degree to which characteristics of the learning organization exist in the leadership practices in the particular school being studied.

Systems Thinking

Senge (1994) states that the corner stone of the five learning disciplines is the fifth discipline or systems thinking. With systems thinking there is a paradigm shift from seeing parts to seeing wholes, and a realization that decisions which affect only a part of the organization are related to the reality of the whole. Systems thinking forces members of organizations to see a connectedness to the environment they operate in, and to recognize that solutions to problems are not "out there" being created by someone else, but are to be found within the participants, and their work environment. Systems thinking focuses on seeing interrelationships and processes rather than linear cause and effect chains of

events. In a school, for example, exploration of a problem with student discipline would mean examination of the whole, rather than the obvious problems. A strategy such as the "Five Whys" (Senge, 1994) would assist teachers and administrators to dig deeper as they analyze the problem and look for systemic causes. Inappropriate student behaviour may reflect, for example, problems with teaching methods, rather than student rebellion.

Personal Mastery

The first discipline of the learning organization is personal mastery and it refers to motivation of people within the organization. It asks individuals to learn how their own actions affect their work place. There is a shift in the locus of control from believing that someone else is in control of what happens to the individual having control in what happens. Individual growth and learning are developed through clarification of personal priorities and learning to see current realities more clearly. This juxtaposition of what an individual wants or needs, and the reality of where they are in relation to these wants or needs results in "creative tension", according to Senge (1994). Learning how to generate and use this tension for growth is what personal mastery is all about. Personal mastery means being able to see the current reality of the situation, to determine future

directions, and to understand the role and potential of each individual to reach that goal. The school, as an organization, has a responsibility to ensure that conditions allow individuals to develop personally, as well as collectively.

Mental Models

The second component of the learning organization involves mental models. It has to do with individual paradigm shifts. All too often good theories fail because of deep-rooted opinions or images individuals hold in relation to how the world works. The discipline of managing mental models encourages the individual to bring to surface, evaluate and improve his or her conception of how the world works. The discipline of mental models focuses on openness and encourages individuals to see the world through a much broader lens. For example, in the school setting if educators assume the answers to their problems are to come from the Department of Education, school board, or school councils, it severely limits their potential to deal with the everyday problems that they face.

Shared Vision

The third component of the learning organization is the discipline of shared vision. For individuals, a shared vision may start from an idea, but it is better

defined as an impressive force of commitment that an individual has. Within an organization, a shared vision comes not from the outside, but is developed internally, by the synergy created through systems thinking, personal mastery and mental models all working in harmony. A shared vision provides a focus and energy for learning. The participants are committed because the shared vision actually reflects their own personal vision (Senge 1994). They see the vision as challenging, but attainable, knowing full well that they alone possess the power and are in control to make the vision a reality. Within the school setting, a shared vision evolves from the knowledge that the vision is context specific. Within the school, members can analyze their own strengths, weaknesses and future needs to ascertain the degree of control they really have in changing their environment. A school vision then becomes personal to their school context, motivating the participants. It is seen as attainable and one the participants themselves are responsible for achieving.

Team Learning

The fourth discipline of the learning organization is team learning. Team learning builds on shared vision and personal mastery. People have different strengths and find their niches on the team and enhance the team's performance.

This discipline celebrates diversity. For example, individuals on a school hockey team can learn and practice individually on the ice and develop skills, but it is minute learning in comparison to the team learning that occurs when playing together with the rest of the team in practice and competition. The same parallel can be made to team learning in the educational setting where the goal being strived for becomes the shared vision of the team and members learn from each other.

According to Senge (1994), team learning has three critical dimensions. First, there is the need to think significantly about complex issues. This refers to the synergy of tapping into the potential of many minds. Second, there is the need for innovative coordinated action where there is "operational trust". This is where each team member is aware of the other and can be supportive and predictive of his fellow team member. Third, and most important in developing team learning in organizations, there is a need to master how the team converses through the practices of dialogue and discussion. In dialogue, Senge contends that there has to be a free and creative exploration of complex and subtle issues, with a suspension of one's own beliefs. By contrast, in discussion, different views are presented and defended, and there is a search for the best view to support a decision that must be made at that time. In the education setting, one would expect team learning to

involve representation from those affected by the decision making process.

Dialogue would occur freely without fear of a reprimand from others holding superior positions or titles in the organization. A student council representative, a parent, a teacher or a principal should feel equally confident in espousing his/her own views and feelings in the decision making process and know that they are a contributing factor to the overall purpose of the meeting and team learning process.

Senge's Conceptual Framework

The five disciplines of the learning organization are all interrelated and bring a synergy to the learning organization concept as well as make the goals of organizations possible. In each discipline, there are individual and organizational implications. Systems thinking challenges the individual and the organization to see themselves as part of a larger world. Personal mastery requires individuals to be motivated and life-long learners, and organizations to provide a culture to support this. Mental models ask individuals to be more open and to expand their present ways of seeing the world. Shared vision calls for commitment to long term goals, and team learning asks people to learn together. The five disciplines, together, will create a synergy within an organization (whether a school or small

group) which will go beyond individual perspectives to a collective larger vision.

In the genuine learning organization there is evidence of both tangible and subtle change (Senge, 1994). This case study used Senge's conceptual framework to collect and analyze data. Operational changes were evaluated by considering the three components of the architecture triangle. At the center is the Domain of Action or Organizational Architecture. At the three apexes are: Guiding Ideas; Theory Methods and Tools; Innovations and Infrastructure. Guiding Ideas requires evidence that teachers are concerned with the primacy of the whole, the significance of themselves as key components and the generative power of language as they engage in dialogue and discussion. The implementation component, Theory, Methods and Tools, calls for evidence that teachers are engaged in reflective practices and dialogue exercises as they build personal and shared visions. The component of Innovation in Infrastructure will require evidence that teachers have the resources available to build the learning organization concept, one resource being the time and place to meet in order to engage in dialogue and discussion, and to practice their new skills.

While the tangible changes are occurring, the more subtle changes are also taking place in the domain of enduring change (the deep learning cycle). There are three components there: Awareness and Sensibilities; Skills and Capabilities; and

Attitudes and Beliefs. The Skills and Capabilities component required a search for evidence that individuals are experiencing aspiration, reflection and conversation and conceptualization. The Awareness and Sensibilities component required the study to examine whether individuals are experiencing paradigm shifts and systems thinking. Within the Attitudes and Beliefs component, the study sought evidence that individuals are experiencing new visions, both personal and shared.

The balancing of all of the elements of the Domain of Enduring Change (the deep learning cycle) and the Domain of Action (or the organizational architecture triangle) exemplifies the learning organization. Key components cannot be absent if the concept of the learning organization is to survive. Without Guiding Ideas, there is no true vision or purpose. If Innovations in Infrastructure are not included, there will not be adequate resources to make the learning organization a reality. Likewise without Theory, Methods and Tools, the implementation aspect is lost and so is the learning organization. However, when the components of the triangle are a reality, and the tangible changes are visible, the deep learning cycle has the fertile groundwork on which it can grow and evolve. Then systems thinking and vision building allows the participants to be creative instead of reacting to given situations.

There is tremendous potential for the learning organization concept to work well in the educational setting as it pertains both to administration and the curriculum. There are two crucial dimensions for the realization of this potential. First is creating a reflective environment and a degree of safety where individuals can rediscover what they really care about. The second dimension is allowing these individuals time together to interact in reference to their visions such that shared meaning, trust and mutual understanding leads to a shared vision (O'Neil, 1995).

Lieberman's Case Study Approach

In her book, *The Work of Restructuring Schools*, Lieberman (1995) presents six schools as representations of school reform. These schools vary in size as well as locations in different states of the United States. However, there are some commonalities. They are all elementary and middle schools, not secondary, and they have all experienced the dynamics of changing practice, structure and culture in the process of restructuring.

The data collection for Lieberman's study was done through researchers immersing themselves in the particular schools on a day to day basis. This

approach allowed the researchers to get close to the school people who were changing their practices and presented greater opportunities for in-depth understanding of the change process, particularly if a researcher was there over time (Lieberman, 1995).

Much of what is presented in the way of success from the schools exemplifies characteristics of the learning organization. Lieberman stated that a key concern in compiling the profiles of the schools in her book is the hope that readers will gain a perspective on what "systemic change" means to different schools, both from within the school and at the district level.

Examples of success illustrated the power of authentic bottom-up participation, engaging in discussion, sharing a vision then acting on it and inventing ways to make it a reality. In the learning organization, emphasis is on working collaboratively and the synergy that can be produced. According to Lieberman, "work" is defined not only as what teachers and students do, but also what principals, practices and policies enable them to do in different settings over time. This involves conflict, which according to the learning organization concept, provides the creative tension necessary for advancement and improvement. Lieberman also espouses that educational leaders enrich their understanding of conflict and how it plays out in different school cultures, as

conflict is one of the defining characteristics of change. When viewed as a productive conflict - a natural and inevitable part of the change process- teachers learn that it is all right to hold differing views and to argue for them. This is a part of working toward building a norm of inquiry in the school so that ideas about improving teaching and learning becomes the basis of ongoing discussion.

Just as the learning organization focuses on the whole and then the interrelatedness of the parts that make it, Lieberman (1995) states that comprehensive change in schools focuses on the bigger picture of restructuring and transformation of *the school*, rather than on specific projects or innovations. Emphasis is less on particular issues such as public exams, and more on building a school culture that works for the student and the adults. For true success, the individual's understanding that changing a school demands changing practices, and that structures must be built to support these changed practices, leads to cultures of collegiality, continuous inquiry and collaborative work that may well mark the organizational path to the schools of the future (Lieberman, 1995).

There are many parallels between the concept of the learning organization and what Lieberman (1995) constitutes as approaches for successful school restructuring. In many of the success stories, characteristics of the learning organization are exemplified and much was revealed through the observer's

method of data collection. The significance of Lieberman's work as it relates to this study is that it illustrates characteristics of the learning organization through a qualitative research approach. In addition it provides the case study format, through eight categories of questions, to analyze restructuring and professional development schools (See Appendix A).

Schools as Learning Organizations

The idea of a school that can learn is becoming increasingly prominent during the last few years (Senge, 2000). Educational researchers (Dibbon, 2000; Elliott, 2000; Leithwood, 2000a; Leithwood, 2000b; Senge, 2000; and Sheppard and Brown, 2000) have focussed on the learning organization concept in an attempt to validate its merit in dealing with change at the educational level.

Dibbon's findings suggest that learning organizations are exceptionally good at "organizational learning" and he describes a multi-dimensional conception of growth in a school's organizational learning capacity. He states that schools as learning organizations possess powerful individual, team and whole school learning capacities which change organizational practices both from a cognitive and behavioural perspective. Dibbon created a framework which conceptualizes

growth in a school's organizational learning capacity as a four-stage process incorporating the three units of the organization (individual, team and whole school). Elliott proposes that schools evolve into learning organizations when school districts provide the necessary support and resources. He suggests that districts can stimulate generative learning (Senge, 1990) in schools by utilizing any of a number of district intervention strategies. Both of these authors' perspectives on the learning organization are used in the discussion of how the school, in this study, exhibited characteristics of the learning organization.

Dibbon's four-stage description of growth in a school's organizational learning capacity led to the creation of four distinct images (or stages). *The coping organization* which is a school that does not see the need for change and generally, teachers feel that they are doing a good job. There is no learning plan in place and as a result lessons from their experiences are haphazard and fragmented. *The emerging organization* is an active but immature learning system that recognizes the need for large scale change and realizes that systemic thought is the vehicle that has to be utilized in harnessing that change. There is the need for a designed improvement plan to implement and evaluate their collective learning to monitor its efficiency, but usually there is none in place. *The developing organization* is relatively mature as a learning system, but the learning processes are not

institutionalized and often these schools fall back into older defensive patterns. These schools tend to be rich in knowledge, skills and related practices but lack protocol or policy to ensure effective implementation of them. At times these schools may be too receptive to novel practices and progress to the implementation stage without proper evaluation or modification to ensure success in their specific school context. *The learning organization* is where schools have evolved into sophisticated learning systems that recognized and utilize those practices which ensure success in dealing with change. They are very much in tune with the external as well as the internal environment in which they operate and utilize ideas that present themselves as ways in which to improve their own effectiveness.

The stage that a school is in is determined by its position relative to individual, team and whole school capacity for learning based on specific factors. A discussion later on the findings in the case study school, for example, reveals parallels to a significant number of these factors and hence allows a visual interpretation of where this school is on the continuum from *the coping stage* to *the learning organization stage*.

Teachers can create schools which are learning organizations only if they have the necessary support and resources that the districts are capable of providing (Louis, Kruse and Raywid 1996). Elliott (2000) confirms this notion and suggests

that districts can stimulate generative learning (Senge, 1990) in schools by implementing any of a number of district intervention strategies. Elliott (2000) identified nine categories of district interventions effective in promoting the learning organization concept in schools: Educational Policy, Accountability and Monitoring Systems, Information and Feedback Interventions, District Improvement and Strategic Planning Interventions, Recruitment and Professional Development, Provision of Models and Information for School Improvement, Structural Intervention, and Cultural/Organizational Intervention.

As Elliott points out, these nine categories of district intervention do not exhaust all possibility types but they do give direction to districts who are trying to increase the learning capacity in their schools. Four of these interventions were discovered to be significant in this case study and are discussed in chapter four.

Leithwood (2000) in *Understanding Schools as Intelligent Systems* has built on his previous work and presented a compilation of several authors' research pertaining to schools as learning organizations. In doing so, he categorized the most recent research into three categories: Developing the Intellectual Capacities of Individuals and Teams, Building the Intellectual Capacities of Schools and Districts, and Organizational Learning Effects. Implications rising from these categories are parallel to the disciplines of learning

organizations. Leithwood (2000) suggests that aspiring school leaders, and those presently in the role, need to be "intentional learners" and take full responsibility for what Senge (1991) refers to as "personal mastery".

Sheppard and Brown (2000) focus specifically on the transformation of secondary schools into learning organizations. Their inquiry was to determine how school staffs adapt learning strategies to deal effectively with change in an effort towards school improvement. In addition, they wanted to know what type of leadership was in place to facilitate this transformation. The results they found that formal goal setting through practising the shared vision discipline and strong evidence of the team learning discipline were instrumental in ensuring school growth. They also made note of the fact that school leadership, it was not necessarily the dominant factor for school success. They found that formal goal setting, the practice of shared vision, and team learning were instrumental in ensuring school growth.

Conclusion

Current literature makes it abundantly clear that there are theories and practices that are conducive to managing change in the educational context. Senge

(1990) popularized the learning organization concept comprised of the five disciplines and provided an ideal framework from which to operate. Lieberman (1995) found that the learning organization concepts are viable in schools that are demonstrating success in dealing with change and school growth. Dibbon (2000) provides a framework that conceptualizes a four stage process of growth in a school's organizational learning capacity such that it is possible to identify where the school currently is on its journey to becoming a learning organization. Elliott (2000) provides examples of district interventions that are crucial to stimulate generative learning in schools as they evolve into learning organizations. Leithwood (2000) informs on the progress of schools as intelligent systems by giving both national and international perspectives from a variety of authors pertaining to the learning organization. Senge, P., Cambron-McCabe, Lucas, Smith, Dutton & Kleiner (2000) in *Schools that Learn* provides a fieldbook for the practitioner working directly with the learning organization concept in the educational setting. Sheppard and Brown (2000) once again provide transparency to concepts of the learning organization as they actually appear in a school. There is little doubt that there is a strong movement evolving around the learning organization concept in the educational field and that this research is very timely as schools grapple with an ever increasing rate of change in the 21st century.

CHAPTER THREE

METHODOLOGY

Research Question

The major research question of this study is as follows: To what degree are the characteristics of the learning organization inherent in the leadership practices in a school setting, and what do such practices look like? In response, this thesis explores (a) the applicability of organizational learning theory to the understanding of schools and (b) practical images of organizational learning in school settings.

Sample School

The school studied was a rural school and served six surrounding coastal communities. The school had a student population of three hundred and forty from the grade 7 to grade 12 levels with a teaching staff of 24. The current principal was serving in his second year and during that time had become quite involved in school improvement initiatives. These initiatives were supported

extensively by the school board as well as by ongoing action research from the university level.

Design of the Study

A qualitative approach was used consisting of interviews, participant observation, and document analysis. The study built on baseline data already collected from seven schools in one Newfoundland school district (Brown & Sheppard, 1996). The identification of the school studied was done by unique-case selection (Lecompte & Preissle, 1993) of a high school in the Brown and Sheppard study which displayed the most attributes of the learning organization. The study then focussed on the degree to which the school reflected the characteristics of a learning organization and as well provided a description of them in an educational setting. On-site field work was conducted to substantiate the findings. Selected teachers, the principal, the vice-principal, and members of the school improvement team were interviewed. The interview protocol used is the protocol developed by Sheppard and Brown (See Appendix B). This interview protocol was based on Lieberman's case study approach.

Data Collection

Data collection was done during a four-week period with total immersion in the daily activities of the school ranging from opening morning assemblies, classroom team teaching, corridor duty, staff meetings and social functions as well as school board inservices.

There was a total of 8 interviews conducted including the Principal and 7 teachers that were chosen through a process of random sampling. Interviews were scheduled for a maximum of one hour. All interviews were audio-recorded with the consent of the interviewee and transcribed at a later date. Quotations taken for inclusion in the study are verbatim. All those quoted were given an opportunity to review their own comments to ensure accuracy. Names and sources of quotes are removed to protect confidentiality.

The second method of data collection was through participant- observation in both formal and informal settings. Teachers were asked to voluntarily allow classroom visits, and as well, attendance was sought for staff meetings and student council meetings. Informally, observations were made in the whole school including the staff room, hallways, library, computer room and the gymnasium. Field notes were made and coded in relation to these observations.

The third method of data collection was document analysis. Documents

included: School Board's mission statement; School's mission (vision) statement; School yearbooks; Media coverage of the school; Surveys or reports of the school or conducted by the school; Principal's annual report (past 2 years); Forms and reports used by the school; School rules and policies, and a copy of the teacher handbook. Other pertinent documents were added. Field notes were made and coded in relation to this analysis.

Data Analysis

Data analysis was done by a constant comparative method using three levels of codes (Hutchinson, 1988). Level I codes were substantive, describing the action of the material, real and concrete occurrences. Level II codes were categories, the condensing of the level I codes. Level III codes were the theoretical constructs, conceptualized from all three levels of codes. This use of a constant comparative method of data analysis allowed generation of theoretical constructs through comparing incident with incident, incident with category and category with category to establish the relevant patterns in support of a theory.

This process also enhanced reliability and validity. It allowed me to continually formulate, hypothesize, and discard what was not substantiated by further data, and to look for contradictory or non-supportive data. Data was

compared again and again to provide a check for validity. And finally, through the multiple data collection methods of interviews, direct observation and document analysis, my interpretations were confirmed, thus increasing the wealth of information in support of the theory.

Finally, data analysis included incorporating all information, from interviews, field notes, and documents.

CHAPTER FOUR

THE FINDINGS

In verifying the degree to which the characteristics of the learning organization are inherent in the leadership practices of this school setting, it is essential to discuss each of the five disciplines that constitute the learning organization. In addition to being acutely aware of Senge's definition of each discipline, there is a need to remember that the word "discipline" in this context refers to commitment, focus and practice (O'Neil, 1995). The findings of each discipline will integrate the three modes of data collection: interviews, observations and document analysis. In addition, findings are analyzed and discussed using Senge's conceptual framework of organizational architecture and deep learning cycle, as well as leadership examined through Senge's descriptions of leaders as designers, stewards and teachers. Finally the data is analyzed and discussed using Dibbon's (2000) four stage framework and Elliott's (2000) district interventions.

The Discipline of Systems Thinking

Definition of Systems Thinking: Systems thinking is the discipline of focussing on seeing interrelationships and processes versus cause and effect chain of events where there is a paradigm shift from seeing parts to seeing wholes.

Interviews

Twenty-nine interview responses from the eight interviews provided evidence of systems thinking. These interviews revealed that the individual did not just feel caught in a cause and effect chain of events, but were acutely aware of the interrelationships and processes that came to play, both directly and indirectly, on the learning environment of the school. There were three areas in which this was most obvious: Professional development, the learning environment and outside influences.

In relation to professional development, the responses often revealed systemic thinking, illustrated by this comment from the principal on how the government policy and funding have facilitated change:

Well, the Human Resource Development proposals, you're right, have facilitated change because one of the things it has allowed us to do, number one, is to purchase some materials, number two, is help to pay for inservice. The inservice we had the other day cost me about \$900.00. We supplied the coffee, the juice and the meal. Now you can say, well, how does that make a difference to your inservice? You could have it in school. But you got to

get away from the building, because if you were here at the building, there would be phone calls, teachers running off a test, or running to make a phone calls. When you go over to a new building you separate from all that. You get a fresh clean atmosphere, you got a captive audience. So it has allowed us, I think, to offer ... more professional workshops. When I say professional, I mean, get it away from the school routine stuff. We go over there and run that the same as if the Department of Education ran it. You go in, you got your coffee breaks, you got your presenters and you get your meals. Plus it has also allowed us to have money to send people to institutes.

This quotation reveals the significance placed by the principal on the need for having quality time and immersion into professional development so that genuine learning taking place. This learning can then be utilized at the school environment which will in turn have an effect on the teaching/learning environment at the school level. Another response that demonstrated systems thinking in relation to professional development highlighted the importance of timing:

If you're going to have an inservice, do it on Monday, don't do it on Friday. Friday is a day off then ... you got a bit of work to do or whatever, you know, the paper work the test or whatever, that's done. And you go in Monday morning, and you want to look at some new ideas. Teachers are all ready to learn. We don't give them enough time or enough credit. I don't know who said it, Bertrum Russell I think it was, "I'm always willing to learn but I'm not always ready to talk." Teachers are always willing to learn but you got to pick the right time.

In both of these cases the respondents make it clear that they are seeing the whole or bigger picture as it relates to the professional development.

In focusing on the learning environment, those interviewed revealed examples of systems thinking. Changing teaching strategies and techniques have broader implications than in the actual units or activities - there is a change in and on student achievement in the learning environment as well as student achievement. As one teacher stated:

I don't know but I think cooperative learning is only one technique but I think once you start using it opens up the avenues for other things. I think that has made a big difference to how the curriculum is being taught and how the instruction is being carried out and I would like to think it's benefitting the students in terms of their student achievement.

Another teacher commented, "so when we (Government, Department of Education, School Board Personnel, Parent Teacher Associations...) come together cooperatively, then it creates a lot of positive thinking towards our students and that's spread onto our students." These teachers reveal their understanding of how the larger picture, the whole, can emerge through analysis of the parts. There is also supporting evidence of seeing the bigger picture in reference to a longer time frame. New strategies and techniques are not seen as simply isolated quick fixes or cause and effect events. There is demonstrated insight into the interrelationships and processes of pedagogical change as they relate to time and the effects one change has on the system. Another teacher explained:

One thing is that, in terms of the school, change takes time. It doesn't happen over night. That's one thing that's important to say. And that

anytime there's change, it's not always going to be smooth, okay? I mean, when you change something in terms of the policy or the process or whatever, a lot of times performance in other things take a dip. The whole idea of change is to move to the next level. Whether that change is in business and you move to more profits or that change is in education and your goal is to a higher level of success and a higher level of achievement. But again, in the process between a point A to point B there's undoubtedly going to be dips. So a lot of what we're doing here in this school and done over the last few years the long term effect won't be felt for a while. But that's the thing with education. We have to do things with the idea of being evaluated regularly over time.

There was also evidence of systems thinking in the discussion centered on influences outside the school. In making reference to government a teacher connects school and the local economy:

So, I mean, you know the thing that's happening in Government has an impact, it's the biggest one. The other thing, I think, having an impact within the school is the economic climate of the province. A lot of people are moving away and I think that in rural Newfoundland a lot of the ones that tend to be moving away are your educated, well trained, people who value work and value an education.

Another teacher elaborated on how even a threat of job security affects the learning environment on a provincial scale.

Any year, and I assume I would assume this same thing in every staff room, job security causes problems. Whenever you get into a negotiation year, I mean, people worry about the future, you're negotiating, I mean, no pay increases and cuts and cuts and cuts and cuts and increased work load, that's negative. The jobs, because of declining enrollment and all the rest of it, it's not a good atmosphere in the staff room. And things, such as a premier saying "Who's going to run this province me or the teachers?" and put the public right back on the backs of teachers, it's not just the issue of who's going to run but the damage that's done to the people. When

someone in power or viewed as someone that's respected makes a statement negative towards teachers in general, that carries over to what parents say in the home and then to the kids who come into the school.

Yet another teacher referred to the whole first and explained how it evolved indirectly from policy parts, in this instance, as it relates to cuts in teacher allocation:

And it's a climate thing. As a matter of fact, in my view the climate that's created is more detrimental to education than the actual cuts themselves. So, the biggest obstacle like I say is the thing that's happening in education that's beyond our control right now. But it does change the climate and atmosphere of the staff rooms, which in turn effect the atmosphere in the classrooms.

In analyzing the interviewee responses, two teachers provided examples of not engaging in systems thinking. In direct contrast to some of the above mentioned quotations, which reveal the positive domino effect that cooperative learning strategy has had on the teaching learning environment, for these teachers systems thinking is non-evident. One teacher remarked:

Right, if you're having discipline problems, surviving from day to day is your main aim, it's not can I use new methods or can I whatever. I've heard tell of teachers in this school that think cooperative learning is something to torment teachers to make their jobs more difficult.

A second teacher demonstrated his lack of connectedness of the strategies implemented to the overall desired outcome of life long learning. He stated:

The point that I was making was, if we're going to be shipped into computer workshops, then we're maybe getting away from cooperative

learning. Now, even though we've had a three-year program, the question long term is how much is going to last or will it just fade away? If the spot light shifts to computers, then the spotlight is off, you know something else. Things are certainly changing.

These two non-supportive comments on systems thinking confirm that some individuals still focus on strategy by strategy or event to event and weigh each for its individual worth. They perceive their learning environment as a summation of parts, each with or without its own merit. They have not made the paradigm shift from parts to wholes.

Observations

In analyzing the field notes of the observations from onsite, it was interesting to note that there was little non-supportive evidence of the systems thinking discipline. This was not surprising as those who might vocalize indifference in private, may not do the same in their regular work environment amongst colleagues. Once again, there were varying degrees of support observed in relation to the systems thinking discipline.

One of the most intriguing things I observed occurred during the first morning of the first day. As I walked up the stairs to the second floor of the hotel where a two day inservice was to be held, all I could hear was the relatively loud music of the Beatles. Expecting instead to hear the voices of staff members and

the rattling of early morning coffee cups, I was wondering if I was in the right place. However, inside the salon were energetic staff members, with their coffee and donuts making last minute preparations for the inservice. A little later when I questioned the reasoning behind playing the music I was told it served several purposes. This is where the connection was made to the systems thinking discipline. I was told that the music was used to create the right atmosphere or mood, to set a background that was familiar to all (Beatles music for Baby Boomers), and to signal at its stopping a time for work to resume. In relation to systems thinking they saw the need to create an effective inservice environment where the climate and atmosphere were refreshing and invigorating and distanced from the physical school. They were looking to create a conducive learning environment, the whole, and they utilized music as one of the contributing parts. I was told that the same technique for using music would be found at school, though I wouldn't hear much Beatles music there. This, of course, was because things were more student focused. Two days later, when at the school, I was again impressed. Student's music filled the hallways before classes, at recess and after school. When it stopped, the students progressed with very little hesitation to their respective classrooms. During gym periods the gym reverberated with student selected music.

Another observation in relation to the systems thinking discipline pertains to the significance of the administration of the school. I observed on at least three different occasions discussions that accredited the success of the school at present day to actions of a former principal. The significance here is that, as verified in analysis of the interviews, at the time the principal was in the school much of what he initiated and proposed was viewed with much scepticism and cynicism. There were even references to how the staff wanted to get rid of him. However, now some years later and with a different principal, the same staff seems to have experienced a paradigm shift from seeing the parts to the whole. They realized that the former principal was trying to implement reform in the best interest of enhancing the learning environment within the school. He is now given much credit for the school being as successful as it now is, years after he is gone. It reveals that an analysis of interrelationships in the work place is often difficult and it may take years before the success of initiatives become visible. This is characteristic of systems thinking and was verbalized by different staff.

In one staffroom conversation, a teacher said:

The previous principal really had a significant impact in relation to policies, procedures and expectations. This was the beginning of a major turnaround for the school. Then when our present principal took over as principal, the high expectations, organizations and initiatives continued.

Two other staff members in conversation reveal a similar sentiment in

relation to the school being a great place to work by saying, "There have been dramatic changes over the years which all contribute to a more positive work environment. A lot of credit has to go to our former principal who got the office organized and the school focused". On a separate occasion the former principal's name came up:

A lot of the changes around here are the result of initiatives started by the former principal about ten years ago: Initiatives in relation to retention/dropouts and focus on academic performance as well as a cooperation that has developed among staff as a team in working to achieve these initiatives.

A final observation that supported systems thinking in action was the approach that was taken to create a pleasant atmosphere at staff meetings. Every effort was made to ensure staff was made comfortable after working for the day and now preparing for a staff meeting. Music was again in the background and there were coffee, tea, cakes and muffins for the staff. It was made evident that teachers believed that a happy more content staff correlated to a more satisfying and productive learning environment.

Document Analysis

The process of document analysis revealed significant evidence of systems thinking. The school developed a proposal for external funding entitled "A

Proposal for Funding Under the Canada/Newfoundland Cooperation Agreement on Human Resource Development." This proposal was for a training program for teachers to develop teamwork, communications and leadership skills in students. The rationale section of this proposal illustrates several examples of systems thinking as it focuses on the interrelationships between teachers, students, school, employability and life. It changes the focus from fragmented learning to a more relevant and complete education. As is stated in the rationale:

The world in which our present students will work and interact, will be radically different from that of our grandparents, parents and ourselves. The workplace of the future will be characterized by cooperative teamwork, interaction and communication. This view is supported by the Conference Board of Canada Employability Skills Profile which outlines Teamwork Skills as one of the three major categories of critical skills required by the Canadian workforce for future employability. We need the ability to handle new kinds of technology. Many of us on staff don't have the ability and don't have knowledge. So, there's going to have to be change. We'll still be focusing on cooperative learning but we're going to have to move off to one side a little bit and take a bit of time to deal with technology.

In relation to discussing professional matters with colleagues, there is awareness of the importance of it for school decision making but the common concern was the lack of quality time allotted. One teacher stated:

We have some time, the same thing as sharing or having opportunities to share. Yes, I think we do but we do it more or less on our own time like during recess time or passing within between classes or after school, etc. I don't feel that we have enough time. I feel that there should be time allotted for teachers to get together and to share their expertise to share their knowledge and professionalism.

There is also evidence of the concept of "creative tension". Different staff reveal that there is an emphasis placed on the students' connectedness to their environment and their roles as active participants as the future unfolds. As the rationale also stated:

Teaching methods which assume homogeneity of proficiencies and learning styles within the classroom are becoming increasingly inadequate and inappropriate. Cooperative learning methods, which assume heterogeneity are better designed to cope with the diverse needs of students. To become leaders in their communities, students need to be exposed to experiences that teach them the willingness to lead, the ability to motivate others to achieve goals, to get decisions implemented, to exercise authority, to develop credibility and to negotiate, represent, and mediate. Education must address these behaviors and skills.

The Discipline of Personal Mastery

Definition of Personal Mastery: Personal mastery focuses on awareness of the internal locus of control of one's environment versus the external locus of control. Generating the "creative tension" is the crux of personal mastery. It involves the awareness of where you are in relation to where you want to be and what is required to get there.

Interviews

In analyzing the responses there was a total of nineteen responses from the eight interviews that were in support of the personal mastery discipline. There was certainly evidence of the internal locus of control being postured as staff envisioned a sense of control of the teaching learning environment they were working in. Different respondents made it quite clear that they felt they were a part of the decision making process and that solutions and directions for the school came from within the school body. In reference to professional development one teacher stated:

When it comes to the direction that we've taken for our inservice, that has been staff directed through questionnaires. So, in our inservice, we've I guess, as a staff, charted the course. In other kinds of decisions as well it generally speaking the staff has input. Now, certain decisions staff has input but ultimately the administration has to make the final decision but the administration does seek input from staff before making any major decisions.

Also as new priorities or challenges emerge in their educational environment, the staff demonstrated awareness of the need to personally address the challenge versus waiting for some outside agency to come along with the answers. One teacher makes reference to how changing school culture has been impacted greatly by the cooperative learning strategy used in the school and goes on to suggest that through life long learning the focus now has to start leaning towards technology.

We need the ability to handle new kinds of technology. Many of us on staff don't have the ability or the knowledge. So, there is going to have to be a change. We'll still be focusing on cooperative learning but we are going to have to move off to one side a little bit and take a bit of time to deal with technology

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There is also evidence of the concept of "creative tension". Different staff reveal that they are on a journey of life long learning, reaching for new goals and are not complacent in their job. There is an air of "we know where we are heading" but also "we have a way to go and challenges have to be met". One teacher remarked:

I think the onus is on us now to implement some of these things that we've been practicing over the past couple of years or three or four years since we took that initiative. And now, I think people want some help with regards to technology. Take a new focus for how can we adapt to this change.

Another teacher said, "I guess, coming to the realization that society is changing and you have to change as well. You have to change your focus on how

you're going to present your material, how the material is going to be covered".

The administration is at the helm of educational change and explicitly reveals the significance of creative tension. One administrator expressed his concern of having all staff striving for betterment and trying new things, while being fully aware that many are not as receptive to change. This administrator knows where he wants the staff to advance to but incurs some resistance in moving from where they currently are. He stated, "How am I going to get them three or four? What am I going to do for them? They've seen all this and, you know, they've only got two or three years left".

Remarkably, analysis of the interviewees' responses also revealed sixteen cases that were not in support of the personal mastery discipline. There was evidence in support of the external locus of control theory as well as a sense of learned helplessness.

For example, some staff seen themselves as detached from the change process in the school in which they work. As one teacher stated:

Anything we've changed here in the past few years has been in trying to keep up with Provincial changes with regards to courses and semesterization, the six day change to a fourteen day schedule now. The time tabling and everything is all, as far as I know, keeping up with the rest of the school board and the province in a lot of these things. Technology, I mean in the last five or less than ten years in computers and things, are a lot of time and effort gone into that and that's the province I would think and the school board.

Still others see the responsibility of school change as in the hands of the school principals and again separate from themselves. One teacher said, "I guess principals kind of tend to not want their schools to be at the bottom of the barrel. They want to be as good as the next fellow so, keeping up with the Jones is maybe a positive thing in this case." A different teacher revealed the same sentiment. He too saw the roles of those individuals working in school as quite separate with no personal control in administrative matters. He said, "I don't like taking leadership jobs when I'm not getting paid to lead. But I'm getting paid to teach and I like teaching first and I don't like crossing the line". Still others felt that change in their environment is out of their control and only in the hands of those at the top. They feel they have little control when there are choices to be made. One teacher said, "It's headed from the top and the idea that we have to change and head in certain directions results from when you see principals go off to principal meetings. Seems like when there's choices to be made, they give them to you".

Some staff feels that if there is not someone out there in control with the answers then all progress made in the school to date may be lost. There is almost a feeling of helplessness conveyed in these comments from a teacher:

My only hope is that now with the new changes in what's happening at the department and what's happening with the districts, that with the bigger district, the school might be left entirely on it's own, and that's when things start going back to the way they were.

There certainly isn't the sense of school ownership and staff internal control conveyed here.

For some the learned helplessness is revealed even at the classroom level. Not only do they feel that they have little or no control over the school climate, they reveal a similar sentiment at the classroom level as it pertains to student achievement. One teacher said:

Finishing school is not always like a natural outcome for them and we found over the years, I mean, our students are as good as any with regard to sports teams and traveling and being mature even at a younger age, but when you say, "Okay, we're having a normal class, so open your book, pay attention or follow me", then you have more difficulty then perhaps you would expect to have in some other schools. Ah that's the students, the area.

Observations

Analysis of observations also revealed support for the personal mastery discipline. There is definitely evidence that some staff felt that they were in control of their working environment. They knew where they were in relation to the school improvement and where they wanted to be as a staff and a school. Perhaps one of the most prolific examples of the personal mastery discipline occurred at the end of the two day inservice. Towards the end of the inservice, time was allotted for reflection, not specifically of the two-day inservice, but on a much broader scale of school and its quest for ongoing learning. Significant questions were posed by staff

such as, "Where are we now, what's next?" "Is the strategy of cooperative learning *institutionalized* at our school?" This also clearly demonstrated the direction from which the inservices were formulated, from the bottom up. Responses were in support of both personal and school growth and included, "Let's structure the social skills on a continuum for grades 7,8 and 9." "Let's work more on evaluation techniques." "All this effort demands accountability, let's share lesson plans." "We need more in school time for team building and peer coaching." All concerns aired pertained to the importance of ongoing learning and reaching for what they believed was attainable for themselves and their school.

Document Analysis

In analysing the documents there were four significant examples that clearly demonstrated the personal mastery discipline. The first was contained in the *Teacher Handbook*. In particular, the section on committee structure illustrated the internal locus of control with an overall sense of direction as to where the committee was to enhance the school as a learning environment. There was a total of fifteen (15) committees as follows: (1) Appeal Committee; (2) Nutrition Committee; (3) Student Evaluation Committee; (4) Social Committee; (5) School Financial Committee; (6) Athletic Committee; (7) Public Relations; (8) Awards;

(9)Library Committee; (10)Education Week Committee; (11)Chaplaincy Committee; (12) Winter Carnival Committee; (13) School Growth Committee; (14) Discipline Committee; (15) Emergency Plan Development Committee. (P, 12)

Each of these committees had its terms of reference and composition of members listed with a focus on improving the school environment. This clearly revealed a sense of control, ownership and direction versus waiting for directions or guidance from outside agencies.

Another example of personal mastery comes from the document, *"History of Cooperative Learning Initiatives"*. It states that in December of 1994 there was a discussion in relation to a Stages of Concerns questionnaire. It specifically states that, "A Stages of Concern" questionnaire was administered to the staff. The purpose of the questionnaire was to identify staff concerns related to the implementation of cooperative learning and to plan future workshops based on these concerns". The fact that the staff set their own agenda and direction for future workshops in an attempt to move towards their own school's goals reveals the self control aspect of personal mastery as well as generating the creative tension to attain long term goals.

Analysis of the document, *1994 Quality of School Life Results for Grade Seven Students Compared with District/Province Results* also demonstrated

elements of personal mastery from a student perspective. In the categories of Student Satisfaction and Opportunity to Learn, the students scored higher than the district and province in 86% of the subcategory questions. In the category of Students' Perception of Their Own Status Within the School, the students scored higher than both the district and the province in 67% of the subcategory questions. The responses to the questions revealed self esteem, confidence and a sense of control in their learning environment.

A final piece of evidence from document analysis in support of the personal mastery discipline comes from the "Leadership and Organizational Learning (Form 1) School District" document summary. In this summary, the most salient strengths (Over 95% responding in the agree category), were referenced and included Support for Personal Growth [Personal Mastery] (96%). This clearly demonstrates the prevalence of the personal mastery discipline in reference to the complete staff.

The Discipline of Mental Models

Definition of mental models: In the discipline of mental models there is a paradigm shift in how the world works and an openness and viewing of the world through a broader lens. Here one will bring to the surface, evaluate and improve

their conception of how the world works.

Interviews

In analyzing interviewee responses there was a total of twenty-three responses that were in support of the mental models discipline. Evidence in support of emerging mental models was concentrated on the four main areas of personal professional development, teaching, global education and managing change. After an insightful professional development summer institute, one teacher was overly enthusiastic in expressing how he now sees the purpose of professional development:

It's a new toy for me. It's more active I think the idea of teaching in a more active way. I go right back and it always surprises me to say how little I knew about teaching when I came out of the university. So even though I've been at this now 24 years and I'm heading towards retirement, I still certainly have a lot to learn about teaching, you know.

Another teacher related his new view on professional development and how he has concerns on accountability and how it relates to professional development:

I really don't think there's enough accountability for teachers being put on the spot. You know I can never understand how the government or school boards can put all this money into workshops and everything and teachers can walk out the door and ignore it. That goes against my nature. There's something to be said for it but it's almost too comfortable for me. I'm into a little more pressure now.

An administrator also related how his staff has become more open and

accepting of change and that part of their staff meetings have been devoted to paradigm shifts. After one session in particular he was pleased with the follow up discussions and says that the session was a real eye opener for many. He related to a video that was part of the session:

It's called, "Paradigms of Change" and you got to make the complete paradigm shift. So I went to the staff meeting and I showed probably 25 minutes or so and I said to them, I want to think about some changes and here's what they are. Just seeing this makes them realize that you have to take your blinkers off because if you do the stuff you're doing for twenty years, you don't see anything out here. Okay, let's do it completely different.

The second area of emerging mental models was related to teaching. Many respondents made references to how they viewed themselves and how they taught in a completely new light. They see what might have been accepted and the norm in the past was no longer their view on what teaching ought to be. One teacher had the following comment to make on seats in straight rows and their proper places in the classroom.

And I don't know if that's a change in students or a change in society but you know sit and be quiet is a difficult task. I mean with grouping whether you're doing a long term or a short term there's more student involvement. I mean it's not okay anymore for students to come sit in their seat, which some parents tell students to do, which doesn't work and is not acceptable. If you ask someone to sit and not speak, you're trying to change them. In the old days that was the best you could be.

Another teacher relates real insight on how changing teaching strategies not

only affects student outcome, but discipline and the whole school climate as well:

Teachers get along good together and since teachers get along, the students get along as well because we've done cooperative workshops with the students, with the teachers, we've done team building with everybody. So it appears to be somewhat different than it was a few years back. Now it appears to be the attitude of one large happy family.

Other teachers see their daily responsibility in the classroom in a completely new light. He said, "Rather than being a dispenser of information, you're more of a facilitator. You will clear up any problems that a group may be having but they're finding information for themselves so that makes a big change".

One teacher describes his becoming aware of his paradigm shift as a real awakening. He said, "And it's because I've sort of stepped out of my body. I had another body experience. No, you know, I just try to see what I'm doing. Are you teaching or are you not? And if you're not teaching, then analyze yourself and do something so that you are teaching". There tends to be a new view on teaching that has more emphasis on active verses passive learning. Another teacher said, "We get away from this chalk and talk, get kids involved, get kids moving, get kids hands on". Yet another stated in reference to the school, "Ahh, I think there's been a general acceptance that maybe the old chalk and talk way for 100% of the time is not acceptable".

There is also evidence that the paradigm shift for some has evolved well

beyond the classrooms and the school building itself. Some relate to seeing their responsibility of teaching in a new broader context. They are viewing their world through a much broader lens when it comes to their sense of duty to their student. Their student's education now goes much farther than their school, employment in their community or even province. This illustrates how disciplines overlap, as there is evidence of systems thinking as well as challenging mental models. The third area of a paradigm shift reveals the importance of global education:

And what we're saying now is that one time our kids had to be good in Newfoundland but right now we got with the globalization we got global markets and global economy and our Newfoundland kids haven't got to compete with the best of Newfoundland and Canada they compete with the best in the world.

A fourth area of a paradigm shift that was revealed through the interview process was related to managing change. People can either be a product or a participant in the change process, but in this school there tended to be a conscious shift towards the latter. Producing life long learners not only as students but as teachers was a concept often discussed. One teacher related, "I think in the staff there's a whole realized change and understanding the change process. Change is ongoing and it's going to be there all the time. I guess the idea of lifelong learning we're into the age of lifelong learning now". Another comment in support of the new paradigm shift says, "The idea is to look for lifelong learners. Even as teachers

we're still learning and that's the future. No matter what we do now, things are changing so fast we just got to learn how to learn or adapt to situations". There seems to be a great deal of support in bringing to surface, evaluating and improving one's conception of how the world now works and having the ability to incorporate it into everyday life experiences. As one respondent pointedly remarked, "My philosophy is that if you got twenty years experience or you got one year experience twenty times over. That's a big difference".

However, in analyzing interviewee responses there was a total of two responses that were not in support of the mental model discipline. They were more inclined to avoid change if possible and viewed it as a disruption to their routine. They knew what worked for them and were reluctant to viewing newer options. One teacher stated. "A lot of times it's just the idea that change itself is difficult to understand. A lot of people when they get into their routine and do certain things and it works, say why change it?"

Observations

Once again in analyzing the observations there was very much supporting evidence for the mental models discipline. Evidence of viewing their work environment and the world through a broader lens came to surface several times.

The most significant example was one that revealed a paradigm shift in seeing how the world works. All too often, especially in education, there is a search for the right solution or recipe out there that will address the shortcoming within the school system. There are often bandwagon solutions that come along, are tried but with little or no success. At this school the staff has come to the realization that the real answers are within the school environment. After an overview of the initiatives that were taken over the past three years in relation to school improvement, it was seen that the format was school directed and team driven. There were rarely guest speakers and issues, problems and concerns were dealt with from within. At inservices there were usually coordinators from the board office who served as facilitators who kept the agenda scheduled and focused. Similarly, at staff meetings it was evident that the staff felt in control of any school scheduling or agenda. One comment at a staff meeting revealed that there was no suggestion to ask the administration in relation to making a controversial change for a parent teacher day. He says, "We should have a good look at the scheduling, and if it needs to be changed then "we" should change it".

Another example of a paradigm shift on how the world works and in relation to the mental model discipline surfaced in a staff room discussion on the past government cutbacks. Though the teachers felt a good sense of control within their

work environment there was a comment on how much control the churches used to have in the educational process in the province. Comments showed concern that still not enough fat was being cut at the top and that former Denominational Educational Council members were being excessively overpaid, more than \$100,000.00. More attention was thought to be required at the student level.

There is also evidence of viewing the world through a broader lens in relation to what is deemed appropriate as student leisure time activity. What many would consider as detrimental to student learning and only permissible in designated locations in a community is viewed as positive in this school. In the student cafeteria and for their use during dinner time are two pinball machines. The purposes are diversified and include student reward, elimination of idle time and most significantly to enhance the belief of student ownership of the school.

Document Analysis

In analyzing the document *History of Cooperative Learning Initiatives* the section entitled "Where We're Headed" summarizes a school paradigm shift in progress. It stated:

Many of our students leave school without the teamwork and personal management skills required to make a successful transition into the

workforce. This transition now requires our students to be able to think and compete on a global scale. Cooperative learning can be used as a vehicle to develop these personal management and teamwork skills and integrate them into regular classroom activities. For practical purposes students must make the link between academic, personal management, and teamwork skills developed through classroom activities and used in the real world of work.

In analysis of the document, *A proposal For Funding Under The Canada Newfoundland Cooperation Agreement On Human Resource Development* there is also evidence of openness and viewing the world through a broader lens. There is a clear recognition that major change takes time. There is no seeking a quick fix from outside. This is evidenced by the proposed Time Line for Implementation which includes sixteen dated professional development activities in excess of a three year span to instill cooperative learning in the school.

However, there is also some evidence from the document analysis which is not in support of the mental model discipline. One case in particular is in reference to the schools retention rate. Graphs from the guidance counselor clearly indicate that more students are staying in the school longer and it is staff consensus that initiatives under their school improvement program are correlated to these changes. However, there is no evidence to suggest that these retention figures are any higher than elsewhere in the province. Indeed, under the ongoing downturn in the provincial economy and the fishery in particular, it only stands to reason that more

students would stay in school longer for two main reasons: Firstly, to ensure a higher education as to be more competitive in the job market and secondly because of the down turn in the economy there are fewer unskilled jobs available for the students of the province.

Another example from the document analysis which does not support the mental model discipline relates to the attendance records. Different staff members when relating school improvements mentioned that attendance percentages were improving and were influenced by the school improvement program. However, upon analysis of the yearly attendance records there was virtually no change in the yearly attendance percentages. This information demonstrated that the staff had a perception of increased student attendance based on the overall success of their school improvement. When given the statistical data on attendance, there was still no change in position on the increased student attendance perception. This is not in support of the openness and broader lens approach characteristic of the mental model discipline.

The Discipline of Shared Vision

Definition of Shared Vision: The discipline of shared vision is a force of commitment that a person has that comes from the synergy of systems thinking,

personal mastery, and mental models. It provides the focus of learning as well as reflects a personal vision that is challenging but attainable in developing a future image of the school.

Interviews

In analyzing interviewee responses there was a total of twenty-four responses from the eight interviews that were in support of the shared vision discipline. There were several responses that revealed a genuine commitment to a shared vision for the school versus staff members working in isolation. One teacher said, "Just from some of the research and readings I did while I was a coordinator talking about stuck schools and isolated in your little cubicle classrooms. I don't think that would apply to this school anymore". Another teacher elaborated on how the shared vision is something special and significant in the school:

Probably the special aspect of it is that we've tried to keep our people focused and keep going in that particular direction. Special staff because the staff has been receptive to this idea of change so the staff would have to be considered when you look at special. The staff and administration and, I guess, the board personnel as well having, I guess, the vision of us being traveling through a particular sequence over a period of time. So the visionary aspect of it, I guess, from the school growth committee's point of view and seeing ahead of what we're going to do.

Another teacher made reference to the strength of the shared vision. He comments that when he needs motivation he can draw from the commitment of

the other staff:

Yes, we're preparing for the public, right. We don't have enough time to do it boy, not going to know I got to teach for a public and I'm not going to have time to do it. That's fine for you guys in junior high grade VII, VIII and IX no sweat right you're not under the gun like we are. And to see some of the lead teachers in high school try some of these practices. In industrial arts that's a major feat in itself to try something like coop learning. But I mean just to see that taking place and to know that it's taking place and it encourages me then to continue.

One other respondent makes the comment of the importance of the shared vision being a whole community concept and goes on to state the importance of all involved being visible and doing their part. He comments on the public perception of the principal by saying, "An example was last Saturday when the principal was down here helping to make the turkey dinners and then help delivering them. Parents, teachers and the community saw that and that's important".

There was also evidence of the concept of ownership as it pertained to the shared vision. One administrator made reference to the devotion and sense of ownership that has developed in the community towards the school:

We have, in terms of parents, we have I would say for a senior high school one of the best PTA's on the island. Our executive is 23 members. We got the normal positions like president but there's 3 community reps from each community that sits on that committee. Like we put out 500 turkey dinners Saturday morning as a fund raiser. They're raising money for the new computer lab, right. Eleven o'clock they were all done and gone. When I came over here eight thirty and picked up one of the ladies on the Parent Teacher Association, there were two cars in the parking lot when I got here eight thirty, Saturday morning. All the dinners were done, delivered and the

kitchen and everything was washed up and gone by twelve o'clock.

Another respondent evaluates the success of a shared vision approach to the sense of pride that he has developed for his school. He said:

Like I find that I've often said to myself, would I bring one of my friends into this school and introduce him. I think we were in a state of chaos at one point but now I think we're in a state of flux and I think a good flux or a good change. But I think there was one point where there was no way. So you know, that to me is a meter that I use. I am proud of my school.

The results of the effort towards a shared vision is also becoming recognized by outside agencies according to one teacher who said:

I've had contact with many social services, kids that are in foster care, child welfare, social assistance and on and on and the comment, now whether they're just saying that to me on the phone or in an interview, but their comment generally is that this school is known in the Department of Social Services as a caring environment where the staff will go out of their way to help the less fortunate kid. And that the students are accepting of kids who are different.

Another teacher makes the parallel between his own personal vision and the shared vision of the school as it pertains to students developing core skills. He says, "My vision is that they are able to leave here in Grade XII, walk out in any job or any industry and they got the three core skills that they need, the academic, the self management, and their team work skills".

In analyzing interviewee responses there was a total of six non-supporting responses in relation to the shared vision discipline. There was an obvious lack of

commitment to the shared vision by more than one staff member. One respondent had the following to say about the role of committees and shared vision, "Like I'm on a committee but I find again teachers and even myself I'm not overly committed to the committee".. Yet another respondent reveals lack of commitment to the shared vision when asked what they are now trying to do for the student in relation to the mission statement. His reply was, "Yes, posted in the staff room. Something like the mission statement is probably something like you would come in and you would do a course in philosophy. It's in one ear and out the other ear".

Another area of non-support for the shared vision discipline was for some staff realizing the connectedness or relevance of having a shared vision. One respondent stated, "It is certainly distant for me, I mean, there is a teacher liaison but they're having a turkey dinner and this and that but what does all that have to do with the teaching aspect". Another colleague issues a similar sentiment when asked about business partners or school councils in relation to the shared vision by saying, "Not to my knowledge. When you say school councils someone like the only PTA. Parent teacher and that's mostly only a fundraiser".

In relation to the shared vision of the school, one of the guiding principles and practices was to instill in the students the importance of self-motivated life long learning. Again there was evidence that this philosophy was not shared by

everyone as one respondent said, "when it gets to the main objectives, it's train the students the best you can and try to prepare them the best you can to the best of their ability".

Observations

Analysis of observations also revealed supporting evidence for the shared vision discipline. The staff indeed had a force of commitment that was context specific, based on their strengths, weaknesses and needs that provided the focus of learning for the school. When school vision was mentioned by someone on staff, more often than not, reference was also made to the employability skills for Canada. Indeed much of what the inservices and staff meetings focussed on was the development of the following three skills; Academic, Personal Management, and Teamwork. Presently much of the emphasis was on cooperative learning as a vehicle towards the vision of achieving these skills and life long learning.

As well at the end of a two day inservice there was more supporting evidence of the shared vision discipline. In the wrap-up of the inservice a committee was struck to take on the task of developing the appropriate social skills for grades 7, 8, and 9. There was an obvious synergy. The discipline of systems thinking, personal mastery and mental models were evident. There was debate and

focus on the when ,where and how the social skills would be developed. There was a discussion of and what was realistically attainable. This is a classic example of what Senge refers to as the “creative tension” necessary for organizations to learn. It was evident that all involved envisioned the same destination within the learning environment context.

The shared vision discipline also emerged from another context. One Monday morning the atmosphere in the staffroom was sombre, not its usual vibrant energetic self. The reason was that another staff member had just got notification of a job loss because of the ongoing government cutbacks. It was obvious that the whole staff was very concerned. Firstly, they were saddened about the loss of a fellow colleague, but also they worried about the implications for loss of programs, extra workloads and the diminishing quality of education that the school could offer. The contrast between the mood described in the wrap-up of the inservice and the example above was startling. The momentum which had been created by the inservice led teachers to believe in the new initiative. They were developing a shared vision for future growth. The staff layoff, however, briefly curtailed the sense of optimism and professional growth.

Document Analysis

Document analysis in relation to the shared vision discipline also revealed supporting evidence. From the *Teacher Handbook* in the "Identification of Needs" section it states, "The purpose of these meetings is to look at the programming needs of each student that will be enrolled next year. Needs will be broken down into three categories - Academic, Guidance and Other". These three categories were further subdivided to ensure a comprehensive program with a focus on learning for each child. This staff commitment, based on personal visions, was context specific based on the strengths, weaknesses and needs of each student within the school.

In analysis of the Code of Conduct document for the school there is also support for the shared vision discipline as it pertains to the parallel between the in-school learning and life in the community. It is a reflection of the in school vision which is challenging but attainable. It stated:

The general discipline of the school will be based on the following rules. The aim of these rules is to ensure, for all students, the most favourable conditions conducive to learning. Hopefully, these rules will prepare all students for social co-operation and restraints that are met in life outside of the school.

The Discipline of Team Learning

Definition of Team Learning: The discipline of team learning builds on shared vision and personal mastery and mental models. Its critical dimensions include utilizing synergy, operational trust and the mastering of dialogue and discussion to strengthen the learning capacity of the school.

Interviews

In analyzing interviewee responses there was a total of twenty eight responses from the eight interviews that were in support of the team learning discipline. Many saw the team learning discipline as very positive and contributing greatly to the school climate. One respondent said, "But when you get two days with all of the teachers on the same staff together team building and doing cooperative learning exercises, that's what has caused changes here in this school". Another in support of team building and developing a positive school climate remarked:

We do a lot of team building and that's a very important aspect in our school and I think if a person visits our school, they will see this. We do team building with our students within the classrooms and we do it with our teachers via workshops and whatever. Believe me it brings everybody together knowing each other that much better through team building.

One respondent refers to the synergy that develops from the team learning.

He said:

What, I guess, we are doing is when we do team building, we get to know each other in a different way, we get to know the positives of our person and the negatives and we're not guessing and we're not assuming about that person. We find out all kinds of information and that brings us together as a team or as pairs whereby ultimate learning takes place.

There is also reference made to the specific advantages of team learning as it pertains to classroom instruction:

I know myself and the special education teacher are teaching Grade VII English so obviously when she started she kind of followed me for a while but at least now we can kind of work in tandem. She's done things maybe I picked up from her and vice versa so I found that's helped as opposed to two or three years ago when she was all special services and not teaching any regular courses".

There is also evidence of the staff walking the walk when it comes to team learning. Not only is it espoused at a classroom level but it is evidenced as a problem solving tool. One teacher commented:

Last September we lost the services of our library clerk or we lost the funding from the school board and at our very first staff meeting that was what we did as a group we tackled the problem of how we are going to deal with this. We don't have a clerk here anymore. So what are we going to do? So, we brain stormed the idea within smaller groups and then came up with some things that we would do. One of the things was developing a prefix system which did take place. In another instance, we used teachers who have more than the average number of preparation periods they had an extra period or two over other people, then they were given library duty. So, we fixed that as a group.

Another example of team learning in action demonstrates how it is utilized

as a proactive approach to preventing problems and enhancing the student's learning environment. A teacher related:

Well, we do that all the time if something is viewed as a major problem because not to put anybody on the spot sort of thing as a group, but, I mean, this year for example and we knew this from our meetings last year with the grade VI teachers, our feeder schools that the kids coming into grade VII in September past were a weak group and a group that needed a lot of work on discipline. And we've had at least two meetings this year if not three, to discuss the three grade VII classrooms to brainstorm and throw out ideas of the things that we can or can't do to try to bring them along so that they can achieve more than they have.

Another comment in relation to the same process emphasized the importance of getting together to solve problems:

I think the grade VII's have improved tremendously and part of it is because of getting together and finding out there was teamwork involved. How do we deal with it? And one teacher may be not having the same problems so we looked at why it's not a problem here, is it something or is it something you're doing in your teaching?

In analyzing interviewee responses there was also a total of seven responses that were non-supportive of the team building discipline. One response revealed a real indifference to the team approach of team building:

The former principal who was our last principal started looking around for maybe professional answers to the problems. Maybe some teachers went kind of off their heads or call it extravagant I mean he was looking for sensible answers to real problems, you know what I mean? Teachers almost wanted to go get rid of him, then the problem would be solved. He was looking at other answers.

Another respondent, in response to whether there was a team approach in

their school replied, "Team. No, like I say I think we did more or less have a, I don't know, an unofficial group of people that were doing more group work than others".

Others attribute the lack of time available for team building as a reason that team learning is not as prevalent as it should be. One respondent stated:

That's what I've been looking for is time to sit down, I asked about it at the meeting the other day. That's been kind of the hang up for me. I've even told the school board office people one time I mean there's certain things you have to do as a teacher, you have to test, you have to teach, you have to discipline, and the one thing that I think teachers will cut back on, and I certainly will, is planning.

Another comment also stressed the lack of time for team:

No there's not enough time. No, I mean, you have so many prep periods but I mean you don't have the time to do the job that's needed. You know, and actually I honestly believe it's something that's worth finding the time. I really do and in trying to answer your question, the time is a major factor with sharing of ideas and professionally.

Observations

The analysis of observations revealed significant support for the team learning discipline. There was a lot of emphasis placed on team learning during inservices, staff meetings and general problem solving at the staffroom level. In one inservice there was a session on commonly asked questions in relation to teamwork. There were also team building exercises practised by the staff members

with a focus on trust teamwork and appreciation. Not only did the staff practice team building and learning they also had a system of four steps to evaluate the teamwork effectiveness which included: (1) giving and receiving feedback, (2) analyzing and reflecting, (3) setting goals for improving the quality of the group's work, (4) and celebrating hard work and success.

Much of what the staff knew and practised in relation to team learning came from research and inservices over the past three years. What was significant to observe was that by their learning and seeing the benefits from this skill they were quite effective in promoting it to their students through the cooperative learning approach used in classrooms. As they were learning and becoming enthusiastic about it, it was also being instilled in the students through the learning strategies applied in the classroom.

Document Analysis

On the first page of the *Teacher Handbook* is the Statement of Purpose (adopted Feb. 17, 1989). It is the umbrella under which the entire school operates. It builds on the shared vision and the personal mastery of all staff as it relates to their professional development. It stated:

School personnel, in conjunction with parents and the community, will work as a team to ensure an environment is provided which will encourage

all students to develop their fullest potential, both as individuals and contributing members of society.

Although team learning cannot be mandated, the board has made it clear that teamwork is expected in all parts of the system. This is certainly reflective of the team learning discipline. It specifies a team approach which involves not just teachers and school personnel, but also students, parents and community members.

Senge's Conceptual Framework

The intent of this study was to examine the concept of the learning organization in a school setting and to determine the degree to which characteristics of the learning organization were present. The in-depth data analysis of interviews, observations and documents as they pertain to each of the five disciplines inherent in the learning organization have revealed substantial support in favour of the characteristics of the learning organization being visible in the school. However, having characteristics of a learning organization is substantially different from being a learning organization. The extent to which the school is actually a learning organization can be revealed by paralleling the data analysis of the study to Senge's (1994) Conceptual Framework. This conceptual framework provides an image that is both more complex and more richly textured than can be seen from

the five disciplines alone.

The Organizational Architecture

Senge's conceptual framework consists of the organizational architecture, and the deep learning cycle. The organizational architecture has the three components of guiding ideas, theory methods and tools, and innovations in infrastructure. This is where tangible change is represented. The deep learning cycle has the components of awareness and sensibilities, skills and capabilities, and attitudes and beliefs. This is where the subtle changes are represented (Senge, 1994) or the importance of seeing the whole rather than just parts.

Within organizational architecture the first component is on guiding ideas where there should be evidence that teachers are concerned with the primacy of the whole (Senge, 1994). Indeed there is evidence of this as we have seen from the data analysis where many of the teachers see themselves as significant participants in the change process within the school. There was also evidence of the generative power of language as teachers guided and influenced the direction of future workshops. This was done in the context of dialogue and discussion in partnerships with other school and school board authorities with the focus of providing an ongoing learning environment in the school.

The second component of the organizational architecture involves Theories, Methods and Tools. This is the implementation component where teachers engage in reflective practices as well as dialogue exercises in building personal and shared visions. Though there was some non-supportive evidence of personal mastery in the analysis, most teachers were aware of the importance of more time for reflection, both as individuals and as a team. They were aware of how taking time to evaluate where they were in relation to where they wanted to be was essential. This has to be and was in conjunction with an atmosphere of safety for one to speak freely and openly. This enabled them to sharpen their focus and re-energize. Here teachers were seen building on their personal vision and clarifying shared visions.

The third component of the organizational architecture involves the Innovations in Infrastructure. Here it is important that the teachers have the resources available to build the learning organization concept. In this study there was certainly evidence of supporting resources although there were stumbling blocks. There was funding from Human Resource Development proposals to support teacher inservices on a new teaching strategy, cooperative learning, a cornerstone in educational change for the school. There were support personnel at the university, school board and school level to help bring about the desired change

in the school learning environment. However, the common concern among teachers was a lack of designated time to engage in dialogue and discussion in order to practice their new skills. It was quite evident at the spring inservice held in 1996 outside the school in a local hotel that there was tremendous potential for the emergence of a learning organization within this group of educators. There was energy, vitality and creativity towards the concept of life long learning that was self directed. There was also a recognition of the significance of instilling that value within their school.

The Deep Learning Cycle

The second element of Senge's (1994) framework is the deep learning cycle. Senge refers to this as the domain of enduring change and is where the more subtle changes are occurring. In the Awareness and Sensibilities component, one would expect evidences of paradigm shifts and systems thinking and the disciplines of personal mastery and shared vision at work. Examples were evident in the analysis of the systems thinking data where there was recognition of the inter and intra connectedness of events affecting the school's learning environment. Though there were examples of some staff espousing a new way of seeing their job as well as their role in the school, there was also evidence of those who had not made a

paradigm shift. Similarly there were examples of those on staff who were able to see the relationships between events that influenced certain changes in their school while there were others who felt that someone bigger and more distant like the government held all the answers and control.

The second component of the deep learning cycle is the Skills and Capabilities and this is where one would expect evidences of individuals experiencing aspiration, reflection, conversation and conceptualization, indeed all of the five disciplines at work. Once again, data analysis on all the five disciplines revealed more supporting than non-supporting evidence of each of the disciplines. This aspect of the deep learning cycle was at times visible but was not predominant in how the staff functioned.

The third component of the deep learning cycle is the Attitudes and Beliefs where there should be evidence of the emergence of new visions, both personal and shared. At this stage the shared vision discipline should be institutionalized and one should be really witnessing a collective intelligence in progress. Once again, though there is much supporting evidence for the shared vision discipline, there is not a consensus. The shared vision, or force of commitment, is contingent on systems thinking, personal mastery and mental models disciplines operating in unison in a particular environment. Because of irregularities and some non-

supporting evidences in the disciplines that justify the shared vision discipline it cannot be said to be institutionalized. However, there were images that were challenging, attainable and focussing the future image of the school.

The fact that there are tangible and subtle changes in relation to the systems archetype and the five disciplines substantiates the building of a learning organization (Senge, 1990). Therefore, at this point in time, it would be best to describe this school as one that is in transition and on a course towards becoming a learning organization.

Leadership

In addition to analyzing the school as a learning organization as it pertains to Senge's (1994) systems archetype, there is another significant parallel that can be tested. Both Senge (1990) and Fullan (1995) identify commonalities that the formal leader, the principal, must possess in a learning organization. These are: Leader as designer, Leader as teacher, and Leader as steward. The following is a comparison between these three required attributes and the data analyzed in this study.

Leader as Designer

A leader as designer is responsible for the creation of an effective learning process. Key concerns here should be with policies, strategies and a structure that enable guiding ideas to evolve into educational decisions. As Fullan (1995) says, the leader should design a learning process whereby people throughout the organization can deal productively with the critical issues they face and develop their mastery in the learning disciplines. In this school the principal appears to have done an outstanding job. The school decided to take on cooperative learning as a new teaching method to improve the learning environment of the school. There was certainly a learning process put in place for the staff and students to reach this goal. There was detailed analysis from university and school board level on cooperative learning and implementation methods. There were government proposals and funding for the venture. There were allotted time and money for travel, professional development, local workshops, university partnerships, school board support personnel and ongoing professional evaluation of progress.

Leader as Steward

A leader as steward continually seeks and oversees the broader purpose and direction of the organization (Fullan, 1995). Senge (1990) goes further to say that

as steward, it is an intrinsic quality and solely a matter of attitude that exists on two levels. First is stewardship for the people being led and second is stewardship for the larger purpose. Once again there were several obvious examples of this portrayed by the principal. From the ongoing persistence for Human Resources Development funding to support the broader vision of the staff for their school, to sincere concern for staff members struggling with all these new initiatives, there was never any doubt of the position of the current principal. Everyone knew that he was supporting them. This stewardship was evident as well in his dealing with students. Whether he was dealing with a referred discipline problem or making friendly commentaries to the students in the hallways, his words regularly drifted towards a global view of the future (rather than a focus on the local) and the significance of students to develop skills for life long learning.

Leader as Teacher

The leader as teacher is not about teaching one's own vision to other people (Fullan, 1995) but it is about helping everyone gain more insightful views on current reality. Senge argues that the leader as teacher brings to the surface people's mental models of important issues and offers insight into seeing beyond the surface and into underlying causes through systemic thinking. The leader

teaches systemic structure to help change a focus from reactive or proactive to a focus of being generative where new questions are raised and explored. This characteristic was also portrayed by the principal. On different occasions, be it at staff meetings or school board-sponsored inservices, the principal conveyed his synopsis of a given problem in a systemic manner. He would delineate underlying circumstances that brought them to where they were and then pose the questions, such as, "Now we know where we are and where we want to be, so what are we going to do to get there?" From that point genuine dialogue and discussion proceeded.

Although these three commonalities of leader as designer, steward and teacher are readily visible in this particular school setting by an observer looking for them, they are not perceived so comprehensively by all staff. As the data analysis revealed, though there was significant support for the five disciplines of the learning organization, there were still those opposed or not buying in to the new approach of improving the overall teaching learning environment in the school. This school certainly more often than not displays many of the attributes associated with the learning organization concept. To say it is a learning organization would not be appropriate as that concept is an ideal to strive towards. What is significant is that the attributes of the five disciplines seem to be the language or medium used

to create momentum and life long learning in this school.

Dibbon's Four Stages

A comparison of the findings in relation to the more recent work of Dibbon (2000) also confirms evidence of aspects of the learning organization. Dibbon summarizes a four-stage description of growth in a school's learning capacity: the coping organization, the emerging organization, the developing organization and the learning organization, based on its position relative to individual, team and whole school learning capacity. When focussing on the individual professional learning capacity the findings from this school indicate that this school is predominately at the developing stage based on the following corresponding factors: Attitudes about individual professional learning are viewed as critical but the responsibility of the whole organization; Administrator involvement in individual professional learning is viewed as a high priority but, there are not high expectations for all teachers; Planning for individual professional learning still has some focus on one-shot deals though integrated into daily work, but learning needs are based on the perceived needs of the future. There are however, two factors of the individual professional learning capacity that parallel with the learning organization stage: The support for individual professional learning is strong both

internally and externally, and the nature of opportunities for individual professional learning offered a wide variety of choices with on and off site sessions focussed on continuous learning and integrated into daily work.

When examining the team learning capacity within the school, once again, several of the findings parallel to the factors pertaining to the developing stage. In reference to the factor of a stimulus for learning, the school leadership certainly promotes learning for improvement and supports new curriculum implementation. Also, in reference to the team learning process factor, there is evidence that school teams are innovative in generating new knowledge around complex issues in a collective approach. As well, the factor of team structure is reflected in the school leadership team comprised of a combination of the principal, tasks forces and curriculum teams. The factor of team operating principles continues to support the developing stage by evidence of the teams often being dominated by more assertive personalities (though there is ample evidence of dialogue). However, there is also minimal evidence in the findings to support that team learning is at the learning organization stage. In reference to the factor of leadership support, the principal exemplifies team building and teamwork skills, promotes open dialogue, provides quality time and settings for team building as well as keeps staff current on theories of teamwork. Also, in reference to the factor of evidence of teams, teamwork is

being institutionalized in the school through the committees already in place.

In referencing the findings to the stages of growth in the whole school learning capacity, there is evidence relating to factors pertaining to three of the four stages. This implies that at a school level there is less maturity as a learning organization than at the individual and team level. The factors pertaining to the emerging stage for whole school learning were in reference to stimulus for learning which was based on a change in leadership and externally imposed demands as well as the factor of knowledge acquisition which was primarily through workshops, conferences and scanning the environment.

The majority of the findings support the whole school learning capacity as being at the developing stage. In relation to the factor of knowledge transfer it was clearly a planned approach utilizing memos, reports, letters, department meetings and electronic communication. As well, in reference to the factor of collective interpretation of knowledge there was evidence that some knowledge moved beyond the individual and team to be the collective knowledge of all staff. The factor of knowledge documentation and storage also had support in the findings where there was formal print promotion, evidence of informal knowledge in organizational routines and teachers sharing across departments.

There was minimal support in the findings to support the whole school

learning capacity as being at the learning organization stage. In reference to the factor of knowledge generation there was direct evidence of experimentation and risk taking being promoted. Teachers were encouraged to expand and create new curriculums, be involved with action learning and teacher mentorships.

In comparing the findings to the factors Dibbon (2000) associates with each of the stages of development pertaining to the concept of the learning organization, it becomes obvious that this school can be best described as being at stage three, the emerging stage. Although there are areas of strength which denotes stage four, the learning organization, there is also evidence in the findings that the school is still at stage two, the emerging stage. The learning organization concept appears stronger at an individual level, growing at the team level and more unstable at the whole school learning capacity level.

Elliott's District Interventions

Elliott (2000) identifies nine categories of district interventions effective in promoting the learning organization concept in schools. Of these nine, findings can be made specifically to four of these interventions. The first intervention pertains to the implementation of policy. There is evidence that organizational learning is enhanced when schools are encouraged to devise their own means of

implementation to encourage experimentation, dialogue and collective problem solving (Elliott 2000). The findings certainly did reflect all three of these aspects in the school's approach to policy implementation. The structures for encouraging collaboration on policy implementation also provided the staff for an opportunity to engage in Senge's disciplines of team learning, and shared decision making.

The second district intervention relating to organizational learning has to do with accountability and monitoring systems. Once again, the findings relate to this intervention and exemplify Senge's concept of the learning organization. The findings revealed a focus on competence or personal mastery in relation to short and long term goals, common procedures and improvements as cited by Elliott as evolving when the district expects accountability. As well, this mutual monitoring of the school's progress develops trust and the findings support this and reveals the discipline of systems thinking coming to the forefront.

The third district intervention that encourages organisational learning pertains to information and feedback mechanisms. Elliott suggests that districts go beyond giving information and provide guidance and encouragement to utilize the information in the school improvement process. Again, the findings revealed a great deal of district support with feedback and workshops designed around school improvement with the emphasis on student achievement.

The fourth district intervention is the cultural/organizational learning intervention. This intervention supports the view that changes in culture should precede changes in structure as focussing on culture, climate and interpersonal relationships holds more promise. The findings clearly exemplified this in the day to day operation of the school as well as in the formal settings of external workshops or conferences. Improving the school climate and interpersonal relationships is paramount in this school.

The fact that this school is evolving into a learning organization can certainly be attributed to the district's intervention and support services provided. Without this guidance and continuous feedback in both formal and informal ways, the school would not be as far along on the learning organization continuum as it presently is.

Summary of Findings

There is significant evidence to support the characteristics of the learning organization inherent in the leadership practices at the school studied. The data analysis as it pertained to each of Senge's five disciplines, his conceptual

framework, and leadership types revealed substantial support in favour of the characteristics of the learning organization being visible in the school. The findings associated with Dibbon's four stage framework identifies the school studied as best described as being at stage three, the emerging stage towards becoming a learning organization. In reference to Elliott's district interventions, there is evidence that much of the success attributed to the school studied evolving into a learning organization is the result of four district interventions and support services provided.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

Summary of Purpose and Procedures

The purpose of this study was to examine the learning organization concept from the perspective of a school setting and to reveal to what degree the characteristics of the learning organization were inherent in the leadership practices and what such practices looked like. In doing so, this thesis explored (a) the applicability of organizational learning theory to the understanding of schools and (b) practical images of organizational learning in school settings. It was built on the research of Sheppard and Brown (1996). An in-depth case study was done on a school identified as experiencing success with change and improvement to determine the degree to which characteristics of the learning organization were present.

The design of the study was a qualitative approach consisting of interviews, participant observation and document analysis. The identification of a high school displaying the most attributes of the learning organization was selected by unique-case selection (Lecompte & Presissle, 1993). The study then focussed on the degree to which characteristics of the learning organization were inherent in the school and

provided a description of these characteristics in an educational setting. Selected teachers, the principal, vice-principal and members of the school improvement team were interviewed. The interview protocol was developed by Sheppard and Brown (See Appendix B). Data were also collected through participant observation in both formal and informal settings as well as through document analysis.

Conclusions Concerning Research Question

The purpose of this study was to examine the concept of the learning organization in a school setting. The research question asked in relation to this purpose was: To what degree are characteristics of the learning organization inherent in the leadership practices in a school setting and what do such practices look like? The learning organization in this study was defined by the five disciplines espoused by Senge (1990). The following are summaries of these disciplines as revealed in an educational setting.

Systems Thinking

There was overwhelming support, especially through the interview process to substantiate evidence of this discipline occurring. By far the majority interviewed were focussed on seeing interrelationships and processes that impacted on their work

environment. They did not feel as though they were at the mercy of some cause and effect chain of events external to them and there was evidence of a paradigm shift from seeing parts to seeing the whole or bigger picture of what impacted on their particular work environment.

The observations and document analysis also strongly supported systems thinking. Indeed, their federally funded program to help them implement their school growth plan and deal effectively with change was focussed on the interrelationships between teachers, students, school, community, employability and life.

Personal Mastery

Though the discipline of personal mastery was evident, the support was not as strong for it through the interview process. It was obvious that though many operated with the internal locus of control, there were still many who felt other teachers, leaders and the administration were in total control and set the agenda when it came to impacting on their particular school.

The personal mastery discipline was strongly evident through observations and document analysis. Staff were questioning themselves as to where they were with school improvement and how they would get to the next stage, a perfect

example of "creative tension" (Senge, 1990). Document analysis also had ample support for personal mastery with several documents from the school, district and university which demonstrated prevalence of the personal mastery discipline.

Mental Models

The discipline of mental models was clearly supported in the interview process as well as the observations and document analysis. There was definitely a view of seeing their school and its connectedness to the larger community through a broader lense. There was evidence in the interview process of emerging mental models in the areas of personal professional development, teaching, global education and effectively managing change.

The observations also confirmed examples of the mental model discipline as it became obvious that the school staff had come to the realization that there was no quick fixes or bandwagon recipe for school improvement. Instead the real answers were to be found from beginning with the present school environment.

Document analysis also supported this discipline in general with one exception. The staff referred to the improvement in attendance as being a result of their school improvement imitative. However, after analyzing the statistics on attendance the records showed virtually no change and hovered within two percent

of a 91% attendance rate. Even when presented with this statistical information, the staff was reluctant to accept it, which negates the openness and broader lense approach characteristic of the mental model discipline.

Shared Vision

The shared vision discipline was very prevalent in all aspects of inquiry. There were numerous examples of strong individual commitments that stemmed from the synergy of systems thinking, personal mastery and mental models all operating in unison. It certainly provided the focus of learning and personal vision that related to developing the future image of the school. Teachers espoused their school as progressive and advancing, certainly not a stuck school. There was a total of 8 interviews conducted including the Principal and 7 teachers that were chosen through a process of random sampling.

Observations also reaffirmed the shared vision discipline with committees spontaneously being struck at the end of conferences or inservices to deal with surfacing issues pertaining to their school improvement and reaching their goals. As well, document analysis revealed supporting evidence for this discipline from teacher handbooks and code of conduct publications. The emphasis was in working together as a school to reach their vision of what the school could become.

Team Learning

There was overwhelming support evidenced for the team learning discipline. Examples of building on shared vision and personal mastery through trust and the mastery of dialogue and discussion often came to the forefront in strengthening the learning capacity of the school. Most saw the team learning discipline as very positive and instrumental in contributing to the improvements of the school. In fact, team building inservices were prerequisite to the whole new school improvement process.

Again, observations revealed significant support for this discipline. Emphasis was placed on team building during inservices, and staff meetings, as well as general problem solving at the classroom level. Team learning was close to being institutionalized to the point where a four-step process was used regularly to evaluate the effectiveness of the teamwork.

Document analysis also emphasized the importance of the team learning discipline. From the very outset the Statement of Purpose in the teacher handbook focuses on the team approach to education referencing the school personnel in conjunction with the parents and broader community as key players in the education of the student.

The summation of the five disciplines reveals that this particular school is not

yet a learning organization. A learning organization has institutionalized the five disciplines and functions more effectively in the ideal state. It is fair to state that this school certainly exhibits many of the characteristics of the learning organization which is visible in the daily operation of this institution. This school, though not a learning organization, has evidently demonstrated principles of organizational learning based on current theory to which it attributes much of its success in dealing with educational change. Analysis of the school's leadership supports the fact that the school's principal is striving to become a leader characteristic of a learning organization. Dibbon's Four Stage Framework makes it possible to identify where the school is on the learning organization continuum and Elliott provides evidence that district interventions are instrumental in the implementation process of such a school becoming a learning organization.

Suggested Areas for Further Research

Due to the limited amount of research done to date on the learning organization concept as it pertains to the educational environment, additional research could prove quite useful for implementation of school growth plans and working effectively with the change process. A longitudinal study on the five disciplines of the learning organization in a school setting would be useful in

analyzing their individual impact on the educational process. As well, a study on the school administrators perception on current leadership practices may well address the gap that needs to be addressed. As previously suggested, there has to be a substantial paradigm shift in administration practices to both accommodate and institutionalize the five disciplines of the learning organization. There is also a need for a study to evaluate the impact that the learning organization model has on student outcomes and to confirm the transfer of the five disciplines from practices of the administration and teachers to those of the students.

Implications

The findings indicate that the learning organization theory fits well in the educational setting. This should come as no surprise as this setting embodies learning and should promote progressive learning theory associated with life long learning. However, there are indeed a number of lessons that have been learned.

First of all, becoming a learning organization can be quite difficult even with sustained district and external support. As well, external partnerships are critical to facilitate implementation based on current theory. Not only do these partnerships provide critical friends but the infusion of new people and money creates a vibrant atmosphere and is encouraging in the school.

new people and money creates a vibrant atmosphere and is encouraging in the school.

Also, the importance of the internalization of Senge's five disciplines as a vehicle utilized towards school growth is invaluable for a school administrator. It provides both a focus and a framework. It also speaks to the fact that school leaders need the ability, skills and desire to successfully manage change as effective change agents.

For a school to become a learning organization, there must be commitment at all levels, from the district office level to the school and the student. The school board's strategic planning process can be used to create and convey this vision. In successfully dealing with educational change and indeed the exponential rate of change, an approach encompassing a flatter bureaucratic structure focussing on teamwork, shared vision, systems thinking, personal mastery and mental models could provide the means of success. Administrators need to have the knowledge and understanding of the learning organization, as well as a firm grasp of the implications for their particular context. In this way, they can be entrusted to promote effective organizational learning in the educational settings in which they work.

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Appendix A

Lieberman's (1995) outline for analysis of professional development schools is as follows:

I. Introduction and Background

What is the larger context of your school?

What are the board policies that enable or inhibit change?

Describe the local context?

Is the school imbedded in a larger network or coalition? Describe the school's connection to it.

II. The Context and Description of the School

How would you describe the school, its students, neighbourhood, faculty, parent body, and so on?

III. What is the School Trying to Do?

What is the school's vision? What are its values?

What is or continues to be the focus of work at the school?

What characterizes the school as special, innovative, and/or visionary?

IV. How has the School Gone About Making Change?

What structures, new roles, responsibilities, ways of working have

changed? How? How would you describe the way the school has gone about changing?

What roles, responsibilities, groups or committees have been formed to rethink what the school is doing and how those at the school can achieve their vision?

V. What Programmatic Changes or Teaching Learning Strategies Have Been Made?

What teaching strategies are being used? Changed curricular ideas? Instructional innovations? Student-oriented formats? New approaches to curriculum (e.g., cooperative learning, teaching to themes, process-oriented teaching [e.g., writing, etc.]?)

VI. What Have Been the Barriers and/ or Tensions that Have Impeded Progress?

What has facilitated the changes?

VII. What Kind of Personal and Organizational Learning has Taken Place?

VIII. What is Your Analysis of this School?

What are the lessons to be learned about policy, practice, technical assistance, teacher learning, development, change and so on?

Appendix B**Protocol**

The questions under each category below may be used as guidelines for teacher interviews.

I. Introduction and Background

- a) What is the larger context of your school?
- b) What are provincial policies that enable or inhibit change?
- c) Describe the local context, including the school as a district system.
- d) Is your school embedded in any other large network or coalition that is significantly influencing the changes underway in your school? Describe the school's connection to it.

II. The Context and Description of the School

- a) How would you describe the school, its students, neighbourhood, staff(administrators, teachers, support staff), and parents?
- b) Are there significant people or groups in the school that are not mentioned above, such as business partners, school councils? If so, please describe them, showing their involvement in the school.

III. School's Vision

- a) What is the school trying to do? What is its vision? What are its values?
- b) What is or continues to be the focus of work at the school?
- c) What characterizes the school as special, innovative, and/or visionary?

IV. The Change Process

- a) How has the school gone about making change?
- b) What structures, roles, responsibilities, ways of working have changed?

V. Effects on Instruction and Student Achievement

- a) What programmatic changes or teaching/learning strategies have been made?
- b) What teaching strategies are being used? Have curricular ideas changed? Are there instructional innovations? What new approaches to curriculum have emerged?
- c) Has there been an effect on student achievement? Student behavior? If so, how is it measured?

VI. Support and Obstacles

- a) What has facilitated the changes?
- b) What has been the barriers and/or tensions that have impeded progress?

VII. Professional & Personal Learning

- a) What kind of personal learning has taken place?
- b) What kind of professional learning has taken place?

VIII. Conclusion

- a) What is your analysis of this school?
- b) What are the lessons to be learned about policy, practice, technical assistance, teacher learning, professional development, and change?
- c) Please feel free to add any other conclusions you wish.



