2003

An investigation of how learning occurs in an organization.

Lisa Kolody
University of Windsor

Follow this and additional works at: https://scholar.uwindsor.ca/etd

Recommended Citation
https://scholar.uwindsor.ca/etd/1113

This online database contains the full-text of PhD dissertations and Masters' theses of University of Windsor students from 1954 forward. These documents are made available for personal study and research purposes only, in accordance with the Canadian Copyright Act and the Creative Commons license—CC BY-NC-ND (Attribution, Non-Commercial, No Derivative Works). Under this license, works must always be attributed to the copyright holder (original author), cannot be used for any commercial purposes, and may not be altered. Any other use would require the permission of the copyright holder. Students may inquire about withdrawing their dissertation and/or thesis from this database. For additional inquiries, please contact the repository administrator via email (scholarship@uwindsor.ca) or by telephone at 519-253-3000ext. 3208.
AN INVESTIGATION OF HOW LEARNING OCCURS IN AN ORGANIZATION

By

Lisa Kolody

A Thesis
Submitted to the Faculty of Graduate Studies and Research
Through the Faculty of Education
In Partial Fulfillment of the Requirements for
The Degree of Master of Education at the
University of Windsor

Windsor, Ontario, Canada

2003

© 2003 Lisa Kolody
The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.
ABSTRACT

As people working in organizations struggle with the implications of constant change the importance of learning, for the people and the organizations, is gaining prominence. As the significance of learning, knowledge acquisition and the sharing of knowledge and information grow it becomes necessary to incorporate these concepts into organizational processes and structures.

This study was a case study of how learning occurs in an organization according to the model of a Learning Organization by Senge (1990). The research tool was developed by the investigator to elicit the opinions and experiences of learning in the organization according to the five disciplines of learning in an organization defined by Senge, including mental models, personal mastery, shared vision, systems thinking, and team learning. The study showed that the organization was strongest in shared vision and had varying levels of support across the other disciplines.

The study showed the efficacy of the learning organization model for measuring how learning occurs within an organization and provided a case study of how learning occurred in this specific organization. This study supports the importance of learning in organizations that goes beyond classroom teaching to include how people view the world and adapt to their changing environment by continuous life long learning.
DEDICATION

This paper is dedicated to my friends and family for their love and support during my journey.
AKNOWLEDGMENTS

I would like to express my gratitude to my mother and father for always supporting me in any way they could. I value their life lessons.

I would like to thank Professor McKay for her guidance and support in developing, implementing and compiling this study.

Thank you to my colleagues for your assistance, support and for just listening.

A special thank you to my daughter Maddy for her patience while I worked. She was my motivation for completing this work and continues to be my inspiration.
# TABLE OF CONTENTS

**ABSTRACT** ............................................................... iii

**DEDICATION** ............................................................ iv

**ACKNOWLEDGMENTS** .................................................... v

**LIST OF TABLES** .......................................................... viii

**CHAPTER**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
</table>
| I | INTRODUCTION | A. General Statement of the Problem ........................................ 2  
B. Significance of the Study .................................................. 7 |
| II | REVIEW OF LITERATURE | A. Introduction ................................................................. 9  
B. Learning ................................................................. 10  
C. Adult Learning ............................................................... 19  
D. The Learning Organization ................................................ 26 |
| III | METHODS AND PROCEDURES | A. Subjects ................................................................. 46  
B. Instrumentation .............................................................. 46  
C. Procedures ................................................................. 47  
D. Limitations of the Design ................................................ 48 |
| IV | ANALYSIS OF RESULTS | A. Data Analysis .............................................................. 51  
B. Subjects' Demographic Information Analysis ................................ 51  
C. Data Analysis by Disciplines ............................................... 53  
D. Analysis of the Discipline Mental Models ................................ 54  
E. Analysis of the Discipline Personal Mastery ................................ 58  
F. Analysis of the Discipline Shared Vision .................................. 61  
G. Analysis of the Discipline Systems Thinking ................................ 66  
H. Analysis of the Discipline Team Learning ................................... 70  
I. Selected Survey Analysis by Job Description ............................... 74  
J. Survey Analysis – Assistant Executive Director ............................ 75  
K. Survey Analysis – Manager .................................................. 75  
L. Survey Analysis – Registered Nurse ........................................ 76  
M. Survey Analysis – Registered Practical Nurse ............................. 78  
N. Survey Analysis – Health Records Personnel ................................ 79 |
List of Tables

Table 1: Demographic Information of Survey Respondents ........................................52
Table 2: Mean, Mode and Standard Deviation Averages by Discipline .......................54
Table 3: Mental Models Survey Responses Summary ..............................................55
Table 4 Mental Models Mean, Mode and Standard Deviation ..................................56
Table 5: Question # 2 Mental Models .................................................................57
Table 6: Question # 6 Mental Models ..................................................................57
Table 7: Personal Mastery Survey Responses Summary ........................................58
Table 8: Personal Mastery Mean, Mode and Standard Deviation ..............................59
Table 9: Question # 8 Personal Mastery ...............................................................59
Table 10: Question # 2 Personal Mastery ..............................................................60
Table 11: Shared Vision Survey Responses Summary ............................................62
Table 12: Shared Vision Mean, Mode and Standard Deviation .................................63
Table 13: Question # 5 Shared Vision ..................................................................63
Table 14: Question # 10 Shared Vision .................................................................64
Table 15: Question # 9 Shared Vision ..................................................................65
Table 16: Systems Thinking Survey Responses Summary ......................................66
Table 17: Systems Thinking Mean, Mode and Standard Deviation .........................67
Table 18: Question # 6 Systems Thinking ..............................................................68
Table 19: Question # 9 Systems Thinking ..............................................................69
Table 20: Team Learning Survey Responses Summary .........................................70
Table 21: Team Learning Mean, Mode and Standard Deviation ...............................71
Table 22: Question # 10 Team Learning ...............................................................72
Table 23: Question # 6 Team Learning ..................................................................73
Table 24: Learning Organization Recommendations Strategy for Organization .......96
In times of drastic change, it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists. (author unknown)
Chapter I

Introduction

The Canadian health care environment has experienced major change in the last decade. Financial resources have been cut and reallocated causing major restructuring, merging and downsizing in many health care institutions across Ontario. Organizations have been merged to create multi-site facilities of shared resources creating amalgamations that combine resources but also combine corporate cultures that are often very different.

There has been an evolution in the nature of commerce and technology in society. In the Industrial Era, people worked with products and things, tangibles that could be created and manipulated. Today, the economy is focused more on intangibles, such as data, information, ideas and knowledge. Information sharing and learning are becoming the new focus in many industries, including health care, where new information and knowledge and technological advances are continuously changing the way health care is delivered.

As people and organizations struggle with the implications of constant change the importance of learning, for people and for organizations, is gaining prominence. As the significance of learning, knowledge acquisition and the sharing of knowledge and information grow it becomes necessary to incorporate these concepts into organizational processes and structures.

The Ontario Hospital Association’s Strategic Advisory Committee on Knowledge Management (OHA, 2002) envisioned a health care community where people share in the promotion and maintenance of health. This vision was based on a collaborative culture,
using best practices, innovation, research and technology that could enable learning through the experiences of others and the larger global community.

The learning organization acknowledges that process and content are inseparable. Learning is a risky business that occurs when a need is recognized which causes creative tension. Learning occurs when people feel the need for change, which produces the anxiety of the unknown (Senge, 1990). Learning is also the antidote to constant change. In environments of change, the integration of learning on a continuous basis enables people to address change productively and with confidence.

A learning organization strives to create the conditions that encourage individual members to invest in learning. Knowledge management is part of building a learning organization through empowering people. An old Indian proverb states that knowledge is one of the few assets that multiplies when it is shared. The investigation of a learning organization incorporates the philosophy of continuous life long learning.

A. General Statement of the Problem

As society has evolved from industrial to knowledge based, organizations have also changed their way of operating in order to survive. The emphasis in organizations on quality improvement supports the need for continuous learning. When organizations are forced to change or learn, it is the people within the organization who need to change or learn.

In health care there has been a major restructuring in Ontario hospitals during the 1990’s. There are fewer resources with greater demands for service and quality patient care. (Richard Ivey School of Business, 1997). The people accessing these services have
become more knowledgeable and are accepting more ownership for their health status and are investigating and searching out new information constantly. In Ontario, the population is aging, putting a greater strain on the health care system as older people with chronic issues access the system. The population has become increasingly more diverse, with a greater variety of cultures represented in the community and as consumers of health care organizations.

As the economy and climate have shifted, so has the organizational culture within the health care industry. There has been a greater emphasis on professional accountability stressed by associations that support health care professionals, from nursing to physician to education professionals. Best practices are introduced and guidelines and codes of conduct are espoused. The cultural contract between organizations and employees has changed profoundly, with the days of career loyalty long over as people become increasingly more nomadic in their careers. If an organization does not take the steps to access, use and leverage the knowledge in each person, that knowledge asset could leave the organization at any moment (Youell, 1999). One of the greatest forces of change is the rapidly changing nature of technology. While it sets the standard for improved access and availability of information, it has also changed the nature and scope of health care delivery on a daily basis.

As technology and the business environment evolve, new ingredients for success are being identified as the future direction for individual growth and economic direction. The future may include:

- Distributing power within the organization while increasing the self-discipline of the employees
• Developing systemic thinking skills as well as reductionist skills
• Improving the conversations within organizations
• Encouraging ownership and accountability without the use of control or compliance tactics.

The essence of the learning organization follows the analogy of a great team. Through working together and establishing trust, building relationships, encouraging acceptance and developing synergy, a great team and great results are created. The learning organization develops this synergy and energy by focusing on attitudes and beliefs, awareness and sensibilities, and skills and capabilities.

When working within a domain of constant change, learning is essential in order to survive. Learning is expressed when we can do things we were unable to do before. The skills and capabilities that define a learning organization include aspiration, reflection and conversation, and conceptualization. Aspiration is the capacity of people and organizations to change because they want to, not just because they need to, and to work toward what they truly care about. Reflection and conversation encourage the capacity of people and organizations to reflect on patterns of behavior, individually and collectively in order to really converse regarding the issues at hand. Conceptualization is the capacity to see the larger systems and forces at play and their relevance and contribution to the environment in which work happens. It includes looking at things from a different point of view. These new skills and capabilities are not skills of specialization, like learning a new accounting procedure, but deep shifts in how people think and interact with one another.
As these skills and capabilities develop and grow, a shift in awareness and sensibilities is created. As the view of the world and how people look at it shifts, the larger issues and processes at work become more relevant and affect the interactions at work. This integration of the skills and capabilities and the shift in awareness and sensibilities culminate in a basic change in attitudes and beliefs. The deep beliefs and attitudes of an organization are different from the values espoused by an organization, and in some cases are even inconsistent.

In some cases espoused values change, but the culture remains the same, causing cynicism as people recognize or feel the difference between the values and the culture that actually exists. Only by addressing the attitudes and beliefs, can true change occur. It is the people in an organization, that use their experience and intuition to transform information into knowledge (Schultz, 1998).

The theory of a learning organization is difficult to implement based on the complexity of the change that is anticipated to occur. It is a journey of change, incorporating new ways of thinking and interacting that affect all levels and systems of an organization. This journey includes addressing three components: guiding ideas, innovations in infrastructure, and theories, methods and tools (Senge, Kleiner, Roberts, Ross and Smith, 1994).

According to Senge and colleagues, the guiding ideas of a learning organization include the vision, values and purpose of the organization and the acknowledgement that the process of being a learning organization is an ongoing practice. By exploring these ideas the organization can develop a collective sense of identity and fundamental purpose, with a shared understanding of what the organization stands for, where it is
going, what kind of world it wants to live in and how it intends to make that world a reality. Three key principles for learning organizations were developed by the MIT Center for Organizational Learning, and serve as the core of the philosophy of management of the learning organization (Senge et al., 1994).

✓ In the learning organization, the primacy of the whole is emphasized. The importance of relationships takes precedence over things. Since the world is already interconnected, it is acknowledging these relationships and working with the patterns of interaction instead of continuing to ignore their impact.

✓ The second principle is the acceptance of the community nature of the self.

✓ The third principle is acknowledging and utilizing the generative power of language. By addressing the community in which people create their reality and the language that is used to do so, learning organizations strive to change how people interact and the realities that they create.

Once the theory of what a learning organization is, or can be, is established, then it is necessary to explore the theory, methods and tools that will encourage organizational change and the innovations in infrastructure that will support a learning organization.

The infrastructure of an organization is the means through which an organization makes available resources to support people in their work. This infrastructure includes time, management support, money, information, technology and contact with colleagues.

While training and education play a role in the learning organization, the support for continuous learning plays a greater role.
B. Significance of the Study

The importance of learning beyond the school years is gaining recognition as people focus on learning throughout their lifetimes. This study is important in that it explores learning in an organization and includes a variety of learning opportunities and structures beyond classroom learning. Learning occurs at many levels in organizations and this study will document some of that learning.

The respondents of the survey will benefit from the study because it provides an opportunity to express how learning occurs within the organization and identify the supports and barriers to learning that they encounter everyday. The survey will also expand upon the traditional definition of learning as classroom learning, and validate the other learning in the organization that occurs that is not documented, tracked or recognized but is an integral part of the learning of an organization and the people within the organization.

The literature on learning organizations will be supported and expanded by providing a case study of how learning occurs in an organization, from the perspective of the employees within the organization. Much of the literature on learning organizations was focussed on theories of management and learning, but this study will investigate learning according to each of Senge's learning organization disciplines. The study incorporates a tool that is developed according to Senge's disciplines and can be adapted to the needs of various organizations in a practical manner.

The people within the organization will find the results of the study to be of interest. Respondents will be able to see if their opinions and experiences are similar to their colleagues. The administration will find the survey results interesting in their quest to be
a learning organization. The data will identify the strengths and weakness of learning in the organization and may be used to set future learning organization goals.

This study will be useful to other organizations to see the impact of learning in an organization, and how people in an organization feel about the learning in an organization. In a culture of constant change, learning within organizations is gaining prominence as the way to address the constant change organizations face in the world.

The study will also impact adult learners in organizations as they contemplate how their organization would rate as a learning organization. The focus of the study on the various disciplines of learning within the organization validates all the ways learning occurs for adult learners on the job, beyond the traditional focus on classroom learning.
Chapter II

Review of Literature

A. Introduction

Health care organizations are responding to changes in society and technology to meet the demands of change. The new emphasis in health care on continuous quality improvement supports the need for continuous learning. Many factors have influenced the push for quality improvement and learning in health care including: quality initiatives that monitor work processes and support ongoing improvements, continual changes in technology that demand adaptation and integration, and participatory management that involves people in decision making and empowers individuals (Watkins & Marsick, 1993).

Hospitals are knowledge intensive organizations. The ability of hospitals to capitalize on their knowledge assets is now more important than ever. During the industrial era, production usually focused on physical work and output. Today, knowledge and information are the currency (Shultz, 1998). A Learning Organization recognizes the value of knowledge to an organization and sees knowledge as a primary asset. It supports the development of knowledge as a resource and works to create, utilize, and disseminate knowledge.

Competition is a motivator for building a learning organization. In today’s global marketplace, there is tremendous competition for time, resources, and market share (Conklin & Eppel, 2001). An organization’s primary assets have become their non-physical assets, knowledge, and information. As a consequence the ability of an
organization to manage intangible assets like knowledge will be the primary attribute of successful organizations.

The Ontario Hospital Association (2002) recognizes that the ability of a hospital to provide the most efficient and effective care depends on the success with which it can create and incorporate new knowledge into every aspect of its health care delivery process. Health care organizations are knowledge intensive organizations, continually incorporating new technologies and clinical practice, adapting to changing clinical and government pressures and utilizing the skills and expertise of their staff to provide quality health care service.

B. Learning

Learning is acquisition of knowledge and a change in behavior. People can acquire new information, however it may not lead to change or learning. Learning is a complex process that has been researched and studied extensively to attempt to explain how people learn.

In 1923, Wertheimer was one of the main theorists proposing the Gestalt theory, learning as high order cognitive processes in the midst of behaviorism. Wertheimer, with Kohler and Koffka, formulated the theory of grouping whereby characteristics of stimuli cause individuals to structure or interpret a visual field or problem in a specific way. There were a number of factors that determined how grouping occurred. Grouping occurred according to proximity as elements were grouped together according to their nearness. Similarity was the second factor, with elements most similar grouped together. The last two factors were closure and simplicity. Elements that complete an entity were
grouped, or elements were organized simply into figures according to symmetry, regularity or smoothness. These factors combined to create the laws of organization and were proposed within the context of perception and problem solving.

Werthiemer's (1959) later work was primarily focussed on problem solving. Werthiemer proposed a Gestalt interpretation of problem solving, with the emphasis on being able to see the overall structure of the problem. According to Gestalt Theory, learners needed to focus on the relationship among the elements of a problem. Gaps and disturbances were important stimuli for learning, and instruction should be developed based upon the laws of organization outlined, proximity, closure, similarity, and simplicity.

Piaget (1929) conducted naturalistic research into child development and learning. Piaget was interested in how knowledge developed in human beings, Genetic Epistemology, and studied children from the perspectives of biology and philosophy. In this theory, cognitive structures were identified as patterns of physical or mental action that underlie specific acts of intelligence and correspond to stages of child development. The four primary cognitive structures were sensorimotor, preoperations, concrete operations, and formal operations. In the sensorimotor stage, birth to two years, intelligence was displayed through motor actions. In the pre-operation stage, three to seven years, intelligence was intuitive. By the concrete operational stage, eight to eleven years, intelligence was logical and depended upon concrete referents. By the final stage, at twelve to fifteen years, thinking incorporated abstractions.

In Piaget's (1970) work, cognitive structures changed through two processes of adaptation, assimilation or accommodation. Assimilation involved interpretation of
events within existing cognitive structures. Accommodation involved interpretation by changing the cognitive structure to make sense of the environment. According to Piaget’s work, learning development was facilitated by providing activities that actively involved learners and presented challenges that engaged learners and required adaptation either through assimilation or accommodation.

By 1950, Guilford was researching human intelligence. In Guilford’s Structure of Intellect Theory intelligence was comprised of operations, contents, and products. There were five kinds of operations: cognition, memory, divergent production, convergent production and evaluation. There were five types of contents: visual, auditory, symbolic, semantic and behavioral. There were six kinds of products: units, classes, relations, systems, transformations, and implications. While each of the dimensions was independent, there were theoretically 150 different components of intelligence proposed with the Structure of Intellect Theory (Guilford, 1950;1967).

The idea of learning as a change in overt behavior was the basis of B.F. Skinner’s work. Skinner believed that changes in behavior were the direct result of an individual’s response to stimuli that occurred in the environment. When a specific Stimulus-Response pattern was reinforced or rewarded, the individual was conditioned to respond, called operant conditioning (Skinner, 1953). The key element in Skinner’s Stimulus-Response theory was reinforcement, any action that strengthened the desired response. This concept of operant conditioning has been applied to clinical settings, learning and instructional development. According to Skinner, learning occurred using reinforcement theory, stimulus and response in gradual steps, constructive feedback, and positive reinforcement.
The framework for Bruner's Constructivist Theory of learning is based on the assumption that learning was an active process in which learners constructed new ideas or concepts based upon their current and past knowledge. The learners choose information and change information, create hypotheses, and make decisions within their own cognitive structure. This cognitive structure, also referred to as schema or mental models, provided meaning and organization for experiences and allowed the learner to have experiences beyond only the information given (Bruner, 1960). According to Bruner, learning should be organized in a spiral manner so that the learner may continually build upon what has already been learned. Instruction should be organized to address four major aspects: predisposition to learning, structuring knowledge so that it can be most readily grasped by the learner, effective sequences to present material and the nature and pacing of rewards and punishments (Bruner, 1966). Bruner's theory incorporated the experience and context of learners, structured learning according to the learner's needs and facilitated extrapolation, or going beyond the information given.

The Information Processing Theory of learning incorporated the concepts of chunking and TOTE, Test Operate Test Exit. The first concept, chunking, described the capacity of short-term memory. Miller (1956) proposed the idea that short-term memory could only hold 5-9 chunks of information, where a chunk is any meaningful unit. A chunk could be digits, words or faces. The concepts of chunking and the limited capacity of short-term memory became basic components of other memory theories.

The second concept of the Information Processing Theory was the TOTE, Test Operate Test Exit (Miller, Galanter & Pribram, 1960). Using TOTE, a goal was tested to see if it has been achieved. If the goal was not achieved, an operation was performed to
achieve the goal, with the cycle of test operate test repeated until the goal was achieved or abandoned. This concept provided the basis for many other problem-solving theories.

Miller’s theory of Information Processing focussed on short-term memory capacity, planning for the cognitive process, and the organization of behavior for learning.

Another theory about learning based on problem solving was the theory of Cognitive Dissonance proposed by Festinger (1957). In Cognitive Dissonance Theory, learning occurred when individuals experienced inconsistency between their cognitions, attitudes, beliefs, or behaviors. Individuals would seek consistency, so inconsistency facilitated change. Festinger proposed that two factors affected the strength of dissonance, the number of dissonant beliefs, and the importance attached to each belief.

To eliminate dissonance, individuals would: reduce the importance of the dissonant beliefs, add more consonant beliefs that outweighed the dissonant beliefs or changed the dissonant beliefs, so that they were no longer inconsistent. Dissonance occurred when individuals chose between attitudes and behaviors that were contradictory. These contradictions supported change and consequently encouraged learning.

In 1962, Gagne studied military training and proposed a theory of learning based upon those findings referred to as the Conditions of Learning Theory, which stipulated that there were several different levels of learning. Each level of learning needed different types of instruction to facilitate change. The five major categories of learning included: verbal information, intellectual skills, cognitive strategies, motor skills and attitudes. Each level of learning needed different internal and external conditions to occur. To learn new attitudes, individuals would need a credible role model or need to be exposed to persuasive arguments.
To facilitate the learning of intellectual skills, Gagne suggested organizing learning tasks according to a hierarchy of complexity. By following the hierarchy, the prerequisite learning needed to occur in order for the learning to move to the next level. The instruction could then be sequenced appropriately to facilitate learning.

The Conditions of Learning Theory outlined nine instructional events and the corresponding cognitive process. These included: gaining attention (reception), informing learners of the objective (expectancy), stimulating recall of prior learning (retrieval), presenting the stimulus (selective perception), providing learning guidance (semantic encoding), eliciting performance (responding), providing feedback (reinforcement), assessing performance (retrieval), and enhancing retention and transfer (generalization). Gagne’s theory has been applied to the design of instruction in many domains (Gagne, 1985).

In 1967, DeBono researched the issue of human problem solving and proposed the theory of Lateral Thinking. In lateral thinking, problems are solved by seeking novel solutions, since many problems required a different perspective in order to solve them successfully. There were four critical factors associated with lateral thinking. Individuals needed to recognize the dominant ideas that polarized perception of the problem. New ways of looking at the problem were explored. The rigid way of looking at things needed to be relaxed, and then the use of chance occurred to encourage other ideas. Other ideas are needed because in lateral thinking, the other ideas are unusual events that would be unlikely to occur in the normal course of events. Lateral thinking and Werthiemer’s Gestalt Theory were closely related. According to DeBono, to get a
different perspective on a problem, the elements needed to be broken up and redistributed in different ways to find new solutions.

As part of the humanistic education movement, Rogers (1969) proposed the Experiential Theory of Learning based on the study of psychotherapy. Rogers distinguished two types of learning, cognitive or meaningless, and experiential or significant. Cognitive learning referred to academic knowledge such as mathematical tables and experiential learning referred to applied learning. Experiential learning addressed the needs and the wants of the learner and incorporated personal involvement, self-initiation, learner evaluation, and the pervasive effects on the learner. Experiential learning facilitated personal change and growth, and applied primarily to adult learners. Rogers proposed that all human beings want to learn and grow and it is the teacher’s responsibility to facilitate learning. Learning facilitation could include: setting a positive climate for learning, clarifying purpose for the learner, organizing learning resources, balancing emotional and intellectual components of learning, and sharing feelings and thoughts with learners without dominating. According to Rogers, learning to learn and openness to change were important components of learning. Learning was encouraged when the student participated in the learning process and had control over the process, when the learning was practical and relevant, and when self-evaluation was the primary method of assessing progress. Rogers’ believed that self-initiated learning was the most lasting and pervasive learning that could occur.

The work of Bandura (1971) emphasized the importance of observing and modelling the behaviors, attitudes and emotional reactions of other people. This theory of Social Learning relied on people learning from others behavior. By observing others,
people observed new behavior which was then coded and served as a guide for future action. Social learning theory explained human behavior in terms of continuous interaction between cognitive, behavioral and environmental influences. The processes underlying observational learning included attention, retention, motor reproduction, and motivation. According to Bandura, individuals were more likely to adopt modeled behavior if it resulted in outcomes they valued and if the model was similar to the observer, or had admired status.

Complementary to Bandura’s work on social learning, Vygotsky (1978) proposed the Social Development Theory, in that social interaction plays a fundamental role in the development of cognition. Vygotsky’s theory stated that cultural development appears twice, first on the social level and then on the individual level. The social level was interaction between people and the individual level was what occurred inside the person. The cultural development theory applied to voluntary attention, logical memory, and to the formation of concepts.

Vygotsky also noted that the potential for cognitive development was limited to a specific time span, which was called the zone of proximal development. Full development during the zone of proximal development was dependent upon social interaction to enable the specific skill to be appropriately developed (Vygotsky, 1978).

In Rumelhart and Norman’s (1978) Modes of Learning theory, they proposed that there are three modes of learning: accretion, structuring, and tuning. Accretion was the accumulation of new knowledge to the existing knowledge stored in memory. Structuring was the process of taking the new knowledge and forming new conceptual structures or schemas to make sense of the new knowledge. Tuning was the process of
adjustment of knowledge to a specific task, which was usually accomplished through practice. Tuning was the slowest form of learning and provided the explanation for expert performance, while accretion was the most common form of learning.

In the Theory of Multiple Intelligences, Gardner (1983) suggested that there are a variety of distinct forms of intelligence that every person possesses. Gardner noted seven primary forms of intelligence: linguistic, musical, logical-mathematical, spatial, body-kinesthetic, intrapersonal and interpersonal. Gardner’s theory proposed that learning and teaching should then be tailored to the specific intelligence of the person. According to Gardner, individuals should be encouraged to use their preferred intelligence when learning, and instructional activities should appeal to different forms of intelligence.

In Situated Learning Theory, learning took place as a function of the activity, context and culture in which it occurred. This idea is in contrast to most learning that occurred in classrooms which was abstract and out of context, but supported learning in adult situations which was on the job or occurred in context. Lave and Wenger (1990) referred to the process of learning in context as legitimate peripheral participation. In situated learning social interaction was critical. Learners became involved in the ‘community of practice’ which embodied the beliefs, attitudes and behaviors that needed to be acquired. The learning was unintentional as the learners accepted the reality and learned the roles and responsibilities of the culture they had entered. According to Lave and Wenger, knowledge must be presented in an authentic context, and learning requires social interaction and collaboration to be most effective and useful to the learner.
C. Adult Learning

Knowles' theory of Androgogy (1970) was developed specifically to address adult learning, since adults were self-directed and assumed responsibility for their own learning, and adult learning programs needed to accommodate this aspect. Androgogy was based on the assumptions that adults needed to know why they needed to learn something, needed to learn experientially, approached learning as problem-solving, and learned most effectively when the topic was of immediate value to them. Knowles proposed that instruction for adults needed to focus more on the process and less on the content of what was being taught. Adult learners appreciated strategies such as case studies, role-playing, simulations, and self-evaluation.

In developing training programs, Mager (1975) developed the Criterion Referenced Instruction framework as a comprehensive set of methods for the design and delivery of training that was applicable to any form of learning. In Criterion Referenced Instruction four critical aspects of learning were identified. The goal or task would be analyzed to identify what needed to be learned. The performance objectives would then be set and the specifications of outcomes and how they would be evaluated, would be determined. The evaluation needed to include criterion reference testing, evaluation in terms of the knowledge and skills as specified in the objectives. Learning modules would be created to support specific modules.

The CRI framework has been used extensively with self-paced courses involving a variety of media, where learners learn at their own pace. Mager's work on Criterion Reference Instruction incorporates many of the concepts of Gagne's theory of learning and is compatible with most theories of adult learning.
Argyris and Schon (1978) developed the Theory of Action perspective of learning. This perspective examined reality from the perspective that human beings are actors, behaving according to their theories of action. In this perspective, Argyris proposed the double loop learning theory, which pertained to learning that changed underlying values and assumptions. The main focus was on solving problems that were complex and ill-structured, and changed over time.

There were four steps in the action theory learning process. The first step is the discovery of an individual’s espoused theory and then the actual theory in use. Step two was the invention of new meanings, and step three was the production of new ideas. The final step was the generalization of new ideas. In double loop learning, each of these steps is applied to itself. Underlying assumptions were tested and hypothesis about behavior were publicly tested to increase effectiveness in decision-making, and improve acceptance of failures and mistakes (Argyris, 1976). Double loop learning has been used especially in learning in organizations and in leadership development.

In the Adult Learning Theory, Cross (1981) attempted to integrate the adult learning theories of Androgogy and Experiential Learning with lifespan psychology to create the Characteristics of Adults as Learners Model. The model incorporated two types of variables, personal characteristics and situational characteristics. Personal characteristics included aging, life phases and developmental stages. Situational characteristics referred to part-time versus full-time learning, and voluntary versus compulsory learning. According to Cross, adult learning programs should capitalize on the experience of the participants, challenge adults to move to increasingly advanced
stages of personal development and provide choice in the availability and organization of learning opportunities.

Woolner (1991) proposed that learning was motivating and renewing to individuals as well as organizations. In his developmental model of a learning organization, Woolner noted that if we teach to impart knowledge, then the learner is limited to the teacher’s knowledge. However, if we enable imagination in learners, then the learners can exceed the knowledge and limits of the teachers. In a learning organization, it was important to acquire knowledge but also to be able to act upon the knowledge acquired.

Woolner discussed three kinds of learning: learning from experience, learning to adapt, and learning to anticipate. In learning from experience, lessons are learned from past experience, actions are modified for future performance and potential directions are evaluated. In learning to adapt, people make meaning of unfolding situations and adapt accordingly. They learn by doing in the present. In learning to anticipate, the focus was on the future. Learning to anticipate involved the ability to see the current reality and to develop the capabilities to address future challenges.

Woolner defined organizational learning as ongoing systemic integration of work and learning by individuals, work groups and organizations. Individual learning occurred at two levels. The first level was learning to attain skills, knowledge and attitudes. This has been the traditional mode of learning in an organization. The second level of learning for an individual encompassed reflection on what was learned. The models and assumptions of behavior were recognized and adapted through conscious reflection. This empowered individuals by focusing on learning how to learn.
Learning in work groups was dependent on the individuals in the group’s ability to learn together as a team. This group learning was more complex than individual learning and dependent on the integration of individual capabilities and learning and the utilization of those capabilities toward meeting the goals of the organization.

Learning at the organization level was defined by how the culture, systems and practices of an organization promoted or inhibited learning in that organization. Learning culture could include reward systems, work design, performance management, and organizational culture and norms. The three levels of learning, individual, work group and organizational, integrated to enable systemic learning across the organization.

In Canada’s economy there has been a shift in focus from an industrial economy to a focus on information management and knowledge based economy. This new economy has forced individuals to adapt by learning. Betcherman, McMullen and Davidman (1998) reviewed the research and policy of the Employment and Training Project, based on a number of research tools. Statistics Canada’s Adult Education and Training Survey in 1994 found that 28% of the total population participated in training and education in 1993, and one in five adults had taken some job-related course or program during the year. The researchers determined that participation increased with education.

Canadians with a University degree were twice as likely to report training as high school graduates. This trend was repeated with income, with higher income earners participating in more education. While the workplace has traditionally sponsored much training, it is now increasing in importance as a setting for learning.
Benefits to training were identified for the individuals and the employers in the survey. Individuals gained significant wage increases and other intangibles such as increased self-confidence, improved job performance, and increased job satisfaction (Betcherman, et al., 1998). Organizations that facilitated training had increased profits, quality, and productivity for their businesses.

Adult learning has incorporated formal learning and informal learning. In 1998 the Ontario Institute for Studies in Education at the University of Toronto conducted a survey through the New Approaches to Lifelong Learning network. The survey focused on the informal learning practices of Canadians. The survey found that most Canadians spend a great deal of time in learning activities (Livingstone, 1999).

The survey of informal learning found that 30% of adults participate in further education courses in Canada. This is a sevenfold increase in adult course participation since the 1960's (Livingstone, 1999). The survey found that over 40% of adults had taken some kind of course, workshop or training session in the last year. Participants also noted that they would like to participate in further education but faced institutional or personal constraints on doing so. Adults in the survey reported an average of 6 hours a week in informal learning related to their employment. The informal learning included activities such as learning projects to keep up with new general knowledge, computer related learning, learning new job tasks, and occupational health and safety learning. Livingstone found that most Canadians adults were active learners but very little of the learning was captured through specific education and training courses or tracking mechanism of the learning.
In recent years, interest in the non-profit sector has surged. To learn more about learning in the non-profit sector, Statistics Canada conducted the Workplace and Employee Survey in 1999. Overall, 61% of employees in non-profit organizations believed that they needed post secondary education to do their job, as compared to the for-profit sector at 36%. About half of the employees in both for and non-profit sectors reported that they needed more skills to do their current jobs. The employers in both sectors agreed about the importance of increasing employee skills, with 70% rating this as important to the organization’s strategy (McMullen & Schellenberg, 2003).

Adult education advocates, organizations and policymakers around the world, have espoused the value of lifelong learning. The European Union declared 1996 the European Year of Lifelong Learning (Kerka, 2000). Kerka discussed the emphasis on lifelong learning from two perspectives, the economic rationale and from the social capitalist theory.

Lifelong learning holds value from the economic perspective when people are viewed as human capital supporting the economy. This perspective cited globalization and technology change as indicators for further training for workers to keep economies viable. Continuous skill development was seen as an investment in human capital, with the state responsible for providing access to learning opportunities (Kerka, 2000).

The economic rationale for learning has been criticized for turning education into a private commodity instead of a public good, ignoring the socially constructed reality of learning, and rewarding primarily those learning activities that can provide a visible and quick return on investment (Kerka, 2000).
The alternative to the economic rationale for lifelong learning is the social capital theory, where individuals build their ‘capital’ by developing skills and accumulating education. In this view, lifelong learning was a public good with the goal of enriching people and society. Kerka proposed that the economic rationale and the human capital theory of lifelong learning were competing positions which were dependant on the perspective of the stakeholders as educational provider, employer, policymaker or individual.

In June 2001 the University of Alberta and the Canadian Policy and Research Networks convened a National Roundtable on Learning. The participants proposed that learning was a societal project that required a policy framework to support lifelong learning for all. The purpose of the roundtable was to address learning and skill assessment, removing barriers and improving access to opportunities, and to identify learning outcomes (Lowe, 2001). The Roundtable put forward a Vision for Canada’s Learning System that included: valuing and supporting universal early childhood education, investing in high quality, universal public secondary education, ensuring excellence, access and diversity with Canada’s highest education system, and enabling all adults to have ongoing opportunities to maintain and enhance learning.

Lowe noted that all stakeholders, governments, employers, other institutions, and individuals have roles and responsibilities in supporting a learning vision for Canada. Especially important is the role employer’s play in supporting learning by recognizing and documenting innovation, organizational performance, and recruitment and retention.

Adult learning has gained prevalence in literature and study as more attention is directed to the importance of continuous lifelong learning. The learning process is
comprised of informal learning activities as well as initial formal learning, and the
learning that adults undertake for work and pleasure (Livingstone, 2002). In 1998 the
Social Sciences and Humanities Research Council of Canada (SSHRC) funded the
research network on New Approaches to Lifelong Learning (NALL). A national survey
of informal learning was conducted. This data was supplemented by the 1997 Adult
Education and Training Survey conducted by Statistics Canada (Livingstone, 2002).

Livingstone reported that Canadians are very involved in learning throughout
their lives. Canada leads the world in its level of post secondary education. Canadian
adults now average 15 hours a week of informal learning activities related to work,
household duties, volunteer work and other interests. Adults in the labour force spend an
average of 6 hours per week in job related informal learning (Livingstone, 2002). The
participation rates and time involved in informal learning are much greater than reported
for adults participating in structured adult education courses.

The conditions of work and learning have evolved in Canadian society. The
underlying assumption continued that the new jobs emerging demand greater skill and
knowledge. This assumption supported the need to support a continuous life long
learning culture.

D. The Learning Organization

In 1990 Senge wrote the book, The Fifth Discipline: The Art and Practice of the
Learning Organization which explored the vision of a learning organization. Learning
organizations were defined as organizations where people continually expanded their
capacity to create the results they truly desired, where new and expansive patterns of
thinking were nurtured, where collective aspiration was set free, and where people continually learned in order to see the whole together. Learning organizations have developed in response to rapid change occurring in society and in organizations. Senge emphasized the need to focus on learning in order to respond to change by being flexible and adaptive in a rapidly changing world.

For Senge (1990), learning was the essence of being human, as people were able to re-create themselves. Senge believed that it was important for a learning organization to survive using adaptive learning, but to also learn by enhancing capacity to create through generative learning. In order for organizations to incorporate learning, Senge identified guiding principles for organizations to embrace to become learning organizations. Organizations needed to embody new capabilities and emphasize growth, and striving for improvement continuously. Learning organizations needed communities of leaders who were committed to the vision, and focussed on collective over hierarchical leadership. Learning would arise through practice and performance, and work and management practice would have to be redesigned to reflect communities of learning. Senge noted that process and content were inseparable in a learning organization, and that learning was a risky business that created tension and anxiety.

As organizations faced constant change they needed to adapt to keep up with the change, and learning became essential for survival. Senge proposed that specific skills and capabilities were especially important for learning, which included aspiration, reflection and conversation, and conceptualization. The capacity of people and organizations to change because they wanted and needed to, and to work towards what they really cared about was aspiration. Aspiration motivated and pushed people to
change. Reflection and conversation encouraged the capacity of people and organizations to reflect on patterns of behavior, individually and collectively in order to really converse regarding issues of importance. Conceptualization was the capacity to see the larger systems and forces at play and their relevance and contribution to the environment in which work happened. It included looking at things from a different point of view. These new skills and capabilities were not new skills of specialization, but deep shifts in how people thought and interacted with one another (Senge, 1990).

As skills and capabilities grew, a shift in awareness and sensibilities was created as peoples' view of the world and how they related to it changed. The integration of the skills and abilities and a shift in awareness and sensibilities culminated in a change in attitudes and beliefs, leading to true change. In a learning organization three principles were the core of the learning organization philosophy: the primacy of the whole, the acceptance of the community nature of self, and the acceptance of the generative power of language. The importance of relationships took precedence over things. People needed to acknowledge the interconnectedness of the world and relationships and work with the patterns of interaction and not ignore their impact (Senge, 1990). The acceptance of the community nature of self, allowed for interaction, dialogue, and working together. By addressing the generative power of language, people in communities created their reality and learning organizations could strive to affect how people interacted and the realities that they created.

Senge proposed five disciplines that supported and created a learning organization. A discipline was defined as a set of principles and practices that people studied, mastered, and integrated into their lives. Disciplines were integrated at three
levels: practice, principles, and essences. The practice was defined as what people did, the principles were guiding ideas and insights, and the essence was the state of being that people with high levels of mastery in the discipline acquired. Each discipline provided a vital dimension and was necessary for the other disciplines to enable learning in an organization.

The five disciplines necessary in a learning organization included: mental models, personal mastery, shared vision, systems thinking and team learning. All the disciplines were linked. The disciplines were focussed on a shift in perception from seeing parts to seeing wholes, and from seeing people as helpless and reactive to viewing people as active participants in shaping their reality.

Mental models were the deeply ingrained assumptions, generalizations, and images that influenced how we understood the world and reacted to it (Senge, 1990). Mental models were the stories carried in peoples minds about self, others, and institutions. The problem with mental models was not in whether they were right or wrong, but when they were tacit, existing below the level of awareness, beyond examination, explanation, or change. Senge identified that an organization’s capacity to work with mental models involved learning new skills and implementing institutional innovations. Senge suggested a number of initiatives to address how people acknowledged mental models such as: open and free dialogue, scenario planning and learning labs, reflection and inquiry of the reasoning that underlies actions within organizations, and innovative ways of doing things.

While mental models influenced the way of seeing the world, personal mastery was the discipline of how people learn for interest and out of curiosity. Learning was
relative to personal vision and Senge believed that human beings had an innate desire to learn, to do good work, and to be recognized. Organizational learning could not occur until the individuals within an organization started to learn. When supporting personal mastery, organizations encouraged inquiry, were committed to the truth and challenged the status quo. Organizations valued personal growth, rewarded on the job learning, and provided a supportive environment for continuous learning that was incorporated with work. In organizations, this was accomplished by giving decision making power to those people who were closest to the action, developing places and opportunities for meeting and talking, encouraging personal responsibility for learning, and using incidents on the job as opportunities for continuous learning.

The third discipline of a learning organization defined by Senge was shared vision, the pictures and ideas people carried round in their heads and hearts of the reality that they wanted to create. Shared vision was the sense of commonality that permeated the organization and gave coherence to the diverse activities of an organization, creating a common aspiration. Shared vision provided the focus and energy for learning.

The concept of vision has been a common concept in organizations and corporate leadership, however most visions have been one person’s or group’s vision imposed on an organization, commanding compliance but not commitment. A shared vision was one that people were truly committed to because it reflected their own personal vision.

Senge proposed that shared vision emerged from strong personal visions and was grounded in personal mastery. When people were committed to the truth and creative tension, they built personal visions that translated into shared vision for the organization. In the traditional hierarchical organization, the organization’s vision emanated from the
top. In learning organizations, shared vision built on the personal visions of the people in
the organization. The shared vision was based on personal visions and supported by
systems thinking, which revealed how the organization created the current reality.
Shared vision became a living force only when people truly believed that they could
shape their future.

Building on the disciplines of shared vision and personal mastery, team learning
was the discipline that aligned and developed the capacity of a team to create the results
the members desired. Talented teams were made up of talented individuals. According
to Senge, there was a great need for team learning in organizations. In organizations,
most important decisions were made at the team level, directly or through the need for
teams to translate individual decisions into action. Individual learning in organizations
was irrelevant for organizational learning. However, if teams learned, they spread
learning through the organization as insights that were put into action and skills that were
shared with other individuals and teams.

Team learning had three critical dimensions according to Senge. In teams, there
was a need to think insightfully about complex issues, by tapping the potential of many
minds to be more intelligent than one mind. There was a need for innovative,
coordinated action, developed through operational trust where each team member acted
in ways that complemented others actions. Team members also played roles on other
teams in the organization, bringing the skills of one team to other teams in the
organization. Team learning in organizations was encouraged by promoting dialogue and
discussion, dealing constructively with current reality, and through practice.
Senge referred to systems thinking as the fifth discipline, the discipline that integrated all the disciplines, fusing them into a coherent body of theory and practice. The disciplines were developed to function as an ensemble. As the cornerstone of the learning organization, systems thinking was the ability to see the whole picture, a framework for seeing interrelationships over things and seeing patterns over static snapshots. Systems thinking was a necessary evolution as society became increasingly more complex. Humankind had the capacity to create more information than could be absorbed and change occurred faster than people could keep up with. All the disciplines were focussed on seeing the whole, seeing people as active participants involved in creating the future. Without systems thinking, there was no incentive or means to integrate the other disciplines once they had come into practice.

In conventional forecasting, planning and analysis systems, two types of complexity were identified: detail complexity and dynamic complexity. In detail complexity, many variables were addressed. In dynamic complexity, situations of cause and effect were subtle and the effects of interventions over time were not obvious. Dynamic complexity occurred when one action had different effects over time, when an action had one set of consequences locally and a different set of consequences in another part of the system, and when obvious interventions produced non-obvious results. Dynamic complexity was an underlying component of systems thinking.

According to systems thinking, organizations needed to be focused on cause and effect, linkages within organizations, and acknowledge how actions interrelated with other areas of activity. Systems thinking was supported by using feedback processes and process wrapping to help individuals see the systems at work in an organization. Patterns
of interrelationships included hierarchy and process flows, attitudes and perceptions, the
decision making process, and cross-functional teams. Senge and colleagues supported
integrating systems thinking with each of the other disciplines in order to show how
interrelated process and systems were to the functioning of an organization (Senge et al.,
1994).

Senge’s model of a learning organization was complex and focussed on learning
across the organization. The disciplines of mental models, personal mastery, shared
vision, and team learning, used systems thinking to realize the potential of a true learning
organization. Shared vision fostered a commitment to the long term, mental models
focussed on honesty, and seeing reality and team learning developed the skills of groups
of people to see the larger picture. Personal mastery fostered personal motivation to
continually learn how actions affected the world and systems thinking developed the new
way individuals perceived themselves and their world.

The premise of a learning organization was to integrate work and learning. In
1991, Woolner presented a developmental model of a learning organization to the
Commission of Professors of Adult Education. Woolner’s developmental model of the
learning organization proposed five stages of development and growth of an organization,
which ranged from no intentional learning, to the integration of work and learning.
Woolner’s model was exploratory in nature and according to the context of Grounded
Theory, was a non-formal theory, with explanatory power for one organizational setting
and some explanatory powers for other organizations.

Woolner proposed that to encourage learning at all levels, an organization had to
make its learning processes explicit and open to improvement. The developmental model
of a learning organization incorporated the evolutionary process an organization progressed through as it improved its learning strategies and capacities. The first stage was informal learning, where no intentional learning programs existed. In the first stage, the energies of the organization were focussed on production of goods or services and the organization was intent on survival. This did not mean that informal learning did not occur, only that it was not acknowledged or captured as learning.

Stage two of the evolutionary process occurred when learning became a felt need as it was recognized that learning needed to occur to meet the changing needs of the organization. Woolner identified the most common triggers for learning as growth, crisis, and competition. At this stage, learning was treated as a consumable item that was purchased as people go off site to learn. Most organizations, unable to utilize their own experience and expertise, relied on external education sources to provide specific learning outcomes. External learning opportunities were convenient, familiar, and were conducive to the planning and budgeting processes established by organizations. The problem with external learning opportunities was that the research had demonstrated that the learning acquired by an individual at external programs atrophied quickly. Training and development without support in the workplace was counterproductive. At this stage, education and training were seen as a perk of employment.

The third level of a learning organization occurred when learning was brought inside the organization. This move to bringing learning into an organization occurred because it was cheaper and more convenient, or because of the growing awareness of the issues that occurred across different levels and areas of the organization. At the third stage, organizations tailored their learning specifically to their needs. In Woolner’s
experience, most organizations did not move beyond stage three in their development as a learning organization. Often the education and organizational performance areas were not connected and were therefore unable to sustain a focused application of learning. Learning continued to be separate from work. It did not affect change in day to day activities, with no real expectation and accountability that education and training would make a real difference in peoples' behaviors or the functioning of the organization.

By stage four of Woolner's Learning Organization, clear links were established between the goals and direction for the organization and the learning agenda that was necessary to support achieving the organization's goals. At this level, learning initiatives were interrelated, skill performance standards were established, and learning initiatives were linked to the strategic and operational levels of the organization. The disadvantage continued to be that learning occurred outside of work, which limited participation in learning.

By stage five, organizational learning was integrated into work. Learning was moved out of the classroom and into day to day work. Organizations systems were aligned to support performance through learning. Learning became explicit and planned, and the responsibility of management and work teams to facilitate and support. Organizational learning involved action learning through collective engagement, joint problem solving, work system improvements, and disciplined reflection. The evolution towards a learning organization was dependant upon the realities of the organization, its development, and evolution as an entity itself.

Watkins and Marsick (1993) defined the Learning Organization according to the following features. An organization devoted to learning used skill inventories and audits
of learning capacity, to track knowledge and skills and to improve upon learning continuously. Systems for sharing learning were developed and tools for using the information in the business enabled utilization of information. Rewards and structure for employee initiative were incorporated into the business structure and processes, which encouraged experimentation and learning. Opportunities to learn from experience on a daily basis arose from communities of practice and freedom to make mistakes and learn on the job. Learning was encouraged through a culture of feedback and disclosure established to encourage discussion and dialogue and systemic exchange. The culture developed through decentralized decision making and employee empowerment and included people in the decisions that affected their work and learning.

By 1995, there were a number of definitions of a learning organization, many of which incorporated the following characteristics: continuous learning opportunities, learning to reach goals, linking individual performance with organizational performance, and fostering inquiry and dialogue (Kerka, 1995). What made learning organizations distinct was the emphasis on promoting a culture of learning. Individual learning needed to occur for organizational learning to happen, but individual learning needed to be shared and utilized by the organization to facilitate change. Kerka noted that few studies had supported the relationship between individual and organizational learning. The theoretical framework was established, yet little research had been conducted. There was little evidence that supported under which conditions the learning organization model was successful, the types of organizations that could not use the model, and what happened when the model was imposed on the unwilling.
Larsen, McInerney, Nyquist, Santos and Silsbee (1996) explored the concept of a learning organization from the perspective of organizational development using Senge's model of five disciplines of a learning organization. Larsen et al. defined learning organizations as places where people were able to become fully awakened, engaged in their work, striving to reach their potential and sharing their vision with their colleagues. In a learning organization, the gap between reality and the vision for the potential future, fostered creative tension that drove learning.

The learning organization incorporated five disciplines as defined by Senge (1990), personal mastery, mental models, team learning, shared vision and systems thinking. In Larsen et al. systems thinking separated the learning organization model from organizational development models by focussing on the primacy of the whole. Traditionally, scientific inquiry had addressed problems by breaking them down into components, studying each part in isolation, and then drawing conclusions. This linear and mechanistic way of addressing problems was no longer appropriate to address problems. There was a need to acknowledge the interconnectedness of events and systems and to devise new ways to address the circular causation that ensued in organizations.

Larsen et al. supported the disciplines as defined by Senge (1990) to support a learning organization, which focussed on personal issues of how people thought, what they wanted, and how they interacted and learned from one another. While no true learning organizations were in existence, many successful organizations were embracing the principles and ideas of a learning organization.
During the 1990's the Canadian Policy and Research Network investigated the climate of workplace learning. The CPRN and Ekos Research Associates conducted the Workplace Training Survey in 1995 and 1996 (Betcherman et al., 1998). The Workplace Training Survey found that 70% of organizations had facilitated training over the preceding year, with much of the training (40%) described as informal.

This survey illustrated the differences in learning strategies of organizations, with three approaches to learning emerging. The first approach, incidental learning, occurred through informal learning on the job. Little or no formal learning was facilitated. The second approach was event-triggered training, where training was implemented in response to specific events. The final approach, learning organizations, incorporated learning into the workplace and the business strategy. In a learning organization, a premium was placed on developing a stimulating environment, there was a commitment to learning, benchmarking was used and self-directed learning occurred. The research found that the learning organization philosophy was premised on the belief in the investment in people. The researchers in the study estimated that 10% of organizations were learning organizations and a growing number were implementing learning organization practices.

Some organizations have been more successful at implementing change and facilitating learning than other organizations. In reviewing the implementation challenge of learning organizations, O'Donnell (1999) reviewed a five level developmental model for organizational change. The model placed the individual at the center of organizational health. The first level began with the provision of a supportive workplace. Each successive developmental level supported the individual's growth. The supportive
workplace led to a climate for change, and then a culture of shared accountability. With these levels in place, the capacity for learning was enhanced, which led to a learning community. When the organization affirmed its people, supported engagement, and empowered people, the result was continuous individual and organizational learning.

The learning organization model challenged the traditional bureaucratic model of organizations. It has been a paradigm shift from bureaucracy to learning, focused on the process of learning as well as the outcomes of learning. According to Sugarman (2000), the learning organization model was based on the organization's ability to innovate continuously, appropriately, and faster than competitors, and that innovation was possible only by unleashing the capabilities of the employees of the organization.

Under the bureaucratic model, quality of life issues of employees were secondary to economic success, while the learning organization supported quality of work life and economic success equally. Bureaucratic organizations were based on hierarchy of control, where decision making occurred above the level where the work was accomplished. Information was centralized and controlled, resulting in underutilization of information. Formal rules and policies and procedures governed behavior, increasing consistency but encouraging difficult to change structures. The learning organization model gave the control, information, and power back to the people doing the work.

Sugarman (2000) proposed that learning organizations were more effective in customer satisfaction, quality, and productivity, and were better places to work. The learning organization suggested that individuals: had an innate drive to learn and urged themselves to higher standards of quality, were capable of organizing and planning their own work, and were underutilized in most organizations.
The learning organization evolved from the bureaucratic model, which managed by reductionism, while the learning organization focussed on the whole system. The bureaucratic model claimed to be value-free while the learning organization model supported the values of respect for human beings, responsibilities between people and collective commitment to communities of work.

The theory of lifelong learning assumed that learning occurred throughout the lifespan, leading to a society of learning. Marsick, Bitterman and van der Veen (2000) reviewed learning from the perspective of learning in organizations, in communities, and in society. Learning was viewed from the domain of work, from the domain of community, and from the domain of politics. The questions that arose were how people learned within social units, and how people within social units learned collectively?

Marsick et al. noted that social units act based on their social construction of reality. In order to act more effectively, people needed to make their reasoning and intentions more explicit and question their understanding and assumptions about reality. Learning occurred when members recognized and used learning to change mental models, structure, and culture within the system.

The constructed reality of social units led the learning process. Four elements of learning were identified: collaboration, communication, critical thinking, and creativity. Social units learned by collaborating and constructively handling conflict, including participation, and power sharing. Learning was fostered by communication that occurred internally within the unit and externally through interaction with other social units. Critical thinking promoted learning as people questioned reality and rethought reality, and sought new solutions. Learning was creative and ongoing, as people looked
for new solutions and innovated. Through the integration of these processes, social units were able to learn and grow.

In a learning organization, a number of processes occurred. There was continuous learning at the systems level as individuals learned and shared their learning so the system was enabled to learn. Knowledge was generated and shared, as employees were expected to think creatively, question assumptions, and work collaboratively through dialogue. Knowledge was shared throughout the organization. The capacity for systems thinking was developed, as employees were encouraged to identify linkages and feedback loops within their organization. Employee participation and accountability were encouraged as ideas and information was shared by anyone who could contribute in the organization. The learning organization rewarded, supported and promoted learning, risk taking, experimentation and learning from mistakes (Marsick et al., 2000).

The nature of collective learning was reviewed as it applied to organizations, communities and society. Systems learned when doubt and instability occurred, fuelling a search for a new way. Systems learning was social and occurred as members acted and reflected on their experience, which led to change and learning in organizations, communities and in society.

A learning organization was created by blending cultural transformation and technological structures that facilitated learning in all organizational domains (Conklin & Eppel, 2001). The traditional social approach worked with people to change their understanding and practice. The technological approach provided infrastructure for communication. By combining the two approaches, powerful new distinctions were introduced and then the technological support implemented. The technological support
reinforced social changes. The impact of social change was boosted through the use of tools that reflected the new values and culture.

The cultural change was necessary to promote learning. Learning situations were often risky. Conklin and Eppel proposed that the foundation of a learning organization included the relatedness of each community member to each other, the company and the community. The trust between community members and the level of intimacy between the members encouraged learning. The shared set of distinctions held by the community and the structure of communication that existed within a community. These elements built shared understanding, participative decision making, and a collective intelligence.

Most of the literature on the learning organization has been normative and prescriptive and has not provided clear answers about how to begin a learning organization implementation. Thomsen and Hoest (2001) created a framework for action based on employees’ perceptions of learning. They surveyed employees in four Danish firms on eleven characteristics of a learning organization. The eleven characteristics included: a learning approach to strategy, participative policy making, using information technology, formative accounting and control, internal exchange, reward flexibility, enabling structures, boundary workers as environmental scanners, inter-company learning, learning climate, and self-development opportunities for all.

The survey analysis supported the researchers’ assertion that there was a connection between frames for learning and a learning environment, with both being essential to the learning organization. The most powerful frame for learning identified by the survey was the implementation of a reward system for learning. Reward and measurement were identified as among the most powerful tools to support change and
learning. The information technology system and employees’ involvement in strategic planning also supported a positive effect on learning. The emphasis on the frames for learning was found as more conducive to implementing change. The learning environment, or behaviors and attitudes of employees, was more difficult to change. The researchers asserted that building a learning environment and supporting learning frameworks created and managed a learning organization.

In 2001, a three year study of learning organizations was conducted by the Ontario Institute for Studies in Education of the University of Toronto. The study located and reviewed Canadian organizations that were demonstrating characteristics of a learning organization. The literature traditionally held few examples of successful projects, so models of best practice were identified and studied. The study originally identified forty-two organizations who participated in The Learning Organization Five Stage Diagnostic Survey as developed by Woolner, Lowry and Redding (1995). This survey identified four organizations that were at mature stages of learning organization development that were subsequently studied in depth (Laiken, 2001).

Laiken’s study found that no organization was a paragon of organizational learning, but the emphasis continued to be on the process of managing and learning. Each of the sites studied provided paradoxes and dilemmas that challenged the organization, and how the organization responded to the challenges. A number of paradoxes were identified: action versus reflection, the need to achieve the task by attending to the process, the need for structured leadership as well as freedom and autonomy, the challenge of translating values into action, the use of conflict and
confrontation to enable collaboration, and the balancing of individual and organizational learning needs.

The paradox of action versus reflection was exhibited by the traditional focus on task completion as the only legitimate form of work. Time spent in meetings was considered time away from the real work. However, research on reflective practice has shown that unexamined experience simply repeats itself (Argyris & Schon, 1978). Conscious examination of learning resulted in new approaches that avoided the mistakes of the past. In a learning organization, supportive, mentoring relationships were encouraged, and communities of practice fostered to enable dialogue on work related issues of concern.

The second dilemma identified was structured leadership versus freedom and autonomy. While people wanted freedom to make decisions and work and learn creatively, they expected leadership, direction and boundaries within which to work. The issue became the struggle between responsibility versus authority. In the learning organization there was strong leadership but not a strong emphasis on management. Teams were given responsibility for their actions, accountability and authority, which created shared leadership within the teams.

In the organizations studied, there was often a gap between what was valued and espoused and what actually occurred in practice. This translated into the third paradox. The organizational culture would mitigate against addressing the gaps as they became obvious, resulting in cynicism among workers. In a learning organization, the culture of the organization enabled staff to confront gaps they experienced with constructive problem solving.
When organizations were encouraged to identify gaps through conflict or confrontation, this lead to the paradox of conflict/confrontation to enable collaboration. Organizations have traditionally been conflict adverse, with a culture of fear of raising organizational issues which led to a culture of blame as opposed to problem solving. In the learning organization, mistakes or issues were viewed as learning opportunities and people received training to improve active listening skills, engage in dialogue versus debate, and constructive problem solving.

While all the organizations studied supported individual learning, they also struggled with how to integrate individual learning systemically. Otherwise, the individual learning stayed with the individual, was not shared and left when the individual left. For the learning organizations this continued to be a struggle as the organizations tried to capture information and knowledge. Individual and organizational learning were valued together and viewed as empowering to both the individual and the organization.

Laiken’s study found that the progression toward a learning organization continued to focus on the journey not the destination. As organizations defined their commitment to learning, they worked to address the issues that arose creatively with a focus of learning through the process.
Chapter III

Methods and Procedures

A. Subjects

The sample for the study was a purposive sample of employees at a community Hospital in Southwestern Ontario. The community Hospital employs 300 full and part time staff. The staff of the Hospital represented a broad range of disciplines and professional capacities including registered nurses, registered practical nurses, unit clerks, human resource personnel, pharmacy technicians, administrative professionals, managers, payroll officers and more. The subjects in the study were male and female, of various ages, working in the Hospital full or part time. Every employee of the Hospital was a potential subject for the study.

B. Instrumentation

The research survey was developed by the investigator based on the theory of a learning organization as proposed by Senge (1990). The research survey (see Appendix B) included 50 questions based on the five disciplines of a learning organization, with each discipline having 10 questions devoted to it. The introduction of the survey requested demographic information. This information was optional in order to protect the anonymity of the subjects. The demographic information requested was job title/professional designation, education completed, age, sex, years at the hospital and years of work experience.

The survey tool was developed based on a review of the literature of a learning organization (O.H.A., 2001; American Society for Training and Development, 1998).
Each question asked respondents to choose a response based on a likert scale ranging from always, usually, sometimes, rarely to never. Each response was numerically coded, always-5, usually-4, sometimes-3, rarely-2 and never-0. The tool asked the respondents to give their personal opinions and experiences about learning in the organization, based on the fixed responses of the survey. The investigator developed the survey tool, so there were no external tests of validity or reliability.

C. Procedures

This study was a case study of how learning occurs in an organization within the framework of the learning organization model as defined by Senge (1990). The case study explored how adult learners perceive learning occurs within the context of work, and how they reported the organizational processes supporting continuous adult learning.

The research proposal was submitted for ethical review to the University of Windsor Research Ethics Board through the Office of Research Services and permission was obtained (see Appendix A). The research proposal received approval from the community Hospital for implementation in Spring/Summer 2003 (see Appendix B).

Each employee of the Hospital received a letter of information (see Appendix C) outlining the research project as criteria for completing the requirements for the Master of Education degree, a research survey (see Appendix D) and an envelope addressed to the investigator. The letter of information noted that participation in the study was voluntary, that the data would remain anonymous and confidential, and was being collected by written survey as attached with the letter of information. The letters of information and research surveys were distributed to all three hundred employees of the Hospital using
the hospital payroll cheque distribution system, a common system of information
distribution for the organization. Subjects were asked to fill out the survey and return it
anonymously to the internal mailbox of the Investigator in the Hospital Administration
area within three weeks of the date distributed. Completion and return of the survey
constituted implied consent to participate in the research. Thirty-five surveys were
returned to the investigator. The investigator compiled the survey results.

D. Limitations of the Design

There were important factors to consider when reviewing the limitations of the
design of the study. The research survey tool was developed by the investigator, so there
were no external tests of validity or reliability available. The fixed item format and likert
scale on the research tool may have been restrictive to the respondents. Future tools may
include room for comment. The survey tool was developed by the researcher based on
the theory of a learning organization proposed by Senge (1990). The definitions and
model may not have encompassed all learning that occurs in the organization.

As an employee of the hospital, the researcher identified the role held within the
hospital, used written surveys to ensure anonymity, and made all demographic
information optional to enhance the confidentiality of the subjects. The researcher’s role
within the organization may have limited participation in the study. Having a
standardized, written survey that was anonymous minimized the threat of data collector
bias.
The study may be affected by subject characteristic’s threat. Individuals within the organization differ from one another in unintended ways. The survey was developed to reach a representative sample and relied on personal opinions.

The research study used the anonymous survey attached to the payroll cheque distribution system to increase anonymity and confidentiality, however this system has some limitations and may have contributed to the low return rate on the surveys. The cheque distribution system is a common avenue for information distribution. Often information received attached to the cheques is ignored by the recipient due to the large amounts of information distributed. This system is used to distribute information on a regular basis, including other surveys. Another limitation is that within the organization, surveys are often used to collect input on concerns and issues within the organization. This may have contributed to the low survey response rate if people in the organization were weary of completing surveys.

The Hawthorne effect was addressed by distributing the survey to every employee of the hospital so that no one felt that they received special attention or recognition. It was the respondent’s responsibility and choice to participate.

This research study was a case study of how learning occurs within an organization according to the theoretical framework of a learning organization as defined by Senge. The data of how learning occurs was compiled by surveying a purposive sample of health care workers in a community hospital in Ontario. The results of the study are representative of this organization but may not be generalizable to other hospitals or health care workers. However the findings may be of interest for generalization in
similar situations. Future attempts to control the variability of the sample and increase the sample size may affect the generalizability of the study.
Chapter IV

Analysis of Results

A. Data Analysis

The learning organization model by Senge (1990) proposed that learning occurs in an organization according to five disciplines, mental models, personal mastery, shared vision, systems thinking and team learning. This study was designed to examine how learning occurs in this organization within the learning organization framework. The research on learning investigated how learning occurred in the organization for each of the five disciplines according to the health care workers in the organization.

Study participants were requested to answer each question based on their own experience and opinion according to a likert scale of five fixed responses - always (5), usually (4), sometimes (3), rarely (2) or never (1). There were 10 questions for each of the five disciplines. For each question the number of responses is noted, and the mean, mode and standard deviation was formulated. The range of responses for the mode was 2-5 and the mean range was 2.7 to 4.6. To further expand the analysis, two or three questions per discipline were explored further. Each of these questions were chosen because the responses were unusually high or low in comparison to the other questions in that discipline.

B. Subjects' Demographic Information Analysis

There were 35 surveys returned. The demographic information requested on the surveys was optional to ensure the confidentiality of the subjects. Table 1 summarizes
the demographic information of the survey respondents according to job title, education, age, sex, years at organization and years of work experience.

Table 1: Demographic Information of Survey Respondents

<table>
<thead>
<tr>
<th>Demographic Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job Title</strong></td>
<td></td>
</tr>
<tr>
<td>RN</td>
<td>8</td>
</tr>
<tr>
<td>Management</td>
<td>5</td>
</tr>
<tr>
<td>RPN</td>
<td>4</td>
</tr>
<tr>
<td>Clerk</td>
<td>2</td>
</tr>
<tr>
<td>Pharmacy Tech</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
<tr>
<td><strong>Education Completed</strong></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>22</td>
</tr>
<tr>
<td>University</td>
<td>8</td>
</tr>
<tr>
<td>Secondary</td>
<td>3</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>27 - 55</td>
</tr>
<tr>
<td>Average</td>
<td>43</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
</tr>
<tr>
<td><strong>Years at LDMH</strong></td>
<td></td>
</tr>
<tr>
<td>0 - 10 Years</td>
<td>14</td>
</tr>
<tr>
<td>11 - 20 Years</td>
<td>7</td>
</tr>
<tr>
<td>21 - 30 Years</td>
<td>4</td>
</tr>
<tr>
<td>31+ Years</td>
<td>5</td>
</tr>
<tr>
<td>Average Years</td>
<td>14</td>
</tr>
<tr>
<td><strong>Years of Work Experience</strong></td>
<td></td>
</tr>
<tr>
<td>Range (years)</td>
<td>5 - 35</td>
</tr>
<tr>
<td>Average (years)</td>
<td>22</td>
</tr>
</tbody>
</table>

From the thirty-five surveys returned, twenty-seven responses noted their occupation on the survey. The largest professional body that completed surveys was the
registered nurses and registered practical nurses. Other professional designations included: managers and an assistant executive director, clerks, pharmacy staff, diagnostic imaging staff, chaplain, health records, payroll, and discharge planning.

In the education demographic, thirty-three responses noted their level of education completed. Most respondents had completed College level (22), some had completed University level (8) and some secondary level (3) of education.

The average age of the respondents was forty-three years, with twenty-eight responses to the age demographic, with ages ranging from 27 to 55 years of age. Most respondents were female (29 out of 30 responses).

The survey tool requested years of experience at the Hospital. The years of experience noted, ranged from one to thirty-three years, with the average years of experience fourteen years. For the section on years of work experience in general, the responses ranged from five to thirty-five years, with the average years of work experience at 22 years.

C. Data Analysis by Disciplines

Table 2 summarizes the average scores of the mean, mode and standard deviation of each discipline using the ten questions of each discipline. These scores show overall how the organization scored by each discipline, mental models, personal mastery, shared vision, systems thinking and team learning.
Table 2: Mean, Mode and Standard Deviation Averages by Discipline

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Mean</th>
<th>Mode</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Models</td>
<td>3.5</td>
<td>4</td>
<td>0.957</td>
</tr>
<tr>
<td>Personal Mastery</td>
<td>3.6</td>
<td>4</td>
<td>0.991</td>
</tr>
<tr>
<td>Shared Vision</td>
<td>4.0</td>
<td>4</td>
<td>0.890</td>
</tr>
<tr>
<td>Systems Thinking</td>
<td>3.8</td>
<td>4</td>
<td>0.846</td>
</tr>
<tr>
<td>Team Learning</td>
<td>3.7</td>
<td>4</td>
<td>0.899</td>
</tr>
</tbody>
</table>

The mode for each discipline was 4 and the means for each discipline were: mental models, 3.5; personal mastery 3.6; shared vision 4.0; systems thinking 3.8; and team learning 3.7. Overall, shared vision was the discipline with the highest mean.

D. Analysis of the Discipline Mental Models

The discipline of mental models explores how people’s interpretations of the world affect their reality. Table 3 summarizes the responses to the questions related to mental models on the survey.
Table 3: Mental Models Survey Responses Summary

<table>
<thead>
<tr>
<th>Mental Models</th>
<th>Always (5)</th>
<th>Usuall y (4)</th>
<th>Sometime (3)</th>
<th>Rarely (2)</th>
<th>Never (1)</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The organization provides opportunities to discuss issues that affect the functioning and future of the organization</td>
<td>6</td>
<td>12</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2. People use skills like active listening to avoid distorting information and blocking communication channels</td>
<td>0</td>
<td>15</td>
<td>17</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3. Teams and individuals use the action learning process</td>
<td>2</td>
<td>20</td>
<td>11</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. We learn from failures as well as successes</td>
<td>9</td>
<td>20</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Learning opportunities are incorporated into everyday operations and programs</td>
<td>10</td>
<td>11</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. People are trained in the skills of creative thinking and experimentation</td>
<td>2</td>
<td>8</td>
<td>11</td>
<td>13</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>7. We often use case scenarios and reviews to encourage reflection, learning and problem solving</td>
<td>3</td>
<td>16</td>
<td>11</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8. We support just in time learning with a system that integrates high technology learning systems, coaching, and actual work into a seamless process</td>
<td>1</td>
<td>11</td>
<td>15</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. The environment in my department encourages learning new things and questioning the way things are done</td>
<td>9</td>
<td>17</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10. Individuals can speak honestly about issues and concerns in the organization</td>
<td>4</td>
<td>15</td>
<td>11</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

The mean, mode and standard deviation for each question related to mental models was formulated (Table 4).
### Table 4: Mental Models Mean, Mode and Standard Deviation

<table>
<thead>
<tr>
<th>Mental Models</th>
<th>Mean</th>
<th>Mode</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The organization provides opportunities to discuss issues that affect the functioning and future of the organization</td>
<td>3.5</td>
<td>4</td>
<td>1.095</td>
</tr>
<tr>
<td>2. People use skills like active listening to avoid distorting information and blocking communication channels</td>
<td>3.3</td>
<td>3</td>
<td>0.718</td>
</tr>
<tr>
<td>3. Teams and individuals use the action learning process</td>
<td>3.6</td>
<td>4</td>
<td>0.690</td>
</tr>
<tr>
<td>4. We learn from failures as well as successes</td>
<td>4.1</td>
<td>4</td>
<td>0.658</td>
</tr>
<tr>
<td>5. Learning opportunities are incorporated into everyday operations and programs</td>
<td>3.9</td>
<td>3</td>
<td>0.879</td>
</tr>
<tr>
<td>6. People are trained in the skills of creative thinking and experimentation</td>
<td>2.9</td>
<td>2</td>
<td>0.981</td>
</tr>
<tr>
<td>7. We often use case scenarios and reviews to encourage reflection, learning and problem solving</td>
<td>3.5</td>
<td>4</td>
<td>0.919</td>
</tr>
<tr>
<td>8. We support just in time learning with a system that integrates high technology learning systems, coaching, and actual work into a seamless process</td>
<td>3.0</td>
<td>3</td>
<td>1.043</td>
</tr>
<tr>
<td>9. The environment in my department encourages learning new things and questioning the way things are done</td>
<td>3.9</td>
<td>4</td>
<td>0.963</td>
</tr>
<tr>
<td>10. Individuals can speak honestly about issues and concerns in the organization</td>
<td>3.5</td>
<td>4</td>
<td>0.951</td>
</tr>
</tbody>
</table>

In the study, participants supported learning from failures as well as successes, with 9 always responses, a mean of 4.1 and mode of 4. Learning as incorporated into everyday operations had 10 always responses, a mean of 3.9 and a mode of 3. The environment in my department encourages learning new things and questioning the way things are done had 9 always responses, a mean of 3.9 and a mode of 4.

From each discipline two questions are highlighted in graph format for further analysis. In the Mental Models discipline, questions two and six were highlighted because of the low ratings to the questions.
Table 5: Question #2 Mental Models

<table>
<thead>
<tr>
<th>Frequency</th>
<th># Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always (5)</td>
<td>18</td>
</tr>
<tr>
<td>Usually (4)</td>
<td>16</td>
</tr>
<tr>
<td>Sometimes (3)</td>
<td>14</td>
</tr>
<tr>
<td>Rarely (2)</td>
<td>12</td>
</tr>
<tr>
<td>Never (1)</td>
<td>10</td>
</tr>
<tr>
<td>No Answer</td>
<td>8</td>
</tr>
</tbody>
</table>

In the question, people use skills like active listening to avoid distorting information, there were no always responses, the mean was 3.1 and the mode was 3.

Table 6: Question #6 Mental Models

<table>
<thead>
<tr>
<th>Frequency</th>
<th># Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always (5)</td>
<td>14</td>
</tr>
<tr>
<td>Usually (4)</td>
<td>12</td>
</tr>
<tr>
<td>Sometimes (3)</td>
<td>10</td>
</tr>
<tr>
<td>Rarely (2)</td>
<td>8</td>
</tr>
<tr>
<td>Never (1)</td>
<td>6</td>
</tr>
<tr>
<td>No Answer</td>
<td>4</td>
</tr>
</tbody>
</table>
People are trained in creative thinking and experimentation received 2 always scores and 13 rarely, with a mean of 2.9 and a mode of 2, and the use of just in time learning using high technology had 1 always score, a mean of 3.0 and the mode was 3.

The other four questions in mental models had a mode of 4 and means of 3.5 to 3.6. The organization provides opportunities to discuss issues that affect the organization’s future had a mean of 3.5. Teams use the action learning process had a mean of 3.6. The use of case scenarios and reviews to encourage reflection had a mean of 3.5 and individuals can speak honestly about concerns in the organization had a mean of 3.5.

E. Analysis of the Discipline Personal Mastery

In personal mastery, the skills and knowledge of the individual are refined and encouraged to support personal growth and excellence. Table 7 summarizes the responses to questions relating to Personal Mastery on the survey.

Table 7: Personal Mastery Survey Responses Summary

<table>
<thead>
<tr>
<th>Personal Mastery</th>
<th>Always (5)</th>
<th>Usually (4)</th>
<th>Sometimes (3)</th>
<th>Rarely (2)</th>
<th>Never (1)</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We are encouraged and expected to manage our own learning and development</td>
<td>13</td>
<td>18</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. Individuals are trained and coached in learning how to learn</td>
<td>0</td>
<td>8</td>
<td>12</td>
<td>13</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3. We are empowered to learn and perform to the best of our ability</td>
<td>7</td>
<td>21</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. Managers take on the roles of coaching, mentoring, and facilitating learning</td>
<td>2</td>
<td>14</td>
<td>17</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. All individuals, regardless of position, have equal access to learning</td>
<td>7</td>
<td>16</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. Individuals are trusted to choose the courses and learning they need</td>
<td>6</td>
<td>23</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. The organization offers a wide range of opportunities for personal and professional growth</td>
<td>3</td>
<td>14</td>
<td>14</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. Learning on the job is encouraged</td>
<td>15</td>
<td>12</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. We use practice fields, where people feel comfortable practicing what they learn, before performing</td>
<td>4</td>
<td>4</td>
<td>17</td>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. The organization provides incentives to learn</td>
<td>3</td>
<td>13</td>
<td>13</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
The mean, mode and standard deviation for each question related to Personal Mastery was formulated (Table 8).

Table 8: Personal Mastery Mean, Mode and Standard Deviation

<table>
<thead>
<tr>
<th>Personal Mastery</th>
<th>Mean</th>
<th>Mode</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We are encouraged and expected to manage our own learning and development</td>
<td>4.3</td>
<td>4</td>
<td>0.657</td>
</tr>
<tr>
<td>2. Individuals are trained and coached in learning how to learn</td>
<td>2.7</td>
<td>2</td>
<td>0.886</td>
</tr>
<tr>
<td>3. We are empowered to learn and perform to the best of our ability</td>
<td>4.0</td>
<td>4</td>
<td>0.642</td>
</tr>
<tr>
<td>4. Managers take on the roles of coaching, mentoring, and facilitating learning</td>
<td>3.5</td>
<td>3</td>
<td>0.701</td>
</tr>
<tr>
<td>5. All individuals, regardless of position, have equal access to learning</td>
<td>3.7</td>
<td>4</td>
<td>0.993</td>
</tr>
<tr>
<td>6. Individuals are trusted to choose the courses and learning they need</td>
<td>3.9</td>
<td>4</td>
<td>0.725</td>
</tr>
<tr>
<td>7. The organization offers a wide range of opportunities for personal and</td>
<td>3.5</td>
<td>4</td>
<td>0.817</td>
</tr>
<tr>
<td>professional growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Learning on the job is encouraged</td>
<td>4.1</td>
<td>5</td>
<td>0.912</td>
</tr>
<tr>
<td>9. We use practice fields, where people feel comfortable practicing what they</td>
<td>2.9</td>
<td>3</td>
<td>1.136</td>
</tr>
<tr>
<td>learn, before performing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. The organization provides incentives to learn</td>
<td>3.3</td>
<td>4</td>
<td>1.120</td>
</tr>
</tbody>
</table>

We are encouraged and expected to manage our own learning and development, received 13 always responses, had a mean of 4.3 and a mode of 4. Question # 8 and Question # 2 in Personal Mastery are noted below for the high and low scores they represent.

Table 9: Question # 8 Personal Mastery
Learning on the job is encouraged had 15 always responses, a mean of 4.1 and a mode of 5.

Table 10: Question #2 Personal Mastery

![Bar chart showing responses to Individuals are trained and coached in learning how to learn]

Individuals are trained and coached in learning how to learn had no always responses, 13 rarely responses, a mean of 2.7 and the mode was 2.

Managers taking on the roles of coaching, mentoring and facilitating learning had 2 always responses, a mean of 3.5 and mode of 3. The use of practice fields to practice what is learned before performing had 4 always responses, a mean of 2.9 and a mode of 3.
The other five questions in personal mastery had a mode of 4 and means ranging from 3.3 to 4.0. We are empowered to learn and perform to the best of our ability had a mean of 4.0, and all individuals, regardless of position, have equal access to learning, had a mean of 3.7, although, there were 6 rarely responses noted. Individuals are trusted to choose the courses and learning they need had a mean of 3.9, and the organization offers a wide range of opportunities for personal and professional growth had a mean of 3.5. The organization provides incentives to learn had a mean of 3.3.

F. Analysis of the Discipline Shared Vision

The discipline of shared vision is how the individuals within an organization work to support the vision of the organization. In this organization, shared vision was the strongest discipline reported by the survey respondents. Table 11 summarizes the responses to the questions related to shared vision on the survey.
Table 11: Shared Vision Survey Responses Summary

<table>
<thead>
<tr>
<th>Shared Vision</th>
<th>Always (5)</th>
<th>Usually (4)</th>
<th>Sometime (3)</th>
<th>Rarely (2)</th>
<th>Never (1)</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Senior management and managers support the vision of a learning organization</td>
<td>6</td>
<td>17</td>
<td>11</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. There is a climate that supports and recognizes the importance of learning</td>
<td>6</td>
<td>19</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. We participate in joint learning events with suppliers, community groups, professional associations, and/or academic institutions</td>
<td>4</td>
<td>12</td>
<td>14</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4. The Mission and Goals of the Hospital are communicated</td>
<td>11</td>
<td>19</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. I am committed to and support the Mission and Goals of the Hospital</td>
<td>23</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. My opinions are heard and valued</td>
<td>7</td>
<td>13</td>
<td>12</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>7. My work makes an important contribution to the community</td>
<td>14</td>
<td>19</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. The Hospital supports employee programs like personal and professional networks, social events, and informal gatherings</td>
<td>9</td>
<td>21</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9. New ideas for changing the organization may be advanced by everyone in the organization, not only by the management</td>
<td>5</td>
<td>11</td>
<td>15</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10. The organization makes an important contribution to the community</td>
<td>20</td>
<td>10</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The mean, mode and standard deviation for each question related to shared vision was formulated (Table 12).
Table 12: Shared Vision Mean, Mode and Standard Deviation

<table>
<thead>
<tr>
<th>Shared Vision</th>
<th>Mean</th>
<th>Mode</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Senior management and managers support the vision of a learning organization</td>
<td>3.8</td>
<td>4</td>
<td>0.759</td>
</tr>
<tr>
<td>2. There is a climate that supports and recognizes the importance of learning</td>
<td>3.9</td>
<td>4</td>
<td>0.733</td>
</tr>
<tr>
<td>3. We participate in joint learning events with suppliers, community groups, professional associations, and/or academic institutions</td>
<td>3.4</td>
<td>3</td>
<td>0.946</td>
</tr>
<tr>
<td>4. The Mission and Goals of the Hospital are communicated</td>
<td>4.1</td>
<td>4</td>
<td>0.796</td>
</tr>
<tr>
<td>5. I am committed to and support the Mission and Goals of the Hospital</td>
<td>4.6</td>
<td>5</td>
<td>0.651</td>
</tr>
<tr>
<td>6. My opinions are heard and valued</td>
<td>3.6</td>
<td>4</td>
<td>1.031</td>
</tr>
<tr>
<td>7. My work makes an important contribution to the community</td>
<td>4.3</td>
<td>4</td>
<td>0.591</td>
</tr>
<tr>
<td>8. The Hospital supports employee programs like personal and professional networks, social events, and informal gatherings</td>
<td>4.1</td>
<td>4</td>
<td>0.802</td>
</tr>
<tr>
<td>9. New ideas for changing the organization may be advanced by everyone in the organization, not only by the management</td>
<td>3.5</td>
<td>3</td>
<td>0.950</td>
</tr>
<tr>
<td>10. The organization makes an important contribution to the community</td>
<td>4.4</td>
<td>5</td>
<td>0.739</td>
</tr>
</tbody>
</table>

In the shared vision discipline, questions #5, #10 and #9 were highlighted to illustrate the commitment to shared vision.

Table 13: Question #5 Shared Vision

![Bar chart showing responses to the question about commitment to the Mission and Goals of the Hospital]
I am committed to and support the Mission and Goals of the Hospital had 23 always responses and a mean of 4.6 and mode of 5. This was the highest scoring question of the survey.

Table 14: Question #10 Shared Vision

The organization makes an important contribution to the community had 20 always responses, a mean of 4.4 and mode of 5 and my work makes an important contribution to the community 14 always responses, a mean of 4.3 and a mode of 4. The Mission and Goals of the Hospital are communicated had 11 always responses, a mean of 4.1 and a mode of 4.

Participation in joint learning events with suppliers, community groups professional associations and/or academic institutions had 4 always responses, a mean of 3.4 and mode of 3.
Table 15: Question # 9 Shared Vision

New ideas for changing the organization may be advanced by everyone in the organization, not only by the management, had 5 always responses, a mean of 3.5 and mode of 3.

The other four questions in shared vision had a mode of 4 and means of 3.6 to 4.1. Senior managers and managers support the vision of a learning organization had 6 always response and a mean of 3.8, and there is a climate that supports and recognizes the importance of learning had 6 always responses and a mean of 3.9. My opinions are heard and valued had 7 always responses and a mean of 3.6, and the Hospital supports employee programs like personal and professional networks, social events, and informal gatherings had 9 always responses and mean of 4.1.
G. Analysis of the Discipline Systems Thinking

In the theory of a learning organization, the discipline of systems thinking was the basis of learning throughout the organization. Systems thinking focused on the holistic nature of organizations and how systems were interconnected and related. Table 16 summarizes the responses to the questions related to systems thinking on the survey.

Table 16: Systems Thinking Survey Responses Summary

<table>
<thead>
<tr>
<th>Systems Thinking</th>
<th>Always (5)</th>
<th>Usually (4)</th>
<th>Sometimes (3)</th>
<th>Rarely (2)</th>
<th>Never (1)</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individuals are able to think and act with a comprehensive, systems approach</td>
<td>1</td>
<td>14</td>
<td>19</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2. We invite input and suggestions as to how we might improve our performance from our clients</td>
<td>10</td>
<td>21</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. We investigate and implement best practices from outside our organization by looking at what others do, by benchmarking best practices, attending conferences, and examining published research</td>
<td>7</td>
<td>21</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. Processes and structures exist to ensure that important knowledge and information is coded, stored and made available to those who need and can use it</td>
<td>3</td>
<td>23</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5. People have ready access to information and knowledge</td>
<td>3</td>
<td>26</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. I recognize and anticipate that my actions and work are interrelated with other areas of activity and plan for that impact</td>
<td>14</td>
<td>16</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. The organization continues to develop new strategies and mechanisms for sharing learning across the organization</td>
<td>7</td>
<td>17</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. The organization is streamlined, with few management levels, to maximize communication and learning across all levels</td>
<td>3</td>
<td>14</td>
<td>13</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9. There are incentives for staff to make suggestions that will improve service and/or programs</td>
<td>3</td>
<td>8</td>
<td>15</td>
<td>7</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>10. My department exchanges knowledge and experience with other departments in the organization</td>
<td>8</td>
<td>16</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
The mean, mode and standard deviation for each question related to systems thinking was formulated (Table 17).

Table 17: Systems Thinking Mean, Mode and Standard Deviation

<table>
<thead>
<tr>
<th>Systems Thinking</th>
<th>Mean</th>
<th>Mode</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individuals are able to think and act with a comprehensive, systems approach</td>
<td>3.4</td>
<td>3</td>
<td>0.608</td>
</tr>
<tr>
<td>2. We invite input and suggestions as to how we might improve our performance from our clients</td>
<td>4.2</td>
<td>4</td>
<td>0.618</td>
</tr>
<tr>
<td>3. We investigate and implement best practices from outside our organization by looking at what others do, by benchmarking best practices, attending conferences, and examining published research</td>
<td>4.0</td>
<td>4</td>
<td>0.707</td>
</tr>
<tr>
<td>4. Processes and structures exist to ensure that important knowledge and information is coded, stored and made available to those who need and can use it</td>
<td>3.7</td>
<td>4</td>
<td>0.893</td>
</tr>
<tr>
<td>5. People have ready access to information and knowledge</td>
<td>3.9</td>
<td>4</td>
<td>0.583</td>
</tr>
<tr>
<td>6. I recognize and anticipate that my actions and work are interrelated with other areas of activity and plan for that impact</td>
<td>4.3</td>
<td>4</td>
<td>0.701</td>
</tr>
<tr>
<td>7. The organization continues to develop new strategies and mechanisms for sharing learning across the organization</td>
<td>3.9</td>
<td>4</td>
<td>0.718</td>
</tr>
<tr>
<td>8. The organization is streamlined, with few management levels, to maximize communication and learning across all levels</td>
<td>3.4</td>
<td>4</td>
<td>0.914</td>
</tr>
<tr>
<td>9. There are incentives for staff to make suggestions that will improve service and/or programs</td>
<td>3.1</td>
<td>3</td>
<td>1.011</td>
</tr>
<tr>
<td>10. My department exchanges knowledge and experience with other departments in the organization</td>
<td>3.8</td>
<td>4</td>
<td>0.933</td>
</tr>
</tbody>
</table>

In the systems thinking discipline, question #6 and question #9 are highlighted for the high and low scores on the questions.
Table 18: Question # 6 Systems Thinking

![Bar Chart]

I recognize and anticipate that my actions and work are interrelated with other areas and plan for that impact had 14 always responses, a mean of 4.3 and mode of 4.

We invite input and suggestions on how we might improve our performance from our clients, had 10 always responses, a mean of 4.2 and mode of 4. My department exchanges knowledge and experience with other departments in the organization had 8 always responses, a mean of 3.8 and a mode of 4.
Table 19: Question #9 Systems Thinking

There are incentives for staff to make suggestions that will improve service and/or programs had 3 always responses, 7 rarely responses, a mean of 3.1 and mode of 3.

Individuals are able to think and act with a comprehensive, systems approach had 1 always response, a mean of 3.4 and mode of 3.

The other five questions in systems thinking had a mode of 4 and means ranging from 3.4 to 4.0. We investigate and implement best practices from outside our organization had 7 always responses and a mean of 4.0. Processes and structures exist to ensure that important knowledge and information is coded, stored and made available to those who need it had 3 always responses and a mean of 3.7. People have ready access to information and knowledge had 3 always responses and a mean of 3.9. The organization continues to develop new strategies and mechanisms for sharing learning across the
organization had 7 always responses and a mean of 3.9. The organization is streamlined with few management levels to maximize communication and learning at all levels had 3 always responses, 4 rarely responses and a mean of 3.4.

F. Analysis of the Discipline Team Learning

In team learning, learning as a group was encouraged. It is necessary for individual learning to occur for team learning to happen. Table 20 summarizes the responses to the questions related to team learning on the survey.

Table 20: Team Learning Survey Responses Summary

<table>
<thead>
<tr>
<th>Team Learning</th>
<th>Always (5)</th>
<th>Usually (4)</th>
<th>Sometimes (3)</th>
<th>Rarely (2)</th>
<th>Never (1)</th>
<th>No Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Authority is decentralized and delegated</td>
<td>3</td>
<td>13</td>
<td>14</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2. My work team recognizes mistakes and uses them as opportunities to learn</td>
<td>7</td>
<td>21</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3. The organization strongly supports teamwork, creativity, empowerment and quality</td>
<td>13</td>
<td>16</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4. People with different job titles from different departments learn together</td>
<td>4</td>
<td>17</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5. Learning is integrated into meetings, work groups, and work processes</td>
<td>5</td>
<td>17</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6. The organization supports cross training and rewards employees who learn a wider range of skills</td>
<td>3</td>
<td>11</td>
<td>16</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>7. The organization has mechanisms in place for sharing information with other people and teams in the organization</td>
<td>4</td>
<td>13</td>
<td>15</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8. Individuals are recognized as experts and are encouraged to share their expertise with others in structured and unstructured ways</td>
<td>4</td>
<td>17</td>
<td>12</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. The employees in my department respect each other's different points of view</td>
<td>5</td>
<td>19</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10. My team is able to make decisions that affect our functioning and learning</td>
<td>6</td>
<td>20</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
The mean, mode and standard deviation for each question related to team learning was formulated (Table 21).

Table 21: Team Learning Mean, Mode and Standard Deviation

<table>
<thead>
<tr>
<th>Team Learning</th>
<th>Mean</th>
<th>Mode</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Authority is decentralized and delegated</td>
<td>3.4</td>
<td>3</td>
<td>0.910</td>
</tr>
<tr>
<td>2. My work team recognizes mistakes and uses them as opportunities to learn</td>
<td>3.9</td>
<td>4</td>
<td>0.765</td>
</tr>
<tr>
<td>3. The organization strongly supports teamwork, creativity, empowerment and quality</td>
<td>4.2</td>
<td>4</td>
<td>0.785</td>
</tr>
<tr>
<td>4. People with different job titles from different departments learn together</td>
<td>3.6</td>
<td>4</td>
<td>0.917</td>
</tr>
<tr>
<td>5. Learning is integrated into meetings, work groups, and work processes</td>
<td>3.6</td>
<td>4</td>
<td>0.942</td>
</tr>
<tr>
<td>6. The organization supports cross training and rewards employees who learn a wider range of skills</td>
<td>3.3</td>
<td>3</td>
<td>0.957</td>
</tr>
<tr>
<td>7. The organization has mechanisms in place for sharing information with other people and teams in the organization</td>
<td>3.5</td>
<td>3</td>
<td>0.887</td>
</tr>
<tr>
<td>8. Individuals are recognized as experts and are encouraged to share their expertise with others in structured and unstructured ways</td>
<td>3.7</td>
<td>4</td>
<td>0.765</td>
</tr>
<tr>
<td>9. The employees in my department respect each other's different points of view</td>
<td>3.7</td>
<td>4</td>
<td>0.932</td>
</tr>
<tr>
<td>10. My team is able to make decisions that affect our functioning and learning</td>
<td>3.8</td>
<td>4</td>
<td>0.857</td>
</tr>
</tbody>
</table>

The organization strongly supports teamwork, creativity, empowerment and quality had 13 always responses, a mean of 4.2 and mode of 4.
Table 22: Question # 10 Team Learning

My team is able to make decisions that affect our functioning and learning had 6 always responses, a mean of 3.8 and mode of 4.

Authority is decentralized and delegated had 3 always responses and 4 rarely responses, a mean of 3.4 and mode of 3.
Table 23: Question # 6 Team Learning

The organization supports cross training and rewards employees who learn a wider range of skills had 3 always responses, 3 rarely responses, a mean of 3.3 and mode of 3. The organization has mechanisms in place for sharing information with other people and teams in the organization had 4 always responses, 2 rarely responses, a mean of 3.5 and mode of 3.

The other five team learning questions had a mode of 4 and the mean ranged from 3.6 to 3.9. My work team recognizes mistakes and uses them as opportunities to learn had 7 always responses and a mean of 3.9. People with different job titles from different departments learn together had 4 always responses, 3 rarely responses and a mean of 3.6.
Learning is integrated into meetings, work groups and work processes had 5 always responses, 3 rarely responses and a mean of 3.6. Individuals are recognized as experts and are encouraged to share their expertise with others had 4 always responses, 2 rarely responses, and a mean of 3.7. The employees in my department respect each other’s point of view had 5 always responses, 3 rarely responses and a mean of 3.7.

I. Selected Survey Analysis by Job Description

In the previous sections, the data on the surveys was analyzed across disciplines by reviewing the mean, mode and standard deviation. To expand on the analysis of the surveys, seven surveys have been selected for further analysis. These surveys are discussed by job description, but are not generalizable across the job description and are not representative of that job description. By reviewing the seven surveys individually, a summary of each survey respondent’s perceptions can be construed from reviewing the survey responses as a whole. The average responses to the survey questions were usually (4) and sometimes (3) which reflected the dominant view as discussed previously. The analysis by survey will address the questions that scored higher than average, always (5), and lower than average, rarely (2) and never (1). The seven surveys chosen for further analysis included the job descriptions: assistant executive director, manager, registered nurse, registered practical nurse, health records personnel, clerk and one unknown (job description not noted).
J. Survey Analysis - Assistant Executive Director

This survey scored mostly *usually* and *sometimes* scores except for the following. In mental models, this survey found the organization *always* provided opportunities to discuss issues that affect the functioning and future of the organization, and *always* encourages learning new things and questioning the way things are done. The organization *rarely* trains people in the skills of creative thinking and experimentation and *rarely* uses case scenarios and reviews to encourage reflection, learning and problem solving. The organization *rarely* uses high technology to integrate learning, coaching and actual work into a seamless process.

In personal mastery, learning on the job is *always* encouraged.

In shared vision, the respondent supported that the mission and goals are *always* communicated, that they are *always* committed to and support the mission and goals, that the organization *always* makes an important contribution to the community, and that the person's opinions are heard and valued *always*.

In systems thinking, all the questions were supported with usually and sometimes.

In team learning, the respondent felt the organization *always* supports teamwork, creativity, empowerment and quality.

K. Survey Analysis - Manager

In the mental models discipline the respondent reported that the organization *always* provides opportunities to discuss the issues that affect the functioning and future of the organization and that the department *always* encourages learning new things and
questioning the way things are done. The respondent noted that rarely were people trained in the skills of creative thinking and experimentation.

In personal mastery, people are always encouraged to manage their own learning and development and learning on the job is always encouraged. However, people are rarely trained and coached in learning how to learn.

In shared vision, the respondent always felt that they are committed to the mission and goals of the organization and that their work always makes an important contribution to the community.

The respondent noted that the organization always invites input and suggestions as to how to improve performance from clients, but felt that the organization is rarely streamlined to maximize communication and learning across all levels.

In team learning, the respondent noted that authority is never decentralized and delegated and felt that rarely did employees in the department respect each other's different points of view.

L. Survey Analysis – Registered Nurse

The respondent felt that learning opportunities were always incorporated into everyday operations and programs, the environment in the department always encourages learning new things and questioning the way things are done and individuals can always speak honestly about issues and concerns in the organization.

In personal mastery, the respondent always was encouraged to manage their own learning, was always empowered to learn and perform to the best of their ability and
learning on the job was *always* encouraged. However, *rarely* were individuals trained and coached in learning how to learn.

The respondent *always* supported shared vision for eight of the ten questions, and the other two questions had *usually* scores. The respondent felt that there is a climate that *always* supports and recognizes the importance of learning, that there are *always* joint learning events with suppliers, community, etc., and that the mission and goals are *always* communicated. The respondent was *always* committed to the mission and the goals and that the work *always* makes an important contribution to the community. The Hospital *always* supports employee programs and the opinions are *always* heard and valued.

In systems thinking the respondent *always* supported that we invite input and suggestions as to how we might improve our performance from our clients and investigate best practices and benchmarking. The respondent *always* recognizes and anticipates how the actions and work are interrelated with other areas of activity and plans for that impact. The organization *always* develops new strategies and mechanisms for sharing learning across the organization and the department *always* exchanges knowledge and experience with other departments across the organization.

Team learning is *always* supported by recognizing mistakes and using them as opportunities to learn, and the organization *always* supports teamwork, creativity, empowerment and creativity. Individuals are *always* recognized as experts and encouraged to share their expertise and the employees in my department *always* respect each other’s different points of view.
M. Survey Analysis – Registered Practical Nurse

In mental models, the respondent *always* supported that we learn from failures as well as successes, and that the environment in their department encourages learning new things and questioning the way things are done.

Personal mastery was very supported, with *always* chosen for all individuals having equal access to learning, individuals are trusted to choose the courses and learning they need, and the organization offers a wide range of opportunities for personal and professional growth. Also learning on the job is *always* encouraged, as is the use of practice fields where people feel comfortable practicing what they learn before performing.

Shared vision was *always* supported in that the organization makes an important contribution to the community, their work makes an important contribution to the community, and the respondent is committed to the mission and goals of the organization. The organization *always* supports employee programs like personal and professional networks, social events and informal gatherings.

The respondent supported systems thinking. People *always* recognized and anticipated that actions and work are interrelated with other areas and plan for that impact, there are *always* incentives for staff to make suggestions that will improve service and/or programs and the department *always* exchanges knowledge and experience with other departments in the organization.

The respondent agreed that authority is decentralized and delegated, *always*, and the organization *always* supports teamwork, creativity, empowerment, and quality.
N. Survey Analysis – Health Records Personnel

In mental models, the respondent noted that individuals can rarely speak honestly about issues and concerns in the organization and the environment in the department rarely encourages learning new things and questioning the way things are done.

In team learning, learning on the job is always encouraged.

Shared vision was strongly supported with always answers for the mission and goals are communicated, I am committed to and support the mission and the goals of the hospital, and my work makes an important contribution to the community. The hospital always supports employee programs like personal and professional networks, social events and informal gatherings, and that the organization always makes an important contribution to the community.

The respondent always found that there are processes and structures to ensure that important knowledge and information is coded, stored and made available to those who need and can use it. However, there are never incentives for staff to make suggestions that will improve service and/or programs.

In team learning, the work team rarely recognizes mistakes and uses them as opportunities to learn, individuals are rarely recognized as experts and encouraged to share their expertise with others and rarely do people in the department respect each other’s different points of view.

O. Survey Analysis – Clerk

In mental models, all responses were usually and sometimes.
In personal mastery, the respondent *always* agreed that we are encouraged and expected to manage our own learning and development. However, *rarely* do all individuals, regardless of position, have equal access to learning.

The respondent felt that the organization *always* makes an important contribution to the community.

In systems thinking the respondent usually and sometimes agreed with all the questions.

Team learning was reported as *rarely* do people with different job titles from different departments learn together and the organization *never* supports cross training and rewards employees who learn a wider range of skills.

P. Survey Analysis – Job Title Unknown

In mental models, seven out of the ten questions were rated as *rarely* or *never*. The respondent felt that the organization *rarely* provides opportunities to discuss issues that affect the functioning and future of the organization, people *never* use skills like active listening to avoid distorting information, and blocking communication and *rarely* do teams and individuals use the action learning process. Learning opportunities are *rarely* incorporated into everyday operations and programs, people are *never* trained in the skills of creative thinking and experimentation, and people *never* use case scenarios and reviews to encourage reflection, learning and problem solving. Just in time learning that incorporated high technology learning is *never* supported.

In personal mastery, individuals are *rarely* trained and coached in learning how to learn, the organization *rarely* offers a wide range of opportunities for personal and
professional growth, and learning on the job is rarely encouraged. Practice fields are rarely used, and the organization never provides incentives to learn.

There was little support for shared vision. Senior management and managers rarely support the vision of a learning organization and there is rarely a climate that supports and recognizes the importance of learning. Staff rarely participate in joint learning events with suppliers, community groups, etc., and the mission and goals of the organization are rarely communicated. The respondent was rarely committed to and supportive of the mission and goals and felt that their opinions are never heard and valued. The hospital never supports employee programs like personal and professional networks, social events and informal gatherings and rarely can new ideas for changing the organization be advanced by everyone in the organization, not only by management.

In systems thinking the respondent felt that rarely is the organization streamlined, with few management levels, to maximize communication and learning, and rarely are there incentives for staff to make suggestions that will improve service and programs. The department rarely exchanges knowledge and experience with other departments in the organization.

Team learning also scored poorly. Rarely is authority decentralized and delegated and my work team rarely recognizes mistakes and uses them as opportunities to learn. People from different job titles never learn together and learning is never integrated into meetings, workgroups and work processes. The organization never supports cross training and rewarding employees who learn a wider range of skills and the organization never has mechanisms in place for sharing information with other people and teams in the
organization. Individuals are *rarely* recognized as experts and encouraged to share their expertise with others in structured and unstructured ways.
Chapter V

Discussion

This study was undertaken to examine how learning occurs in an organization according to the model of a learning organization as defined by Senge (1990). The model incorporated five disciplines of learning, mental models, personal mastery, systems thinking, shared vision and team learning. This study explored learning from the perspective of the people within the organization and is a case study for how learning occurs within this organization.

There are few studies supporting the relationship between individual and organizational learning (Kerka, 1995). The theoretical framework for learning organizations is established, however little research has been conducted to provide evidence to support the theoretical base. More research is needed to identify which conditions support a learning organization environment and what types of organizations could use the model effectively. This study shows that the framework of a learning organization as defined by Senge can be used to gather information on how learning occurs within an organization across a variety of disciplines. This study would also support that a hospital would be a type of organization that could support the learning organization model according to the information found through the survey. There is strong support for shared vision and systems thinking in the organization as well as various levels of support across the other disciplines.
A. Discussion of Findings of Selected Survey Analysis

Overall the analysis of the seven surveys selected for in-depth analysis supported the broader analysis performed by discipline. Some themes arose that identified strengths and weaknesses across the organization with respect to learning according to the learning organization model. These themes were generally consistent across job designations, with a few surveys standing out for their unusually positive responses or unusually negative responses.

The organization was rated very strongly in shared vision. Most people strongly support the mission of the organization, believe the organization makes an important contribution to the community and are committed to supporting the mission. A few respondents did not report supporting the mission, however they were a very small minority. The organization rated very well in encouraging learning on the job and inviting input and suggestions from clients.

The surveys identified a number of areas that were not scored as highly. These questions consistently scored poorly, by all levels of job description. The surveys found that people do not feel respect from others in the department for different points of view. There is learning training in learning how to learn, creative thinking and experimentation. The organization does not incorporate high technology systems to incorporate learning, coaching and work into a seamless process.

Two surveys were outstanding for their extreme responses. The in-depth survey for the Registered Nurse was an unusually positive response. This survey had very few rarely or never responses and many more always responses than the average. The survey for the selected Registered Practical Nurse was similar, with many always responses and
very few rarely or never responses. These surveys were not representative of the other responses from those job categories.

The assistant executive director and manager responses were consistent with the overall findings of the survey. The other surveys included people working in health records, as a unit clerk and then an unknown job description. There were some issues identified by the clerk with respect to access to training. That survey reported that there is not equal access to training, that people from different job titles and departments never learn together and that the organization never supports cross training. The survey that did not list a job title was one of the most negative surveys reviewed. Most questions on the survey were rated as rarely or never, including the respondent’s commitment to the mission of the organization. This was a most unusual finding.

The organization studied was a hospital. The individual surveys were selected for in-depth analysis to review if there were any differences in perspective that could be attributed to where in the organization an individual is employed. Since the sample size was small, no generalizations by job description can be made. The two most positive surveys within this analysis were within the nursing areas. This is traditionally an area within health care that is focussed on gaining new knowledge, updating skills, benchmarking, and using best practices to update clinical practice.

B. Discussion of Findings by Discipline

The use of mental models and supporting tools in this organization was not strongly supported by the responses to the survey. People responded that the tools of action learning and using case scenarios and reviews were not common practice. Respondents
did not report that people are trained to think creatively and experiment. Learning on the
job and questioning how things are done were reported as occurring within the
organization, as well as the opportunity to learn from failures. However the use of high
technology systems were not in place to support learning. Senge (1990) identified that an
organization's capacity to work with mental models involved the learning of new skills
and the implementation of institutional innovations. According to the responses on the
survey, this organization is not strong in the discipline of mental models and needs to
focus on encouraging experimentation, thinking creatively and the use of the action
learning within the context of work.

In this organization personal mastery was usually supported. Respondents believed
they are encouraged to manage their own learning, and are empowered by the
organization to learn and perform to the best of their ability. Learning on the job is
encouraged by the organization. However individuals in the organization responded that
they are not trained in learning how to learn and are not given the time or opportunity to
practice what they learn before performing. The organization provided incentives to
learn, however not consistently, and opportunities for personal and professional growth
was not strongly supported by the survey results. As a learning organization, this
organization is strong in its support for encouraging people to manage their own learning
and for empowering learning on the job. Senge noted that organizational learning could
not occur until individuals within the organization started to learn. This organization is
supporting learning individually but needs to provide more opportunities for learning
how to learn, and to practice what is learned before performing. The learning can then be
shared organizationally.
As a community hospital providing health care services, most respondents stated that they always or usually support the mission of the organization, and that the organization always or usually makes an important contribution to the community. Most also felt that their work within the organization makes an important contribution to the community. The organization was recognized for communicating the mission and goals and for supporting employee programs, professional networks and social gatherings. Overall there was strong commitment to the mission of the hospital by the people who work there and to the contribution they make to the community. Senge defined shared vision as the sense of commonality that permeated an organization and this organization supported this strong commitment to shared vision. The organization promotes shared vision, which is valuable in giving coherence to the diverse actions of the organization. People across the organization feel that they are supporting a common purpose which supports the team and provides focus and energy for learning for the common purpose.

This organization had some positive elements of systems thinking in place. The respondents agreed that the organization sought input and suggestions to improve performance from the clients. Also most respondents felt the organization investigated and implemented best practices by looking outside the organization for benchmarking information and data. Most respondents agreed that their work is interrelated with other areas and activity and planned for that impact. However, most of the respondents did not report that individuals act from a comprehensive systems approach. Senge’s work defined the systems thinking discipline as the recognition of the primacy of the whole in the organization. This organization supported learning organization principles of systems thinking through seeking input and suggestions, benchmarking, and planning for the
impact across areas and departments. This showed strong support for systems thinking and should continue to be encouraged.

The organization did not score strongly in team learning. The highest score within team learning was for the organization’s commitment to teamwork, creativity, empowerment and quality. The survey found that authority was not viewed as decentralized and delegated, cross training was not supported and employees were not rewarded for learning a wider range of skills. Also, the respondents did not feel that there were mechanisms in place for sharing information with other people and teams in the organization. Senge believed that in the learning organization, team learning was very important because most decisions were made at the team level, either directly or through the translation of individual decisions into action. If teams learned, that learning was spread throughout the organization. According to the survey, this organization showed commitment to team learning but will need to focus on implementing the necessary tools to encourage team learning across the organization.

Overall in this organization, the five disciplines had various levels of support. The most recognized and supported discipline was the discipline of shared vision. Most respondents answered that they were committed to the organization’s mission and felt that the work of the organization, and themselves personally within the organization makes an important contribution to the community. As the only local hospital in the community, serving the health care needs of the population, people see the impact and value of their work for the people and community.

The organization was also strong in systems thinking. As a hospital, clients are surveyed and given opportunities to provide feedback, and the health care provider
relationships are often interrelated with other providers, departments, disciplines and organizations. Best practices and benchmarking are utilized as part of health care practice as organizations share information systemically within the organization and across the system with other hospitals and networks.

The organization and the people within the organization were not as strong in team learning, personal mastery and mental models. While the respondents reported that learning is supported and encouraged and incorporated into everyday activities, the participants noted that training is not provided to encourage skills like active listening, creative thinking and experimentation and action learning processes. According to the survey, people are not trained in learning how to learn, and do not have time or resources to practice what they learn before performing.

Is this organization a learning organization? The research on learning organizations has focussed on the process of becoming a learning organization over the attainment of an ideal. Larsen et al. (1996) asserted that there were no true learning organizations, only organizations that were embracing the principles and ideals that support a learning organization. According to the responses to the survey, this organization is embracing the principles of a learning organization.

Betcherman et al. (1998) identified differences in learning strategies across organizations, with three levels of learning identified. The three levels were incidental learning, event triggered learning, and learning organizations. According to this definition, this organization would be considered a learning organization because learning is incorporated into the workplace and business strategy, there is a commitment to learning, and benchmarking and self-directed learning occurs and is encouraged.
This study showed the organization supporting learning but struggling to integrate the learning systemically. This finding is reflected in Laiken’s (2001) study of learning organizations which identified the paradoxes that learning organizations must address, including the integration of individual and systemic learning. Laiken identified learning organizations as organizations, such as the one studied, that focus on the journey not the destination, have a strong commitment to learning and address issues that arise creatively with a focus on learning.

C. Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. The study should be replicated to include more people in the organization to ensure a representative sample and increase the generalizability of the results. More people participating in the study would provide a clearer picture of the opinions and experiences of learning in the organization.

2. The study should be replicated on an annual basis in order to track the progression of the learning organization principles. The implementation of a learning organization is a process and this would provide a tool for tracking and setting priorities.
3. A follow up study should be implemented specific to disciplines to further explore the opinions and experiences of staff with respect to mental models, personal mastery and team learning. A follow up study could incorporate a different format that would allow for further explanation in the areas of concern identified.

4. The study should be replicated in another organization for comparison and to test the validity and reliability of the survey tool.

5. The study should be referenced to other sources of data within the organization to compare the findings with staff satisfaction surveys and other tools used previously.

6. The Ministry of Health and the Ontario Hospital Association should consider devoting more time and funding to the learning needs of health care workers. Learning opportunities should be more accessible, affordable and consistent.

7. The administration of the organization should develop and implement policies and procedures related to learning and the learning culture to ensure equitable
access to learning opportunities across the organization, and the
communication of those opportunities. Learning incentives for adult learners
should be incorporated into the policies and procedures, like time and money
incentives, flex time, etc.

8. The administration of the organization should provide more opportunities to
discuss issues that affect the functioning and future of the organization.

9. The organization should focus on the mental models discipline by: providing
training related to active listening, action learning processes, creative thinking
and experimentation.

10. The organization can expand the use of case scenarios and reviews to
encourage reflection, learning and problem solving across the organization.
These tools are used extensively in some areas of the organization and can be
expanded into other areas to improve learning. Learning opportunities should
also include opportunities to practice learning before performing within the
work environment.
11. The organization should focus on using technology to incorporate learning systems, coaching, and work into a process that improves learning on the job and sharing that learning within the department or across the organization.

12. The organization should emphasize a quality program that incorporates valuing the importance of questioning how things are done and allows people to speak honestly about the organization. This program would allow anyone in the organization to put forward ideas of improvement and would recognize the contributions of staff.

13. The organization should provide opportunities and coaching for staff on learning how to learn. Managers can take on more of the responsibilities of the roles of coaching, mentoring and facilitating learning.

14. The organization should communicate the commitment to a vision of a learning organization by the senior managers and managers and promote a climate that supports and recognizes the importance of learning.
15. The organization should organize more learning opportunities across disciplines, with suppliers, community groups, other professionals and institutions. Learning within the organization should also be more focussed with people from different departments or disciplines learning together. Incentives for learning new skills and cross training should be made available.

16. To encourage systems thinking, the organization should develop strategies to share information, learning, experience, and knowledge with other departments within the organization. These strategies should be shared with all staff and include communication and learning across all levels of the organization.

17. The organization should decentralize and delegate authority and put mechanisms in place to share information.

18. The organization should recognize the experts within the organization and use their expertise to share their learning with others in structured and unstructured ways.
19. The organization should investigate ways to incorporate learning into meetings, workgroups and work processes. Once the learning processes are incorporated, the learning should then be shared with other people and departments within the organization.

20. The organization should develop learning plans for all staff to use with the organization's performance appraisal system to assist staff in identifying their learning needs and working with their managers to address the needs. This would also assist in the identification and documentation of on the job learning that occurs.

D. Learning Organization Recommendations Strategy for Organization

Based on the recommendations specific to this organization, a list of prioritized recommendations for implementation was developed. The recommendations were assigned actions and responsibility within the organization. This strategy could serve as an implementation strategy for the organization to implement.
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicate the commitment by the organization to the vision of a learning organization.</td>
<td>• Communicate to all staff the senior management and management commitment to a learning organization.</td>
<td>Board of Directors</td>
</tr>
</tbody>
</table>
| The administration of the organization should develop and implement policies and procedures related to learning and the learning culture. | • Update existing education and professional development policies  
• Develop learning policies related to tuition reimbursement, learning incentives and cross training. | Education Department         |
| Provide more opportunities to discuss the issues that affect the functioning of the organization | • Utilize the opportunities that exist to discuss issues that affect the functioning of the organization.  
• Develop new avenues to promote discussion opportunities for the organization. | Administration                |
| Encourage reflection, learning and problem solving across the organization.      | • Expand the use of case scenarios and reviews across departments.  
• Include opportunities to practice learning before performing. | Management                    |
| Provide training to all staff related to the five disciplines of a learning organization. | • Provide training on active listening, action learning processes, creative thinking and experimentation.  
• Provide opportunities on learning how to learn.  
• Train staff in learning how to coach and mentor.  
• Organize learning opportunities with suppliers, community groups, other professional groups and institutions.  
• Organize learning opportunities with people from different departments learning together.  
• Facilitate structured and unstructured learning opportunities led by internal experts.  
• Develop systems to share information and learning with other departments. | Management                    |
| Utilize technology to incorporate learning into work processes.                 | • Incorporate learning technology into long term                                              | Management                    |

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Management</th>
<th>Departments of Education and</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Description</td>
<td>Responsible Party</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
</tbody>
</table>
| Emphasize the quality program to all staff.                         | • Incorporate the ability to question the way things are done into the quality program  
• Communicate the quality program that recognizes the contributions by staff. | Administration    |
| The organization should decentralize and delegate authority.         | • Put mechanisms in place to share information  
• Encourage decision making and responsibility at all levels of the organization. | Administration    |
| Information communication and technology plan.                      | • Use technology to improve learning at work processes.  
• Improve sharing of learning across organization using intranet.         | Information Services |
Chapter VI

References


98


Chapter VII

Appendixes
June 5, 2003

Ms. Lisa Kolody Rivelis
675 Old Tecumseh Road
RR 1
Belle River, ON
N0R 1A0

Dear Ms. Kolody Rivelis,

Subject: An Investigation of how Learning Occurs in an Organization

This letter is in response to your application for ethics review at the University of Windsor. The University of Windsor Research Ethics Board (REB) has reviewed the above noted proposal. I am pleased to inform you that the proposal has been cleared by the Board for a period of one year.

You are reminded to:

— Submit an annual report
— To notify the REB when the project is complete
— For modifications to project, submit a Request to Revise
— For adverse events or unexpected events, please contact the Office of Research Services without delay

Forms for submission/notification to the REB are available at the Office of Research Services' Web Site.

We wish you every success in your research.

Maureen Muldoon
Maureen H. Muldoon, Ph.D.
Chair
University Research Ethics Board

c: M. Mekis, Ethics Coordinator
Dr. Linda McKay, Faculty of Education
April 15, 2003

University of Windsor
401 Sunset Ave.
Windsor Ont

To Whom It May Concern:

As the Assistant Executive Director of Human Resources and Corporate Services, I am writing this letter expressing District Memorial Hospital's approval of the implementation of the Research Proposal, An Investigation of How Learning Occurs in a Community Hospital. It is understood that this research is being conducted in partial requirement for the Master of Education Degree at the University of Windsor.

District Memorial Hospital will allow the Investigator, Lisa Kolody Rivelis, to implement a written questionnaire on learning to the employees of the Hospital using the Hospital's Payroll Distribution System in Spring/Summer 2003. The Hospital recognizes that all participation is voluntary and all information will remain confidential and anonymous.

The Hospital is happy to support research in education in this community.

Assistant Executive Director
Human Resources and Corporate Services
District Memorial Hospital
An Investigation of How Learning Occurs in an Organization

You are asked to participate in a research study conducted by Lisa Kolody Rivella from the Faculty of Education at the University of Windsor in fulfillment of the requirements of a Master of Education Thesis. If you have any questions or concerns about the research, please feel to contact:
Investigator: Lisa Kolody Rivella, (519) 979-2770
Faculty Advisor: Dr. Linda McKay, (519) 253-3000, ext. 3819

PURPOSE OF THE STUDY

The purpose of the research is to do a case study to investigate how learning occurs in an organization.

PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:
Fill out a written survey on learning in an organization. The survey should take approximately fifteen minutes to complete.
Upon completion, please return to the Education Mailbox in Administration in envelope provided.
The research findings will be made available to subjects participating in the study upon request.

POTENTIAL RISKS AND DISCOMFORTS

There are no potential risks or discomforts associated with this study.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

This study will be a benefit to the learning community by providing data on how learning occurs in an organization.

PAYMENT FOR PARTICIPATION

There is no payment for participation.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission.

Subjects will fill out written survey and return the survey in a sealed envelope to the Education Mailbox in Administration. The data from the study will be compiled anonymously and will be analyzed for trends.
Written surveys will be stored in a locked file cabinet. Upon completion of the study the documents will be shredded and disposed of.
No information will be released to any other parties.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may exercise the option of removing your data from the study. You may also refuse to answer any questions you don't want to answer and still remain in the study.

RIGHTS OF RESEARCH SUBJECTS
You may withdraw your consent at any time and discontinue participation without penalty. This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have questions regarding your rights as a research subject, contact:

Research Ethics Co-ordinator
University of Windsor
Windsor, Ontario, N9B 3P4

Telephone: 519-253-3000, # 3916
E-mail: ethics@uwindsor.ca
An Investigation of How Learning Occurs in an Organization
Research Study Survey

Thank you for taking the time to complete this survey on learning. The survey should take approximately 15 minutes to complete. The survey asks about your personal opinions, so there are no right or wrong answers. Please circle the response that most closely matches your experience for each question. Upon completion, place the survey in the envelope provided, and return to the mailbox of Lisa Kolody Rivelis (Education mailbox) in Administration by Friday, June 27, 2003. All information will remain anonymous and confidential.

Demographic Information (Optional)

Job Title/Professional Designation: ____________________________
Education Completed: O Secondary  O College  O University  O Post Graduate
Other: ____________________________
Age: _________  Sex: _______  Years at LDMH: _______
Years of Work Experience: ____________

Mental Models

1. The organization provides opportunities to discuss issues that affect the functioning and future of the organization.

   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

2. People use skills like active listening to avoid distorting information and blocking communication channels.

   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

3. Teams and individuals use the action learning process. (that is, they learn from careful reflection on problem situations, and then apply their new knowledge to future actions.)

   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

4. We learn from failures as well as successes.

   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

5. Learning opportunities are incorporated into everyday operations and programs.

   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

6. People are trained in the skills of creative thinking and experimentation.

   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

7. We often use case scenarios and reviews to encourage reflection, learning and problem solving.

   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never
8. We support just in time learning with a system that integrates high technology learning systems, coaching, and actual work into a seamless process.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

9. The environment in my department encourages learning new things and questioning the way things are done.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

10. Individuals can speak honestly about issues and concerns in the organization.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

**Personal Mastery**

1. We are encouraged and expected to manage our own learning and development.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

2. Individuals are trained and coached in learning how to learn.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

3. We are empowered to learn and perform to the best of our ability.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

4. Managers take on the roles of coaching, mentoring and facilitating learning.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

5. All individuals, regardless of position, have equal access to learning.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

6. Individuals are trusted to choose the courses and learning they need.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

7. The organization offers a wide range of opportunities for personal and professional growth.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never

8. Learning on the job is encouraged.

   5 4 3 2 1
   Always Usually Sometimes Rarely Never
9. We use practice fields, where people feel comfortable practicing what they learn, before performing.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

10. The organization provides incentives to learn.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Shared Vision**

1. Senior management and managers support the vision of a learning organization.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

2. There is a climate that supports and recognizes the importance of learning.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

3. We participate in joint learning events with suppliers, community groups, professional associations, and/or academic institutions.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

4. The Mission and Goals of the Hospital are communicated.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

5. I am committed to and support the Mission and the Goals of the Hospital.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

6. My opinions are heard and valued.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

7. My work makes an important contribution to the community.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

8. The Hospital supports employee programs like personal and professional networks, social events, and informal gatherings.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

9. New ideas for changing the organization may be advanced by everyone in the organization, not only by the management.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

10. The organization makes an important contribution to the community.
Systems Thinking

1. Individuals are able to think and act with a comprehensive, systems approach.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

2. We invite input and suggestions as to how we might improve our performance from our clients.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

3. We investigate and implement best practices from outside our organization by looking at what others do, by benchmarking best practices, attending conferences, and examining published research.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

4. Processes and structures exist to ensure that important knowledge and information is coded, stored and made available to those who need and can use it.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

5. People have ready access to information and knowledge.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

6. I recognize and anticipate that my actions and work are interrelated with other areas of activity and plan for that impact.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

7. The organization continues to develop new strategies and mechanisms for sharing learning across the organization.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

8. The organization is streamlined, with few management levels, to maximize communication and learning across all levels.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

9. There are incentives for staff to make suggestions that will improve service and/or programs.
   5  4  3  2  1
   Always  Usually  Sometimes  Rarely  Never

10. My department exchanges knowledge and experience with other departments in the organization.
VITA AUCTORIS

Lisa Kolody was born in Windsor, Ontario, Canada. She graduated from W. F. Herman Secondary School in 1985. From there she went on to the University of Windsor where she obtained an Honours Bachelor of Arts in Communication Studies in 1993 and a Bachelor of Education in 1994. She is currently a candidate for the Master's degree in Education at the University of Windsor and hopes to graduate in Fall 2003.