ASSESSING THE
ORGANIZATIONAL LEARNING CAPACITY
OF SCHOOLS

BY

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A THESIS SUBMITTED IN CONFORMITY WITH THE REQUIREMENTS
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ABSTRACT

The intent of this study was to develop a model of organizational learning that could be used to assess the organizational learning capacity of schools. Seven research questions guided the study: What is the nature of individual professional learning in schools? What is the nature of team learning in schools? What is the nature of whole organization learning in schools? How can schools increase their capacity for organizational learning? Can changes in schools’ organizational learning capacities be described as a series of stages? If yes, what are the features of these stages? What conditions stimulate and restrict movement through stages of organizational learning, if such stages can be identified?

This research was conducted in two distinct phases. Phase one consisted of an extensive review of the organizational learning literature and the development of a preliminary framework to describe growth in organizational learning capacity of schools. In phase two the framework was revised and refined. The refinements resulted in the development of a four-staged model and a diagnostic instrument that integrated the normative, descriptive and developmental approaches to organizational learning.

Organizational learning capacity was conceptualized as a four-stage process occurring across five units of organizational learning (individual learning, team learning, whole school learning, learning processes and learning levers) that were identified in the model building phase. Using this model it is possible to assess learning capacity along a number of dimensions and determine the stage of development for a particular school. Profiles of four stages of growth and development that schools may move through as they progress towards becoming a learning organization are identified.
An analysis of the interview data suggests that individual learning occurs along a continuum that ranges from very little interest in individual professional learning in schools that are at Stage 1 to a very sophisticated level of learning in schools that are at Stage 4. Team learning is a sophisticated skill and schools in the early stages of developing their organizational learning capacity are unlikely to be very productive at it. Sophisticated team learning occurred in schools that were in the third and fourth stage of development but for schools in the first two stages there was little evidence of team learning. While individual, team and whole school learning are interrelated, whole school learning is much more than the sum of individual and team learning. Results from the data analysis indicate that whole school learning is unlikely to occur if left entirely to chance. In schools where processes are in place to facilitate the creation, assessment, sharing and documentation of knowledge school wide learning is more likely to occur.

The level, breadth, rate and strength of the learning process are measures that help to determine the capacity of an organization to learn continuously and to make intelligent decisions. Results from the data indicate that as schools progress through the stages of growth new learning becomes pervasive and widely accepted throughout the school, whereas in the early stages, learning is superficial in nature. Also, in the early stages of growth, learning is slow and most changes are “token” or behavioral in nature. Schools that are in the third and fourth stages exhibit much more sophisticated learning as they are able to move simultaneously through multiple iterations of the learning cycle, and changes are both behavioral and cognitive in nature.

A total of six organizational conditions (learning levers) that can leverage the learning capacity of a school were also identified. Prominent among these conditions were building a shared vision of learning and having visionary leaders (principals) with transformational leadership styles, adopting a systems perspective, maintaining a flexible organizational structure, creating a collaborative culture and providing resources for learning. Four obstacles to organizational learning were also identified: holding on to the status quo, lack of resources and support, no time for reflecting on learning and, intellectual isolation.
ACKNOWLEDGEMENTS

A project of this nature would not be possible without the efforts of many patient and talented people. I will be forever grateful for the encouragement, time and advice that many of my friends and colleagues afforded me so that I could complete this work.

Sincere appreciation is extended to my thesis chairperson, Dr. Kenneth Leithwood for his understanding and constructive advice in guiding me through all stages of the study. Thanks Ken, for being a professional in every sense of the word and a positive role model allowing me to work independently but at the same time being there with insightful commentary and clear direction. That same tribute can be equally applied to Dr. Paul Begley and Dr. James Ryan who were supportive of my efforts at all times and also provided much direction and guidance. Without this type of coaching, graduate school would not have been nearly as meaningful.

I am also extremely grateful for the understanding, inspiration and support of my friends and family throughout this undertaking. They have been a source of strength, encouragement and determination and have contributed significantly to the success of my endeavors. In particular, Ross Elliott, my Bloor Street cohort, who was a sounding board for many of my thoughts and ideas throughout the entire process. His insightful and humorous interpretations on organizational learning offered a refreshing view on a topic that many find complex. To Gerald Coombs, who has been a colleague, friend and mentor. It was his vision and initial encouragement that convinced me to begin this journey. Also, to Dr. Austin Harte about all I can say is you were right, I guess I was a good candidate for doctoral studies. And to my wife Janice, your steadfast commitment to me and my dreams, your inspiration and encouragement has made this possible. Finally, I want to thank my parents who have always believed in me and encouraged me to pursue my dreams.
## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>II</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>IV</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>V</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>VIII</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>IX</td>
</tr>
<tr>
<td>CHAPTER ONE</td>
<td>1</td>
</tr>
<tr>
<td><strong>Introduction</strong></td>
<td>1</td>
</tr>
<tr>
<td>The Problem</td>
<td>1</td>
</tr>
<tr>
<td>Research Questions</td>
<td>1</td>
</tr>
<tr>
<td>Background to the Problem</td>
<td>2</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>4</td>
</tr>
<tr>
<td>CHAPTER TWO</td>
<td>5</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>5</td>
</tr>
<tr>
<td>Overview</td>
<td>5</td>
</tr>
<tr>
<td>Phase One: Framework Development</td>
<td>6</td>
</tr>
<tr>
<td>Objective</td>
<td>6</td>
</tr>
<tr>
<td>Data Collection</td>
<td>6</td>
</tr>
<tr>
<td>Phase Two: Field Test the Conceptual Framework in a School Context</td>
<td>6</td>
</tr>
<tr>
<td>Objective</td>
<td>6</td>
</tr>
<tr>
<td>Sample</td>
<td>6</td>
</tr>
<tr>
<td>Data Collection</td>
<td>7</td>
</tr>
<tr>
<td>Analysis</td>
<td>8</td>
</tr>
<tr>
<td>Instrument Development</td>
<td>10</td>
</tr>
<tr>
<td>Ethical Considerations</td>
<td>11</td>
</tr>
<tr>
<td>Thesis Organization</td>
<td>11</td>
</tr>
<tr>
<td>CHAPTER THREE</td>
<td>13</td>
</tr>
<tr>
<td><strong>Conceptual Background</strong></td>
<td>13</td>
</tr>
<tr>
<td>Introduction</td>
<td>13</td>
</tr>
<tr>
<td>Individual Learning</td>
<td>14</td>
</tr>
<tr>
<td>Team Learning</td>
<td>17</td>
</tr>
<tr>
<td>Organizational Learning</td>
<td>22</td>
</tr>
<tr>
<td>Organizational learning Processes</td>
<td>25</td>
</tr>
<tr>
<td>Cognitive Views of Organizational Learning</td>
<td>25</td>
</tr>
<tr>
<td>Non-Cognitive Views of Organizational Learning</td>
<td>28</td>
</tr>
<tr>
<td>Cultural Perspective</td>
<td>28</td>
</tr>
<tr>
<td>Collective Mind</td>
<td>29</td>
</tr>
<tr>
<td>Mutual Adaptation</td>
<td>31</td>
</tr>
<tr>
<td>Conditions Affecting Organizational Learning</td>
<td>32</td>
</tr>
<tr>
<td>Stimulus to Organizational Learning</td>
<td>33</td>
</tr>
<tr>
<td>Conditions Fostering Organizational Learning</td>
<td>33</td>
</tr>
<tr>
<td>Barriers to Organizational Learning</td>
<td>37</td>
</tr>
<tr>
<td>Leadership for Organizational Learning</td>
<td>39</td>
</tr>
<tr>
<td>New Leadership Roles</td>
<td>40</td>
</tr>
<tr>
<td>Organizational Learning and Schools</td>
<td>42</td>
</tr>
</tbody>
</table>
Table 1: Attitudes about Individual Professional ................................................................. 60
Table 2: Support for Individual Professional Learning ......................................................... 62
Table 3: Administrator Involvement in Individual Professional Learning ......................... 63
Table 4: Planning for Individual Professional Learning ....................................................... 65
Table 5: Nature of Opportunities for Individual Professional Learning ......................... 68
Table 6: Stages of Growth - Individual Professional Learning .......................................... 70
Table 7: How Teams Learn ................................................................................................ 75
Table 8: Stimuli for Team Learning .................................................................................... 80
Table 9: Conditions Influencing Team Learning ............................................................... 81
Table 10: Total Number of Teams and Committees ............................................................ 84
Table 11: Types of Teams in Schools .................................................................................. 84
Table 12: Stages of Growth - Team Learning ................................................................... 89
Table 13: Stimuli for Organizational Learning ................................................................. 96
Table 14: Sources of Knowledge by School ...................................................................... 97
Table 15: Knowledge Transfer by School ......................................................................... 103
Table 16: Knowledge Documentation and Storage by School ............................................ 107
Table 17: Stages of Growth - Whole School Learning ....................................................... 111
Table 18: Dimensions of the Learning Processes ............................................................... 119
Table 19: Stages of Growth - Dimensions of the Learning Process ................................. 125
Table 20: Learning Levers by School ............................................................................... 131
Table 21: Stages of Growth - Learning Levers ................................................................. 141
**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overview of the Research Process</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Initial Framework</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Categories and Sub-categories of Organizational Learning Capacity</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Kolb's Experiential Learning Model</td>
<td>16</td>
</tr>
<tr>
<td>5</td>
<td>Organizational Learning Dimensions</td>
<td>49</td>
</tr>
<tr>
<td>6</td>
<td>Organizational Learning Levers</td>
<td>53</td>
</tr>
<tr>
<td>7</td>
<td>Organizational Learning Cycle</td>
<td>55</td>
</tr>
<tr>
<td>8</td>
<td>Stages of Growth in the Organizational Learning Capacity of Schools</td>
<td>56</td>
</tr>
<tr>
<td>9</td>
<td>Individual Learning Questions</td>
<td>74</td>
</tr>
<tr>
<td>10</td>
<td>Team Learning Questions</td>
<td>94</td>
</tr>
<tr>
<td>11</td>
<td>Knowledge Management Questions</td>
<td>117</td>
</tr>
<tr>
<td>12</td>
<td>Multiple Iterations of the Learning Cycle</td>
<td>119</td>
</tr>
<tr>
<td>13</td>
<td>Learning Process Questions</td>
<td>130</td>
</tr>
<tr>
<td>14</td>
<td>Learning Lever Questions</td>
<td>149</td>
</tr>
<tr>
<td>15</td>
<td>Organizational Learning Score Sheets</td>
<td>207</td>
</tr>
<tr>
<td>16</td>
<td>Composite Score Sheet</td>
<td>208</td>
</tr>
<tr>
<td>17</td>
<td>Organizational Learning Profile</td>
<td>209</td>
</tr>
</tbody>
</table>
CHAPTER ONE

Introduction

The Problem

“When an evolving and enhanced understanding is translated into action, organizational learning is like the fountain of youth….Unfortunately, understanding organizational learning has been almost as elusive as locating the fountain of youth” (Inkpen and Crossan, 1995, p. 597).

Organizational learning is a relatively new yet controversial, provocative and misunderstood topic in the educational literature that is sometimes viewed with skepticism. A poor understanding of the nature and extent of learning in an organizational context coupled with difficulty in making empirical links between organizational learning and change are the primary reasons for this ambivalence. This study provides a model of organizational learning for use by researchers and practitioners to help them better understand the nature and the extent of organizational learning in schools. The model is diagnostic in nature and is based on a framework consisting of multiple dimensions of organizational learning as well as the factors and conditions that have been shown to foster organizational learning.

Research Questions

To develop a model for use in the assessment of the organizational learning capacity of schools, this study inquired about seven questions:

1. What is the nature of individual professional learning in schools?
2. What is the nature of team learning in schools?
3. What is the nature of whole organization learning in schools?
4. How can schools increase their capacity for organizational learning?
5. Can changes in schools’ organizational learning capacities be described as a series of stages? If yes, what are the features of these stages?
6. What conditions stimulate and restrict movement through stages of organizational learning, if such stages can be identified?
7. How is it possible to assess organizational learning capacity?
Background to the Problem

Schools and school districts are facing increasingly turbulent times and less certain environments (Rait, 1996; Fullan, 1996; Stoll and Fink, 1996; Leithwood and Aitken, 1995; Prestine, 1994; Seashore Louis, 1994). Changes in economic environments brought on by globalization, government restructuring and the rapid growth and expansion of information and communication technologies has made innovation and change necessary for all types of organizations, schools and school districts included. Not since the waning of the 19th century when North American educators had to deal with rapid growth due to immigration and the arrival of the industrial revolution (Campbell, 1987; Bolman and Heller, 1996) has the teaching profession had to cope with such broad-based and radical societal change. More than ever before, leaders who can deal with issues of school improvement in the context of broad-based societal change are needed. The development of schools as learning organizations is a matter of utmost urgency as teachers, parents, school administrators and policy makers realize that an entirely new model of education may be needed.

Historically, reform efforts in education have resulted in band-wagons that have promised to be cure-alls for the problems associated with the teaching profession. While many of these initiatives (e.g., scientific management, human relations movement, effective schools movement, and the total quality movement) delivered short-term solutions, they provided no panacea. Leithwood and Aitken (1995) for example, write, "schools flying the effectiveness banner...tend to focus on a narrow and traditional set of student outcomes as the basis for judging effectiveness. It does not call into question the basic characteristics of existing schools, but rather takes them as givens; it promotes a relatively aggressive and directive image of leadership; and it is based on assumptions of schools as bureaucracies" (p. 14). These management techniques or formulas for change, that were appropriate at one time, are less than effective in the context of today’s organization. By concentrating on the attainment of some normative state and not focusing on the learning needs of the individual and the organization, neither the individuals involved nor the organization possess the flexibility needed to cope with organizational transformation during times of rapid change.

Since the 1980’s, educational scholars and researchers have puzzled over this problem. As a result, the latest wave of initiatives (e.g., new forms of leadership, and collaborative work cultures) has provided for a more transformative approach to educational change. However, many of these initiatives have enjoyed limited success and sustainability, as leaders have not been trained to recognize that change is a constant and evolving process and not an end in itself. Consequently, many of these initiatives have been viewed as “flavor of the month” fads that have
produced high levels of stress, anxiety and burnout, as dedicated practitioners struggle to make them work (Sarason, 1990; Hargreaves, 1994). As Sarason (1990) notes in his book, *The Predictable Failure of School Reform*, “by the criterion of impact in the classroom, most educational reform has failed” (p.5). First he notes that most reform initiatives have been conducted on a piecemeal basis, with very little attention placed on seeing the “big picture”, and examining the interrelationships between a complex system. Second, he argues that unless the current power structure in schools is changed, reform efforts will continue to make only short-term gains.

The latest concept to be considered promising in the organizational studies literature is the concept of organizational learning and the idea of a “learning organization”. Until recently, relatively little attention has been paid by educators to either of these notions. However, there is evidence to suggest that the concept of a learning organization offers at least part of a promising vision for future schools, and the process of individual and collective (organizational) learning provides some direction on how this goal may be attained (Leithwood and Aitken, 1995).

Unlike many of the other initiatives intended to promote educational reform and school improvement, organizational learning does not promote the attainment of a normative “ideal state”. Instead, the emphasis is placed on processes that enable the organization to strive towards continual renewal. Its focus is on learning as a career-long process for all members of the organization, both individually and collectively. Leaders of these types of organizations make learning a priority for the organization and all of its members. It is the synergistic nature of this across-the-organization learning that distinguishes this type of organization from the others. Leithwood and Aitken’s (1995) description of a school and a district as a learning organization focuses on “an organization with the collective disposition and structural characteristics enabling it to learn, through its own and others’ experience, how to continuously “get better”, to behave more “intelligently” (p. 7). When people throughout the organization are constantly learning, the organization is better prepared to handle change and deal with environmental turbulence. This attention to learning can result in a culture that is receptive to continuous incremental change.

The notion of organizational learning and the resultant learning organization also calls for a dramatic change from traditional management/leadership styles, that may have worked well in stable environments, to a more dynamic, transformational style suitable for collaborative working environments. Senge (1990) sees leaders in learning organizations as designers, teacher/coaches and stewards responsible for building learning communities where the organizational structure is flat and people work together as associates. This is the structure that
Barth (1990) and Hargreaves (1994) advocate when they refer to communities of learners and collaborative work cultures.

With the exception of the recent work of Leithwood, Louis and their colleagues (e.g., Leithwood et al. 1995; Louis and Kruse, 1995; Leithwood and Louis, 1999) there has been little attention devoted to organizational learning in schools. This study aims to add to this modest knowledge base about organizational learning in schools.

**Significance of the Study**

The reform movements of the 70's 80's and 90's have produced incremental improvements in schools but they have not delivered on the major reform that many believe is needed if schools are to keep pace with changes in society. Organizational learning may help with this effort. The organizational design of most schools is based on the assumption that life proceeds in a linear fashion. For example, a growth plan will be developed for a three or a five-year term but will not factor-in possible changes that may occur during that time. We know from experience that this type of strategic planning is no longer effective as schools and other organizations have been forced to make major transformations in order to adapt and survive in these times of rapid change. Hence, the notions of organizational learning and schools as learning organizations are being considered as alternative conceptualizations of schools. As a result, we need to develop new ways to assess total school effectiveness in this new school organization.

This study will provide a framework to evaluate individual and collective learning in schools. Once identified, the dimensions of learning can be used to understand an organizations learning profile. By identifying existing learning capacities and capabilities it may be possible to design change plans to increase learning capabilities and provide a starting point for school improvement initiatives.
CHAPTER TWO

Methodology

Overview

This research was conducted in two distinct phases (see Figure 1). Phase one consisted of an extensive review of the organizational learning literature and the development, from that review, of an initial quite sketchy framework for describing growth in organizational learning capacity of schools. In phase two the initial framework was revised and refined based on a series of face-to-face interviews in four high schools that were judged to be at different stages of growth. The refinements resulted in the development of a model that integrated the normative, descriptive and developmental approaches to organizational learning capacity in schools, complete with a survey instrument. However, further work is needed to ensure that the survey is valid and reliable.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Objective</th>
<th>Sample</th>
<th>Data Collection</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Literature review and framework development</td>
<td>• Develop a tentative framework to examine the nature and extent of organizational learning in schools</td>
<td>Literature review</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Phase 2: Field-testing and refining the initial framework in a school context | • Investigate and describe the nature of organizational learning in schools  
• propose and pilot test a diagnostic survey instrument to measure organizational learning capacity in schools | 25 teachers and administrators in four schools                      | Face to face interviews | Grounded theory (constant comparative method) |

Figure 1: Overview of the Research Process
Phase One: Framework Development

Objective
The objective of phase one was to identify from the literature (1) dimensions within which organizational learning could be described and, (2) dimensions which were most likely to capture changes that occurred in schools as their learning capacity increased. Also, a model to represent the stages of growth in the organizational learning capacity of schools was proposed. This model outlined tentative stages of development for each of the previously identified learning dimensions and at the same time provided a framework to describe the status of the organizational learning conditions. This framework has been tested and revised, throughout the research process.

Data Collection
This information was obtained from a review of the organizational learning literature and is summarized in Chapter 3.

Phase Two: Field Test the Conceptual Framework in a School Context

Objective
The objective of this phase was to test the framework identified in phase one and develop a description of organizational learning processes and conditions within a school context. The framework was tested and refined to reflect the nature of organizational learning as it existed in the four schools that were studied. From this, a preliminary set of stages of growth in organizational learning capacity of schools was drafted. An instrument for diagnosing a school’s organizational learning capacity was also developed, but remains untested.

Sample
To study organizational learning in schools and to assess the feasibility of developing a stages of growth model, four secondary schools varying in their degree of professional learning were selected. A brief overview of each of the schools is provided in Appendix A. Two of the schools were located in Southern Ontario and two were located in the province of Newfoundland and Labrador. The two schools in Ontario were chosen as a result of their scores on a professional learning survey that was administered earlier in the year as a part of a different study being conducted by a research team from OISE-UT (see Appendix B). One of the schools, Floridav, scored exceptionally high on the professional learning scales (individual learning 3.78; colleague learning 3.77 and leader directed learning 3.38, out of a total of 4) while the other school...
Janjonner scored significantly lower than all of the other high schools (individual learning 3.25; colleague learning 2.77 and leader directed learning 2.78, out of a total of 4). The two schools in Newfoundland were selected by explaining the purpose of the study to the Director of Education and one of the Assistant Directors. I explained that of the two Ontario schools one had scored extremely high and the other extremely low on a professional learning scale and that I was looking for schools that could rank between the two. Given this information they selected two schools that were at different stages of involvement with school improvement initiatives. One of the schools was in its first year of involvement while the other was in the third year of an improvement initiative.

**Data Collection**

In preparation for the data collection phase of the study the principals in the four schools were contacted by telephone and in writing (see Appendix C). At that time, I requested to interview the principal and six other teachers. Principals were given a list of criteria (six teachers plus one administrator from each school with a balance between males and females – one teacher in the first five years of his or her career, two with between six and 15 years, two between 16 and 25 years and one in his or her last five years) and asked to select the teachers in line with the criteria. Twenty-five face-to-face interviews (see Appendix D for a copy of the interview schedules) were conducted with teachers and administrators in four schools (see Appendix E). The number of interviews conducted in each of the schools ranged from five to seven and the principals in three of the schools made themselves available for an interview. In the fourth school, the principal had left the building and did not return. Subsequent efforts were made to contact him and telephone messages were left but he did not return the calls. The interviews were conducted during the last week of school – perhaps that explains why.

Given the time constraints and the limited financial resources to conduct the study, I acknowledge that five or six people from the respective schools may not capture the full picture of what actually happens in these schools. However, based on the consistency in the responses I do believe that they more-or-less represent the circumstances in these settings.

The construction of the interview is arguably the single most important task in designing this type of research. Extreme care was taken to ensure that questions were worded carefully, free of words, idioms or syntax that would interfere with the informants' understanding of them. In order to determine the appropriateness and usability of the interview questions, Denzin (1970) and Anderson (1990) claim it is essential to obtain comments from at least a small group of the intended respondents. The interview questions for this research were developed in the form of semi-structured interview guides and were pilot-tested with 5 teachers and 5 administrators not
involved in the study. As a result of these interviews the sequencing of the questions was changed. Originally questions were designed to start with individual learning and move to team and whole organization learning, however, the pilot test indicated that people were much more confident speaking about whole organization learning then focusing-in on their own professional learning. To take advantage of the apparent increased comfort of the informants I decided to switch the order of the questions.

After the interviews were completed and the data were analyzed a paper describing the nature of learning in each school was drafted and shared with the staff members who were part of the initial interviews. The participants were asked to read the draft and to inform me if changes were necessary. No changes were required as a result of this measure.

**Analysis**

The study was conducted in two phases. Phase one consisted of an extensive review of the organizational learning literature and the development, from that review, of an initial, quite sketchy framework for describing growth in the organizational learning capacity of schools (see figure 2).

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<thead>
<tr>
<th></th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual Learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Team Learning</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
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<td><strong>Whole School Learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2: Initial Framework**

Phase two consisted of interviews with a total of 3 principals and 22 teachers in four secondary schools (5 to 7 interviews in each school). Focused on respondents’ perceptions of organizational learning in their schools, the purposes of this phase, based on “grounded theory” methods (e.g., Strauss & Corbin, 1990) were both elaboration and illustration of the initial framework. After a pilot testing and revision process, the 25 interviews were conducted, tape-recorded, transcribed, and coded using the constant comparative method (Strauss & Corbin, 1990).

The coding process began with a paragraph by paragraph analysis of the 25 transcriptions, imposing on the analysis, in advance, only the four-stage structure and the requirement that
changes across the four stages be described for each of the three idea units (individual learning, team learning and whole school learning) of organizational learning.

The next step was to make sense of the data in each of these categories or idea units. The data in each of the categories was reviewed and sorted under common themes that emerged from the text. For example, in analyzing the data on whole school learning it became obvious that the framework would have to be expanded to include two additional categories: learning processes and learning levers.

The transcripts were rich with data and that made it possible to organize each of the categories into manageable and meaningful sub-categories (see figure 3). Following the identification of the appropriate sub-categories I looked for common characteristics or attributes and discovered that it was possible to locate each of the characteristics along a dimensional range.

### Categories and the Sub-categories of Organizational Learning Capacity

<table>
<thead>
<tr>
<th>Individual Learning</th>
<th>Team Learning</th>
<th>Whole School Learning</th>
<th>Learning Processes</th>
<th>Learning Levers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority</td>
<td>Openness to teams</td>
<td>Stimulus</td>
<td>Level of learning</td>
<td>Leadership for learning</td>
</tr>
<tr>
<td>Support for…</td>
<td>Existence of teams</td>
<td>Knowledge acquisition</td>
<td>Breadth of learning</td>
<td>Building a shared vision</td>
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<td>administrator involvement</td>
<td>Purpose of teams</td>
<td>Knowledge generation</td>
<td>Rate of learning</td>
<td>Taking a systems perspective</td>
</tr>
<tr>
<td>Planning for…</td>
<td>Formal training</td>
<td>Knowledge interpretation</td>
<td>Strength of learning</td>
<td>Building a flexible organizational structure</td>
</tr>
<tr>
<td>Location of…</td>
<td>Decision-making</td>
<td>Knowledge transfer</td>
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<td>Developing a collaborative culture</td>
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<td></td>
<td>Transfer of learning</td>
<td>Knowledge utilization</td>
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<td>Providing resources for learning</td>
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<td></td>
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<td>Knowledge documentation</td>
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*Figure 3: Categories and Sub-categories of Organizational Learning Capacity*
The next step was to behaviorally describe within each category and sub-category the range of professional behavior that was noted in the informant interviews. The result of this analysis was the development of a four-stage model of organizational learning capacity that integrated the descriptive, normative and developmental approaches to organizational learning. The stages of growth are presented as a series of profiles that describe four stages of organizational learning capacity for each of the idea units of organizational learning (individual learning, team learning, whole organization learning, learning processes and learning levers). The profile development process produced multi-dimensional images of practice, described behaviorally within developmental stages of growth, moving in this case from a coping organization to a learning organization.

**Instrument Development**

From this study, two different surveys were developed. The first survey consisted of five structured questions (see the Diagnostic Instruments in Appendix F) aimed at determining the extent to which the teachers felt they and their colleagues were involved in professional learning activities and the degree to which those in leadership roles assisted with such learning. The results from this survey will be used solely for the purpose of validating the second questionnaire (the diagnostic instrument). The second questionnaire consists of a set of highly structured questions designed to measure the organizational learning capacity of schools (see Appendix F).

The diagnostic instruments were not tested for reliability or validity during the course of this study. However, the procedure for doing so will be outlined.

Validity is a measurement concept that is concerned with the degree to which a measurement instrument actually measures what it purports to measure. Jaeger (1990) notes that validity is not absolute but depends on the context in which a measurement is used and the inferences that are based on the results of measurement. He also notes that no measurement instrument has inherent validity; one can make valid and invalid inferences from the results of the measurement. Predictive validity and content validity techniques are appropriate to use for assessing the validity of the organizational learning capacity diagnostic instrument.

Predictive validity is a type of validity evidence that is represented by the effectiveness with which a measurement instrument can be used to predict future performance on some criterion variable. Predictive validity evidence is usually summarized in terms of a correlation coefficient between scores on the measurement instrument and scores on a measurement of the criterion variable.
Content validity is a type of validity evidence that is concerned with correspondence between the content of a measurement instrument and the domain of knowledge it purports to represent. It is determined judgmentally, not by using a statistical procedure (Jaeger, 1990). To ensure content validity the instrument was reviewed and assessed by 40 teachers, 5 administrators and organizational learning experts.

Reliability is a measurement concept that represents the consistency with which an instrument measures a given performance or behavior. A measurement instrument that is reliable will provide consistent results when a given individual or group is measured repeatedly under similar conditions. Reliability is usually represented by a correlation coefficient, and can assume values between 0 and 1.0. In practice though, perfectly reliable instruments are never found.

CronBach’s Alpha, a measurement procedure that uses data collected on a single occasion and is suitable for use with attitudinal scales and is an appropriate way to assess internal reliability was used to test the reliability of the instrument.

**Ethical Considerations**

This project followed all procedures outlined by the University of Toronto in its Ethical Review Process. Written permission was gained from the school board Superintendent and all participants, before the project began. All participants were provided with an outline of the general aims of the project. They were informed about how the study would proceed, the feedback process, the expected outcomes and how the results will be used. Participation was voluntary and all participants had the right to remove themselves from the study at any time. All participants, as well as the school and the school board, were assured of confidentiality and anonymity (see Appendix G).

**Thesis Organization**

Chapter three provides the background and conceptual framework for this study. The conceptual background makes reference to existing theories and research about individual learning in an organizational context, group learning, and whole organization learning, along with the conditions affecting organizational learning. An explanation as to why the organizational learning framework is an appropriate framework from which to study change and organizational life in schools is also included. The conceptual framework outlines a model for investigating organizational learning that incorporates the normative, descriptive and developmental approaches to organizational learning. A series of learning dimensions (descriptive approach), learning levers (normative
approach) and a stages of growth model (developmental approach) comprise the Model of Organizational Learning Capacity being proposed.

Chapter 4 draws from the data collected in 25 interviews in four different schools to describe the essential features that are necessary if continuous learning is to occur across the whole organization. In the first section the nature of individual learning in schools is explored. Section two examines the nature of collective learning as it applies to teams as a learning unit within an organization. The final section examines the nature of whole school learning and the way that knowledge is constructed and distributed amongst and between groups and individuals, in schools. A set of diagnostic questions aimed at assessing individual, team and whole school learning will also be presented.

Chapter 5 explores the dimensions of learning that an organization must refine if learning is to occur on a more sophisticated level and a series of factors or “learning levers” (conditions) that can improve organizational learning processes are also presented. Towards the end of each section you will see a developmental approach towards organizational learning that highlights the distinguishing features of schools at different stages of development: the coping stage, the emerging stage, the developing stage and the learning organization stage. A set of critical questions that will need to be answered if we are to assess the organizational learning capacity of schools will also be introduced.

Chapter 6 will provide a summary discussion of organizational learning capacity that will focus on implications for practice, theory and future research.
CHAPTER THREE

Conceptual Background

Introduction

The concept of organizational learning is not new. It is evident, for example, in the early works of Cyert and March, (1963) and received considerable attention in the 1970’s as Argyris and Schon (1978) introduced their model of “single-loop and double-loop” learning. However, it was Peter Senge and his best selling book The Fifth Discipline (1990), that popularized the notion. Senge reintroduced systems theory into organizational theory (e.g., Katz and Kahn, 1966, and later Weick, 1979) (cited in Rait, 1996, p. 87). By thinking of organizations as a series of interconnected recursive loops, rather than a linear process, organizational members are helped to see the “big picture” and the interrelationships that exist between sub-systems. This is known as “systems thinking” and Senge (1990) claims it is one of the cornerstones of organizational learning.

Dispite the popularity of Senge’s views, there is no widely accepted theory of organizational learning nor even agreement on a definition of the concept. According to Huber (1991) the landscape of research on organizational learning is sparsely populated. This coupled with little in the way of substantiated theory concerning organizational learning has created a considerable need for an integrated approach towards future research. Cohen and Sproull (1996), support Huber’s claim, but they maintain that the “area of [organizational learning] is too new, vital, and innovative to risk prematurely closing its boundaries” (p. X). It is their hope that continued research will build on existing models and definitions to expand the current boundaries.

This review focuses on the components of organizational learning that are relevant to the proposed Model of Organizational Learning Capacity. Individual learning is the first topic to be covered and is followed by an examination of the literature on team learning. The third section includes an overview of some of the definitions of organizational learning that appear in the literature along with the approach to organizational learning that they represent. Descriptive and normative approaches are included along with cognitive and non-cognitive processes of organizational learning. Section four highlights the conditions and factors that may foster and inhibit organizational learning. In the fifth section the literature on leadership as it pertains to organizational learning is reviewed while the final section argues for the use of organizational learning theory as a basis for studying change in schools.
Individual Learning

How individuals learn is a well-researched topic that extends somewhat beyond the scope of this study. However, it is widely believed, (Leithwood and Aitkens, 1996; Redding, 1995; Kim, 1993: Watkins and Marsick, 1993; Senge 1990; Hedberg, 1981: Argyris and Schon, 1978) that for organizations to learn, individuals must learn. As a result, understanding how individuals make sense of the world is at the core of understanding organizational learning. Individual learning, in this context refers to the changes of skills, insights, values, attitudes and knowledge acquired by an individual, that when transmitted to the rest of the organization have the potential to change patterns of organizational practice. This section will focus on recent perspectives on individual learning and why they are important to the understanding of organizational learning.

The processes of individual learning are a key subject for study in cognitive psychology (Dixon, 1993). Of special interest are the ways in which the mind receives information from the environment; interprets, stores, and internalizes that information so that it becomes personal knowledge; and accesses this knowledge for future interactions with the environment. Many theories of adult learning are firmly rooted in the psychological orientation to learning. In this view, learning is an individual and internal mental process in which knowledge is acquired and stored for use, at will, in any circumstance (Wilson, 1993). While this line of thinking has dominated many of our theories of learning there is some research to suggest that this conception may be too limited.

Dixon identifies direct experience (the receipt of sensory data such as color sound and pain), verbal transmission of information (ideas voiced by others, books, reports etc.) and the reorganization of what we already know into a new configuration as three ways that individuals come to know something. She acknowledges that this does not imply that each process is mutually exclusive and separated in time and space. In fact, she claims, most learning involves all three simultaneously.

Lave (1988) argued that the research on learning transfer has not focused on the right issues precisely because it has attempted to separate learning from the social world in which it occurs, thereby ignoring the contextual elements that give it meaning. This, according to Wilson, is the central concern, as he noted that knowledge and learning do not easily transfer across contexts. Knowledge and learning have to be understood as inextricability integrated with the setting in which they occur. Thus learning is fundamentally situated. Wilson uses the work of Rogoff (1984) and Lave (1988) to define fundamentally situated. It means that:
"context is an integral aspect of cognitive events not a nuisance variable’ (Rogoff, 1984, p.3). Learning is thus an everyday event that is social in nature because it occurs with other people; it is “tool dependent” because the setting provides mechanisms (computers, maps, measuring cups) that aid and, more important, structure the cognitive process; and, finally, it is the interaction with the setting itself in relation to the setting and the tool dependent nature that determines the learning. Thus, learning is a recursive process in which adults act in and interact with context (p. 73).

Brown, Collins and Duguid (1989) maintain that cognition is always "situated" (p.32) within a social and cultural context. Learning occurs best through "authentic activity" within a cultural context in which "meaning and purposes are socially constructed“ (p.34). In their view, learning is a process of enculturation. If we are to learn, we must become embedded in the culture in which the knowing and the learning have meaning. Learning in this respect is a cultural phenomenon because people do not learn abstract, self-contained units of knowledge that they then apply to new situations. Authentic activity therefore requires that learning and knowing always be located in the actual situations of their creation and use, not the simulations artificially constructed in classroom practices. Thus, knowing and learning are a process of enculturation, not simply a matter of acquisition. When learners are immersed in the activity and culture of that which is being learned, they are more likely to focus on "knowing how" as opposed to merely "knowing what" (Bereiter & Scardamalia, 1989, p.373), and the capacity for changed behavior is increased.

In some schools a great deal of individual learning occurs on a day-to-day basis – it's just that it occurs unintentionally as a part of the daily schedule of activities. Learning of this nature is unlikely to meet the goals of the organization unless it is focused. Bereiter and Scardamalia (1989) and Watkins and Marsick (1991) use the term intentional learning to refer to "cognitive processes that have learning as a goal rather than an incidental outcome" (p.363). Intentional learning "is an achievement, not an automatic consequence of human intelligence" (Bereiter & Scardamalia, 1989, p.366). Over time, organizations will experience both intentional and unintentional learning. Both are important, but in schools that are serious about organizational learning there will be a clear focus on continuous individual learning as it will be something that is planned for, encouraged, supported and accelerated by the development of formal systems and processes that promote learning and sharing. In this sense, individual learning moves into the day-to-day work activities of individuals. This type of learning is essential to the continual transformation of any organization.

One of the philosophical and instructional foundations of twentieth-century adult learning is a focus on experience as essential to learning. Kolb (1984) provides one of the more recent
expressions of the importance of experience to learning (See Figure 4). He describes individual learning as a cyclical process whereby knowledge is created through the transformation of experience, which is essentially a constructionist’s view of learning. A view that starts with the position that learning is the act of interpreting experience, that interpretation is unique to each individual and is both enabled and constrained by the individual’s ability to make sense out of his or her environment.

Figure 4: Kolb’s Experiential Learning Model

In Kolb’s model learning has four components: ‘concrete experience’, where individuals experience the world through their senses; ‘reflective observation’ where individuals consciously reflect on what has occurred; ‘abstract conceptualization’ where individuals make sense of what they have experienced; and, ‘active experimentation’ where individuals relate what they have learned to their existing experiences and create new meaning. This learning cycle has appeared in a variety of forms since it was popularized by Kolb. For example, in the (TQM) literature it appears as the Deming cycle of plan-do-check-act. Deming himself refers to it as the Shewhart cycle of plan-do-study-act and Argyris and Schon (1978) refer to a discovery-intervention-production-generalization cycle of learning. These cyclic models have, however, been criticized (Jarvis, 1987) for their apparent lack of a social dimension. Jarvis argued that learning is not just a psychological process that happens in isolation, but that it is intimately related to the world and affected by it. As we have seen this is a central tenet to the situated view of learning.

In summary, individual learning is a social process that involves a change in individual capacity as a result of interaction with the environment. Individual learning occurs in, and is dependent upon, a social and cultural context, and occurs best when situated in the activities of the physical
and social environment to which it relates. The structure of individual cognition is not situated wholly in the mind but is distributed across the environment and made complete only in relation to other people, places and action.

While individual learning does not guarantee organizational learning, we know that without it no organizational learning occurs. And, since individuals form the units of groups and organizations, individual learning may be considered as the *sin qua non* of organizational learning. Given that individual learning is requisite to collective learning, it is critical that factors that can contribute to increasing the power and impact of individual learning in schools be identified and explored.

As schools are expected to deal with increasingly more complex issues they are discovering the leverage that may be provided by skilled team learning. Work teams must be able to think and create and learn as an entity. The following section examines the notion of team learning.

**Team Learning**

Teams have become more and more important to organizations - whether they are running cross-functional projects, working on a manufacturing line or planning a political campaign Senge (1990), Dechant, Marsick and Kasl (1993), Neck and Manz (1994), and Hackman (1990). The same argument can be made for educational organizations (Leithwood, 1996). Over the past decade work groups ranging, for example, from subject department teams, to advisory committees, task forces, technology teams, partnership teams, parent-teacher groups to school councils have pervaded the modern-day school. Over the part decade virtually everyone who has worked in a school has been a member of a task-performing group, at one time or another.

One of the problems in doing research on teams and work-groups is that the terms are often used interchangeably. In this study a team will be regarded as a type of small group. Over the years many authors (Hare, 1992; Dyer, 1987; Francis and Young, 1979; Freeberg and Rock, 1987; and Sundstrom et al., 1990; cited in Druckman and Bjork, 1994), and Neck and Manz (1994) have distinguished between a “group” and a “team”. Hare, for example, notes that “group” is the more general term and refers to a group of people who have some common characteristic – without actually interacting with each other. Team, on the other hand, is a more specific term which implies joint action (sports teams are a very visible example). For the purpose of this study, a team is a collection of individuals who have come together because they need each other to explore complex issues and accomplish some common goal. They will be judged to have functioned effectively as a collective learning unit when they meet the needs of their clients, when the work of the team enhances the capacity of the members to work together independently in the
future and, when the group experience contributes to the growth and personal well being of team members (Hackman, 1991), and when the new learning of the team gets transferred appropriately throughout the organization.

Many authors, for example, (Senge, 1990, Watkins and Marsick, 1993 and Marquardt, 1996)) claim that teams represent the fundamental learning unit in modern organizations and that teams are more likely to represent the range of interests in an organization than the individual. Leithwood (1996) supports this thinking, stating teams may produce more creative solutions than individuals, and their members and associates are more likely to “buy-in”, to decisions made in this way, and furthermore communication is likely to improve among members when they are meeting together regularly (p. 8). This perspective views team learning as vital to organizational learning and Senge identifies it as one of the core disciplines of a learning organization.

Team learning should occur every time a group of people is brought together whether it is for a short-term project or to address long-term organizational problems. But, unfortunately, not all teams learn. It is important to recognize that team learning is different from teamwork or team training. It is more than just working together or acquiring group skills. For team learning, the emphasis is on self-managed learning and a free flow of ideas and creativity. Teams that learn have the potential to become a microcosm of learning throughout the organization (Senge, 1990; Watkins and Marsick, 1993).

When these teams learn, individual members of the teams also learn (Senge, 1990; Watkins and Marsick, 1993; Leithwood 1996). Thus, when individual team members learn and share their insights with other members of the team or when a team adopts something new, members reinforce one another’s thinking and spread these ideas faster and further throughout the organization. Not only can team learning produce extraordinary team results, as members seek to compliment each other’s skills, abilities, knowledge and efforts, individual team members learn and grow more rapidly then could have occurred otherwise. Thus individual learning can occur as a part of team learning.

Despite its importance, team learning is not a well-researched or examined phenomenon (Brooks, 1994; Dechant, Marsick and Kasl, 1993; Senge, 1990), and until there are reliable methods for building teams that can learn together, its occurrence will remain a product of chance. Senge (1990) and Watkins and Marsick (1993) concur that we need to understand how teams learn, not how individuals learn on teams. Leithwood (1997) agrees stating that what is missing is theory for understanding team learning and for aiding in the interpretation of empirical
Senge (1990) is adamant that teams can learn. "In sport, in the performing arts, in the military, in hospitals and occasionally in businesses and schools. In all of these situations there are examples of how the intelligence of the team exceeds the intelligence of the individuals on the team” (p. 10). Team learning, he claims, is a collective discipline that involves mastering the practices of dialogue and discussion. He ascertains they are not the same things but that the difference between them is not well understood. In a discussion different views are presented and defended, however, in a discussion the emphasis is usually on persuasion, where one side is trying to win-over the other. In dialogue, on the other hand, different views are presented and debated as a means towards discovering a new view. For dialogue to be effective, the group must collectively decide to suspend its basic assumptions and issues of ownership. Dialogue calls for open minds and open communication and must become an accepted means of operation if an organization wishes to participate in continuous learning. Also, like all other disciplines, the discipline of team learning requires continuous practice – something for which there doesn’t appear to be much time.

Dechant, Marsick and Kasl (1993) draw on the work of Donald Schon (1983) to develop the foundation for their theory of team learning. Schon (1983) in his book The Reflective Practitioner, described learning as the interaction of action and reflection. At the heart of this model are four interactive team learning processes that revolve around collective thinking and action.

- Framing and reframing - framing is a groups initial perception of an issue, situation, person or object based on past understanding and present input. Reframing is the process of transforming that perception into a new understanding or frame.
- Experimenting - group action is taken to test hypotheses or moves, or to discover and assess impact.
- Crossing Boundaries – the team as a whole communicates and moves ideas, views or information between and among other people. Boundaries can be physical, mental or organizational.
- Integrating perspectives – group members synthesize their divergent views, such that apparent conflicts are resolved through dialectical thinking, not compromise or majority rule (Marsick, Watkins, and Kasl, 1993, p. 7).
In testing their theory, these researchers discovered that some groups used these learning processes more than others and that the learning processes evolved in phases. They identified four phases of team learning: fragmented, pooled, synergistic and continuous.

The fragmented phase marks the beginning of a group’s work together. Individual members may learn but they do not exchange or share learnings. Because they keep learning to themselves, they may also draw lessons that are not accurate. There is never a deliberate attempt to check these interpretations with others. In the pooled phase individuals share personal perspectives with others, though perhaps not the entire team, but there is no attempt to reconcile opposite viewpoints to forge a united perspective. At the synergistic level the team jointly constructs shared meaning, assumptions and language which leads to consensually developed solutions, positions and recommendations. Error is possible but is less likely because team members use the teams to test their judgement. The fourth stage is really a continuation of the synergistic stage. When synergistic learning becomes part of the team’s nature, members export it to other parts of the organization through their interaction in other networks and teams and the learning becomes continuous in nature. Teams move in and out of the phases as they meet new challenges, take on new members and refine their learning skills. As teams develop their learning skills they should spend very little time in the early phases.

To develop theory from which to study team learning in schools Leithwood and his associates at OISE initiated a series of studies to inquire about the nature, causes and consequences of team learning in secondary schools. As a point of departure he used the work of Neck and Manz (1994), Weick and Roberts (1993), Hutchins (1991), and his own work on expert problem solving (Leithwood and Steinbach, 1995).

Neck and Manz (1994) proposed a theory regarding the establishment of constructive synergistic team thinking and problem solving – teamthink. Teamthink represents the view that the collective thinking of a group can have a positive impact on group decision-making and outcomes. Neck and Manz propose that the application of “thought self leadership” strategies can facilitate constructive team thinking patterns which can result in enhanced group effectiveness as measured by decision-making quality and team performance. This theory arose as a response to the work of Janis (1972) and his theory of “groupthink”. Groupthink is the term that Janis coined to describe what could happen to the decision-making process when people are engaged in a moderate to highly cohesive group. It focuses on the negative impact of the group’s thinking processes on the performance of a group faced with decision-making. In essence the group looses its ability to make use of the cognitive power of its members and instead seeks complacency and complete agreement at the risk of making an unintelligent decision.
Using the work of Neck and Manz (1994) as a foundation, Leithwood (1996) investigated team learning from the perspective of a “team mind”. He reasoned that for the concept of team learning to be viable, it would be useful “to conceive of a team mind, which is doing the learning” (p. 10). To conceptualize such a mind he draws from the work of Weick and Roberts (1996), they distinguish between individual and team mind in the following manner. “Our focus is at once on individual and collective, since only individuals can contribute to a collective mind, but a collective mind is distinct from an individual mind because it inheres in the pattern of interrelated activities among people” (p.334).

Weick and Roberts (1996) claim that discussions of collective or team mind have been rare despite the fact that people claim to be studying 'social cognition'. They claim the preoccupation with individual cognition has left most organizational theorists prepared with little more than the ability to apply this line of thinking to team and group learning, "one brain at a time" (p. 332). Weick and Roberts acknowledge exceptions to the above stated rule and, they recognize these exceptions in their discussion of team mind, as they relate the concept of a collective mind to their analysis of events that occurred on an aircraft carrier.

Hutchins (1991) conceptualizes team learning as a process of “mutual adaptation” in which individuals adapt and adjust their responses to the needs of the team, thereby enabling the organizations as a unit to learn the solution to a problem before any of the individual members do. In the example provided by Hutchins, a new challenge provides the stimulus for finding new ways to collectively accomplish organizational objectives.

Building on the work of these scholars, Leithwood (1996) developed a theoretical perspective on team learning that locates the collective team in the patterns of action undertaken by the team as a whole. Collective team learning entails change in these patterns of action through processes of mutual adaptation. These properties of team learning closely resemble a complex system in which groups of agents seeking mutual accommodations and self-consulting somehow manage to transcend themselves, acquiring collective properties that they might never have possessed individually (p. 22).

In spite of the recent research regarding the various approaches to how groups and teams learn there is still no all-encompassing, widely accepted theory of team learning. Leithwood (1997) and his associates recently illustrated this point as they began their research project using a mutual adaptation framework but in the end discovered that a problem-solving framework used in prior research was more appropriate to interpret their findings. Robinson (1995) has also argued for a
conception of organizational learning based on problem solving as opposed to adaptation or change.

Not only is it important to know how teams learn effectively, it is equally important to know why. Various group and organizational conditions have been shown to impact on team learning and influence whether or not team learning becomes organizational learning. Watkins and Marsick (1990) identify team factors such as appreciation of teamwork, opportunity for individual expression and operating principles along with the organizational factors of support for the operation of teams and for support for collaboration across traditional boundaries.

Leithwood identifies the team’s culture (shared norms beliefs and assumptions; team self-talk; and, group vision) as having a direct impact on how the conditions which enhance team learning are manifested. He also identifies the stimulus, giving rise to the need for such learning along with team leadership as factors that are critical to team learning.

Collective learning at the team/group level of an organization alludes to changes in the knowledge, skills, competencies or relationships by and within the team/group that, when transmitted to the rest of the organization, has the potential to contribute to changes in organizational patterns of practice. The whole organization, on the other hand, is comprised of multiple groups and teams as well as individuals who come together, supposedly, to achieve some common goal. The distinction here is that the relationships between and within the multiple teams and individuals are usually not as strong and well developed as the relationships on smaller teams. Thus, whole organization learning is much more complex than single team/group learning. The following section discusses the nature of organizational learning as it relates to the proposed model.

Organizational Learning

There is no single agreed upon definition of organizational learning, however, those that exist can be categorized in one of two ways (Robinson, 1995). On the one hand, organizational learning has been viewed as a common place process of changing organizational routines on the basis of feedback from the internal or external environment – this she describes as the descriptive approach. On the other hand, organizational learning is perceived by some as a relatively rare phenomenon that takes place only under a unique set of conditions. Those adhering to this view seek to intervene in the operations of the organizations to discover how this learning may best be accomplished. This is described as the normative approach.
The following theorists and their definitions of organizational learning can be categorized as representative of the descriptive perspective:

- An organization changing the range of its potential behaviors through its processing of information, (Huber, 1991, p. 89).
- The capacity (or process) within an organization to maintain or improve performance based on experience. This activity involves knowledge acquisition, sharing and utilization (DiBella, Nevis and Gould, 1996, p. 362).
- The process of improving actions through better knowledge and understanding (Fiol and Lyles, 1985, p. 803).
- The ways firms build, supplement and organize knowledge and routines around their activities and within their cultures, and adapt and develop organizational efficiency by improving the broad use of their workforce (Dodgson, 1993, p. 377).
- A process of working information gained from experience into routines that guide behavior (Levitt and March, 1988, p. 320).
- The generation of new insights and knowledge (Hedberg 1981 p. 6).
- A process that builds on past knowledge and experience - that is, on memory (Stata, 1989, p. 64).

On this account, organizational learning involves the adjustment of action as a result of the interpretation of feedback. Experiential lessons are captured by routines so that these lessons are available to those who have not directly experienced the lessons. Those routines are then transmitted to others through formal and informal socialization processes and recorded in collective memory (Levitt and March, 1988).

Theorists within this group acknowledge there is no one best way for organizations to learn and there is considerable opportunity for misinterpretation of feedback resulting in incorrect adjustment of subsequent action. Levitt and March (1988) acknowledge this point and warn that:

*Learning does not always lead to intelligent behavior. The same processes that yield experiential wisdom produces superstitious learning, competency traps and erroneous inferences. Problems in learning from experience stem partly from inadequacies of human cognitive habits, partly from features of organization, partly from the characteristics of the structure of experience. There are strategies for ameliorating some of these problems, but ordinary organizational practices do not always generate behavior that conforms to such strategies (p. 335).*
While descriptive definitions speak of encoding inferences from history, the normative definitions include methods for investigating the cognitive models through which feedback is interpreted and describe the implications of these models for our ability to make adjustments that bring us closer to our goals (Robinson, 1995).

The theorists in the normative camp presume that learning as a collective activity only takes place under certain conditions and, learning as a mechanism to foster organizational improvement does not occur by chance or random action but through the development and use of specific skills. Without disciplined action or intervention organizations fail to learn because of the many forces or barriers that constrain learning. It is precisely because ordinary organizational practices do not prevent or ameliorate these problems that normative theorists focus on the production of the extraordinary (Robinson, 1995, p. 72). These scholars, she claims, “are not content to stay with a theory of learning that cannot discriminate between the production of experiential wisdom and the production of superstitious learning and competency traps” (p. 73). She states that the interests of these normative scholars, as well as practitioners are to learn more about the conditions that produce organizational learning excellence, so the organizations may more readily make changes that solve rather than cover up or exasperate problems (Robinson, 1995, p. 73).

The following theorists and their definitions of organizational learning can be categorized as representative of the normative perspective:

- An organization continually expanding its capacity to create its future (Senge, 1990, p. 3).
- A group of people pursuing common purposes, modifying them when it makes sense and continuously seeking more effective and efficient ways of accomplishing those purposes (Leithwood and Aitken, 1995, p. 63).
- The creation of socially constructed interpretations of facts and knowledge that enter the organization from the environment or are generated from within (Louis, 1994, p. 9).
- The creation, acquisition and transference of knowledge and the modification of behavior to reflect new knowledge and insights (Garvin, 1993, p. 80).
- The acquisition of information from the environment and the generation of appropriate responses to organizational issues (Rait, 1996, p. 72).

The normative perspective presumes that organizational life is not conducive to learning. Organizational learning barriers or disabilities, as they are referred to by Peter Senge, exist due to the ways that individuals have been trained to think and act. For example, Senge and his associates at MIT, claim that the source of poor performance and organizational failure is often to
be found in the limited cognitive skills and capabilities of individuals - compared to the complexity of the systems they are called upon to manage (Robinson, 1995). Organizational learning is especially difficult where problems involve dynamic complexity, that is when cause and effect are not closely related in time and space and changes do more harm then good (Kim and Senge, 1994, p. 277). Thus, the complexity of the system mitigates against learning from experience. To avoid or solve these learning problems normative theorists look to organizational leaders to establish the conditions that are essential for learning to take place.

**Organizational learning Processes**

Different ways of conceptualizing organizational learning processes have been identified in the literature; these are cognitive and non-cognitive perspectives. The cognitive perspectives focus on internal processes while the non-cognitive perspective focuses on external patterns of action. The cognitive perspective has relied heavily on one of two approaches that share a common characterization of learning. The first cognitive approach treats organizational learning explicitly as learning by individuals within an organizational context. The second approach uses individual cognition as a metaphor for collective learning. So, those structures and processes that are commonly found in models of individual learning (i.e. organizational memory) find analogous counterparts in collective (essentially non-cognitive) processes.

**Cognitive Views of Organizational Learning**

The first approach treats organizational learning as learning by individuals within an organizational context. For example, Simon (1991) claims, "All learning takes place inside individual human heads; an organization learns in only two ways: (a) by the learning of its members, or (b) by ingesting new members who have knowledge the organization didn't previously have" (p. 176). Simon's position is problematic as it ignores the possibility of knowledge other than that, which is personal or internalized. Therefore, there is no provision for the type of organizational knowledge that may be stored outside any one particular head, for example the type that is stored in a book or on a computer disk or network. Simon also fails to recognize that the location and retrieval of information in an organization (while an important part of organizational learning) is separate from the processes used in it's acquisition (Leithwood, 1996).

Some authors (Argyris and Schon, 1978; Hedberg, 1981; Fiol and Lyles, 1984; Levitt and March, 1988; Kim, 1993; Leithwood, 1996) state that organizational learning is different, in some sense, from individual learning. However, Bolman (1976), Shrivastava (1983), and Sims and Gioia (1986), quote examples where organizational learning was specified to be different from
individual learning but nevertheless it was described as a form of learning by individuals; and not
treated as learning by organizations (Cook and Yanow, 1993 p. 434). Leithwood (1996) raises a
critical theoretical question concerning the distinction between individual and collective learning:
"Can the same conceptual tools reasonably be expected to explain each" (p. 4)? Weick and
Roberts (1996) claim that while organizational theorists profess to be studying social cognition,
their preoccupation with individual cognition has left most with little more than the ability to apply
this line of thinking to collections of individuals “one brain at a time”.

The second approach develops theories of organizational action largely by applying to
organizations, concepts that are commonly found in models of individual learning. For example,
Weick, (1991) see the defining property of learning as the combination of same stimulus and
different response, but the fact that this "is rare in organizations" leads him to consider how
organizations might employ stimulus-response learning in "nontraditional ways" (p. 117). His
point is that either organizations don't learn or they learn in non-traditional ways. Morgan (1986)
examines how organizations can be understood to be brain-like and how this might help us
design organizations with respect to learning. This approach views organizations and the people
in them as self-organizing, self-monitoring, self-correcting entities that function somewhat like the
brain where brain functioning involves a organic, neural interconnections through which
information is processed almost instantly.

Many theorists (for example, Leithwood, 1996; Cook and Yannow, 1996; Hutchins, 1996; Weick
and Roberts, 1996) challenge the narrowness of the cognitive perspective and have been
searching for new conceptualizations of organizational learning (more about those later).
Therefore it is important to be clear on the limitations of this approach. First, Cook and Yannow
note that using theories of individual cognition to explain collective learning:

raises a set of complex arguments concerning the ontological status of organizations as
cognitive entities - specifically, arguments about how organizations exist and how the
nature of their existence entails an ability to learn that is identical or akin to the human
cognitive abilities associated with learning. In other words, because the cognitive
perspective adopts its understanding of learning from theories about individuals, it follows
that to discuss cognitive organizational learning, one must first show how, in their
capacity to learn, organizations are like individuals (p. 435).

Second, the study of individual learning is itself complex, and while much progress is being made
in the area it remains for the most part in a state of flux. While advances are being made in
understanding individual cognition, the absence of an established, commonly accepted theory of
individual learning leaves its application to organizations problematic. “Linking our understanding of organizational learning to cognitive theory, at the very least, obligates us to account in organizational terms for developments in that theory or to explain why this is not necessary” (Cook and Yanow, 1996, p. 436).

Thirdly, apart from the problems posed by debates concerning organizational ontology and the nature of theories of individual learning, Cook and Yanow (1996) argue,

> it is not clear how two things that are, in so many ways, so obviously different as individuals and organizations could nonetheless carry out identical or even equivalent activities. Further, even if it were shown that organizations and individuals are ontologically equivalent in the possession of cognitive capacities required for learning, it would not necessarily follow that they would both learn in the same fashion (436).

Sticking with the individual perspective, some theorists (Huber, 1996; Weick, 1996; Levitt and March, 1996; Dibella, Nevis and Gould, 1995; Dixon, 1994) respond to the cognitive view with a perspective that falls closer to the behavioral theories of organizational decision-making and change. For example, Huber, Dibella et al. and Dixon characterized organizational learning as the acquisition of knowledge due to the rearrangement of existing knowledge, the revision of previous knowledge structures, and the building and revision of theories as well as knowledge acquisition from outside the organization.

Integral to the concept of knowledge management are the concepts of organizational memory and procedural routines. Within this perspective, organizational learning is viewed as routine-based, history dependent and target oriented. That is organizations are seen as learning by encoding inferences from history into routines that guide behavior (Levitt and March, 1996). Organizational memory, on the other hand, explains how organizations encode, store and retrieve organizational knowledge and provides insight as to how routines arise, stabilize and change.

It is clear, that individuals do indeed learn in the context of organizations and there is nothing inherently invalid in applying models of individual learning to organizations. Indeed, a great deal of important work has come out of these efforts (Cook and Yannow, 1996). However, the notion of individual cognition as a form of organizational learning is a topic of hot debate among organizational theorists as it is not clear that such instances of learning constitute learning by organizations. The following section describes three non-cognitive approaches to organizational learning.
Non-Cognitive Views of Organizational Learning

The previously mentioned conceptions of organizational learning based their understanding of organizational learning on the cognitive activity of individual learning. On the other hand, some theorists conceive of organizational learning as the development of an inter-individual computational procedure. This section reviews the work of Cook and Yannow, Weick, Leithwood and Hutchins, as they investigate conceptions of organizational learning as culture, collective mind and mutual adaptation.

Cultural Perspective

While rejecting the cognitive perspectives on collective learning Cook and Yanow (1993) hold that indeed:

Learning can be done by organizations; that this phenomenon is neither conceptually nor empirically the same as either learning by individuals or individuals learning within organizations; and that to understand organizational learning as learning by organizations, theorists and practitioners need to see organizations not primarily as cognitive entities but as cultural ones (p. 431).

Cook and Yanow (1996) studied collective learning in a small flute-making factory and used their experience to illustrate a cultural perspective on organizational learning. They acknowledge that the small size of the workforce may have had a positive effect on their study and that this approach may be more successful in small organizations or groups. They also suggest that cultural learning across sub-cultures within a single organization will occur even in the midst of turbulence and that there is evidence to support the cultural perspective as a means of explaining collective learning.

The cultural perspective, they argue allows us to see that a group of people can and does act collectively, and in ways that suggest learning without relying on an individual-cognitive view of such learning. Because the question of learning is addressed through empirical observations that need to be understood, the ontological problem of the existence of an organization as a cognitive entity is not encountered.

The cultural and the cognitive perspective both include the study of the activities of individuals. The difference, they claim, is one of focus:

The cognitive perspective takes individual action as its primary point of reference; the cultural perspective focuses on a group of individuals moving within a ‘net of
expectations"… Within the cultural perspective organizational knowledge is not held by an individual, nor do we see it as the aggregated knowledge of many individuals. What is known is known and made operational only by several individuals acting "in congregate" (p. 448).

The case analysis at the Powell Flute Factory exemplifies organizational learning as a collective activity rather than an individual one and from this analysis Cook and Yanow have developed a definition of organizational learning as: "the acquiring, sustaining, or changing of intersubjective meanings through the artifactual vehicles of their expression and transmission and the collective actions of the group" (p. 449). These meanings whether they are acquired from new members or created by existing ones, come about and are maintained through interactions among members of the organization. This means that much of the organizational learning is in the form of tacit expression and communication.

From the perspective of team or collective learning, Leithwood (1996) draws attention to three important aspects. First, a cultural perspective draws attention to a team or corporate culture, a collective shaping of the mind. Such a culture strongly influences the nature of the interactions that occur among members of a team. Second, a cultural perspective on team learning draws attention to tacit knowledge, a type of knowledge that is difficult to consciously manipulate. Third, a cultural perspective on team learning "raises questions about how to best communicate such knowledge to other members of the team" (p. 13). As a potential solution to this question Leithwood supports Brown and Duguid’s notion of organizational story telling "as a means to communicate tacit cultural, as well as more operational knowledge … the concreteness of stories facilitates the formation of mental imagery and its inherent interest attracts more attention and so more thought processing" (p. 13). A further question that remains unanswered is, "what actions should individuals take in order to contribute to the collective learning of the team" (Leithwood, 1996, p. 13)?

**Collective Mind**

The concept of a collective mind was developed to explain organizational performance in situations requiring nearly continuous operational reliability. Collective mind is conceptualized as a pattern of heedful interrelations of actions (Weick and Roberts, 1996) in a social system, or in other words as intelligent organizational behavior. Weick and Roberts (1996) claim that discussions of collective or team mind have been rare despite the fact that people claim to be studying ‘social cognition’. They acknowledge exceptions to this rule and, they recognize these exceptions in their discussion of team mind, as they relate the concept of a collective mind to their
analysis of events that occurred on an aircraft carrier. They choose to use flight operations to illustrate the concept because:

the technology is relatively simple, the coordination among activities is explicit and visible, the socialization is continuous, agents working alone have less grasp of the entire system then they do when working together, the system is constructed of interdependent know-how, teams of people think on their feet and do the right thing in novel situations, and the consequence of any lapse in attention are swift and disabling (Weick and Roberts, 1996, p. 331).

Leithwood (1996) claims "for the concept of team learning to be viable, it is useful to have a concept of a team mind which is doing the learning" (p. 10). To conceptualize such a mind he draws from the work of Weick and Roberts (1996), they distinguish between individual and team mind in the following manner:

Our focus is at once on individual and collective, since only individuals can contribute to a collective mind, but a collective mind is distinct from an individual mind because it adheres in the pattern of interrelated activities among people (Weick and Roberts, 1996; cited in Leithwood, 1996, p. 10).

Leithwood (1996) sees this solution as building on earlier efforts by Wegner and associates who suggested:

Team mind may take the form of cognitive interdependence focused around memory process. ...People in close relationships enact a single transactive memory system complete with differentiated responsibility for remembering different portions of common experience. People know locations rather than the details of common events and rely on one another to contribute missing details that cue their own retrieval (Wegner, 1987; cited in Leithwood, 1996, p. 10).

This explanation of team mind clearly articulates “only individuals can contribute to a collective mind and only the mind of individuals can be conceptualized as a set of internalized processes controlled by the brain” (Leithwood, 1996, p. 10). Therefore, claims Leithwood (1996), collective mind must be an external representation, or to use Weick and Robert’s terminology - mind as activity rather than mind as entity. The team’s mind then is actualized in patterns of behavior (collective actions) that range the spectrum from intelligent to stupid. Leithwood (1997) believes this is essentially a connectionist view of individual learning applied to the collective.
Hutchins (1991) credits Cyert and March (1963) as the first theorists to see organizational learning as a form of adaptation that "uses individual members of the organization as instruments" in a way that constitutes "adaptation at the aggregate level of the organization" (p. 123). For them, organizational learning is understood to occur when an organization, in response to "an external source of disturbance or shock", selects "decision rules" that lead the organization "to a preferred state" (p. 100).

**Mutual Adaptation**

Hutchins (1991) shares his experience in the pilothouse of a large navy ship as an example of how organizations learn through mutual adaptation. In this particular case, members of the navigational team were confronted with a crisis situation when the ship lost its power supply. Two types of mutual adaptation were described. The first type he describes as largely unreflective and it occurred as a result of each of the team members being forced to adapt their usual contribution to the team with the hope that others would help out and fill in with the other tasks as required. The second type was identified when it became apparent that the team was not going to be able to respond to its new challenge. At this stage they attempted to recruit other members of the organization to help out with the original job.

It is common sense, claims Hutchins, to suggest that work is organized in accordance with plans that are created by designers who reflect on the work setting and manipulate representations of the work process in order to determine new and efficient organizational structures. And, if outside designers are not considered then the organization of work is attributed to the conscious reflection by members of the work group itself. But, Hutchins argues that important changes in an organization are achieved not by consulting outside designers or by conscious reflection but by local adaptations. For Hutchins there is an important difference between the process of change by supervisory reflection and intervention imagined in the classical view and the process of change by local adjustment. This is the distinction between design and evolution. An outsider conducts the design search but the evolutionary search is conducted by the system itself; the evolutionary search is the process of adaptation.

Leithwood (1996) describes learning in the Hutchins case as an imagined new challenge that stimulates individual team members to adapt their contributions to the team’s actions. In this way, the individual contributes to the learning of the team. As other team members adapt their contributions each team member learns the adequacy of his or her initial response and perhaps the need to adapt further (p. 14). To the extent that the acquisition of a useful adaptation to a
changing environment counts as learning, we must say that this is a case of organizational learning (Hutchins, 1991, p. 54).

Building on the notion of mutual adaptation, Leithwood (1996) developed a detailed framework for inquiring about team learning processes. To begin this process, he examined Neck’s and Manz’s (1994) effort to explain effective group or team functioning by extrapolating on a dysfunctional form of group behavior known as ‘groupthink’, a term originally coined by Janis (1982). Groupthink as defined by Neck and Manz (1994) “focuses on the negative impact of the groups decision-making. In essence the group looses its ability to make use of the cognitive ability of its members and instead seeks complacency and complete agreement” (p. 933). Neck and Manz (1994) felt it possible that the collective thinking of a group could have positive, as well as negative impacts on group outcomes. In their paper Neck and Manz proposed “that the application of thought self-leadership strategies can facilitate constructive team thinking patterns. The specific mechanisms that facilitate teamthink include the effective team management of self-talk, mental imagery and beliefs and assumptions” (p. 934). They propose that these mechanisms create constructive thought patterns within self-managing teams that can result in enhanced team effectiveness as measured by decision making quality and team performance. Leithwood (1996) adapted the Neck and Manz framework and used it to develop a framework of team learning conceptualized as mutual adaptation.

Based on this framework the outcome of team learning is a pattern of action that can range the spectrum from rational to irrational. This pattern of action need not lead to a change in behavior instead it may entail a decision to continue with a previously defined pattern, that has sustained the test of time and scrutiny to remain valid. Leithwood (1996) states these “patterns of action are the direct result of interrelations among individual cognition’s of team members, characterized earlier as mutual adaptation” (p. 17). Based on Neck and Manz’s consideration of groupthink, they suggest that the productivity of these processes are most effective when the conditions for team include: “encouragement of divergent views, open expression of concerns and ideas; awareness of limitations and threats to the work of the team; recognition of members uniqueness; and, discussion of collective doubts” (cited in Leithwood, 1996, p. 18).

### Conditions Affecting Organizational Learning

This next section of the paper will focus on constructs that have proven to be successful in studying organizational learning. The constructs to be described include: the stimuli and challenges to organizational learning; internal and external conditions affecting organizational learning; and leadership for organizational learning. Proper leadership is critical to organizational
learning and many scholars, for example, Leithwood, 1995; Leithwood and Aitken, 1995; Senge, 1995; Leonard, 1996; Sheppard and Brown, 1997; Dibella and Nevis, 1998) have advocated that a newer more transformational style is required if an organization is to flourish as a learning organization. As a result, an entire section is devoted to leadership for organizational learning.

**Stimulus to Organizational Learning**

Generally, some perceived need, or stress that can originate within or outside the organization stimulates organizational learning (Leithwood, Jantzi and Steinbach, 1995; Leithwood, Leonard and Sharratt, 1997; Rait, 1996; Watkins and Marsick, 1993). Watkins and Marsick (1993) suggest that significant critical events (e.g., a labor strike) are required to ignite organizational learning. Cangelosi and Dill (reported by Rait, 1996), suggest that organizational learning is stimulated by three different kinds of stress, all of which are common to educators. Discomfort stress refers to stress caused by a lack of resources to adequately prepare for the future. Performance stress is caused by an organizations desire to be successful, and disjunctive stress results from the divergence and conflict in the behavior of organizational members as they struggle to maintain areas of special interest.

For Leithwood (1996) the principal challenge facing those trying to stimulate organizational learning in schools is to determine the organizational conditions that foster individual and collective learning, and to build these conditions into the school. Only recently, he claims has attention been paid to discovering what these conditions might be. In fact, in his own work, he has developed and tested a model of organizational learning for these exact reasons.

Leithwood and Dart (1994) report that the stimulus need not be of a high magnitude, that it may result from a relatively normal or routine event (e.g., the desire to remain current). Leithwood, Leonard and Sharratt (1997) claim that the stimulus for organizational learning is considered to have a direct effect on organizational learning processes; however, leadership, out-of-school and in-school conditions, mediates the nature of these processes.

**Conditions Fostering Organizational Learning**

This section identifies constructs that have framed research on organizational learning (Senge, 1990; Garvin, 1993; Leithwood, 1994, 1995, 1996, 1997, 1999; Rait 1996). They are factors that have been identified, in earlier research, as influential to the organizational learning process. Normative theorists reason that if these elements or some combination of them are not present in the organization then the organization cannot be a learning organization. These conditions represent a set of prescriptive conditions, or best practices, that function as a template to evaluate the organization.
Leadership – Organizational learning demands a new style of leadership (Senge, 1990; Marquardt, 1996; Fullan, 1993; Chapman, 1996; Leithwood, 1996). These leaders are expected to articulate a vision, participate in its implementation, interact with organizational members and become actively involved in the learning process (Nevis, DiBella and Gould, 1995). Leaders are responsible for building organizations where people are empowered and enabled to create their own future. Without this type of response to the organization Senge (1990) claims leadership remains concerned with solving problems rather than creating something genuinely new. In schools that behave as learning organizations leadership is transformational and members are encouraged to take responsibility for self-management (Leithwood and Aitken, 1995; Seashore Louis, 1994; Van Den Berg and Sleegers, 1996; Leithwood, Leonard, and Sharratt, 1997; Chapman, 1996). This concept will be explored in greater detail later in this chapter.

Multiple Advocates – Organizational learning requires more than one advocate or champion if it is to succeed (Nevis, DiBella and Gould, 1995). The greater the number of advocates who promote a new learning idea or program, the more rapidly and extensively organization-wide learning is likely to take place (Marquardt, 1996).

Strategy – Strategy relates to the action plans, methodologies, tactics and steps that are employed to reach organizational goals. These strategies for improvement are partially a function of organizational learning capacity (Fiol and Lyles, 1985; Leithwood and Aitken, 1995). Fiol and Lyles (1985) argue that strategies influence learning by providing a boundary to decision making and a context for the perception and interpretation of the environment.

Experimental Mind-Set – This lever refers to the degree to which the organization encourages risk-taking and experimentation as part of its day-to-day practices. Stata (1989) and Van Den Berg and Sleegers (1996) feel that not understanding innovative capacity is one of the biggest obstacles to organizational learning. Seashore Louis (1994) notes that schools that act as learning organizations ground their thinking about change in a clear value system that leads to the conclusion that changing actions (experimentation) may create changes in paradigms, rather than vice-versa.

Dialogue - Senge (1990) describes this lever as the difference between the two primary sources of discourse. In a discussion different views are presented and defended, however, in a discussion the emphasis is usually on persuasion, where one side is trying to win-over the other. In dialogue, on the other hand, different views are presented and debated as a means towards discovering a new view. For dialogue to be effective, the group must collectively decide to
suspend its basic assumptions and issues of ownership. Senge (1990), Prestine (1994) and Marquardt (1996) also point to the importance of maintaining the dialogue if an organization wishes to participate in continuous learning. David Bohm, a leading quantum physicist, claims people in dialogue begin to observe the collective nature of thought (cited in Senge, 1990).

**Collaborative Work Culture** – This complex concept involves mutual sharing and assistance, an orientation towards the school as a whole, and is spontaneous, voluntary, development orientated, and unpredictable (Stoll and Fink, 1996). Little (1990) identifies four types of collegial relations, the first three she views as weak forms: scanning and storytelling, help and assistance, and sharing. It is the fourth form, joint or team work that is most likely to lead to improvement and organizational learning. Leithwood (1995) and his associates found that cultures described as collaborative and harmonious captured much of what was felt to be important in contributing to organizational learning.

In schools characterized as learning organizations the organization's culture is truly collaborative; individuals take responsibility for and contribute to one another's learning as they go about their day-to-day activities (Leithwood and Aitken, 1995; Rait, 1996; Chapman, 1996; Stoll and Fink, 1996; Fullan, 1996; Leithwood, Leonard and Sharratt, 1997; Van Den Berg and Sleegers, 1996; Prestine, 1994). These schools treat teachers as professionals, assume that students are not standardized and that teaching is not routine. Also, teachers are encouraged to make decisions in the best interest of children – not the bureaucracy (doing the right thing verses doing things right) (Rait, 1996; Stoll and Fink, 1996; Fullan, 1996).

**Resources** – Organizational resources that promote individual learning are contributing factors to organizational learning. Leithwood et al., (1995) and Sharratt (1996) found that providing time for professional development and professional growth along with access to sources of expertise had a positive effect on organizational learning. In schools that behave as learning organizations, teachers rely on the resources and experiences of other teachers in the school as an important source of professional development (Rait, 1996; Stoll and Fink, 1996; Chapman, 1996).

**Technology** – Organizations that know how to harness technology to enhance their learning capacity will possess a decided advantage in the future (Marquardt, 1996; Tapscott, 1996; Papert, 1993). Manasco (1996), Tapscott, (1996) and Marquardt (1996) think new technologies promise to foster new collaborative links and eliminate many of the barriers that have hindered communication and organizational learning in the past. Taking advantage of these new and emerging technologies, to share information, to become more actively involved in the development of new knowledge and to facilitate new learning, will result in better management of
knowledge (Manasco, 1996). Ronning (1994) states that for technological innovation to be maximally effective organizational learning must occur, while Seybold (1993) says that no technological innovation can succeed without simultaneous organizational change. Schools that function as learning organizations invest in and utilize these new technologies. As the technology becomes integrated into all facets of the schools’ organization, the technology itself becomes an impetus for change. (Goldberg and Richards, 1995; Fullan, 1996; Chapman, 1996; Leonard, 1996).

**Structure** – Structure operates as a powerful directive force on an organization. It determines the amount of internal control, the work organization, performance monitoring, lines of communication, and the decision making processes that will exist in an organization (Marquardt, 1996). Organizations need to be structured to provide support for members who are working on accomplishing organizational goals. “Form should follow function”. That is the way organizations should be structured, however, the opposite is often the case. The form or structure of many organizations often acts as a barrier to organizational learning.

Schools that behave as learning organizations are noted for taking a dynamic approach towards change. In other words “form does follows function”. The organizational hierarchy is flattened to allow for participative decision-making as members are able to break down many of the traditional structures, familiar to schools. This provides opportunities for the development of policies that ensures the full capacities of the organizations’ members can be used, to move the organization forward (Leithwood and Aitken, 1995; Seashore Louis, 1994; Fullan, 1996; Rait, 1996; Stoll and Fink, 1996; Prestine, 1994; 1996; Fullan, 1996; Leithwood, Jantzi and Steinbach, 1995; Leithwood, Leonard and Sharratt, 1997). Also, schools as learning organizations are likely to have developed solid partnerships with their local community (Leithwood and Aitken, 1995; Stoll and Fink, 1996).

**Shared Vision** – A vision is truly shared when two people have a similar picture and are committed to each another having it, not just to each of them, individually having it (Senge, 1990). When people share a vision they are connected, bound together by a common aspiration. They are connected to and committed to some important undertaking. Senge (1990) argues that shared vision is vital to organizational learning as it provides the focus and energy for learning. In schools that behave as learning organizations, members develop a clear and shared understanding of the school’s mission and goals, while it is an evolving understanding they claim there is little confusion about goals. (Leithwood and Aitken, 1995; Chapman, 1996; Leithwood, Leonard and Sharratt, 1997).
Systems Perspective – This involves the degree to which leaders can see and communicate clearly to members the interrelationships that exist within the organization. Senge (1990) claims a systems perspective offers a conceptual framework to help show the interconnectedness of organizational systems as well as the insight necessary to change patterns of behavior in an effective manner.

Environmental Scanning – Fiol and Lyles (1985) state that in order for learning to occur, organizations must align themselves with their environment in order to remain current. Leithwood and Aitken (1995) profess that the amount of turbulence in the internal and external environment is a substantial determinant of how much organizational learning occurs. Both authors agree that if the environments are complex and dynamic organizational learning may not occur; for organizational learning to occur there needs to be a balance between change (the new) and stability (the old). Schools that behave as learning organizations engage in environmental scanning in an effort to expand their interpretative powers (Rait, 1996; Cousins, 1996).

Concern for Measurement - This dimension deals with the extent to which the organization develops and uses metrics that support learning. Are measures internally or externally focused, specific and custom-built, or standard measures? Leithwood and Aitken (1995) claim that in a school, only a small number of learning outcomes can actually be measured, at least in a large scale, technically adequate and cost feasible manner. Traditionally, measurement has been applied to simple skills and factual knowledge that is easily quantified. It is the more complex process orientated outcomes that are difficult to measure. Consequently, the benefits of organizational learning may, then, be mediated to students through teachers; by modeling and mentorship activities, that usually provides longer term and continuous learning. The interest here is on how the discourse about measurements and the search for the most appropriate ones, is a critical aspect of learning.

Barriers to Organizational Learning
The concept of organizational learning in schools sounds promising but many normative type theorists still believe there are many challenges that have to be overcome before organizational learning comes easily in schools. Rait (1996) identifies four levels of resistance. First, he notes that schools are subject to a continual stream of influence from community stakeholders who are usually more interested in maintaining the status quo, than innovative change. He uses the following quotation by Sirotnik and Oates (1986) to emphasize his point:

Schools have evolved to their present state precisely as adaptations to a sociopolitical context that is incompatible with the best of our educational interests. In other words,
schools have yet another set of goals, usually unspoken ones, that place themselves in a central role that maintains society in its currently functioning forms. When we acknowledge this more implicit set of goals, schools’ resistance to interventions becomes more easily understood. These goals that direct schools to maintain the status-quo run counter in many ways to innovations directed at the development of individuals to their fullest potential.... The usually tenuous compromise is that individual development proceeds only to the point where it begins to threaten the status quo (Rait, 1996, p.89).

Second, he concludes that most schools are managed on a model of schooling that dates back to the scientific management era. He attributes much of the responsibility for this state to the physical structure of school buildings - they are still, for the most part, factory model schools. Third, he calls for changes to the technology of schooling. In order for a school to experience broad-based organizational learning such obstacles as teacher isolation, crushing time constraints, inadequate resources and meager reinforcement must be removed. Finally, he notes the conservative nature of our information-processing apparatus is a barrier to learning. Old theories persevere, and our belief in a stable state protects us from the threats inherent in change. Teachers and administrators who bring a renewed interest and commitment to their work inevitably experience a rude awakening and become sharply aware of organizational limits, structures and arrangements that cannot easily be suppressed (Rait, 1996, p. 95).

Senge (1990) also notes there are barriers to organizational learning and he classifies them as organizational learning disabilities that must be avoided if learning is to occur. Primary among these learning disabilities are: becoming fixated on singular events and failing to see “the big picture”; the inability to work effectively with teams; not taking the time to step back and reflect on what is happening; people (particularly leaders) who become skilled at putting forth a facade that everything is fine and consequently keep themselves from learning. This is what Argyris (1992) refers to as skilled incompetence.

Cousins (1996) refers to these learning disabilities as dysfunctional learning habits, and he identifies competency traps as an additional disability that has received considerable attention in the literature. Competency traps are problematic organizational routines that are well established, reinforced, and difficult to recognize and ameliorate. “Competency traps occur when favorable performance with an inferior procedure leads an organization to accumulate more experience with it, thus keeping experience with a superior procedure inadequate to make it rewarding to use” (Cousins, 1996, p.633). This learning disability has also been referred to as superstitious learning (March, 1996).
Levitt and March (1996) also identify the ambiguity of success as another dysfunctional learning habit. The ambiguity of success refers to the notions that all successes are relative to the goals that have been set. When goals are set low it makes achieving easier but it is not necessarily a true indicator of success.

These learning disabilities or dysfunctional learning habits are considered as barriers to organizational learning that must be detected and dealt with if the organization is to learn successfully and continue its journey towards functioning as a learning organization (Senge, 1990; Marquardt, 1996; Cousins, 1996; Levitt and March, 1966).

**Leadership for Organizational Learning**

Peter Senge (1990) describes the difference between the traditional view of leaders and a new view of leadership that seems likely to foster organizational learning.

The traditional view of leaders, - as special people who set the direction, make the key decisions, and energize the troops - are deeply rooted in an individualistic and nonsystematic view of the world. Especially in the west, leaders are heroes - great men (and occasionally women) who rise to the fore in times of crisis. Our prevailing leadership myths are still captured by the image of the captain of the cavalry leading the charges to rescue the settlers from the attacking Indians. So long as such myths prevail, they reinforce a focus on short-term events and charismatic heroes rather than on systemic forces and collective learning. At its heart the traditional view of leadership is based on assumptions of people’s powerlessness, their lack of personal vision and inability to master the forces of change, deficits which can be remedied only by a few great leaders (p. 340).

In contrast with the traditional view, Senge (1990) sees leaders in learning organizations as designers, teacher-coaches, and stewards responsible for building learning communities “where people continually expand their capabilities to understand complexity, clarify vision, and improve shared mental models” (p. 340). Senge (1990) emphasizes that this new view is vital - that the learning organization will remain only a “good idea” until people take a stand for building such organizations. Unless leaders take this stand the learning disciplines will remain as mere collections of management tools rather than a pathway to creating a new generation organization. In short, leaders in learning organizations are responsible for building organizations where people are empowered and enabled to create their own future - this means, leaders are responsible for learning.
Bolman and Heller (1996) argue that “leadership is fundamentally a complex relationship between leaders and their constituents” (p. 338). They continue by claiming “despite its many contributions, the effective schools tradition has sometimes added to the confusion by emphasizing strong leadership from principals and de-emphasizing collegiality and collaboration” (p. 338). School administrators who practice the traditional view of leadership and want to lead or be apart of a learning organization will need to undergo a personal metamorphosis. As Senge (1994) states, “if you’re the kind of individual who likes to tell people what to do and is too busy to listen, you must be willing to change, yourself” (p. 148). Leaders in learning organizations will have to become personally and actively involved in learning initiatives and in ensuring that a learning environment is created and maintained (Dibella and Nevis, 1998)

**New Leadership Roles.**

Traditional management may be appropriate for stable environments but authors such as Leithwood, Fullan, Stata, Senge and Marquardt agree that learning organizations require transformational leadership. Transformational leadership is a concept that has received considerable attention in the literature over the past decade. Downton (1973), and his study of rebel leadership, is often cited as the first inquiry about transformational leadership (Leithwood, 1996).

James MacGreggor Burns is generally credited with proposing a theory of leadership that has shaped the way leadership practice is now understood (Sergiovanni, 1991; Leithwood, 1996). Burns (1978) identified two major types of leadership: transactional and transformative. Transactional leadership focuses on extrinsic motives and needs whereby the leader and followers exchange needs in return for personal benefits (i.e. salary). “Transactional practices were the traditional focus of attention for leadership theorists until the early 1980’s. Disillusionment with the outcomes of that focus, however, gave rise to a number of alternative approaches, among them transformational leadership” (Leithwood, 1996, p. 787).

Transformative leadership focuses more on intrinsic and moral motives and needs that are shared by both leader and followers (i.e. to improve the image of the school). According to Burns, leadership is when leaders with certain motives and purposes mobilize resources so as to satisfy the motives of followers. The essence of leadership, he argued, is to be found in the relationship between motives, resources, leaders and followers … the most powerful influence consist of deeply human relationships in which two or more people engage with one another (Burns, 1978, p. 11). In his reference to power, he was adamant that we must see power and
leadership, not as things, but as relationships. One of the earliest and an often-used description of transformational leadership is that offered by Roberts (1985):

This type of leadership offers a vision of what could be and gives a sense of purpose and meaning to those who would share that vision. It builds commitment, enthusiasm, and excitement. It creates a hope in the future and a belief that the world is knowable, understandable, and manageable. The collective action that transforming leadership generates empowers those who participate in the process. There is hope, there is energy, and there is optimism. In essence, transforming leadership is a leadership that facilitates the redefinition of a people’s mission and vision, a renewal of their commitment, and the restructuring of their systems for goal accomplishment (p. 1024).

Leithwood (1996) acknowledges the work of Burn’s as a solid conceptual footing on which to build the distinction between transactional and transformational leadership, however he notes that it lacks a testable model. To overcome this limitation Leithwood (1996) refers to the work of Bass (1985). His book, Leadership and Performance Beyond Expectations, provides evidence about the effects of one model of transformational leadership.

Referred to … as the four I’s Bass and his colleagues define transformational leadership as including: charisma or idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. In addition to these dimensions of transformational leadership three dimensions define the meaning of transactional leadership: contingent rewards, management by exception, and laissez-faire or ‘hands off’ form of leadership (Leithwood, 1996, p. 787).

Leithwood (1996) notes a major difference between the model offered by Burns and the model offered by Bass:

Whereas Burns considered transformational and transactional practices as opposite ends of the leadership continuum (essentially more and less effective forms of leadership), Bass offers a quite different conception, a two-factor theory of leadership: transactional and transformational forms of leadership, in his view build on one another (p. 787).

Transactional practices refer to the day-to-day maintenance activities and while important, they do very little to facilitate change in the organization. In addition to transactional practices, members must experience transformational leadership practices if organizational change is to occur. In organizations where transformational leadership is practiced leaders value people’s
growth and learning. They actively help members to discover their talents and abilities and to value their own wisdom. Stata (1989) indicates that the learning organization requires a visionary leader possessing new kinds of roles and skills; however, he also identifies the biggest obstacle to becoming a learning organization as “a bottleneck in management innovation” (p. 63). In his mind, the real challenge lies in better understanding innovation and in determining how to do more of it. Van Den Berg and Sleeegers (1996) in there study of innovative capacity found that transformational leadership was one of the forms of leadership found to accompany the development of a high innovative capacity in schools. Leithwood (1994), in his article Leadership for School Restructuring concluded that organizational learning was strongly influenced by transformational leadership. And, Leonard (1996), in his study on the implementation of school councils found that transformation leadership was the single most important factor facilitating the introduction of new programs and organizational learning in schools.

Fullan (1993), too, recognizes the need for new leadership paradigms and calls for school principals to adopt these new leadership roles. Based on his review of the literature he draws four conclusions about the direction of future school leadership. First, neither principals as strong unilateral leaders nor principals as weak followers are relevant to the future role of schools as learning organizations. Second, he claims that the leadership skills in question haven’t been precisely defined but slowly trends are starting to emerge from the literature. Third, educational leaders must learn to influence and coordinate a non-linear, dynamically complex, change process and fourth, if learning organizations are to become prominent in the education world, the traditional view of the principal must become extinct.

Organizational Learning and Schools

The adoption of organizational learning theory as a basis for current work on school restructuring and reform (Louis, 1992; Louis and Simsek, 1991; Louis, 1994; Fullan, 1993; Fullan, 1996; Leithwood and Dart, 1994; Leithwood and Aitken, 1995; Leithwood, 1996; Leithwood et. al. 1995 and 1997; Leithwood and Louis, 1999) illustrates the importance some change theorists attach to the concept, as well as its potential for present and future work in this area. Imagining future schools as learning organizations has much merit. First, conceptualizing schools as learning organizations highlights what Fullan (1993) refers to as the “learning core” of both students and adults, and consequently the learning focus shifts to empowerment and capacity building rather than planned change. Second, focusing organizational learning on the acquisition, transfer, utilization and documentation of knowledge builds on the recognition of the importance of knowledge management to the school improvement process (Louis, 1994). Third, Leithwood and Aitken (1995) see the concept of a learning organization as appropriate for school change and restructuring primarily because “it does not require accurate predictions about the circumstances
that future schools will face or the practice that would be most functional in response. The only prediction required is that schools will face a steady stream of complex problems, a prediction that places a premium on continuous improvement in school staffs’ individual and collective problem solving capabilities” (p. 20). Fourth, Learning is a dynamic concept that emphasizes the continually changing nature of people and organizations. Leithwood and Aitken (1995) note that in a learning organization “form follows function” and organizational structures are flexible enough to change along with the people, tasks and needs of the organization. Fifth, the impact of globalization and interactive communication technologies dictates the necessity for schools and other educational institutions to be ever cognizant of the “big picture” and recognize the interconnectedness of the school with the larger community. This Senge (1990) refers to as systems thinking, one of the cornerstones of a learning organization. Sixth, it seems as if slow unlearning is a critical weakness of many schools and educational systems (Fullan, 1996; Chapman, 1996). Hedberg (1981) notes that knowledge grows, and quickly becomes obsolete as reality changes. Understanding involves both learning new knowledge and discarding obsolete and misleading knowledge. The discarding or unlearning activity is as important as adding new knowledge. In an organization where organizational learning is practiced, unlearning is a naturally occurring process. Seventh, once new processes are learned people get better faster (Stata, 1989) and as a result organizational learning capacity increases. Eighth, Louis (1994) feels that organizational learning theories help us to understand why restructuring may go well in some schools, but not in others, and does so in ways that are overlooked by the managed change literature. The organizational learning framework, she claims, “emphasizes the cognitive and behavioral transformations that occur in individuals and groups as part of the emergence of new organizational patterns” (p. 8). While she sees the frame as being poorly developed in schools she does think that the concept has potential for helping to think about the change process in schools.

While the potential of organizational learning in schools is great, Fullan (1995) claims that “the school is not currently a learning organization. And teaching is not yet a learning profession” (p. 231). Chapman (1996), on the other-hand, asserts that in our knowledge society schools will need to be learning organizations if they are to encourage the goal of lifelong learning. Fullan (1995) argues that to bring about this type of reform, a radical re-culturing of the school as an institution, and the basic redesign of the teaching profession is required. Chapman (1996), in agreement, states, “schools as we have known them in the past are about to undergo a radical transformation, as are their personnel and teaching staff” (p. 54). Because of its synergistic nature, the application of organizational learning theories may assist in this transformation process.
When translated into action organizational learning offers a promising vision for future schools. A review of the current literature on organizational learning and schools indicates that when schools behave as learning organizations, they possess some combination of the following qualities:

- In these schools, members develop a clear and shared understanding of the school’s mission and goals, while it is an evolving understanding they claim there is little confusion about goals. (Leithwood and Aitken, 1995; Chapman, 1996; Leithwood, Leonard and Sharratt, 1997).
- The organization’s culture is truly collaborative; individuals contribute to one another’s learning as they go about their day-to-day activities (Leithwood and Aitken, 1995; Rait, 1996; Stoll and Fink, 1996; Fullan, 1996; Leithwood, Leonard and Sharratt, 1997; Van Den Berg and Sleegers, 1996; Prestine, 1994).
- Members take responsibility for self-management, and leadership is transformational (Leithwood and Aitken, 1995; Seashore Louis, 1994; Van Den Berg and Sleegers, 1996; Leithwood, Leonard, and Sharratt, 1997; Chapman, 1996).
- These organizations take a dynamic approach towards change. In other words “form follows function”. Members are able to break down many of the traditional structures, familiar to schools, to create opportunities for the development of policies that ensures the full capacities of the organizations’ members can be used, to move the organization forward (Leithwood and Aitken, 1995; Seashore Louis, 1994; Fullan, 1996; Rait, 1996; Stoll and Fink, 1996).
- Schools as learning organizations are likely to have developed solid partnerships with their local community (Leithwood and Aitken, 1995; Stoll and Fink, 1996).
- The organizational hierarchy is flattened to allow for participative decision-making (Prestine, 1994; Stoll and Fink, 1996; Fullan, 1996; Leithwood, Jantzi and Steinbach, 1995; Leithwood, Leonard and Sharratt, 1997).
- In these schools, teachers rely on the resources and experiences of other teachers in the school as an important source of professional development (Rait, 1996; Stoll and Fink, 1996; Chapman, 1996).
- In these schools teachers are treated as professionals. These schools assume that pupils are not standardized and that teaching is not routine. Teachers are encouraged to make decisions in the best interest of children – not the bureaucracy (doing the right thing verses doing things right) (Rait, 1996; Stoll and Fink, 1996; Fullan, 1996).
- These schools invest in and utilize new technologies. As the technology becomes integrated into all facets of a school organization, the technology itself becomes an impetus for change. (Goldberg and Richards, 1995; Fullan, 1996; Chapman, 1996; Leonard, 1996).
- Teachers in schools functioning as learning organizations lead the way in being continuous learners throughout their careers. They continuously engage in critical reflection about their
daily work (Fullan, 1996; Leithwood and Aitken, 1995; Prestine, 1994; Chapman, 1996; Van Den Berg and Sleegers, 1996).

- These organizations engage in environmental scanning in an effort to expand their interpretative powers (Rait, 1996; Cousins, 1996).
- These organizations ground their thinking about change in a clear value system that leads to the conclusion that changing actions (experimentation) may create changes in paradigms, rather than vice-versa (Seashore Louis, 1994).
Towards a Framework for Diagnosing Organizational Learning Capacity

Definition of Organizational Learning

Learning in organizations is a multi-faceted, multi-level phenomenon. It is thought to occur through cognitive and non-cognitive processes at the individual, group and organizational level. While it is common to hear reference being made to learning organizations, this concept focuses on the development of a singular normative model. By its very nature, a normative model assumes that there is something wrong with organizations that do not conform to some ideal state. At this point, it is important to distinguish between the similar and related terms of “organizational learning” and the “learning organization” because they are often used, interchangeably.

The term learning organizations refers to “what” and is often used as a metaphor to describe the ideal organization. These organizations are characterized as having the ability to learn powerfully and collectively and to continually transform themselves to ensure operational success. Organizational learning, on the other hand, refers to “how” organizations learn. It describes the learning processes that may occur within an organization or as part of an organizational change process. Learning organizations are exceptionally good at organizational learning.

In this study, organizational learning is defined as the acquisition of capacities, by organizational members, for the purpose of potentially or actually changing the patterns of organizational practice. Such change can be cognitive or behavioral, or both. Cognitive change includes, for example, changes in organizational beliefs, attitudes, opinions, values, understanding, and know how. Behavioral change includes changes in organizational patterns of action. Inkpen and Crossan (1995) claim that the strongest learning occurs when the change integrates both cognitive and behavioral changes. Change in behavior without a corresponding change in cognition, and visa versa, are transitional states that will impact on learning by resulting eventually in powerful learning or no learning at all.

An example of a change in behavior without a change in cognition occurs, for example, when a board or a ministry legislates a change in teaching practice (e.g.) whole language. While individuals may feel forced to change their behaviors to comply with the new regulations – their beliefs that the old way is better, does not change. An example of a change in cognition without a change in behavior may occur, for example, when individuals discover new approaches to teaching (e.g.) computer-mediated distance education, but cannot implement them due to school
policies. An example of integrated learning would occur if, in the previous example, the teachers were enabled and empowered to use their new knowledge.

Organizational learning takes place in all organizations although some are more skilled at learning than others. In this study, organizational learning capacity refers to the ability of an organization to learn continuously by progressing through the stages of the organizational learning cycle. Organizational learning capacity increases as the organization improves its learning capabilities so that it can move through the learning cycle faster, possibly refining the learning process so that learning may occur on a more sophisticated level (i.e.) improving the learning process so that there are increases in the depth (levels), breadth, rate and strength of learning.

Organizational learning can take many forms. Some organizations may emphasize learning that produces innovation and transformation, in others it may be incremental and corrective change while in others learning may be directed at maintaining the status quo. In most contexts organizational learning is viewed in a positive light as leading to improvement or more intelligent organizational behavior, however such is not always the case. Organizational capacity is not enhanced when an organization routinely applies the same solution to a problem, and it may actually diminish as a result of “negative learning” experiences. A situation, that occurs for example, when an organization learns the wrong things. The following section describes the component parts of the Organizational Learning Capacity Model.

**Model of Organizational Learning Capacity**

How can you tell if an organization is “becoming better at learning”? What is a learning organization anyway? And, How can you improve the learning capacity of an organization. The framework developed in this study draws from earlier works by Dibella, Nevis and Gould, (1996), Dixon, (1993) and Robinson (1995) and attempts to answer these questions by describing the level and nature of learning in the organization as well as the “levers” for learning at each level. In the final phase of the research a diagnostic questionnaire, suitable for future research was developed. When perfected, this diagnostic tool will enable organization members to produce a learning profile for their school.

Building organizational learning capacity requires clarity about what organizational learning is and how it occurs. This section explains the foundation of the Organizational Learning Capacity Model, which is based on a combination of the descriptive, normative and developmental perspectives on organizational learning. The descriptive and normative perspectives were described earlier in the literature review. A developmental perspective is introduced as a
potential new lens for viewing the assessment of organizational learning capacity. The model proposed here describes schools as learning systems and is based on the following assumptions:

1. Without individual learning there is no organizational learning, thus individual learning forms the foundation for organizational learning.
2. New learning must move beyond the individual and become the property of some collective unit.
3. All organizations engage in some form of collective learning ranging from team/group to whole organization learning.
4. For learning to have occurred something must have changed, if not behavior, than attitudes or beliefs.
5. Organizational learning occurs as a result of a stimulus.
6. What gets learned stays with the group or organization even if the individuals do not.
7. All organizations can and do learn, and there is no one best way for learning to occur; although it is accepted that some do learn better then others.
8. Organizational learning is a non-linear, iterative process that consists of a number of stages that can be described using a knowledge management framework.

The next sections will introduce a number of learning dimensions and learning levers that have the potential to enhance the capacity of the organization to learn. However, within this model there is no provision for the notion of the learning organization with one set of prescriptive characteristics. This model presumes that both the descriptive and the normative perspectives are necessary to understand an organization as a learning system; one without the other provides an incomplete picture. Separating both parts, however, should help an organization see that it is indeed a learning system (of some sort) and that its task is to better understand what it does well or poorly.

The final section in this chapter integrates the descriptive and normative perspectives with the developmental perspective and conceptualizes growth in a schools organizational learning capacity as a four-stage process.

**Dimensions of Organizational Learning Capacity**

This section of the Organizational Learning Capacity Model represents the descriptive perspective. It presumes that all organizations are learning systems and are capable of learning and that there is no one correct manner in which learning occurs. Factors are identified which help to understand individual, team and organizational learning processes within an organizational context. This perspective acknowledges that organizations attempt to create and
maximize their learning in a variety of ways and that this learning can be represented along a series of dimensions (see Figure 5).

The twelve (12) learning dimensions are the values and practices that reflect the nature of learning within the organization as well as its capacity to learn. Each of these bi-polar dimensions is defined in terms of opposite approaches where a learning approach represents an extreme position on a continuum. On the surface, it may appear that a close affinity with one of the poles would be a desirable goal, however, learning occurs all along the continuum and there is no right or wrong location. It is more important that the organization’s learning style enable it to reach out and touch both poles at the same time, from wherever it is located. Learning on one dimension may result in changes on other dimensions. Examining an organization along these dimensions will provide a profile of the organization’s learning capacity.

<table>
<thead>
<tr>
<th>Learning Dimension</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individual learning</td>
<td>unintentional</td>
<td>intentional</td>
</tr>
<tr>
<td>2. Team learning</td>
<td>groupthink</td>
<td>teamthink</td>
</tr>
<tr>
<td>3. Learning stimulus</td>
<td>incremental</td>
<td>quantum</td>
</tr>
<tr>
<td>4. Knowledge Sources</td>
<td>internal</td>
<td>external</td>
</tr>
<tr>
<td>5. Knowledge interpretation</td>
<td>individual</td>
<td>collective</td>
</tr>
<tr>
<td>6. Knowledge transfer</td>
<td>formal</td>
<td>informal</td>
</tr>
<tr>
<td>7. Knowledge utilization</td>
<td>maintenance</td>
<td>change</td>
</tr>
<tr>
<td>8. Knowledge Documentation</td>
<td>personal</td>
<td>public</td>
</tr>
<tr>
<td>9. Level of learning</td>
<td>single-loop</td>
<td>double-loop</td>
</tr>
<tr>
<td>10. Breadth of learning</td>
<td>superficial</td>
<td>pervasive</td>
</tr>
<tr>
<td>11. Speed of learning</td>
<td>slow</td>
<td>fast</td>
</tr>
<tr>
<td>12. Strength of learning</td>
<td>cognitive</td>
<td>behavioral</td>
</tr>
</tbody>
</table>

**Organizational Learning Dimensions**

**Individual Learning** - In some organizations there is very little evidence of individual learning while others are dynamic learning communities. This dimension displays individual learning on a
continuum from unintentional, as a part of daily work routines, to intentional through the development of formal systems and processes that promote learning.

**Team Learning** - This dimension refers to how teams are utilized to enhance learning throughout the organization. Due to the complex nature of teams and groups it is possible for team learning to be highly valued yet poorly practiced. In such an organization teams and groups are utilized however, the result of the strategy is usually a dysfunctional form of group behavior commonly referred to as “groupthink”. Groupthink focuses on the negative impact of group decision-making. The opposite of groupthink is “teamthink”. Teamthink represents the view that the collective thinking of a group can have a positive impact on group decision-making and outcomes (Neck and Manz, 1994).

**Stimulus for Learning** – For organizational learning to occur it is not enough to simply encourage individuals to exchange thoughts and ideas with each other. The organization must actively stimulate the learning process by responding to external stimuli or creating internal ones. This dimension relates to the nature of the stimuli for organizational learning. The stimulus for learning can result from small, daily incremental events (Leithwood, Jantzi and Steinbach, 1995) or it can be a result of some quantum event, which refers to a response to an organizational crisis (Watkins and Marsick, 1993) or broad-based changes in society.

**Knowledge sources** – This dimension refers to the acquisition, development and creation of new skills, insights, or relationships. It represents the extent to which an organization prefers to develop new knowledge internally as opposed to the extent to which it is likely to seek inspiration in the ideas developed by external sources. This idea is presented by DiBella, Nevis and Gould (1996) but it is based on the organizational learning notions of exploration and exploitation as outlined by March (1991).

**Knowledge interpretation** – This dimension pertains to how organizational members selectively attend to and interpret new knowledge (Dixon, 1994). Only when individual members have formed new thoughts, ideas, attitudes, insights, values or relationships through this process can we claim they have learned. For organizational learning to occur this process must take place at the collective level where individuals go through the same process while interacting with other organizational members who are engaged in the same process.

**Knowledge transfer** – Various methods are used to transfer knowledge throughout the organization. This dimension refers to whether there are formal structures and process in place to ensure the movement of knowledge or whether it is shared through informal processes.
Knowledge utilization - Only when new knowledge is utilized does learning occur. This dimension refers to the degree to which new knowledge is utilized for the purpose of actually or potentially changing organizational patterns of practice. It is not essential that organizational practice change as a result of new learning but for new learning to occur something has to change – if not behavior then how we think or feel about what we do.

Knowledge documentation - this phase, is what Huber (1991) refers to as organizational memory and what Levitt and March (1996) refer to as procedural knowledge or organizational routines. It refers to the means by which new knowledge is broadly available and can be generalized to new situations. Documented knowledge can result in an organization where knowledge is made available to all members of the organization through established patterns of action (Leithwood, 1996) as well as through documentation centers or other forms of organizational memory (Dibella, Nevis and Gould, 1996).

Level of learning - This dimension pertains to the degree to which the organization uses an adaptive verses a generative learning focus. Adaptive learning is incremental. It is single-loop learning and does not question an organization’s basic assumptions. Single-loop learning is focused on error detection and correction (Argyris and Schon, 1978) but, once the error is detected and corrected the organization continues to operate as it did in the past. Generative learning is transformational (Senge, 1990). It is double-loop learning (Argyris and Schon, 1978) and it aims at adjusting overall rules and norms rather than specific activities or behaviors. It occurs when, in addition to detection and correction of errors, the organization questions its basic assumptions to find out why the problem occurred in the first place. Deutero learning occurs when an organization learns from critically reflecting on its taken-for-granted assumptions; when an organization can stand back and contemplate its own learning behaviors, or engage in meta-learning processes. Cousins (1996) claims that deutero learning is “the essence of organizational learning capacity” (p. 619).

Breadth of learning – This dimension refers to the process of increasing organizational capacity to move from learning that is superficial and unconnected to learning that builds on previous skill attainment and pervades the organization to the point that it is broadly available and can be generalized to new situations.

Speed of learning – Each organization learns how to move through organizational learning processes to varying degrees and at varying speeds. This dimension refers to the speed at which an organization can move through multiple iterations of the knowledge management process.
**Strength of learning** – This dimension refers to the degree to which change caused by learning is cognitive, behavioral or both. Cognitive change includes, for example, changes in organizational beliefs, attitudes, opinions, values, understanding, and know how. Behavioral change includes changes in organizational patterns of action. The strongest learning, however, occurs when the change integrates both cognitive and behavioral changes. Change in behavior without a corresponding change in cognition, and visa versa, are transitional states that will result in powerful learning or no learning at all.

**Conditions Fostering Organizational Learning (Levers)**

This portion of the Model of Organizational Learning Capacity represents the normative perspective on organizational learning. According to normative theorists such as Peter Senge and David Garvin, if these elements or some combination of them are not present in the organization then the organization cannot be a learning organization. The conditions identified here will be characterized as Learning Levers and represent a set of prescriptive conditions, or best practices, that function as a template to evaluate learning within the organization. These learning levers are the skills, structures and process that affect how easy or difficult it is for learning to occur, as well as the degree to which the learning is effective. While the learning dimensions represent a descriptive approach to organizational learning, the learning levers represent the normative approach – they are the factors and conditions that stimulate learning. These levers are constructs that have framed previous studies on organizational learning and have been shown to foster organizational learning. When used in conjunction with the learning dimensions, the learning levers have the potential to enhance both the nature and the capacity of organizational learning.

Schools that can be classified as learning organizations possess some combination of the following learning levers (see Figure 6). Collectively these learning levers should help to determine an organization’s learning potential. This profile will be useful in prescribing and designing improvement and growth initiatives.

**Leadership** – This learning lever represents the extent to which organizational leaders are involved in new learning initiatives. Many leadership styles that were acceptable in the past will not be appropriate for the learning organizations of the future. Leaders in learning organizations will need to move from controlling to empowering, from being a commander to being a steward and from being a transitional manager to a transformational leader. These leaders will not just tell people what to learn they will become co-learners and serve as role models for other organizational members.
Vision – A successful transformation to a learning organization requires a vision of the future that is widely held and shared among organizational members. This learning lever refers to the extent to which there is an organization-wide vision for learning that was developed in consultation with all stakeholder groups.

Systems perspective – This learning lever pertains to the ability to focus on both the “big picture” and the “small picture” simultaneously. A systems perspective enables organizational members to see the interdependence of organizational parts and their relationship to the organization as a whole as well as the organizations relationship to the larger community.

<table>
<thead>
<tr>
<th>Learning Levers</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leadership</td>
<td>detached</td>
<td>involved</td>
</tr>
<tr>
<td>2. Vision</td>
<td>individual</td>
<td>shared</td>
</tr>
<tr>
<td>3. Systems perspective</td>
<td>independence</td>
<td>interdependence</td>
</tr>
<tr>
<td>4. Structure</td>
<td>rigid</td>
<td>flexible</td>
</tr>
<tr>
<td>5. Culture</td>
<td>individualistic</td>
<td>collaborative</td>
</tr>
<tr>
<td>6. Resources for learning</td>
<td>scarce</td>
<td>plentiful</td>
</tr>
</tbody>
</table>

Figure 6: Organizational Learning Levers

Structure – The form or structure of many organizations prevents them from ever becoming learning organizations. This learning lever represents the difference between a rigid and a flat organizational structure. A flat organizational structure refers to an organization that supports a flattened hierarchy with fluid boundaryless structures that supports the necessary free, fast and unimpeded flow of knowledge that is essential for growth. A rigid organizational structure refers to an organizational structure that is disjointed and bureaucratic and restricts the free-flow of organizational knowledge. Boundaries in rigid hierarchies keep people and groups isolated and tend to reinforce distrust and bias and a “we verses them” attitude.

Culture – The nature of learning and the manner in which it occurs in an organization are determined to a large measure by the culture of that organization. This learning lever refers to the extent that learning is valued within the organization and people are able to collaborate with
one-another to enhance learning opportunities and at the same time, feel comfortable doing so. For example, the degree to which intelligent risk-taking and experimentation are encouraged as a way of organizational life and the degree to which organizational members are able to engage in professional dialogue with a view to discovering new ideas and perspectives.

**Resources for Learning** – This learning lever refers to the human and non-human resources that are made available to enhance learning opportunities. By increasing the resources available to organizational members the learning capacity of the organization should increase proportionally. This Learning Lever pertains to the degree that the organization takes a system-wide approach to new learning initiatives and allocates adequate resources (time, money, technology, personnel) dedicated to enhancing learning within the organization. The greater the number of advocates who promote a new initiative the more rapidly and extensively learning should take place. Without multiple advocates it will be difficult to establish a widespread base of knowledge.

**Stages of Growth**

There also exists, mainly in the body of literature that deals with industry perspectives on organizational development, the notion that organizations develop as a result of their age, size, experience, industry growth or life cycle and that learning processes evolve as the organization matures. Under this perspective organizations are thought to be continually evolving through a series of stages with the learning organization being the most advanced stage in an organization’s development.

Stage theories have proven useful in helping to understand many different kinds of changes; moral development (Kohlberg, 1970), adult psychosocial development (Levinson, 1978), ego development (Loevinger, 1966), teacher development (Fuller, 1969), and increasing fidelity of innovation implementation (Hall, Wallace, & Dossett, 1973) for example. Even when stages are considered to be no more than a heuristic marker or snapshot of a phenomenon at one point in time (the weak version of stage theory), they offer some promise as tools for diagnosing, and beginning to manage, the hitherto slippery concept of organizational learning capacity development.

Descriptions of stages in organizational learning have been reported by Huber (1991), Dibella, Nevis and Gould (1996), and Dixon (1993). Common to these efforts is the characterization of this process as non-linear and iterative but one that can be described as a number of stages, nevertheless. For example, Huber (1991) identified the stages as knowledge acquisition, distribution, interpretation and organizational memory. DiBella, Nevis and Gould (1996)
suggested the stages of knowledge acquisition, sharing and utilization, and Dixon (1994) outlined a four-step organizational learning cycle including knowledge generation, integration, interpretation and action.

Together, these views suggest that organizational learning follows a cycle including: (1) a stimulus that makes new learning necessary, (2) acquisition of new knowledge coupled with an initial interpretation of that knowledge, (3) transferring and sharing the new knowledge throughout the organization, (4) collectively interpreting and utilizing the new knowledge in an organizational context (new learning), and (5) documentation or codification of the new knowledge (see figure 7).

Figure 7: Organizational Learning Cycle

This cycle may capture, fairly well, essential features of the organizational learning process. But it tells us almost nothing about changes in the extent of a school’s capacity for organizational learning, or how to manage the process for improvement purposes. For these purposes, we need answers to such questions as “How can the rate at which a school moves through this cycle be increased?”, and “How can we help ensure that the knowledge acquired adds value to the school’s improvement capacities?”. What is required to answer questions such as these is a better understanding of the organizational conditions that account for variation in the speed, efficiency and effectiveness with which an organization learns, and how the state of each of these conditions changes as organizational learning capacity increases.
The stages of growth model, proposed here, will consist of a series of profiles constructed from an analysis of the interview data. Each of the profiles will outline stages of growth and development along a number of broad categories or idea units that are associated with organizational learning capacity (see Figure 8). Each of the categories is broken down into a series of dimensions and sub-dimensions that emerged during the data analysis process (see Figure 3). These sub-dimensions describe an organization’s learning style under each of the major dimensions. In its final version the profile produces a multi-dimensional matrix that graphically describes the developmental stages of growth in professional practices along the dimensions of organizational learning capacity.

<table>
<thead>
<tr>
<th>Dimensions of Organizational Learning Capacity</th>
<th>Coping Organization</th>
<th>Emerging Organization</th>
<th>Developing Organization</th>
<th>Learning Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Whole School Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions of Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning Levers</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Figure 8: Stages of Growth in the Organizational Learning Capacity of Schools

Whether or not the profiles developed in this study can provide an appropriate framework for studying organizational learning capacity is open to debate. However, at this juncture it is a point of departure and I will show how, when combined with the descriptive and normative approaches to organizational learning, the developmental perspective can provide a comprehensive framework for assessing organizational learning. Summarized below is a four-stage description of growth in a school’s organizational learning capacity inferred from the review of literature.

**Stage 1: The Coping Organization:** Schools in the coping stage are maintaining their traditional approaches to education even though changes in their environments may warrant significant change. These schools “exploit” (March, 1991) their existing repertoires of knowledge and routines engaging almost entirely in single loop learning (Argyris, 1976), and resist innovation.
through, among other things, widespread use of “organizational defensive routines” (Argyris, 1990). Since organizational members are committed to retaining the status quo, there is very little stimulus for “exploratory” (March, 1991) or “double loop” (Argyris, 1976) learning. These schools do not see the need for change and generally feel that they are doing a good job. There is no evidence of a learning plan. These schools are primitive learning systems, at best, often engaging in “superstitious learning” (Levitt & March, 1988) - drawing flawed, or just plain incorrect, lessons from their experiences.

Stage 2: The Emerging Organization: Schools that are in the emerging stage have become active, if incomplete and immature, learning systems. There is usually a consensus beginning to form in the school that large-scale change is necessary and some understanding that “systems thinking” (Senge, 1991) will be required to successfully bring about such change. There is at least one, and usually a group of people, in the school prepared to champion this change, and to engage in the new learning this will entail. Indeed some people in the school are prepared to engage in double loop or exploratory thinking for this purpose. There is, as well, signs of the development of conditions and strategies (or levers) for intentionally fostering collective learning (creation of more collaborative cultures, for example). But these schools are only beginning to emerge from their protective shell; they still engage in organizational defensive routines occasionally. These schools need to design improvement plans for altering how they go about their collective learning (for example, how they can more systematically collect relevant knowledge from outside sources), as well as how they can actively intervene to improve the rate and efficiency of their learning.

Stage 3: The Developing Organization: Schools at this stage are relatively mature learning systems but have to work explicitly and quite self consciously at their learning, occasionally slipping back into old, more defensive patterns. From time to time, they can be seen engaging in both single loop and double loop approaches to learning but sometimes they choose the wrong approach for the problem or situation at hand. These schools have developed an impressive repertoire of knowledge, skills and related practices but have few procedures or structures in place to ensure the reliable delivery of these practices. At this stage, schools are very open to promising ideas and practices from elsewhere. Occasionally, however, they are faddish in their approach to such ideas, adopting them with insufficient assessment, and implementing them with too little attention to the modifications warranted by their context.

Stage 4: The Learning Organization: Schools at this stage are sophisticated learning systems. An ethic of continuous learning creates a culture in which both exploratory/double loop learning strategies are balanced, as the occasion warrants, with exploitative/single loop approaches to
learning. At this stage, schools recognize what it is they do very well and are vigilant about engaging in those practices, or delivering those services, in a highly reliable way (Stringfield, 1995). They also are quick to recognize good ideas from outside the organization that hold promise of substantially improving their own effectiveness. These ideas are carefully examined and the implications for changes in the school determined in a deliberate fashion. There is a widely shared, but adaptable plan for continuous improvement which serves as a guide for such deliberation. Schools as this stage share many of the features that Leithwood associates with his “high reliability, learning community” (Leithwood, Jantzi & Steinbach, 1999).
CHAPTER FOUR

Assessing Organizational Learning in Schools

This chapter reports evidence from 25 interviews conducted in four different schools. Each participant was interviewed about individual, team and organizational learning processes and conditions that existed in their school. In this chapter the results are presented along the lines of each of individual learning, learning at the team/group level and whole school learning. First, I will define the basic features of each of the dimensions; next I will outline these features across each of the stages of growth. In so doing, examples from schools will be used to illustrate the differences among the stages. In the concluding section I will identify a number of questions that must be contained in an instrument designed to locate a school’s stage of development within the dimension.

Individual Professional Learning in Schools

The factors that emerged from the interviews with 25 teachers and were identified as leverage points for enhancing individual professional learning in schools have been classified as (1) attitudes about individual professional learning, (2) support for individual professional learning (3) administrator involvement in individual professional learning, (4) planning for individual professional learning and, (5) the nature of opportunities for individual professional learning. The characteristics of each of these classifications will be presented as they are discussed.

Attitudes About Professional Learning

Table 1 lists the range of comments, thoughts and actions that surfaced regarding attitudes towards individual professional learning in schools. Overall, attitudes about individual professional learning varied from school to school, as teachers in some schools were enthusiastic while others were skeptical of professional learning initiatives and somewhat reluctant to get involved at all, unless it was mandated.

At Floridav High School individual professional learning was widespread, strongly supported and seen as critical for school growth. Teachers were enthusiastic about learning and indicated there was an understanding that professional learning helped teachers and administrators do their jobs better and helped to prepare them for new challenges. The guidance teacher, who had been on staff since the school opened (three years ago), explained that she would categorize all staff
members as lifelong learners and individuals who were committed to their own professional careers. She acknowledged that one of the advantages of being able to hand pick your staff right from the beginning “is that you can pick out the learners and go with people who support your vision”.

<table>
<thead>
<tr>
<th>Attitudes About Individual Professional Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of citations (number of teachers mentioning)</strong></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Critical for growth</td>
</tr>
<tr>
<td>Enthusiastic</td>
</tr>
<tr>
<td>Commitment</td>
</tr>
<tr>
<td>Reluctance</td>
</tr>
<tr>
<td>Skepticism</td>
</tr>
<tr>
<td>Organizational responsibility</td>
</tr>
<tr>
<td>Individual responsibility</td>
</tr>
<tr>
<td>Waste of time</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Table 1: Attitudes about Individual Professional

Making the transition from a time when there was very little emphasis placed on professional learning, the teachers at CAL recognized that they were entering a new era of organizational life where learning was going to be important, and that professional learning was a priority of the new principal. However, as the English teacher admitted, “old attitudes die hard around here. There’s a small group of us who have a genuine interest in learning but the vast majority - unless they’re being paid every minute for everything they do - they just won’t do it”. These teachers were skeptical about professional learning because it had not been a priority in their work-life and now it appeared as if it were more of a priority with the principal than with the school district. The mathematics teacher said he represented the views of many when he stated “most of us just want to go in our classroom and teach – we spend too much time on useless professional development stuff”.

Teachers at Nicom viewed professional learning as essential in keeping professionals up to date on current information and issues. But everyone interviewed indicated that teachers were disappointed with the initiatives of their employer. The learning resources teacher summed up the views of many of her colleagues when she stated “unless the board shows some initiative we’re not investing a cent of our own money or a second of our own time – someone else has to see it as a priority besides us”. The consensus on this staff was that professional learning was first an organizational responsibility and secondly an individual responsibility.
At Janjonner school-wide professional learning was given a very low priority and all teachers interviewed indicated that many of their colleagues were skeptical about professional learning and reluctant to get involved because they were busy with other things. The English department head summed up the views expressed by those interviewed:

Yes, there are those who actively want to get information, those who embrace new ideas, those who wish to find out new things, but without being cynical I find an awful lot of my colleagues are reticent to get involved. Now to be fair to them, it is most likely because they're so damn busy doing everything else... if their other commitments are moved away for them, then they're more willing to do it. If it's something that's going to take them to five or six o'clock at night or something that's going to be on Saturday, no way.

**Support for Individual Professional Learning**

Table 2 outlines the types and source of support for individual professional learning on a school by school basis. Internal sources were identified as resources available inside the school whereas external support was identified as support that originated outside the school. Positive comments centered around school-based support for learning while negative comments focused mostly on a lack of support by external agencies such as the school board and the Ministry of Education.

At Floridav, there was considerable evidence that professional learning was occurring and that there was extensive individual, school and district support for learning initiatives. The holistic education teacher explained that support for learning was a distinguishing feature of the school:

*We've had endless, endless PD. That's one of the things that this school is really good at. If you're interested in taking Tribes, if you're interested in taking Kegan Structures, any of the co-operative learning strategies that the board has initiated, True Colors, anything like that, the school always paid for that. So anyone, who says they know nothing about Tribes, they know nothing about Co-operative Learning, Kegan Structures, or True Colors, anything like that, hasn't taken advantage of the opportunities available because the opportunities are there. Everyone knows that the school will pay for him or her, whatever it takes to get teachers to implement those strategies.*

The principal was also quick to credit the district for providing leadership for teacher professional learning, making the point that professional development opportunities are available to all teachers. In echoing her support for professional learning as a catalyst to positive change she pointed to staff development as a critical link:
So, bottom line for me, and I know I've said it several times, is staff development. Staff development is at the beginning of the day and at the end of the day and everywhere in between, and without question, the most important piece to ensuring that classroom practice continues to improve.

### Support for Individual Professional Learning

<table>
<thead>
<tr>
<th>Support</th>
<th>CAL</th>
<th>Nicom</th>
<th>Floridav</th>
<th>Janjonner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong internal support</td>
<td>7 (4)</td>
<td>7 (6)</td>
<td>12 (6)</td>
<td>--</td>
</tr>
<tr>
<td>Weak internal support</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>5 (5)</td>
</tr>
<tr>
<td>Strong external support</td>
<td>--</td>
<td>--</td>
<td>18 (6)</td>
<td>6 (3)</td>
</tr>
<tr>
<td>Weak external support</td>
<td>16 (7)</td>
<td>14 (7)</td>
<td>--</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>21</td>
<td>30</td>
<td>14</td>
</tr>
</tbody>
</table>

Table 2: Support for Individual Professional Learning

At CAL and Nicom many educators agreed that the concept of professional learning was supported in principle but that there was little in the way of resources (e.g. money, professional leave, personnel etc.) in order to make it a worthwhile experience. While members viewed it as important to help keep teachers and administrators up-to-date on current information they didn’t accept full responsibility for their own learning. All teachers at these schools expressed concern over the lack of commitment to professional learning by both the ministry and their school board. The learning resources teacher at Nicom summed up her feelings of frustration, claiming that individual efforts are rarely, if ever, acknowledged:

*I think a lot of people are very perturbed by the lack of professional development. The fact that it's not even deemed that we deserve professional development, that when we engage in professional learning on our own it's often not recognized. You know, there are a number of us who were prepared to do training at our own expense but we couldn't get the leave time – I think teachers are willing to get involved but we need some support – the government or the board has got to give us a break. There's been a lot of teachers on our staff who have gone back and done graduate work and upgraded at their own expense and didn't even get as much as a letter from the board saying well, congratulations on your achievement, well done, or anything like that. I don't think that gives people a sense of being valued by the "employer".*

At Janjonner there was no clear focus on professional learning at the school level. Teachers did make reference to school board sponsored professional development sessions that were
Administrator Involvement in Professional Learning

Table 3 highlights the ways that teachers indicated that administrators become involved in individual professional learning. An analysis of the table indicates that, being encouraging and setting expectations for teachers is only half the battle as, administrators in the schools with successful individual professional learning were also personally involved in the learning process.

<table>
<thead>
<tr>
<th>Administrator Involvement</th>
<th>Number of citations (number of teachers mentioning)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAL</td>
</tr>
<tr>
<td>Setting high expectations</td>
<td>6 (2)</td>
</tr>
<tr>
<td>Encouraging teachers</td>
<td>6 (6)</td>
</tr>
<tr>
<td>Being a champion</td>
<td>6 (6)</td>
</tr>
<tr>
<td>Being a mentor/coach</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Being a co-learner</td>
<td>--</td>
</tr>
<tr>
<td>Finding creative solutions</td>
<td>6 (5)</td>
</tr>
<tr>
<td>Paying lip-service</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Being over zealous</td>
<td>5 (3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29</strong></td>
</tr>
</tbody>
</table>

Table 3: Administrator Involvement in Individual Professional Learning

All teachers at Floridav confirmed that not only were they encouraged to take responsibility for their own individual professional learning, there was a high expectation that they would do so. As the guidance counselor articulated, “there is an expectation that people will keep current, will be creative, and continue to learn. People who come here from other schools are often overwhelmed cause the pace is fast and furious and the expectations are high. For some people, it's a real shock.”

This expectation resulted in most members being committed to continuous learning for improvement. The expectation originated with the school administrators and was shared by most staff members, as they viewed continuous professional learning and professional development for all teachers as a high priority. Administrators became actively involved in the learning process by being co-learners in new learning situations, modeling desired learning habits and coaching other people to manage their own learning. They encouraged teachers to develop a personal professional development plan - one that aimed to meet the needs of the teacher and the school. The principal at Floridav outlined how she worked with junior teachers, senior teachers and prospects for promotion:
In the last school where I had many more staff ready to move into leadership positions, we mentored and coached them, ran workshops on the interview process, on resume writing and literally coached them so they were prepared for the interview and the new job if they were successful. Nowadays, I’ve got mostly young people who are still getting their feet wet with teaching, and a group of senior teachers who are almost as old as I am and this is the career spot they’ve wanted. So the onus right now is on helping the young teachers improve and get better.

I also try to encourage people to seek promotion. For me there’s nothing that replaces going up to, talking to a teacher and saying, you have the skills for...have you thought about...what are you doing to get yourself ready for... did you realise there’s a posting for ... and how can I help you? I do it on the individual basis... it can be done formally, like a workshop on interviewing tips or like a workshop on resume writing but I prefer the individual approach.

The principal at Nicom was frustrated with a lack of resources for professional learning claiming he had neither the resources (e.g. money, substitute teacher time) nor the personal time to invest in making professional learning work the way he felt it should. He pointed to a lack of support from the school board claiming “I try to support my teachers in any way I can but, basically we are left on our own to make things happen - we don’t have one-tenth of the resources we need. I don’t even get the feeling that they [school board] believe teacher professional learning is important, and that really disappoints me.” Teachers at Nicom indicated that they felt their administrators gave individual professional learning a high priority but that they did not have the time to get personally involved with helping teachers plan for individual learning. The science teacher said, “he offers guidance to teachers, in that he might say, why don’t you go and do this course, but he doesn’t get personally involved with coaching or mentoring other teachers”.

All teachers at CAL recognized their new principal placed a high priority on individual professional learning and that he was tenacious about creating new learning opportunities. In fact, some felt he was a little too ambitious with his plans and perhaps a little over zealous in his approach to individual learning. By his own admission he was somewhat disconcerted with all of the complaining about the lack of external support and indicated he was attempting to do something about it. Individual professional learning was a top priority, both for himself and his staff and he had assumed school-wide responsibility for professional learning, in an effort to get it moving. He described his frustration in this manner:

I’m finding it difficult to distinguish between the real concerns and the griping. There is a lot of griping out there now because things have been taken away from us and the people
you have complaining about the fact that they can't get professional development didn't take advantage of it anyway. We have decided to go against the current, since there is little vision for professional learning on the part of our professional association, school board or the Department of Education, we're going to go on our own. In the past two weeks I've directed three people into courses for either the summer or next year. I just ask them are you interested in this and very importantly - I have some resources I'll make available to you.

Teachers at JanJonner were not at all positive about their administrators’ role in individual professional learning. While they did acknowledge that administrators took responsibility for communicating board sponsored professional learning opportunities there was no evidence to suggest that they became involved in professional learning at a personal level.

**Planning for Individual Professional Learning**

Table 4 captures the views that organizational members have towards planning for individual professional learning. Planning for successful professional learning means involving participants in the process, from the beginning. By involving people from the outset there is a higher probability that they will make a personal commitment to the process and take action to make it an on-going lifelong learning affair.

While some teachers and administrators acknowledged a school-wide plan for learning that involved teachers in the planning process and saw learning integrated into teachers’ daily work, teachers in other schools acknowledged there was little organization-wide planning for individual professional learning. Often, the focus was on training (one-shot deals) and not on a continuous learning process.

<table>
<thead>
<tr>
<th>Nature of the Planning</th>
<th>CAL</th>
<th>Nicom</th>
<th>Floridav</th>
<th>JanJonner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involving teachers</td>
<td>--</td>
<td>4 (4)</td>
<td>6 (6)</td>
<td>--</td>
</tr>
<tr>
<td>Integrated into daily work</td>
<td>--</td>
<td>4 (3)</td>
<td>9 (6)</td>
<td>--</td>
</tr>
<tr>
<td>For individual goals</td>
<td>1 (1)</td>
<td>--</td>
<td>6 (6)</td>
<td>--</td>
</tr>
<tr>
<td>For organizational goals</td>
<td>5 (5)</td>
<td>--</td>
<td>6 (6)</td>
<td>--</td>
</tr>
<tr>
<td>Focus on a continuous process</td>
<td>3 (1)</td>
<td>--</td>
<td>9 (6)</td>
<td>--</td>
</tr>
<tr>
<td>Focus on one-shot events</td>
<td>3 (3)</td>
<td>3 (3)</td>
<td>5 (5)</td>
<td>5 (5)</td>
</tr>
<tr>
<td>Barriers to planning</td>
<td>3 (3)</td>
<td>4 (4)</td>
<td>--</td>
<td>3 (3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>15</strong></td>
<td><strong>41</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

Table 4: Planning for Individual Professional Learning
At Floridav, where people were serious about individual professional learning, efforts were made to integrate learning with teachers day-to-day work activities. While there were still some on-site, just-in-time training sessions provided, the emphasis was on trying to make individual learning a continuous lifelong process. All teachers were expected to develop their own professional learning plans in consultation with a colleague, an administrator, a department head or the school growth team and these plans were to be based on the current and projected needs of the school. The holistic education teacher, who was new and relatively inexperienced, explained how plans for professional learning could be integrated as a component of performance appraisal:

One of the things that just jumps to mind right here now is, of course, every five years you have to have your performance appraisal where you are evaluated by your administrator. One of the things this district has that is rather more interesting than say, other districts or things that have happened in the past, is that you can integrate learning into your evaluation. In the old system you used to have to get up there and you’d teach your lesson and the principal would observe you for twenty minutes and write down your report and that would be it. Now, one of the approaches we have here is that you can have an assessment where you collaborate with another member from staff and you work on some sort of, curriculum related project. And so … I paired up with another member of the English department who was being appraised as well, and we worked on a unit using visualization in the grade ten English classroom…. And so, as an ongoing process, we met, we talked, we went to the Holistic Educators Workshop…. And the end of the semester we’ll have a unit plan put together. We’ve talked to our principal about various thing relating to it and at the end of the year we’re going to present to the staff our findings and everyone gets a copy of our work. So basically, we’re encouraged as much as possible to share collaboratively in our workrooms in terms of an integrated idea, or encouraged to share at our department meetings. The opportunity is open for any of us if we want to do professional development, either in-school professional development or board professional development.

Teachers at Nicom provided little evidence of school-wide planning for learning. However, they agreed that administrators did recognize continuous professional learning and professional development for all teachers as a high priority. There was some evidence that learning was being integrated into the daily routines of teachers, particularly as it related to their use of new technologies. However, most learning opportunities were presented in the form of one or two-day inservice sessions with little in the way of planned follow-up. The principal recognized a need for professional learning and corroborated what the staff was saying but was frustrated by a lack of resources to make it happen:
I'm supposed to be instructional leader, the curriculum leader, the social worker... you understand the point. I try to take a personal interest in every member of the staff in terms of how they are, what their well-being is, if there's anything I can do for them, or whatever the issue. I try to identify what the trends are and to provide direction for the school and I try to encourage people by saying, now listen you might as well be ready for this change when it comes. However, I do not have an individual professional plan on every staff member, I just don't have the time.

All of the teachers from CAL acknowledged the enthusiasm of the principal for professional learning. However, when this research was conducted they were unaware of any school wide plan for professional learning. A social studies teacher who had been on staff for the past fifteen years and was looking forward to a change commented: “I think he has a plan but as of today he has not shared it with us”. A young science teacher who had been on staff for five years expressed disappointment with the lack of interest that other school and board level administrators had taken in his teaching career:

Since I came here, no one has ever mentioned anything about a professional learning plan for me. I’ve found that if you don't speak up and say I need help, I need this, then you're just left to go on your own because people are so busy with their own problems that you'll just be lost in the shuffle.

Janjonner teachers acknowledged that the board offered numerous professional learning opportunities but there was no school-wide plan for teachers to avail of the opportunities. In fact, it was the opinion of one of the younger French teachers that there was no long term planning for professional learning of any sort. “I find, personally, and that's what you want to know, right, that I am not encouraged for professional development. To be completely honest, it's announced at a staff meeting and that's it”.

**Nature of Opportunities for Individual Professional Learning**

Table 5 outlines the nature of opportunities for professional learning that existed in each of the schools. The opportunities that were identified ranged from formal classroom learning to informal learning from colleagues, were located on-site and off-site, and provided for continuous learning opportunities through integration with work and action learning projects.

At Floridav professional learning was addressed through a wide variety of choices designed to meet the needs of the learner. This included learning from other staff members, cross-training, accepting new work assignments and from formally planned training sessions. Learning sessions
involved attending school-based and/or district planned in-service or outside training sessions, combined with planned follow-up, to ensure that what was learned got integrated into administrators and teachers daily activities. The family studies teacher explained how new learning was integrated into teachers’ classrooms and became a part of their daily work routines:

*I think once you’ve started attending some of these professional development sessions, what you do is you go back to your classroom and experiment with them, and manipulate and massage what you have learned in the sessions so that it fits what you are doing in the classroom.*

![Table 5: Nature of Opportunities for Individual Professional Learning](image)

Also, it was acknowledged that the school itself was rich in human resources and opportunities were created to enable teachers to share with each other, either as a part of a formal professional day or on a continual day-to-day basis. As a result, much learning occurred on-site, through training and professional development sessions that were customized to meet the learners’ needs. The holistic education teacher explained how he learned valuable information about other programs in the school:

*We did a carousel of our grade nine integrated program. We got an opportunity to go round and see what the grade nines were doing in each of the four areas of integration. Even though not everyone teaches the integrated program we all need to know this information.*
At Nicom and CAL most of the learning opportunities that occurred were a result of in-school initiatives that resulted in one-day workshops, or outside training sessions. These teachers acknowledged that lately there was a fair amount of individual professional learning as a result of technological changes. However, most claimed that it was difficult to integrate this new learning into their classes in a meaningful way. These teachers also agreed that, with the exception of the initiatives in technology, there was little planned follow-up to ensure what was learned got integrated into administrators’ and teachers’ daily activities.

At Janjonner opportunities for professional learning existed but there was no evidence that teachers were involved in any organizational plan for individual professional learning. In fact, the teachers in this study claimed that teachers and administrators gave it a low priority. Administrators advertised, but did not actively support or promote, board-based, individual professional learning opportunities.

Stage Descriptors

As this analysis has begun to show, individual learning occurs along a continuum that ranges from very little interest in individual professional learning to a very sophisticated level of individual learning. Building on these interview results, individual professional learning may be described across the four stages of organizational learning, as summarized in Table 6.

In the first stage of development (The Coping Stage) there is very little evidence of individual professional learning and organizational members give it a fairly low priority. Also, training and professional development are often viewed with skepticism and the little learning that does occur results from attending district planned in-service or outside training sessions that are viewed as mandatory. While discussing professional learning, one of the English teachers at Janjonner claimed “without being cynical, I find an awful lot of my colleagues are reticent to get involved.” The science teacher felt professional learning wasn’t a big issue in the school stating “notices get read out in staff meetings but that’s about all.” At this stage, there is external support for professional learning however, at the school level it is viewed as a one-shot deal and not as a continuous process. The English department head at Janjonner clarified this when he said:

This board has a lot of opportunities that you can take advantage of …they occur outside of school time and you can sign-up if you are interested, but the onus is on the individual teacher to be interested enough to want to sign-up…. Within the school there is a PD committee and they plan our school-wide PD days but that’s’ only going to be twice a year.
### Stages of Growth - Individual Professional Learning

<table>
<thead>
<tr>
<th>Factors</th>
<th>Stage 1: The Coping Stage</th>
<th>Stage 2: The Emerging Stage</th>
<th>Stage 3: The Developing Stage</th>
<th>Stage 4: The Learning Organization Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes about Individual Professional learning</td>
<td>Reluctance and skepticism; given low priority;</td>
<td>Some skepticism but a recognition that it is important; responsibility given to school committees</td>
<td>Viewed as critical for growth; but responsibility of entire organization</td>
<td>Critical for growth; people enthusiastic and committed to learning; responsibility shared by organization and individual</td>
</tr>
<tr>
<td>Support for Individual Professional Learning</td>
<td>Very little internal support even though there may be strong external support</td>
<td>Strong internal support but weak external support</td>
<td>Strong internal support but weak external support</td>
<td>Strong internal and external support</td>
</tr>
<tr>
<td>Administrator involvement in Individual Professional Learning</td>
<td>Very little support - nothing more than paying lip service</td>
<td>Viewed as a high priority; little personal involvement</td>
<td>Viewed as a high priority; administrators get personally involved.</td>
<td>Viewed as a high priority; high expectations for all teachers; administrators get personally involved</td>
</tr>
<tr>
<td>Planning for Individual Professional Learning</td>
<td>Focus on one-shot deals; no follow-up; no long term planning</td>
<td>Focus on one-shot deals; organizational goals are considered; no evidence of school-wide planning</td>
<td>Still some focus on one-shot deals but some evidence that learning is integrated into daily work; little evidence of school-wide planning; learning needs based on perceived needs of the future</td>
<td>Focus on learning as a continuous process; teachers are involved and learning is integrated into work life; individual and organizational goals are considered; there is a long-term plan.</td>
</tr>
<tr>
<td>Nature of Opportunities for Individual Professional Learning</td>
<td>External sources available but rarely used</td>
<td>On-site, one day sessions for entire staff; periodic off-site sessions for individuals; some planned follow-up on key items</td>
<td>On-site, one day sessions for entire staff; periodic off-site sessions for individuals; some evidence of learning integrated into daily work</td>
<td>Wide variety of choices customized to meet needs of the learner; on and off site sessions; focus on continuous learning; integration into daily work life</td>
</tr>
</tbody>
</table>

Table 6: Stages of Growth - Individual Professional Learning

Another characteristic of schools in the first stage of development is that administrators do not openly support professional learning – their own or others. In most instances, there is little formal follow-up to ensure that what is learned is used on the job. One of the science teachers at Janjonner who had taken a summer course on Kegan Structures claimed she was using it in her teaching but there was no direct follow-up with the board or the school.

At this stage, there is no evidence to support long term planning for professional learning of any sort. When asked if there was a professional learning plan for the school, all five of the teachers at Janjonner answered a definitive "No". When asked if anyone took responsibility for working out an individual professional learning plan, once again all answered "No". The French teacher said "anyone can go to the PD committee and ask for money to go somewhere, and you'll probably
get it but in my opinion there is really no push or encouragement”. It was her feeling that professional learning was entirely the responsibility of the individual teacher.

In Stage Two individual learning is still not widespread. There are pockets of individual learning but there are also many teachers who resist the notion. As one of the more experienced English teachers at CAL stated: “There’s a small group of us who have a genuine interest in learning but the vast majority - unless they’re being paid every minute for everything they do - they just won’t do it”. Administrators see continuous professional learning and professional development for all teachers as a high priority and but they do not become actively involved in coaching and mentoring teachers and there is no evidence of planning for individual professional development. As the principal at Nicom articulated:

I try to take a personal interest in every member of the staff in terms of how they are, what their well-being is, if there’s anything I can do for them, or whatever the issue. I try to identify what the trends are and to provide direction for the school and I try to encourage people by saying, now listen you might as well be ready for this change when it comes. However, I do not have an individual professional plan on every staff member, I just don’t have the time.

This principal and the principal of CAL also supported the views of their teachers in that there was strong internal support (from the school administration) for professional learning but very little external support from the district and the ministry. As the learning resources teacher at Nicom so forcefully pointed out “You know, there are a number of us who were prepared to do training at our own expense but we couldn’t get the leave time – I think teachers are willing to get involved but we need some support.”

In Stage Two schools, learning opportunities are still scarce. Most are a result of one-day district or ministry-mandated in-services or one-day workshops planned by the school. In these schools there is little evidence of school-wide planning for learning and there is little planned follow-up to ensure that new learning gets integrated into administrators and teachers daily activities. When asked about follow-up after inservice and professional days the English teacher at CAL stated: “There’s not much really, but lately there is an emphasis on technology and we are constantly being asked how it’s going and we are encourage to use it as much as possible”.

In schools that are in the third stage of development, individual professional learning is seen as critical for school growth. The teachers at Nicom recognized the need for professional learning opportunities but were frustrated by the lack of resources and external support to make it happen
but, as the science department head said: “...we have to learn as we go. Things are changing so fast you can’t wait for the board – we have to do it ourselves”. This staff had taken responsibility for their own learning and was developing new curriculum, experimenting with technology and one person was engaged in an action-learning research project.

In schools at this stage, there is an understanding that professional learning helps teachers and administrators do their jobs better and helps prepare them for new challenges. The teachers at Nicom felt that despite the number of new initiates there was not a clearly articulated school-wide plan for learning but they did acknowledge that the new learning initiatives did focus on the perceived future needs of students. All of the teachers mentioned the increased onus on technology and the Future Pathways program as clear examples. The principal at Nicom claimed the new learning initiatives were all about keeping pace with changes in the local community and society in general in an attempt to improve educational opportunities for students. With reference to the Future Pathways program he said “...we’re looking out to the community and inward towards the child, because we believe strongly that this is so relevant for any kid who walks out of school these days”. In addition, teachers at Nicom viewed individual professional learning as essential to the school’s ability to change (even though they felt it was an organizational rather than a personal responsibility) and to prepare organizational members (administrators, teachers and students) for an uncertain future.

Also, in the third stage, learning sessions may involve attending district planned in-service, school-based workshops or outside training sessions. While there is a focus on providing opportunities for learning there is still little follow-up to ensure that what gets learned gets integrated into administrators and teachers daily activities. At Nicom, the administrators did become involved as co-learners (with the new technology initiatives and the Future Pathways program) but there was no evidence that they were engaged in coaching or mentorship activities.

At stage four, individuals are enthusiastic and committed to lifelong learning and professional learning is viewed as critical for school and personal growth. At this level there is tremendous internal support (from administrators and other teachers) and external support (from school district and community) for learning, and teachers and administrators have high expectations of each other. The staff development teacher at Floridav described just how strong a commitment was required in her school:

*In order to come here you had to have a certain level of professional development, you had to be a lifelong learner, you had to be a risk-taker, you had to be a change agent, you had to be a lot of things because at this school we do things quite differently.*
involves a lot of work but there are a lot of rewards and I think generally speaking, you have to be a very energetic, forward thinking person to be here.

Administrator and teacher learning are addressed through a wide variety of choices designed to meet the needs of the organization along with the learner. This includes learning from other staff members, cross-training, accepting new teaching assignments and from formally planned training sessions. Also, at this stage most of the learning occurs on-site, through training, professional development sessions and action learning projects that are customized to meet the needs of the learners. A major focus at this stage is that new learning is integrated into teachers’ classrooms and becomes a part of their daily work routines. For example, at Floridav, teams of teachers meet weekly to reflect on their work and to develop new approaches to teaching. Some teachers were able to develop new teaching units as a component of their performance appraisal.

Assessing Individual Professional Learning

The first step to improving individual professional learning in schools is to conduct an assessment of current learning activities. An initial assessment is critical because it enables an organization to develop a learning profile, based in this case on individual professional learning. The assessment provides the organization with an awareness of learning issues that need to be addressed and can become a point of departure from which to develop a learning plan. This assessment can be achieved by conducting structured interviews and observations, as was the case for this research, or by administering an individual learning survey, such as the one developed from this research (see Figure 9).

To assess the stage of development within the individual learning dimension there are a number of critical areas that will have to be probed. Some of those areas were investigated in this study but the study itself helped to raise other questions that could prove useful in locating a school’s position on a continuum of individual learning.

From this research it is obvious that some questions will be designed to determine whether attitudes about individual professional learning are positive or negative in nature. Also, the level of support that exists within and outside the school will also need to be determined. It will also be important to determine whether or not school administrators become actively involved in the learning of their teachers. Planning for individual professional learning can range from non-existent to meeting only organizational or individual needs to both and this will need to be assessed. Lastly, it is important to consider whether this learning occurs purely by chance or whether there are carefully designed plans for individual learning. Other information that could help to assess an organization’s status with respect to individual learning can be obtained by
finding out what stimulates individuals to learn in an organizational context; the sources of individual learning and what individuals do with the new learning once they have acquired it. Answers to these questions should help in locating a school on the individual learning continuum.

Diagnostic Questions - Individual Professional Learning

1. In this school...
   a) professional learning is given a very low priority.
   b) training and professional development are viewed with skepticism.
   c) professional learning is seen as important to help keep teachers and administrators current.
   d) professional learning is seen as critical for organizational growth.
   e) in addition to (d), professional learning is viewed as essential to the school’s ability to change and to prepare organizational members (e.g. teachers and students) for an uncertain future.

2. In this school...
   a) there is very little support for professional learning.
   b) most professional learning is generated as a result of initiatives by the Ministry of Education.
   c) the concept of professional learning is supported in principle but there are very few resources allocated to professional learning (e.g.) money, leave time.
   d) professional learning occurs because individual initiatives are supported by the school.
   e) In addition to (d), individual and school initiatives are supported by the school district.

3. In this school, our administrators...
   a) do not get involved in professional learning – for themselves or their teachers.
   b) defer responsibility for professional learning to district level administrators.
   c) share responsibility for professional learning with school level committees.
   d) facilitate professional learning by planning and working closely with district level administrators and school-based committees.
   e) in addition to (d), model desired learning habits and help others in manage their learning.

4. In this school...
   a) there is little or no planning for professional learning.
   b) professional learning is viewed as a one-shot deal and not as a continuous process.
   c) planning for professional learning occurs infrequently as part of performance appraisal.
   d) planning for professional learning is based on the current and projected needs of the school.
   e) teachers are encouraged to develop a personal professional development plan that aims to meet their personal needs along with the needs of the school.

5. In this school, most professional learning occurs...
   a) entirely by chance.
   b) as a result of attending district planned inservice or outside training sessions.
   c) by attending district planned inservice or outside training sessions along with planned follow-up to ensure what is learned is integrated into administrators’ and teachers’ daily activities.
   d) in addition to (c), in-school, through customized training and professional development sessions that are customized to meet the learners needs.
   e) on the job, on a daily basis. This includes learning from other staff members, cross-training, accepting new work assignments and from formally planned training sessions.
Team/Group Learning in Schools

Many organizational theorists (Senge, 1990; Hackman, 1990; Watkins and Marsick, 1993; Neck and Manz, 1994) have asserted the general utility of teams. From increased employee motivation, commitment and buy-in to improved decision making and increased organizational learning, teams have become more and more popular in modern organizations. This section of the study will report my analysis of the interviews concerning 4 matters: (1) teams and how they learn, (2) the stimuli for team learning, (3) factors and conditions that had an impact on team learning and (4) the outcomes of team learning.

Teams and How Teams Learn

In this study collective learning at the team/group level of an organization alludes to changes in the knowledge, skills, competencies or relationships by and within the team/group that, when transmitted to the rest of the organization, has the potential to contribute to changes in organizational patterns of practice. An analysis of the interview data identified a variety of ways that teams engaged in team learning: (1) generation of knowledge, (2) analysis of complex issues, (3) taking innovative action and, (4) collective problem solving (see Table 7).

How Teams Learn: Team Learning Processes By School

<table>
<thead>
<tr>
<th>Team Learning Processes</th>
<th>CAL</th>
<th>Nicom</th>
<th>Floridav</th>
<th>Janjonner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation of knowledge</td>
<td>--</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>--</td>
</tr>
<tr>
<td>Analysis of complex issues</td>
<td>--</td>
<td>2 (2)</td>
<td>4 (4)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Taking innovative action</td>
<td>1 (1)</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>--</td>
</tr>
<tr>
<td>Collective problem solving</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>7 (4)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>6</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 7: How Teams Learn

The Generation of Knowledge

Generating knowledge refers to coming up with new ideas and processes that more appropriately meet the needs of the organization. For example, at Nicom the team of teachers who were working on the Future Pathways project had identified that their students needed more exposure to the community and the workplace and they were designing curriculum to meet these needs. The principal described how the process evolved to the point where they were convinced it was the right thing to do:

Past experiences with co-op have shown us that when students go out into the workplace they come back more focused and can more easily appreciate the relationship between
school and work. A few of us got together and said “how can we provide this kind of program for all our students”? We had no answers so we began to look at other curriculums across the country and we discovered that a work placement was mandatory for all students in British Columbia – the only province where this is the case. We looked at their curriculum and the curriculum from other provinces and some of our own curriculum, then we determined the outcomes we wanted for our students and that’s what we’ve been working on. Right now there are six of us working on the project doing everything from arranging work placements to creating new curriculum.

Teachers at Floridav provide another example of new knowledge creation as they meet on a weekly basis to discuss their integrated curriculum. The holistic education teacher explains how the integrated arts team works together to explore new approaches to teaching:

*We meet every Wednesday morning, for an hour or so and plan our integrated arts curriculum. Basically, what we do is fuse together and integrate music, drama and visual arts. We are creative in our approach as we try to come up with ways to show students that there are differences to each of the areas but that they are all integrated. Then there’s math, science, technology, skills for living, French, English etc. we try to get students to know how all of the subjects relate to each other. And, so as a result of these meetings and collaborating as a group, students are seeing the connections.*

Learning in this manner involves consolidating knowledge from outside and within the organization. It means learning from experience and it also involves making decisions based on complex issues. There was no evidence from the other two schools to support the generation of new knowledge.

**Analysis of Complex Issues**

A second way in which teams can learn is through tackling and analyzing issues that are critical to the organization’s operation and growth. Ultimately, it is possible that the analysis of a complex issue will lead to the generation of new knowledge but such is not always the case. While Future Pathways involved analyzing existing curriculum (a complex issue) the result was the generation of new knowledge. However, at Floridav, when a team of teachers, parents and administrators came together to investigate the feasibility of implementing an International Baccalaureate Program their task was to study the program and make recommendations to the school council, school board, and teaching staff. In this example, the analysis really consisted of researching what was known about a topic and presenting the findings (i.e.) there was no new knowledge generated.
At Janjonn er, a school reform team was charged with studying the impact of school reform initiative on teacher work lives and at Nicom the technology team were investigating ways and means for teachers to integrate technology into their teaching. It is quite conceivable that the result of this complex analysis might result in the generation of new knowledge. One of the members of the team (the family studies teacher) explains why it was such a complex issue:

Technology is probably the one thing that has affected individual teachers in a more direct way than anything else. Some people are frequent users, some are innovative in their approach but many are not using it as much as they should be. That’s what we’re looking at right now – How can we get some of the innovation moving through the school? When you factor in the lack of time for professional development and the reluctance of some teachers to try new things, I know we have our work cut out for us. It may take a while but I think we will develop a plan that will benefit everyone.

In recent years we have experienced many fundamental and far-reaching changes in our educational system. As a result teachers are not only required to deal with complex issues it is generally expected.

Taking Innovative Action

Taking innovative action refers to studying an existing program, idea or concept and replicating it in your organization (Watkins and Marsick, 1993). The technology teams at Nicom and at Floridav commented on the positive feedback they were receiving for setting up and training staff members on how to use the school email. Both schools reported that all teachers were online and active users of email. When asked how general information was communicated to staff members the principal at Floridav confirmed that there were very few paper memos any more. “If there is correspondence that teachers need to read, I simply email it to everyone. They all have access and I expect them to check their mail regularly”.

At CAL a team of language teachers were adopting a new format and methodology that included a component on information technology in one of their research courses and at Nicom a group of students, parents and teachers had gotten together to form an environmental team call “Nicom Garden Growers”. The learning resources teacher, on that team, explained that she hopes to eventually see the project linked to the science curriculum:

When this science garden becomes fully functional within the next year or so it will enable us to take a problem-based approach to a couple of our units in Environmental Science
and Biology. We feel this will improve student learning as it will get teachers away from
the lecture and text approach and provide them with the resources to show the practical
application of their subject.

At Janjonner there was no evidence that teams or individuals were involved in taking innovative
action. One of the teachers commented that it wasn’t a particularly innovative school and when
questioned about the use of technology he explained that the school was slow to adopt new
technology. He went on to explain that there were only a couple of computers with Internet
access and they were in the library and were virtually inaccessible.

**Collective Problem Solving**

Collective problem solving occurs when groups of employees are formed to solve problems in the
workplace. While complex issues tend to require higher order learning, collective problem solving
tends to focus on the day-to-day operational issues that surface. At Nicom and Floridav, school
growth and school improvement teams were organized to monitor and stimulate improvement
initiatives that ranged from large-scale to incremental. At Floridav, the school growth team was
put in place to develop and monitor school policies related to curriculum and day-to-day
operational activities. The principal explained the role of the school growth team as integral to the
operation of the school:

*We meet at 7:15 am the third Wednesday of every month, that is a time when people
don’t have any conflicts. The expectation is there, up front, if you are a member of this
team you have to attend the meetings…. At these meetings we collectively build an
agenda for the next staff meeting and we deal with issues and problems that have come
up…. Sometimes the debate can get quite heated, but we all encourage that, it isn’t
personal, any criticism is directed at the issue and not the people who presented it, after
all people have to be prepared to hear the negative side of things – it’s how we grow.
But, it’s done in a way that provides support and encouragement as well as criticism.*

At Nicom, the school improvement team had been in place for a couple of years and they had
tackled issues and problems ranging from school discipline to attendance. The principal
described how a group of his teachers set up the existing discipline policy:

*…so they worked hard and long to develop a discipline policy which is now in place here
in the school and discipline is largely out of the administrations hands. It starts with the
classroom teacher and it remains there until step six in a ten-step process. It was a
problem at one time but now that teachers are involved and were involved in setting up
the process discipline is no longer a serious issue.*
At CAL a group of teachers and the administrators got together to investigate why students weren’t attending homeroom sessions. After collaborating with students and other teachers they determined that the session was not productive and decided to eliminate it and do their morning attendance check later in the day.

The Stimulus for Team Learning

Watkins and Marsick (1990) provide evidence that the stimulus to organizational and team learning is often an organizational crisis or an event of some significant nature. Recent research in schools (Leithwood, Jantzi, and Steinbach, 1995) suggests that quite a few things have the potential to act as a stimulus to learning and that schools vary in their sensitivity to these stimuli. This research found that both individual and team learning in schools could be stimulated by everyday events such as ongoing attempts at school improvement.

The notion of a stimulus was not originally part of this investigation. However, it became apparent to the researcher that there were a number of events that stimulated team learning processes in secondary schools evident in the data. As Table 8 illustrates the number and nature of the stimuli is varied. However they are categorized as incremental stimuli, referring to day-to-day events that stimulate learning.

At Floridav, the school that demonstrated the best understanding of teams and team learning, leadership from the principal and staff members led to the formation of teams as a part of the school growth/improvement program. Teams were also formed to develop and explore new curriculum, to facilitate teacher performance appraisal and to solve organizational problems as they arose. All of the teachers credited the principal with the vision for the way learning was organized, but the guidance counselor summed it up when she said:

right from the start we understood that we were going to have to work collaboratively, the expectation was clear – if you couldn’t work as a part of a team then you didn’t want to work here. As a result we have a lot of committed people and that’s why we’re experiencing so much innovation and so many new approaches to our teaching.

The holistic education teacher claimed that he was able to learn a tremendous amount from his colleagues as a result of the flexibility he had to develop new material as a part of his performance appraisal.
Stimuli for Team Learning

<table>
<thead>
<tr>
<th>Incremental Stimuli</th>
<th>Number of citations (number of teachers mentioning)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAL</td>
</tr>
<tr>
<td>Leadership</td>
<td>--</td>
</tr>
<tr>
<td>New technology</td>
<td>--</td>
</tr>
<tr>
<td>School growth / improvement</td>
<td>--</td>
</tr>
<tr>
<td>New curriculum</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Performance appraisal</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 8: Stimuli for Team Learning

At Nicom, a push from the principal to integrate technology into the curriculum, develop new curriculum for all students and school improvement were the stimuli for team learning. As the principal said “we’re fighting for our survival, we have got to be as good as the other schools, probably better, most of this staff understand that and they are willing to work together for the benefit of the school”.

At CAL, while there were many committees there were few instances of teams or team learning. The only instances of teams functioning were related to subject area departments and utilizing new curriculum. For example, the English teachers got together to look at a different way to teach one of their courses.

Again, at Janjonner, there was evidence of committees but very few teams. The one group that was operational was a management group that worked under the direction of the principal. This group came together monthly to review school policies and procedures and to make recommendations for change.

Conditions Influencing Team Learning

Despite the fact that team learning was poorly practiced in the majority of these schools there were a number of organizational and team conditions that were identified as being influential in determining the success of team learning. Table 9 provides a snapshot of the conditions and the frequency of their occurrence in each of the schools.

Leadership Support

The major reason that teams functioned effectively at Floridav was that the administrators possessed team building and teamwork skills and they ensured that team members received special training on how to function as a member of a team:
I learned how to take what I knew about co-operative learning and apply it as the leader of the school. This district is very high on co-operative learning strategies and when I was staffing I ensured that all my teachers had training in co-operative learning strategies. Since then, if I get a new teacher I make arrangements for them to get training.

<table>
<thead>
<tr>
<th>Conditions Influencing Team Learning</th>
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</thead>
<tbody>
<tr>
<td>Conditions</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Leadership Support</td>
</tr>
<tr>
<td>• Team Training</td>
</tr>
<tr>
<td>• Time</td>
</tr>
<tr>
<td>• Decision making</td>
</tr>
<tr>
<td>• Knowledge of teams</td>
</tr>
<tr>
<td>Team Structure</td>
</tr>
<tr>
<td>• Composition</td>
</tr>
<tr>
<td>• Formation</td>
</tr>
<tr>
<td>• Roles</td>
</tr>
<tr>
<td>Team Operating Principles</td>
</tr>
<tr>
<td>• Communications</td>
</tr>
<tr>
<td>• Collaborative teams</td>
</tr>
</tbody>
</table>

Table 9: Conditions Influencing Team Learning

At the other schools there was no evidence of formal training programs so that teachers and administrators could refine their teamwork and team learning skills. At Janjonner, formal teams were virtually nonexistent and at Nicom there was a concern expressed that group work was not as effective as it should be because people were not familiar with team processes and that often strong personalities tended to dominate decision-making at the group level. At CAL the principal was able to recognize the benefits to organizing along team lines and was trying to do so but had been unsuccessful in establishing a team learning environment.

At Floridav the administrative team was supportive of teams and team learning processes and they encouraged team members to arrive at decisions based on achieving group consensus. These administrators also respected the decisions of the teams; they made themselves available for input and offered information when it was requested but they did not try to "lead the parade". The principal described her role on one of the teams. “In terms of all of the things that happen, I am just a voice. On the committees and in the places where it's so important to have staff take ownership, be part of the decision, and make the decision, I'm just one of the people”.

The principal at Floridav also pointed to the fact that her staff had regularly scheduled staff planning time each week and that this was a critical factor in teams being able to come together
and work together effectively. It was her opinion that without this planning time many of the innovative programs would never happen. The guidance counselor pointed to the fact that new programs were introduced in such a manner as to provide teachers with an opportunity to plan effectively for implementation:

All staff, whatever the initiative is, need time to sit down and plan. I think that’s the issue for a lot of staff. So we thought if we do this in June when people pretty well know what they’re going to teach next year, they can sit down and look at the units and say well, okay, how would I modify this if this child had these disabilities. At least they get to hit the ground running in September.

The other schools did not experience as much success with teams. At Janjoner teachers were skeptical about formal teams and committees noting that a number of team and group initiatives had been vetoed by the administration. Teachers were of the opinion that these teams and committees were primarily a means for them to provide input before administrators made the final decision. The senior science teacher shared his experiences with committee and group work:

Well, with the former principal and the particular administrative group that was here, there were a lot of committees, and I would say that there were a lot of decisions that would be made, or recommendations that were made by a committee which then got nixed by the administration. I think a lot of people felt there was a lot of wasted time... you know, you attend this meeting and everybody puts forth their ideas and you come to some consensus and then it goes to the front office and they say, no. Well, why bother?

Historically at CAL there was little administrative support for individuals to work together as part of formal teams. The new principal was trying to initiate a team-centered environment. However, he reported some difficulty in getting people to work in teams as they were not used to being empowered and did not possess the skills or know-how needed to function as a part of a team. He spoke at great length about how he had tried to form a Leadership Advisory Group but had to abandon the project because others weren’t prepared to contribute. He noted that they would make decisions but only as long as they were not held accountable for the decision. He offered the following explanation as to why the situation was so desperate.

The school has been managed for the last numbers of years, and I mean managed, really managed, from the office. That process in the past killed any decision-making outside of the office. And I have been finding it very frustrating this year, in that every little decision either doesn’t get made or it comes to me. So this year has been a process of trying to empower
people to make some small decisions and be accountable for them, and that's been tough.
The thing is that everybody will make a decision for you any time at all as long as they don't have to respond to the consequences, so that's been a slow process.

At Nicom the principal recognized the value of organizing in teams and he had just recently begun a restructuring program but there was no evidence of formal training in team learning for either administrators or teachers.

**Team Structure**

There was limited evidence to support widespread team/group learning at the school level. However, the concept of a team received frequent mention during the interviews (see Table 10). There was an obvious lack of clarity as to what constituted a team as most individuals assumed that a team was merely a collection of people. While a team does mean uniting a group of people there has to be some unifying purpose (e.g. to explore a complex issue). In this study most references to team were describing a committee that was put in place to manage or organize an activity or club (e.g. food drives, recycling, graduation) and not to generate knowledge, explore complex issues, take innovative action or solve problems collectively. It was obvious throughout the course of this research that many teachers did not understand the difference between teams and committees. The physical education teacher at Nicom, did understand the nature of teams and teamwork, and he articulated how he felt teachers often confused committees with teams:

*I think that I would have to use the word committee more than team here. And I'm not saying that in a negative sense. And I've said to people, I think we need some new approaches in how we go after things…. But right now we're doing committees and what happens I think in a lot of our committees, I hate to say it, but you have some people in the committees who have an attitude of this is the way it is. They have an opinion, my way or no way. So you come in and try to banter an idea around and no matter what, no matter how you dress something up, no, that's no good! My way, this is the way! And unfortunately, that's why I have to use committee, because if it were a team, people would make concessions for each other.*

Often what people referred to as teams were really service clubs and committees and there was little focus on new learning. For example, at CAL groups were focused more on extra-curricular activities then on school growth and professional learning. The social studies teacher described them in this way:

*We have some groups here working on traditional type projects that work well together. We have a food drive every year that's a very successful event. There's a team that*
works on that every year and they come together very quickly and they say it's food drive
time, bang, there's ten people working on it.

<table>
<thead>
<tr>
<th>Structure</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Teams</td>
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</tr>
<tr>
<td>Committees</td>
<td>8 (5)</td>
</tr>
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</table>

Table 10: Total Number of Teams and Committees

The teams that were in place and were functioning effectively could be classified into one of four
categories – leadership teams, management teams, task forces and curriculum teams (see Table
11). The leadership teams (e.g. school councils) were broad-based teams that include
representatives from multiple stakeholder groups and were put in place for long periods of time.
These teams looked at the long-terms goals and objectives for the school and cooperated with
the many school-based teams to help improve the quality of school life for students and teachers
alike. The management teams (e.g. school advisory, school growth teams) were comprised of
school-based leaders who were interested in the day-to-day and long-term operation of the
school. These groups dealt primarily with school-based issues that ranged the spectrum from
issues of attendance and discipline to the structure of the school day and technology integration.
Task forces were ad hoc groups that came together for short periods of time to deal with a
specific task or item (e.g. the International Baccalaureate at Floridav). Curriculum teams
spanned the boundaries between different departments and subject areas but there was also
evidence that they could be based in one particular subject area. These teams were comprised
of teachers who did not necessarily want to be involved with the day-to-day running of the school
but wanted to have input into decisions that were directly related to their work.

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<tr>
<th>Type of Team</th>
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<td>Management teams</td>
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<tr>
<td>Task forces</td>
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<tr>
<td>Curriculum teams</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Total</td>
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Table 11: Types of Teams in Schools
It was at Floridav that teams were most evident and appeared to be most functional. There was a clear expectation from the school administration that people were expected to be involved in the decision-making process and the school was structured to support such involvement. The school growth team was structured so that every teacher on staff could have input into the running of the school. The staff development teacher, who sat on the committee described the set-up:

There are thirteen School Growth Team Members and each one facilitates a small liaison group and that's how we run our staff meetings. So every staff member is involved in a liaison group. The school plan was developed through these groups and it was really interesting to watch.... The dialogue was intense and when people came to these meetings they had their homework done. It was really a synergistic process as teachers and administrators arrived at a set of goals that were beneficial to the entire school.

Floridav was also the only school to make a deliberate attempt to establish cross-functional teams. In doing so, they intentionally eliminated the concept of one large staffroom in favour of many cross-curricular workrooms. The family studies teacher described how the workroom structure facilitated cross department sharing:

Well the whole nature of the school is that people work as teams, you don't work separately. That's why in our workrooms we've got not just people clumped together in English or Math or French. You've got a collaborative approach. You're trying to reach out and touch other members of other curricular areas, so that you realise that you're not just your own area, your own little clique, but everything works together and ties together. Everyone is involved in committee work, group work, or everyone is at least given the opportunity to be involved. There's no committee that consists of just two people, and that's it. So teamwork is really important and I would wager that there isn't one single staff member in this school that doesn't feel comfortable working on a team.

It was also Floridav that took advantage of forming multiple task forces to deal with short-term issues. During the interviews seven different task forces were mentioned as up-and-running at that time. Some of these task forces were comprised of multiple stakeholder groups while most were comprised of teachers. These task forces were dealing with issues such as investigating the International Baccalaureate Program and making changes in the student evaluation policy. The principal explained how a task force solved a problem with the student evaluation policy:

Again, task forces will often come and report to the School Growth team, and then through the liaison groups it would go back to the staff for some discussion. One
example is the time we were putting together a new evaluation policy... I mention that because that was a problem. First when we opened parents put together an evaluation policy with staff and students, but it was pretty simplistic and we now have right through to OAC.... So that came back to the staff. It came up as an issue for discussion in the staff meeting, went to the School Growth team who said, how should we do this, we need to look at our evaluation policy, and one of the people sitting who happens to be a department head, and they aren't all heads on that, in fact most aren't, said, ... I think department heads, in Heads Council should look at that, why don't I bring it up at our next meeting and I'll let you know what they say. The answer was simple - Heads Council took responsibility for dealing with it. So back to the table at the next meeting came everybody's individual department policies and we worked through the similarities and soon we had a revised policy. But that was a serious problem that was simmering, and now as a result of teachers willingness to work together for a couple of months we have a more comprehensive policy, and it just passed through the school council.

In the other schools, teams did not operate as often or as effectively. At Nicom they were in the process of restructuring some of their workgroups. The principal had just expanded his advisory council to include representatives from all subject areas and he had asked all teachers to volunteer to serve on a committee or two. The school council was set-up but it was in it's first year of operation and not much was happening so far. At CAL the principal was committed to implementing teams approach but as it was his first year he was experience some growing pains as there was a reluctance on the part of many staff members to get involved. At Janjonner, there was very little evidence to support the existence of organized teams. This school had a very centralized approach towards management as the school was virtually run from the office.

**Team Operating Principles**

Team operating principles govern how individual team members function as part of a team. While there was no direct observation of these teams at work and since not all members of a particular team were interviewed it is difficult to draw conclusions as to how these teams did actually interact. However, based on the interviews with teachers who were members of teams, open and honest communication (dialogue) and a collaborative work culture were the two factors that emerged as being critical to team success. The science teacher at Floridav commented:

*We form teams to solve problems, so that means we have to work with people who have differing points of view – we may not always like what we hear but it is the diversity of our teams that often leads to the best solutions, besides we're all adults here and I believe there is a lot of respect among the staff*. 
The family studies teacher spoke of the collaborative culture and the expectation that all teachers be a part of a team. “We are all members of liaison groups which means we can have some input into the school growth team – no teacher can say they don’t have an opportunity for input into decisions, nobody”.

At Nicom there were few teams and there was evidence that some teams were dominated by powerful personalities but all teachers indicated that they felt comfortable speaking their mind. As the mathematics teacher said:

> Anything goes when we’re at the table, everybody puts their cards on the table and we say what we feel – there is no intent to be destructive but people don’t always hear what they want to. The good thing though is that it’s the conflict that seems to make us better. Just last week at one of the Future Pathways sessions one of the teachers got really upset because people didn’t like his suggestion.... So, he went away and reworked his proposal, bounced it off a few other people and then brought it back to the table. This time everyone liked it and even he admitted it was an improvement.

Team operating principles guide the internal communications and interactions within the group. Dialogue and a collaborative culture are essential ingredients to team learning. Without these key ingredients a dysfunctional form of group work known as “groupthink” is a strong possibility.

**Team Learning Outcomes**

For this study, collective learning at the team/group level of an organization encompasses changes in the knowledge, skills, competencies or relationships by and within the team/group that, when transmitted to the rest of the organization, has the potential to contribute to changes in organizational patterns of practice. To transfer this knowledge, skill or competency to other parts of the organization team members have to cross intangible lines or boundaries that separate the team from other individuals and the organization. When this happens, the learning of the team gets transferred to and shared with the rest of the organization. The only schools where there was evidence of teams communicating across boundaries was at Floridav and Nicom. For example, the Ensuring Student Success Team worked with teachers and student assistants to help clarify individual roles and responsibilities and then worked with the rest of the staff to help change the ways that student assistants were utilized in the school. As a result, both parties were better able to perform their jobs effectively and the students were the real winners. The guidance counselor explained how learning got transferred across departmental boundaries:
Well, for feedback, what we did in the Ensuring Student Success group was, we asked for feedback from the educational assistants because they are in the classes with the students. They were the ones who had identified the concern to start with and they said that they felt that, part of their role was to assist staff in understanding the role of an educational assistant, what they do and why they're in the classroom. They were concerned because a lot of times they were either being under-utilised or being expected to do things that maybe wasn't their area of expertise. So that was part of it. And they felt that the awareness of their role, people knowing who they were, people using them more effectively, had definitely increased and as a result everyone was benefiting.

At Floridav, there were other examples of team learning that got transferred to the rest of the organization but it happened as a result of the organizational structure that facilitated sharing and decentralized decision-making through the school growth teams and the liaison committees. For example, the manner in which the new evaluation policy was developed through heads council and went on to the school growth team, back to the liaison committees and then back to the school growth team and then on to the school council is an example of how the learning that occurred on the heads council team got transferred to the rest of the organization.

At Nicom, the school discipline policy was developed by a small team of teachers who were then successful in enabling other teachers to utilize the program to improve discipline procedures and the quality of school life for teachers and students alike.

The schools studied in this research were representative of organizations that varied in their commitment to and use of teams in the learning process. A dynamic learning community characterized Floridav and the notion of team learning seemed to work better in this environment because individual members embraced learning as a way of life and teamwork was planned and occurred on a regular basis. Teachers were organized into cross-functional work units that were designed to help solve organization-wide and departmental problems while at the same time working to continuously improve services to stakeholders. These teams did create some opportunities for professional staff to learn from one another and to share new learning experiences with each other.

**Stage Descriptors**

Team learning is a complicated skill and it is obvious that schools that are in the early stages of development are not skilled in team learning. An in-depth analysis shows that sophisticated learning occurred at the team level in stages three and four but that there is very little evidence to
support team learning in schools that are in the coping or the emerging stage. Table 12 provides an overview of the basic features of team learning across the stages of development.

<table>
<thead>
<tr>
<th>Stages of Growth - Team Learning</th>
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<tr>
<td><strong>Factors</strong></td>
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<td>Team operating principles</td>
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<td>Team learning outcomes</td>
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In Stage One, individuals do not formally operate as groups or teams. However, organizational members do come together but primarily as members of ad-hoc committees that are set-up by
the administration. In these schools administrators are not familiar with teams or team learning processes and teachers are often skeptical about working as a part of a group because they feel that these committees are primarily a means for them to provide input before administrators make the final decision. As one of the more experienced English teachers at Janjonner claimed:

Well, with the former principal and the particular administrative group that was here, there were a lot of committees, and I would say that there were a lot of decisions that would be made, or recommendations that were made by a committee which then got nixed by the administration. I think a lot of people felt there was a lot of wasted time... you know, you attend this meeting and everybody puts forth their ideas and you come to some consensus and then it goes to the front office and they say, no. Well, why bother?

At this stage, in an effort to improve teaching and services to students, groups may form along subject department lines. At Janjonner, all teachers claimed there were no formally organized teams but that they did get together as a department to analyze issues and to help solve problems (e.g. student performance). They also indicated that they were very busy and that there was no time to share with people outside their department. The senior science teachers said, “I’ve often felt we should talk about our work a little more but there really isn’t a forum. Staff meetings are too busy and most people just want to get it over with anyway and our PD days are usually on more general topics”. There was no evidence to suggest that groups operated as teams or that there was any team learning.

In schools that are in Stage Two formal teams are virtually nonexistent and many organizational members prefer to “go it alone” as opposed to working with others to accomplish a goal or solve a problem. The principal at CAL described this phenomenon as he expressed some of his frustration in trying to organize work-teams.

I started senior leadership team earlier this year and I cancelled it....department heads weren’t very strong here...and to be quite honest with you, after the third meeting, I got tired of speaking, because they were used to being spoken to and not used to having a real role and they couldn’t get over it. So I put it on the back burner until such a time I can get the staff more empowered…

In this stage, administrators are beginning to see the benefits of organizing in teams but they still provide little in the way of support to help members function as a part of an effective team and many teachers are still skeptical about participating in decision-making activities. There is no evidence of any formal training in team learning skills and processes for either administrators or teachers and there is no time provided for groups or teams to work collaboratively. For the most
part, when people come together in groups the group comprises a committee with a low degree of responsibility and little decision-making authority. These groups often do things routinely and do not question modes of operation.

In Developing Schools, groups of people come together in a variety of forms (task forces, management teams, and curriculum teams) to analyze complex issues and tackle organizational problems. At Nicom, groups came together to develop new curriculum, experiment with and implement technology and to work on improving school operations and sometimes groups form automatically along departmental lines, usually for the purpose of improving departmental effectiveness while at the same time improving services to stakeholders. The principal of Nicom explained how teams formed in his school:

Some of them form out of common interest and a lot of them out of common training like, Nicom Garden Growers for example, a group of teachers with a common interest came together and look at what happened. It’s the same for technology, a lot of people with an interest in technology came together to form that team...another group would be the Future Pathways group, they have a bit more expertise in curriculum development....

There is some evidence of new learning at the team level getting transferred throughout the organization but the process is fairly slow. The science department head, who was one of the leaders on the technology team described the process:

As members of the technology group we had experimented with web pages and saw the benefits of other teachers using them in their teaching. We started with a workshop that focused mainly on getting them (teachers) up and running….we made sure there was a computer in the staffroom and the rest was done through osmosis. We learned from each other. The science department adopted a project for all science courses that was a web-page design. For some of the science teachers who would not have done this ordinarily it was a stretch, and some of them didn’t go willingly but it caught on and other people picked up the idea. We were lucky in that we had a person in every department that was pretty keen and that person attempted to take somebody else with them. We had a follow-up workshop a couple of weeks ago and we concentrated on curricular uses and it was well received by everyone.

Leaders are supportive of teams and are beginning to see the benefits to organizing into cross-functional work teams but they have a limited knowledge of teams and how teams work. There is no formal teamwork or team learning training for teachers or administrators and teachers are not
provided quality time to work collaboratively. At this stage, team learning is valued but still poorly practiced.

At the fourth stage, teamwork is highly valued and effectively practiced. Teams are a part of normal operations and team learning occurs as a natural part of work. The guidance counselor, at Floridav, explained how the school growth team was functioning and learning as a group:

*The group has evolved and become more diverse...as the staff has grown. This year there are probably more, not conflicts, but disagreements in terms of how to go about doing thing and making decisions....but essentially the issue gets talked through.... and through discussion and consensus building we have been able to make good decisions.*

Schools at this stage employ a wide variety of teams in order to explore complex issues, generate new knowledge, solve problems and to take innovative action. For example the task forces, leadership team, management team, and curriculum teams that are in place at Floridav.

Teachers are organized into cross-functional work units that are designed to help solve organization-wide and departmental problems, while at the same time working to continuously improve services to stakeholders. And, they are provided with quality time to work and explore collaboratively. These teams create opportunities for professional staff to learn from one another and to share new learning experiences with each other and the rest of the organization. The science teacher at Floridav explained how her team was helpful to her and her colleagues: “So, that’s the time when we meet as a department, we meet as a subject area, we meet as colleagues with problems, we reflect. We build that time in. So we come in at 8:30 and the kids don’t get here until 10:15.” One of the teachers on the school growth team described how a collaborative culture resulted in open and honest dialogue:

*There are thirteen School Growth Team Members and each one facilitates a small liaison group and that’s how we run our staff meetings. So every staff member is involved in a liaison group. The school plan was developed through these groups and it was really interesting to watch these groups work. The dialogue was intense and when people came to these meetings they had their homework done. It was really a synergistic process as teachers and administrators came together to arrive at a set of goals that were beneficial to the school.*

Also, in the fourth stage, administrators are supportive of teams and team learning processes and they provide quality time for members to work and plan collaboratively. They encourage team
members to arrive at decisions based on critical analysis and they respect the decisions of the teams, making themselves available for input and to provide information and advice when it is requested but they do not try to lead the debate. Leaders in schools at this stage of development possess team building and teamwork skills and they ensure that team members receive special training on how to function as a member of a team. The principal at Floridav explained her role in working with teams: “In terms of all of the things that happen, I am just a voice. On the committees and in the places where it’s so important to have staff take ownership, be part of the decision, and make the decision, I’m just one of the people”.

Assessing Team Learning

The first step to enhancing team learning in schools is to conduct an assessment of current learning activities. This assessment can be achieved by conducting structured interviews and observations, as was the case for this research, or by administering a team learning survey, such as the one developed from this research (see Figure 10).

To assess a school’s position on the team learning continuum a diagnostic instrument should seek answers to questions that will provide insight into the existence and structure of workgroups and teams. Other questions will solicit information on how team learning occurs, who participates on teams and why, as well as how teachers are prepared to work as part of a team and the role that administrators play in team learning. Questions that help determine the stimulus for as well as the outcomes of team learning will also have to be posed. This section of the study has also stimulated new questions that relate to team learning. For example, what are the principles that govern team learning and how does team learning get shared with other organizational members.

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Diagnostic Questions - Team/Group Learning

1. In this school, when people come together as a part of a team...
   a) no one wants to participate.
   b) they feel comfortable addressing issues and exploring problems but they are careful not to offend anyone.
   c) they are willing to participate but they don’t want to be held accountable for their actions.
   d) they are open with each other and willing to admit mistakes and explore problems, but there are topics and issues that are not open for discussion.
   e) they feel comfortable putting issues on the table for discussion even when the findings maybe embarrassing. They are not afraid to challenge themselves on professional issues.
2. In this school...
   a) people do not come together as groups or teams.
   b) school wide teams are non-existent. However, professional support groups do develop in subject areas (e.g. English, science, and mathematics).
   c) ad hoc committees and task forces are established by the administration to deal with issues as they arise (e.g. graduation committees, evaluation committees).
   d) both (b) and (c).
   e) cross-functional teams are organized by the administration, for the purpose of solving a problem, analyzing a complex issue, taking innovative action or to generate new knowledge.

3. In this school when people come together as a group or team...
   a) groups or teams are not part of our formal operations.
   b) it is usually to organize or manage an existing committee or club (e.g. graduation committee).
   c) they have one or more tasks to perform and the group produces some outcome for which members have collective responsibility.
   d) in addition to (c), the group works with others within the context of the school community.
   e) in addition to (c) and (d), members are dependent upon one another for some shared purpose, and specialized roles develop within the group as they work towards their goal(s).

4. In this school...
   a) groups or teams are not part of our formal operations.
   b) there are no formal training programs so people can learn how to work together in teams.
   c) the school administrators receive special training on how to function as a member of a team.
   d) teams of teachers receive formal training on how to work as a part of a team (e.g. training and coaching in problem-solving, decision-making, communication and group facilitation).
   e) all teachers and administrators receive extensive training in how to work as a part of a team (e.g. training and coaching in problem-solving, decision-making, group facilitation).

5. In this school...
   a) people are not encouraged to work in groups or teams.
   b) when we form teams, administrators monitor our activity and insist on having the final say.
   c) our administrators usually look at teams as a way for people to provide input before making the final decisions themselves.
   d) team members are encouraged to arrive at a decision based on achieving group consensus.
   e) the decisions of teams are respected. Administrators make themselves available for input and offer information when it is requested but they do not try to lead the debate.

6. In this school, when people come together to form a team...
   a) we do not operate in teams.
   b) the team is usually dominated by the opinions of a few and results in poor quality decisions.
   c) the team operates like a democracy. Decisions are based on the opinions of the majority.
   d) team members recognize the diversity and expertise of the group to reach a consensus.
   e) in addition to (d), there is a free flow of ideas and creativity that generate new ideas about teaching and learning that are then transferred throughout the organization.

Figure 10: Team Learning Questions
Whole School Learning

Collective learning at the whole organization level, by definition, refers to the acquisition of new knowledge, by organizational members, groups and teams for the purpose of potentially or actually changing the patterns of organizational practice. To understand collective learning in a whole organization context we need to understand the way knowledge is constructed and distributed amongst and between groups and individuals, within an organization. The nature of these interrelationships and the capacity of each unit to transfer its knowledge to the entire organization, so that it has the potential to change organizational patterns of practice, are determinants of whole organization learning. As such, the learning dimensions that comprise the knowledge management framework (stimulus, new knowledge and initial interpretation, transfer, collective interpretation and utilization, and documentation) are representative of both the Organizational Learning Cycle (Figure 7) and the Learning Dimensions (Figure 5).

Stimulus to Learning

This section of the study examined events that stimulated organizational learning in secondary schools. While recent research in schools (Leithwood, Jantzi, and Steinbach, 1995) found that collective learning could also be stimulated by everyday events such as ongoing attempts at school improvement, the evidence in this study indicates that organizational learning tends to be stimulated by an organizational crisis or an event of some significant nature. These stimuli are categorized as quantum, as opposed to incremental, with quantum referring to larger more global reasons for learning and incremental referring to day-to-day events that stimulate learning. In this study four factors were identified as providing a stimulus for learning: (1) changes in society, (2) organizational survival (3) a change in leadership and, (4) externally imposed demands (see Table 13).

At Floridav it was a response to the changing nature of work along with the increased rate of change in society that led to the formation of a vision of education that deviated from the norm. Before this school opened, the school board had done extensive consultation with their local community and had conducted a cross-country investigation of innovative schools. The investigators emerged from these sessions agreeing that students had to assume more responsibility for their own learning. The principal summed up the feelings of the board:

*The community is constantly telling us that they want a more responsible student. So here at Floridav we focus on something that we believe strongly in - namely that young*
people have to become more responsible for their learning, and so we set it up in such a way as to allow students to make choices.

<table>
<thead>
<tr>
<th>Stimulus</th>
<th>CAL</th>
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<th>Floridav</th>
<th>Janjoner</th>
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</table>

Table 13: Stimuli for Organizational Learning

At Nicom organizational learning was seen as critical to their survival as a school. The school had gotten a reputation as being a “hard school” with few academic opportunities and poor academic standards. Since it had been targeted for closure for the past decade many of their top academic students were transferring to other schools. Organizational members realized that if they were to change that perception of the school they would have to be innovative with their programming in order to compete with the other neighborhood schools. The principal explains how the urge to survive has always been a stimulus for learning:

_The number one focus has always been survival, always had to be, and that in itself is a rallying point. So, no matter what anybody outside said or did or thought we had to believe as a group in ourselves and we had to believe the product that we were putting out (i.e. the graduate) was as good as anything that came out of the system._

CAL had just gone through a change in leadership. The new principal brought a new vision to the school, one that he believed would prepare students and teachers for life in a fast-changing global society. This school had a long-standing reputation of being a good school. However, the new principal, and indeed some of the teachers felt that many of their colleagues were content to coast on their past reputation. The principal was frustrated that many teachers did not see the link between the trend towards globalization and other changes in society and a modern education that would prepare students for life in a fast-changing, global society. Three of the teachers acknowledged the new principal as the stimulus for learning and change but to date there were no examples of organization-wide change or learning.
At Janjonner there was very little organization-wide learning. Two teachers did acknowledge that organization-wide change or learning was usually stimulated by an external stimulus, (i.e.) demands from the ministry or the school board usually related to school reform.

**Knowledge Sources and Initial Interpretation**

This dimension refers to the acquisition, development and creation of new skills, insights, relationships or programs. It represents the extent to which the school prefers to develop new knowledge internally as opposed to the extent to which it is likely to seek inspiration from ideas developed by external sources. Whether it is acquired from inside or outside the school, this knowledge is subject to perceptual filters (organizational norms and values) that influence what knowledge actually gets passed on for further evaluation. The ability to learn from the initiatives and actions of others in the organization is a value-added resource for all organizations and schools that are able to learn from past experience and or tap into the collective knowledge of their staff have an inside track to becoming a learning organization. A detailed list of the sources of knowledge is reported in Table 14.

<table>
<thead>
<tr>
<th>Sources of Knowledge</th>
<th>Number of citations (number of teachers mentioning)</th>
<th>CAL</th>
<th>Nicom</th>
<th>Floridav</th>
<th>Janjonner</th>
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Table 14: Sources of Knowledge by School

It is easy to equate the transfer of new knowledge with learning. However, receiving information and making meaning of it are not the same things. Dixon (1994) claims that when people receive new knowledge they selectively attend to it. Those parts that are selected are examined for patterns and are compared with meanings individuals have stored in long-term memory (that’s one explanation of how smart people often miss good ideas and opportunities). Only when
individuals have formed new thoughts, ideas, attitudes, values or relationships through this process and once again stored them can we say an individual has learned.

**Knowledge Acquisition**

Two of the schools studied (Nicom and Floridav) were skillful at acquiring knowledge from both external and internal sources. They used a variety of methods to collect data from their external environment, however, Floridav was the more proficient of the two. Teachers there spoke freely of attending conferences (Nicom was an exception), using external consultants, benchmarking from other schools, monitoring economic and social trends, partnering with other schools and businesses and collecting data from multiple stakeholder groups. There was a high degree of awareness among administrators and teachers of external trends and forces and how they could impact upon the school. These teachers and employees were constantly scanning their environment for new ideas and were quick to adopt the “best practices” of other schools, teams and individuals. The principal explains how she was able to scan the educational landscape and build on the “best practices” of another school in another geographic region of the country:

> I had the good fortune in the year that I had planning for the school opening to investigate those practices in a variety of settings. I did get to go to Calgary and I spent some time on the West Coast as well. Mountain Secondary School in Calgary had a program similar to the one we developed. I was interested in knowing how and why, and what was behind it, and so I came back to seek support for this concept, first of all from my superintendent, and then from the senior administrative team. They were supportive of my initiative so I used that school as a model to develop our own.

Given that Nicom was a school fighting for its survival, there was a conscious effort on the part of the principal to seek out best practices from other schools and implement them in his school.

> One of our neighbouring schools…got the jump on us in setting up business education partnerships but I am now proud to tell you that we currently have in excess of 100 partnerships with business and community agencies and the partnership movement is thriving in this school.

At CAL the school was content to rest on its laurels and past reputation of being a “good school”, but as the principal said “a good school yes, if this were 1985”. There was very little emphasis placed on acquiring knowledge from the outside, in fact the school resisted societal change – the teachers perceived themselves as self appointed sentinels and charged themselves with protecting and maintaining the status quo. The new principal saw this as the major reason why the school was not performing the way he believed it could:
Well I can tell you, this school, in the past, didn't keep up with a lot of these local environment and societal trends. This school was the one school that bucked a lot of the board policies on a lot of things. For instance, semesterization was late coming here, homeroom changes were late coming here, almost everything ended up coming here last, and that was a deliberate attempt to protect the status quo, it was not being intimidated by the outside world. So I think in the past it's not kept up very well and that's created big problems.

Teachers were cynical about professional learning as they felt it wasn't a priority of either the board or the ministry. The new principal was trying to change this mind-set as he was personally committed to professional learning, to scanning the environment for new ideas and to providing professional opportunities to his teachers.

I have myself involved in several committees and I encourage everybody in the school to be involved in outside committees. I've urged every single teacher on this staff that if they want to do anything professional this summer at their local institutes I would pay the full tuition for them, no questions asked. So I'm encouraging most of my key people to get away. And that will happen over the next year.

At Janjonner teachers unanimously claimed that the primary source of new knowledge was the board or the ministry and that it got channeled to them through the principal and the department heads. The English department head explained the process for distributing new information.

We have monthly department meetings, monthly heads meetings, of which I'm also involved, and so information that's found out at heads meetings is then to be given to staff so staff can find out about current issues there as well. I give memos to my department.

The most significant difference between Floridav and the other schools was that at Floridav the quest for new knowledge was more of a team or whole school effort, whereas at the other schools it was perceived to be the responsibility of the administrators.

**Knowledge Generation**

Whereas knowledge acquisition is generally adaptive, knowledge creation is generative in nature. This is the type of knowledge that Peter Senge (1990) claims is imperative for an organization to be a learning organization. In two of the four schools (Nicom and Floridav) there was evidence of
knowledge creation. At Nicom, one of the teachers involved in the Future Pathways Program (the family studies teacher) explained that the curriculum was being developed and tested in-house:

In the Future Pathways program, which is still in the infancy stage, we're designing our own curriculum. We're all involved in this process and we're trying to improve our program for our students by organizing our curriculum... so students still have a wide variety of choices.

At Floridav the holistic education teacher, who was one of the younger teachers, explained the importance of leadership and the willingness to engage in risk-taking behaviour if you want to be creative and generate new thoughts, ideas and programs:

I think this is an innovative school... it empowers students but it also empowers teachers. We teachers feel that we can take risks, take chances, and design innovative teaching strategies. In other schools that I'm familiar with, the principals would "say stick to the normal ways of doing things". But here, that kind of thing is not only looked upon as great, it's actually encouraged. You're encouraged to develop different teaching styles, different co-operative strategies, and to engage the students. For me, as a young teacher, I'm not finding my creativity stifled, I'm finding rather that it's encouraged. For example, one of the things that I'm involved in is holistic education and one of the things that I've been doing in the English classroom is developing holistic teaching techniques, (i.e.) visualisation as a means of enhancing students' descriptive writings.

The most obvious example of knowledge creation occurred when teachers passed their personal knowledge on to other teachers as it occurred through a teacher mentorship program. By working together the newer teachers learned tacitly what the experienced teachers knew and likewise the new teachers revitalized the more senior teachers. This form of learning offers us a somewhat limited view of knowledge creation as the new knowledge of the two does not necessarily become explicit and is difficult for others members of the organization to leverage. This form of knowledge creation was being promoted at Floridav. The holistic education teacher who was working with a senior teacher explained how the process was mutually beneficial:

The fellow that I'm working with is in his last five years of teaching and he's a very good, dynamic teacher, and yet he refers to me as his mentor in this area. And I would say that he is a mentor for me in other areas. So throughout this entire process he's been coming to me, we've been talking, he's been learning from me and I've been learning from him, we've been working together with our classes and together we've created a document
that we can share with other teachers. So there is the opportunity when you're on a staff where you've got a lot of people who are keen, a lot of people who are enthusiastic, to actually work with mentors in terms of the education process. In this school, senior teachers are open-minded enough to realize that, as a young teacher, you've been chosen because you have some kind of innovative teaching ideas, and they are can learn from you.

Knowledge creation also occurred when teachers took their existing knowledge and added their tacit knowledge to it to create something new that could be shared throughout the organization (as in the document that the two teachers at Floridav collaborated on). At Nicom it focused around finding new uses of information and communications technology in the classroom. The social studies teacher who was also one of the technology coaches described his experience working with a second-language teacher:

*I helped a German teacher with some things he was doing, set up penpals for a couple of his German and French students. When we started doing that he found himself drawn to the technology because it provided his students with real life experiences - the kids have been able to write letters in German and since they get responses the following day their comprehension has improved. I use it myself in history... and many others are using it as well. We've come a long way in a short time.*

At Floridav, there was evidence that knowledge was created when explicit knowledge was internalized among the teaching staff to create new tacit knowledge, which resulted in new ways of doing things within the organization. For example, there was a concern among some teachers and the student assistants that some of the needs of special needs students weren't being met. It was the educational assistants who said we should look at other, better ways of doing things. That was the stimulus for a new learning initiative and as a result, the guidance counselor claimed “most staff have a better understanding of what it means to be learning disabled, and how one might better assist a student who's learning disabled, therefore we are better prepared to meet their needs”.

Also, at Floridav, where this type of learning was apparent, teams and individuals were encouraged to use action learning processes to develop new knowledge inside the school or their department. This approach to knowledge creation saw teachers working on real problems, focusing on the learning acquired and actually implementing solutions in their classroom. For example, the holistic education teacher explained how he teamed up with another member of the English department to work on an English project:
It was an ongoing process; we met, we talked, and we went to workshops. What we’re doing is working with our principal and some experts at the board and at the end of the year we will have developed a new unit for study. The principal wants us to share the unit and our experiences with the rest of the staff.

The mathematics teacher at Nicom explained her involvement in a long-term, action-research project, with the university, that focused on new strategies for teaching mathematics:

The project involved me consulting with my professor and it meant changing the way I teach – it meant I had to teach mathematics from an investigative style approach rather than the typical or traditional lecture method. It is an ongoing project, the first year I did it, we did one unit of work, last year we did the same unit of work and then we added a second unit to it…. It has had a significant impact on the way I teach.

In both of these schools experimentation was a key ingredient in generating new knowledge and new learning. Risk taking and experimentation were motivated by opportunities to improve student learning and teacher knowledge.

At Janjonner, the emphasis was more on internal problem solving then on locating new knowledge. They appeared to acquire high quality and highly relevant information purely by accident or directly from their school board. At CAL most new knowledge found its way to the school through the efforts of the new principal. As a general rule neither of these two schools paid much attention to what was happening outside the school and there were few internal efforts to be innovative.

Knowledge Transfer

In as much as the acquisition of knowledge is critical, it is the transfer and sharing of this knowledge that is central to learning at the organizational level. Knowledge transfer refers to the processes that are used to share this new knowledge. Various methods were used to transfer knowledge throughout these schools (see Table 15). There was evidence that it happened accidentally in some schools. But in schools where knowledge moved around most efficiently processes were in place to intentionally facilitate the sharing.

At Floridav, teachers spoke very positively about how their school was organized to facilitate sharing. The physical education teacher provides this account of what happens in her workroom:
We are in a workroom without departments. There's Physical Education, Technology, English, Family Studies, Guidance, Co-op, Resource Center, and History teachers in my workroom, so we've got every department covered. So we're sitting around talking or chatting before school, whenever, we talk about what they're doing, so we get to share... what works with this kid, either individually or course-wide. The workrooms enable us to share tons of stuff about what's working, what's not.

<table>
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<td>Electronic communications</td>
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<td><strong>Informal</strong></td>
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Table 15: Knowledge Transfer by School

At Floridav, teachers were expected to work collaboratively and as a result sharing was quite common. The culture of the school was very collaborative in nature and indeed they had established an atmosphere in which sharing and learning seemed to evolve naturally. The physical education teacher explained that the expectation to share was held by students as well as teachers:

> At any time, the kids may say to me, you should go watch teacher (x) do this because it's amazing and we want you to be able to do that. I'm not in the least bit offended by a comment like that. I wouldn't think, oh they don't think I'm doing a good enough job. I view it as a learning experience – so I'll usually talk to the other teacher and we'll agree on a time when I can come and watch or he will come to my class and teach. If it was the reverse and someone was coming to watch me teach, I would feel good that I've been asked to model something. Around here, you feel it's part of your job to share.

At Floridav, sharing and the transfer of knowledge were too important to be left up to chance. As a result carefully planned events and processes (e.g. memos, reports letters, bulletin boards, staff meetings, briefings, school growth teams, cross-functional work teams, and electronic
communication networks) were put in place to facilitate the movement of information and knowledge.

Like most other schools, the transfer of knowledge also happened unintentionally as a result of informal networks that developed within and between departments and through peer-to-peer communication. For example, the science teachers at Floridav talked about sharing as an informal process:

*When I taught grade nine we met formally every Wednesday morning to look at the curriculum. But this year we meet informally and a lot more gets covered because it's not someone else’s agenda – it's up to us. Whereas, when you just go to a general department meeting there's sixteen things on the agenda, so I would say that I probably accomplish the most by setting up individual meetings with teachers. For example, I work in the Resource Center and I do all kinds of Partner's units. So, I have to sit down with the teacher I'm doing Partner's with and plan the unit, then we go away and do our own work and then we come back together and share with each other. After that, we go and get the resources and then we go teach. And so, we informally meet and share resources that way. And in our workroom again, the fact that we have so many different departments represented I get to learn the evaluation scheme from different departments and get a feel for the entire school curriculum…. So in the workroom there's that kind of sharing on an informal basis.*

Neither Nicom nor CAL was as skilled at knowledge management as was Floridav. However, some knowledge was being transferred formally by memos, letters, bulletin boards and staff meetings as well as through the existence of informal networks and established organizational routines. The principal at CAL acknowledged that his method wasn’t sophisticated but that for now it was the best he could offer:

*Well, the expectation is always that if you go somewhere or do something, you share it with the principal. If it's something particularly interesting which I think has relevance to other departments I'll usually try to bring it to a staff meeting. That's not the best way, because if I goof up I probably don't have a second way to get it through. The only other process is a very unreliable one, which is staff room chat, the informal one, it's not consistent, and it's not measurable. You don't know if it works or not. So there are some problems here with communications.*
As Nicom was a small school where everyone knew each other and there was frequent on-the-job socialization, sharing of information was very common and staff members were quite skilled in the distribution process. The science department head commented that, there was so much face-to-face contact that it reduced the need for a formal plan:

"Most of our contact is usually face to face conversations, there may be a formal memo or a special meeting, but usually someone will come to you and say, look have you seen this, are you aware of that, show me how to do this. Again, that's part of the communication of the school. It's small enough that you can touch base with somebody. Most staff members are in the staffroom before school so it's easy to make contact with people. It's very informal."

At Jan Jonner, there was virtually no focus on knowledge management and organization-wide sharing did not occur on a large-scale. However, there was considerable evidence that knowledge could move freely through the traditional subject department structure. All teachers clearly articulated that ideas circulated through their department quite quickly and there was a real willingness to share with department members but on a school wide basis it was next to impossible. Teachers did indicate a willingness to share but felt that no one else was really interested, anyway. When asked to comment on the amount of school-wide sharing that occurred, the French teacher replied:

"...probably not very much on the school level I would say. Occasionally people do that at a staff meeting or something like that but I just find that teachers feel so busy that they're saying, okay, great, I'm glad you learned that, that's great... but, they don't have the time for everyone to share. They feel like well, if I wanted to go to that workshop, I would have gone, if I had the time to do that. So much more happens on a department level in this school."

Collective Interpretation and the Knowledge Utilization

We know that individuals attend selectively to new knowledge and information and that what is received is selected and examined for patterns that fit with existing models. It is only when individuals use this new knowledge to form new skills, ideas, and attitudes, values or relationships that we can claim individuals have learned. For organizational learning to occur the process is even more complex, as each individual must go through the same process while interacting with other organizational members who are engaged in the same process themselves. Out of this interaction the members form an interpretation of the knowledge. There is evidence that this process did occur at Floridav and Nicom however, at Floridav there were formal plans
and structures (School Growth Teams and the teacher workroom structure) established to facilitate the process.

It is not necessary that all members agree on the same interpretation of the new knowledge. The goal is more the reduction in the equivocality of the knowledge than reaching consensus (Dixon 1994). By engaging in collective interpretation each individual involved was influenced by the meanings that others held, and in turn influenced the meanings of others. With the use of dialogue skills each better understood the reasoning and data others used to arrive at their meanings. Collective interpretation may not develop a definitive answer but organizational members involved in collective interpretation, understand the parameters of the problem more clearly. The argument here was that parties could take action in-spite of differences in the meaning they assigned to the action. The science teacher at Floridav explained how teachers often used different mechanisms but arrived at a common goal:

I think one of the things that we do here is recognize the fact that we do things differently. So if a problem comes up, like for example, in terms of the Math/Science/Tech Integrated Curriculum, (we have the Math, the Science, and the Tech people trying to work together on a common curriculum). What happens is we all kind of put our cards on the table and from that decide what kinds of things we are going to have as non-negotiable, and the types of things that didn't really matter to people were just kind of pushed to the side. And in the end, we agreed to disagree. So the conflict wasn't really resolved but it was understood because we thought, well we can go in different directions and that would be okay. It’s just like saying, you have the confidence and the experience to make it work, now whether you take the road that veers to the right or the road that veers to the left, we're all going to meet at a common place.

The utilization of new knowledge at the whole organization level is the epitome of organizational learning. Organizational learning occurs when new knowledge moves beyond the individual or the team to become the property of all members of the organization. After the knowledge has been disseminated and interpreted it is then at the discretion of organizational members whether it gets used or not. It is only when the new knowledge effects a change in organizational patters of actions, beliefs or opinions that whole organizational learning can claim to have occurred. At Floridav, a new vision of schooling had been communicated to the staff by the principal and a management team, and collectively the interpretation of the new knowledge resulted in a new model of schooling that was unique to the community and the school district. In this instance, new knowledge resulted in the entire staff developing new thoughts and ideas about the nature of schooling and this translated into new ways of doing things.
Knowledge Storage and Documentation

Once again, it was the perceptual filters (cultural norms and values) of the organization that influenced what knowledge was important to retain and how best to retain it. Knowledge documentation refers to the means by which new knowledge is stored for future reference, is made available to members and can be retrieved for future use (see Table 16).

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Table 16: Knowledge Documentation and Storage by School

At Floridav where knowledge was actively managed it was viewed from both an individual personal perspective (through the use of journals and homepages on the web) and as a publicly documented body of knowledge (through policy manuals, promotional brochures, organizational culture, and a homepage on the web). The guidance counselor, who had been there for three years, commented on the role organizational culture plays in the documentation of knowledge:

I think when anybody leaves, obviously there is a piece of them that cannot be replaced because every person is unique and brings unique strengths. However, I think the culture and the environment of this school is so strong and so pervasive that things would continue. They just would.

The principal thought teachers and administrators, in this school, were aware of the need to retain important knowledge and to share this knowledge with others in the school and the school system:

With this being a new and innovative school I am sure we will have a high turnover rate, in the coming years; as teachers get experience I suspect they will want to move into leadership positions in other schools. It is important that when this happens we do not
experience learning gaps. I like to believe that we have structures and processes in place to guard against these gaps developing.

At Nicom there was no formal plan to document new learning however, it was happening. The action learning project with the mathematics teacher and the university was recorded on video as was the school's Co-operative Education program and the Future Pathways Project. The school was also starting to develop their homepage on the World Wide Web and some of the teachers were working on their personal subject-based pages. School handbooks and promotional brochures were also updated on a yearly basis. New learning was also embedded in the routines and procedures that governed the way the school went about its day-to-day business. As the social studies teacher explained, "things go pretty smooth around here and if something comes up that I'm not aware of it's easy to go and ask- someone will have the answer. People around here are helpful like that".

At CAL there was no formal plan to document and organize new learning but there was some evidence that it was happening as an aside to other projects. A school assessment project being conducted by the ministry forced the school to review old records from a school improvement program they were involved with at one time. This knowledge wasn’t easily accessible but seven years of data had been retrieved from minutes and files and was being made available to staff members. The principal was hopeful that this would provide a launching pad for future learning. The science department head, who was party to the initial school improvement process, described his role in retrieving data and knowledge:

My task was to go through the six or seven years of our school improvement process and compile the agendas from all the meetings and as many notes as possible from those meetings and to put it together in a folder in such a way that the external evaluation team would be able to see almost step-by-step what our school improvement process had been up to that point.

At Janjonner, where there was little evidence of organization-wide learning, old learning was embedded in organizational routines and procedures that governed the way the organization went about its daily business. Tacit knowledge does exist however, it resides with departmental members and is available to others if they know where to look, who to ask, and what the right questions are.
Stage Descriptors

While individual, team and whole organizational learning are interrelated, whole organization learning is more than the sum of individual and team learning. Notwithstanding that individuals and groups are the agents through which whole organization learning must take place, the process of learning is influenced by a much broader set of social, political and structural variables. Whole organization learning involves accessing new knowledge, sharing this knowledge with organizational members and ensuring that the knowledge is stored and made easily accessible for organizational members. An analysis of the data shows that this is a complicated process that does not happen when left entirely up to chance. In schools where new knowledge is accessed and shared with organizational members, processes are in place to ensure that it happens. This is much more likely to occur in the later stages of organizational growth (developing and learning) than in the early stages. Table 17 outlines the stages of organizational growth and development as they pertain to whole organization learning.

In Stage One there are few organization-wide changes or innovations and no growth or improvement plans. There is no sign of a knowledge management plan and there is no evidence of new knowledge creation, as most organizational members don’t pay much attention to what happens outside their school. Nor are there any internal efforts to be innovative. This type of school keeps up-to-date with societal trends by reacting when something major happens or they are forced to react by an external agency like the school board or The Ministry of Education. When asked if there were any school-wide initiatives that the school was involved in, the English department head at Janjonner stated:

I wouldn’t say there is one ongoing project at this time. A few years ago when the transitions years initiatives were coming in, there was a large number of staff who were involved in the planning and the implementation, and I would expect a similar sort of thing will take place once the secondary reform package comes out.

In schools at this stage new knowledge is acquired through workshops and conferences but the means for sharing are formal memos, letters and bulletin boards, or by chance on an informal basis, and does not get utilized collectively. The social studies teacher summed up how teachers kept up-to-date this way:

it can be difficult, because it’s such a large school physically as well as in the number of students, I think we tend to become departmentalized and so we operate mostly within
our own departments. There’s an opportunity to share within the department but on a school wide basis, besides the staff meeting, it really doesn’t happen.

There is no formal plan to document knowledge but tacit knowledge does exist, however, it resides in organizational routines and with departmental members, and is available to others if they know where to look, who to ask, and what the right questions are. The science teacher at Janjonner, described what happens when new teachers come to her department: “…they’re always working with someone an a course…. So, we don’t have a formal buddy system sort of thing, it’s more the people that you would be teaching particular courses with that would be the ones to learn the ropes from.”

In Stage Two schools, plans for organization-wide growth and improvement are still in the formative stages. There is no evidence of new knowledge generation but new knowledge does enter the school as school administrators and other key individuals try to keep in touch with what is happening in the outside environment. At CAL, a school that was content with the status quo, the new principal was trying to address the problem:

I try to get out as much as possible, I’m on a number of committees and I’ve urged every single teacher on this staff that if they want to do anything professional this summer … I would pay the full tuition for them, no questions asked. I’ve passed on information…and made funds available. So, I’m encouraging all of my people to get away. And that will happen over the next year.

There is little evidence of cross-functional sharing as administrators assume responsibility for transferring most knowledge throughout the organization. Information and knowledge does get disseminated but it is not collectively utilized. The principal also acknowledged that sharing and communication was a problem as he noted:

Well this year it’s been very, not an excellent system I suppose … like something comes from the board office, it comes through the office obviously and I make sure it gets to the right department. And we hope the department gets it to the teachers. That’s the established pattern. I suspect it’s not working as well as it should. If something’s important and I want all teachers to see, I make sure it gets posted to the bulletin board. It’s very much general office oriented.
### Stages of Growth - Whole School Learning

<table>
<thead>
<tr>
<th>Factors</th>
<th>Stage 1: The Coping Stage</th>
<th>Stage 2: The Emerging Stage</th>
<th>Stage 3: The Developing Stage</th>
<th>Stage 4: The Learning Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stimulus to learning</strong></td>
<td>Externally imposed demands</td>
<td>Change in leadership; externally imposed demands</td>
<td>Organizational survival; a response to changes in society</td>
<td>A response to changes in society</td>
</tr>
<tr>
<td><strong>Knowledge Acquisition</strong></td>
<td>Primarily through workshops and conferences; scanning the environment</td>
<td>Primarily through workshops and conferences; scanning the environment</td>
<td>Through conferences in and out of province; bringing in external consultants; benchmarking and monitoring progress; partnering with external agencies; environmental scanning</td>
<td>Through conferences in and out of province; bringing in external consultants; benchmarking and monitoring progress; partnering with external agencies; environmental scanning</td>
</tr>
<tr>
<td><strong>Knowledge Generation</strong></td>
<td>No evidence of new knowledge generation</td>
<td>No evidence of new knowledge generation</td>
<td>Experimentation and risk-taking are promoted; teachers are encouraged to develop new curriculum; some evidence of action learning</td>
<td>Experimentation and risk-taking are promoted; teachers are encouraged to expand current curriculum and also to develop new curriculum; many action learning projects are on-going; teacher mentorships</td>
</tr>
<tr>
<td><strong>Knowledge transfer</strong></td>
<td>Information transfer through memos, reports, letters, bulletin boards, etc.; departmental meetings; informal networks</td>
<td>Information transfer through memos, reports, letters, bulletin boards, etc.; departmental meetings; informal networks</td>
<td>Knowledge and information transfer is planned; through distribution of memos, reports, letters, bulletin boards, etc.; departmental meetings; informal networks; face-to-face communications; electronic communications</td>
<td>Knowledge and information transfer is part of a sophisticated plan; through distribution of memos, reports, letters, bulletin boards, etc.; departmental meetings; informal networks; face-to-face communications; electronic communications;</td>
</tr>
<tr>
<td><strong>Collective interpretation of knowledge</strong></td>
<td>Information and knowledge gets disseminated but not collectively utilized</td>
<td>Information and knowledge gets disseminated but not collectively utilized</td>
<td>Some knowledge moves beyond the team or the individual to become the collective property of all members</td>
<td>Knowledge moves beyond the team or the individual through a sophisticated process, to become the collective property of all</td>
</tr>
<tr>
<td><strong>Knowledge Documentation and Storage</strong></td>
<td>No formal plan but policy manuals exist; informal knowledge resides in organizational routines</td>
<td>No formal plan but there are promotional brochures; a web page; minutes of meetings; informal knowledge resides in organizational routines; no plan for sharing</td>
<td>Formally in promotional brochures; a web page; minutes of meetings; on video recordings; informal knowledge resides in organizational routines; teachers share across departments</td>
<td>There is a formal plan for documentation; a school succession plan is in place; there are policy manuals, teacher and school web-pages; promotional brochures; videos; teacher journals; and organizational structures designed to facilitate storage and easy retrieval of knowledge</td>
</tr>
</tbody>
</table>

Table 17: Stages of Growth - Whole School Learning
There is no formal plan to document knowledge but tacit knowledge is stored and made available to teachers on a need to know basis. It can also be accessible to others if they know where to look, who to ask, and what the right questions are. While their knowledge management skills are poorly developed, these organizations have documented prior learning in the form of minutes, brochures, and a school web page but much of the documentation is in the form of retained past learning experiences that are imprinted on organizational actions. One of the teachers indicated that he relies on other more experienced teachers to keep him informed on school policy: "I generally go to my department head if I need to know something. If he doesn’t know the answer then it probably isn’t a critical issue". The science department head at CAL explained how he was responsible for researching prior knowledge about the school improvement process:

My task at the time was to go through the six or seven years of our school improvement process and compile the agendas from all the meetings and as many notes as possible from those meetings and to put it together in a folder in such a way that an external evaluation team would be able to see almost step-by-step what our school improvement has been to this point.

At Stage Three, major organizational changes and innovations are part of a formal plan that is developed by administrators and department heads and then communicated to other stakeholders. Long term growth and improvement plans focus on the school and its perceived future needs. At Nicom, the family studies teacher, who was new to the staff, explained her interpretation of how the school vision was crafted:

I think the driving force is the administration. There is an administrative council where I believe a lot of these innovative ideas get hashed out. I haven’t been part of it so I don’t know exactly what happens…. I only know there is a group of people who review whatever initiative or new thing that comes along – I think it goes through that group first before it comes to the rest of us for our approval. I sense that a lot of these initiatives are coming from the principal.

Schools at this stage are skilled at knowledge acquisition and generation as they develop their own knowledge internally and constantly scan the environment for new ideas from other organizations. When asked how he and his staff kept up-to-date on things that were happening in the community, the principal of Nicom replied: "Through conferences! …it’s really where a lot of the action is these days. If you’re not getting out there and you’re not listening and being attentive to what’s going on, then you’re slipping behind". The family studies teacher, who was
also working on developing the Future Pathways program, credited the principal with coming up with the idea, citing his vision as the driving force behind that and other new initiatives:

We have a lot of people who can do administrative work but unless you have someone out in front who sends the right instructions to the right people and holds the vision together you will fail because then everybody starts to work independently and nothing unites. And that applies to the Future pathways, the technology and all of the other initiatives – if he supports us in our work we can make things happen.

Some of these ideas do move beyond the individual and the team level to be collectively interpreted at the organizational level. For example, at the beginning of the school year most staff members were not technology users but towards the end of the year almost all were using technology in some way, in their teaching. However, these schools are still not skilled at knowledge transfer, collective integration, utilization and documentation, as new knowledge tends to move slowly. All of the teachers at Nicom and CAL claimed a lack of time for reflection and new learning as a barrier to knowledge movement. At Nicom, old knowledge is documented in the form of videos, brochures, handbooks, web pages and organizational routines but there is no formal documentation process to ensure that new knowledge is retained.

Schools that are in the third stage of development encourage experimentation and risk-taking as teachers combine their talents to develop new curriculum and create new learning opportunities for students. The family studies teacher working on the Future Pathways project at Nicom, claimed that the administration were very supportive and encouraged the project team to be creative when designing the new curriculum. “They are pretty good, they told us to be creative, to create something other schools would envy, and they gave us the freedom to make most of the decisions – we still report back to them but it feels like it’s our decision”. The learning resources teacher said, “I’ve become more relaxed with the aspect of taking a risk…and I think that’s good, that’s healthy.”

In the fourth stage of development, major organizational changes and innovations are part of a formal plan that is developed by administrators and department heads in consultation with the other stakeholders. Long term growth and improvement plans recognize that the future cannot be predicted and that schools must prepare students for an uncertain future. Once the growth or improvement plans have been developed they are reviewed frequently and modified as needed. In this type of school knowledge is often generated internally at the grass roots level, in fact, administrators encourage innovation and facilitate the movement of successful innovations
throughout the school. The guidance counselor at Floridav described how an innovative idea that originated with the student assistants got utilized by all staff members:

So, this is an idea that started with the student assistants, was shared with the classroom teachers, got brought to the school growth team and then passed on to staff. And, as I said the staff were involved in developing the school plan…so they bought into that as a goal, as ensuring student success was one of the goals identified in the school plan. As a result of that we had professional development sessions and more are planned.

There is also a high level of awareness of external trends and forces and how they might impact the organization; teachers are quick to import and adopt the “best practices” of other schools. For example, the principal of Floridav explained how she had visited a school in Calgary that offered what she felt was a very innovative educational program. She went on to say that she had been successful in getting her school board to agree to adopt portions of that model for the one they were developing for Floridav.

At this stage, sharing is quite common and members have established a collaborative culture in which learning evolves naturally. It can happen formally as a result of carefully planned events and processes (e.g. memos, reports letters, bulletin boards, staff meetings, briefings, cross-functional work teams, and electronic communication networks). This sharing and transfer of knowledge also happens unintentionally as a result of informal networks that develop within and between departments and through peer-to-peer communication. As is the case at Floridav High, these schools use cross-functional teams, weekly planning meetings, a flattened organizational structure and egalitarian principles to facilitate the transfer and collective integration of knowledge beyond the individual and team level to that of the entire organization.

At this stage, knowledge is actively managed and there is a formal plan for documenting knowledge and ensuring that knowledge from prior learning experiences is stored and easily accessible for organizational members to utilize when needed. Again, Floridav provides a good example of how knowledge documentation is viewed from both an individual personal perspective (through the use of journals, and homepages on the web) and as a publicly documented body of knowledge (through policy manuals, promotional brochures, videos and a homepage on the web). Teachers and administrators are aware of the need to retain important knowledge and to share this knowledge with others in the school and the school system. The principal at Floridav mentioned the need for a succession plan to ensure that knowledge was retained at the school level:
With this being a new and innovative school I am sure we will have a high turnover rate, in the coming years; as teachers get experience I suspect they will want to move into leadership positions in other schools. It is important that when this happens we do not experience learning gaps.

Assessing Whole School Learning
The first step to enhancing organizational learning in schools is to conduct an assessment of current learning activities. This assessment can be achieved by conducting structured interviews and observations, as was the case for this research, or by administering an organizational learning survey, such as the one developed from this research (see Figure 11).

To assess a school’s ability to manage knowledge and move it successfully around the organization, instrument questions will focus on the phases of the learning cycle. First, questions will be designed to determine the stimulus for whole organization learning; second it will be necessary to determine the sources of new knowledge (i.e.) is new knowledge acquired from outside, generated internally or a little of both. Next, questions that can assess the movement and interpretation of the knowledge will need to be designed. That is, how is knowledge shared and transferred around the organization (through formal or informal plans and networks)? How do individuals and groups interpret the new knowledge once it gets transferred? How is new knowledge utilized? How is new knowledge stored for future use and how is it made accessible to other and new organizational members? Answers to these questions will assist in determining a school’s progress along the whole school learning continuum.

Diagnostic Questions – Organizational Learning

1. In this school, most change initiatives have been stimulated by:
   a) new programs being implemented by The Ministry of Education or The school board.
   b) pressure from the parental and business community.
   c) a change in leadership and or key personnel.
   d) teacher led initiatives.
   e) school and community partnerships (parents, businesses, school boards) designed to improve services to students and teachers.
2. **This school acquires high quality and highly relevant knowledge by...**

   a) accident. Teachers and administrators don’t pay much attention to what happens outside the school nor are there any internal efforts to be innovative.
   
   b) accident, as well as through the school board and the Ministry of Education.
   
   c) accident, as well as intentionally scanning the local environment and importing new ideas from other organizations. For example, attending conferences, hiring external consultants, using benchmarks from other schools.
   
   d) in addition to (c), partnering with other schools, businesses and professional organizations for the purpose of developing new ways of doing things.
   
   e) both (b) and (c).

3. **This school creates high quality and highly relevant knowledge by...**

   a) there is little evidence that this school creates any new knowledge.
   
   b) experimenting with new ideas and curriculum to see what works.
   
   c) teachers and/or administrators working closely together on curriculum and instructional issues exchanging personal knowledge (e.g. teacher mentorships).
   
   d) teachers and/or administrators taking some piece of existing knowledge and adding their knowledge to it, in order to create something new (e.g. designing an electronic learning resource (virtual field trip) that improves student learning).
   
   e) adapting new knowledge to the entire organization (e.g. when designing electronic resources is accepted by all staff members are as a new and improved way of teaching).

4. **In this school the sharing of knowledge...**

   a) does not occur on a large-scale basis. When it does occur it is by chance, on an informal basis.
   
   b) does not occur on a large-scale basis. The few new ideas are usually protected by the owners and are not willingly shared.
   
   c) is common. It happens as a result of informal networks, within and between departments and through peer-to-peer communication. It is often a response to a crisis.
   
   d) is common. It happens as a result of carefully planned events and processes (e.g. reports, bulletin boards, staff meetings, briefings, cross-functional work teams, and electronic communication networks).
   
   e) both (c) and (d).

5. **In this school, when new knowledge and new initiatives are introduced and shared around...**

   a) it initially results in a lot of hype but it usually fizzes out.
   
   b) adequate training and follow-up is lacking and most members cannot utilize the new knowledge.
   
   c) the idea is presented to all staff members, and expectations are agreed upon long before the implementation date.
   
   d) in addition to (c), just prior to implementation extensive training is provided. This enables the new knowledge to be utilized by all staff members.
   
   e) in addition to (c) and (d), follow-up training sessions and other support systems are in place to ensure that new learning is maintained and the new knowledge can be utilized.
6. In this school...

a) when leaders and other knowledgeable teachers leave we usually find ourselves in a state of crisis, because skills and knowledge have not been retained.

b) there is no formal plan for storing knowledge but undeclared knowledge is stored with department members and is available to other members if they know where to look and who to ask.

c) in addition to (b), teachers and administrators are aware of the need to retain organizational knowledge.

d) teachers and administrators are aware of the need to retain organizational knowledge. They have systems and structures in place (e.g. teams, documents, and/or electronic files) to ensure that important knowledge is not lost.

e) in addition to (d), the stored knowledge is stored and organized in such a way that it is easily accessible to organizational members when it is needed.

Figure 11: Knowledge Management Questions
CHAPTER FIVE

Developing Organizational Learning Capacity in Schools

This chapter reports evidence that pertains to the learning capacity of schools. Each of the participants was interviewed about organizational learning processes and conditions that existed in their school and the results are presented within that framework. First, I will define the basic features of each of the dimensions; next I will outline these features across each of the stages of growth. In so doing, examples from schools will be used to illustrate the differences among the stages. In the concluding section I will identify a number of questions that must be contained in an instrument designed to locate a school’s stage of development within the dimension.

Dimensions of the Learning Process

Measuring progress on the following dimensions is critical if we wish to improve an organization’s capacity to learn. The level, breadth, rate and strength of the learning process are measures that help to determine the capacity of an organization to learn continuously and to make intelligent decisions concerning issues of change and transformation. Refinement of these learning processes should enable an organization to move easily to the point where it can move through multiple iterations of the organizational learning cycle, simultaneously (see Figure 7).

Figure 12 represents how an organization moves through multiple iterations of the organizational learning cycle. The recursive process outlined in figure 12 implies a cyclical guide to continuous learning where an organization scans its environment for new ideas as well as for feedback on existing practices, transfers this new knowledge throughout the organization, collectively arrives at an interpretation of its meaning and utilizes it to makes alterations to these practices, where necessary. The organization then decides where and how the new knowledge should be stored so that organizational members and new employees have fast and easy access. As you can see from the diagram (Figure 12) this new knowledge may act as a stimulus for new learning and initiate another iteration of the learning cycle or it may be stored so that others have fast and easy access and can utilize it in the future (the inner loop in Figure 12 represents this cycle).

Since the existence of multiple iterations ensures that an organization is constantly moving through the organizational learning cycle and hopefully refining its knowledge management skills, the organization should be continuously learning new things and increasing its capacity to learn and, if necessary, transform itself.
Organization-wide learning was not common in schools. Table 18 outlines the dimensions of the learning process and indicates the extent to which they were present in each of the schools.

![Learning Cycle Diagram]

**Table 18: Dimensions of the Learning Processes**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>CAL</th>
<th>Nicom</th>
<th>Floridav</th>
<th>Janjonner</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Levels of learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-loop</td>
<td>--</td>
<td>2 (2)</td>
<td>1 (1)</td>
<td>--</td>
</tr>
<tr>
<td>Double-loop</td>
<td>2 (2)</td>
<td>2 (3)</td>
<td>6 (4)</td>
<td>--</td>
</tr>
<tr>
<td><strong>Breadth of learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superficial</td>
<td>2 (1)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Pervasive</td>
<td>--</td>
<td>4 (4)</td>
<td>7 (5)</td>
<td>--</td>
</tr>
<tr>
<td><strong>Speed of learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range from fast to slow</td>
<td>Slow</td>
<td>Medium</td>
<td>Fast</td>
<td>Slow</td>
</tr>
<tr>
<td><strong>Strength of learning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>1 (1)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Behavioral</td>
<td>1 (1)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Both (integrated)</td>
<td>--</td>
<td>4 (4)</td>
<td>7 (7)</td>
<td>--</td>
</tr>
</tbody>
</table>

S = Stimulus, K = Knowledge Sources, T = Transfer, U = Utilization, D = Documentation
Levels of learning

This dimension refers to how deeply organizational members can reflect on their own thinking and action and the degree to which they are able to question closely held beliefs and assumptions and learn at the end of the learning cycle. This research suggests that learning occurred along two levels, adaptive or single-loop and generative or double loop, and that they were not exclusive of each other, in that some schools employed more than one level of learning at the same time.

At Floridav, where there were regularly scheduled professional meetings as well as a focus on action research, and at Nicom where the Future pathways program originated as a result of reflecting on students needs there was little doubt that these schools engaged in critical reflection on closely held assumptions. The principal at Floridav, reflecting on learning in the workplace commented, “we always learn, we learn as we go. Our school task force has been ongoing. Our curriculum is constantly being revised, so our notion of action research and taking time for reflection is very important to us”.

At Floridav there was evidence of both single-loop and double-loop learning. Not only was this school able to detect and correct errors and adjust its overall rules and norms, there was evidence that they were capable of moving through multiple iterations of the learning cycle and as a result the learning was more sophisticated. In this school, more so than the others, new learning was directed at creating a new educational paradigm. In this school, they had broken with tradition and changed the structure of their school day, the nature of their curriculum, the structure of their workrooms, the role of student assistants, student advisory sessions, the way that technology was utilized for communication and leadership styles. An example of adaptive (single-loop) learning is provided first by the staff development teacher followed by an example of generative learning (double-loop) outlined by the guidance counselor:

On Wednesdays some of the students were coming in late, you know Wednesday was a free day, a fun day, this was in our first year, and they were coming in at a quarter to eleven, eleven o'clock, which was just enough to document them as late but not enough to penalize them. So what the administrators came up with a directive that anyone late on a Wednesday gets an automatic detention that day. So in that case it was the administration saying ‘this is the line in the sand, your choice’. (single-loop as described by a Language teacher at Floridav).

This year we took as a focus ensuring the success of every student, because we had success for all as a basic belief and we weren't convinced that we had attended to some
of our special needs students. And, in fact, it was through a collaborative appraisal of our education assistants, and it was through that process that the educational assistants said, you know, can we look at some other ways, some better ways. And that was the stimulus for that particular focus, and it’s been a really rewarding process. And in fact, I think most staff have a better understanding of what it means to be learning disabled, and how one might better assist a student who’s learning disabled, therefore we are better prepared to meet their needs (double-loop learning described by the principal at Floridav).

At Nicom there was also evidence of single-loop and double-loop learning. The school was fighting for its survival and as a result the staff was capable of questioning their organizational rules and norms. In fact, the teachers and administrators at this school appeared comfortable making adaptive and generative changes. The integration of technology and the Future Pathways programs are examples of how the school had reflected on its purpose and made transformational changes to chart a new direction for education in their school. They also paid attention to current operations and were cognizant of making adjustments to their school improvement plan and their discipline policy so that things operated more efficiently.

At CAL there was very little evidence to support double-loop learning. The few instances that did exist were transformational in nature and they were initiated by and being promoted by the new principal. At a recent meeting he asked teachers a number of questions which forced them to reflect on their teaching practices:

How would you do things differently? How will you do things differently? How could you do things differently, to achieve the same results, but to lessen the workload? We took it from a workload point of view because teachers were talking workload so I gave them five questions that were based on workload reduction. Now re-think what you’re doing, from a workload point of view you want the same performance at the end, but you want to reduce your workload. Now how can we do things differently from both a teaching strategy and evaluation point of view? We came up with some interesting suggestions from some departments.

The science department head also explained how they were adjusting overall rules and norms rather than specific activities or behaviors to tackle a problem with student lateness:

For a while the kids were coming to homeroom and they were sitting down, and they were doing their thing, but as the year went on, it took them longer and they started to
socialize longer, so it’s been an ongoing problem and it’s something we’ve realized. Now like I said where you got all your teachers involved in a homeroom there's nobody out there herding them in. Before, what we had was a homeroom system in which you have your twenty-five or so students but there would be a certain number of teachers who would be freed up and their job would be to go out there and act as shepherds and herd them along. So we’ve gone through the system now and we realize that, there’s something wrong, we’ve got to do something about it, so what we’re doing now is we’re looking at the possibility of changing the way in which we do homerooms next year, as a result of that. What we’re going to do … is that we won’t have a homeroom period at the beginning of the day, kids will go straight to their first period. We will have a homeroom period probably after lunch just to touch bases with your students. What they’ll do then … is on every day seven they’ll have a period set aside for a special homeroom period.

At Janjonner there was no evidence of double-loop learning. Organizational activity centered on applying routine solutions to previously encountered problems. This activity was adaptive in nature and it did not question whether or not this was the best way to solve the problem. In fact the focus was on treating the symptoms rather then dealing with the causes of the problems. When asked how problems were approached and solved the English department head replied:

> It starts out with the individual teacher complaining, whether they complained to their department head or whether they're down here complaining to the vice-principals… and what happened here (in response to student lateness) was that finally the message was very loud and clear to the administrative team that something needed to be done. So the three VP’s immediately in the morning started to be very visible here in the office and monitored every single student who came in, and our detention room was full for a couple of weeks.

**Breadth of Learning**

Breadth of learning refers to the pervasiveness of the new learning. Is it superficial or is it recognized throughout the organization? At Nicom new learning initiatives concerning technology and the Future Pathways project were widely accepted, and teachers felt they had made a significant amount of progress in a small period of time. At Floridav many new learning initiatives concerning the curriculum were accepted and implemented by all teachers. For example, TAGS, Wednesday Program, Cooperative Learning, Special Education and the teacher work room structure. In both of the other schools there was no evidence to show that the learning was pervasive.
**Rate of Learning**

Rate of learning refers to the speed at which the organization can respond to new learning. In this context, new learning can confirm the value of existing practice or it can highlight the need for adjustments in existing practices that range the spectrum from minor alterations to large scale change that can result in innovative action being taken. When innovative action is required organizations that have a high capacity for learning are able to move innovations through the organizational learning cycle and then repeat the iteration as needed (see Figure 12).

With the decentralized structure that was evident at Floridav they were able to multi-task and move many initiatives through the learning cycle at the same time. The guidance counselor commented that she felt the decentralized structure was a powerful lever for fast and frequent learning:

> I think as a result of decentralising the control, or the decision making, it’s very innovative around here because instead of having a small group of insiders making decisions, you have almost a hundred people with really creative ideas being allowed to bring those ideas to the forefront. And they can make decisions around their ideas and turn those ideas into action.

The principal also supported the notion of a flattened organization she acknowledged the expertise on her staff and trusted them to do the right thing. “I don’t run around trying to second guess what other groups are doing. These are experienced educators I want them to operate on their own”.

At Nicom, the principal noted that there was a real synergy beginning to develop. “It’s Future Pathways, it’s the literacy thing, it’s the technology thing, and it starts to mushroom and it’s great because after a while things just start to click”.

At CAL the rate and speed of learning was described as slow as there was a lot of distortion in the system. The principal was quoted as saying “things move much too slowly for me and some departments don’t get it at all - because the department head is not doing the job. And you can say as much as you like - but it doesn’t change”.

**Strength of Learning**

Strength of learning refers to the degree to which change caused by learning is cognitive, behavioral or both. At Janjoneer there was evidence of behavioral change but no cognitive change. The social studies teacher explained that while he and his colleagues were complying
with The Ministry of Education policy to de-stream grade 9’s there was very little support for the initiative:

There’s so much bitterness over that plan, theoretically, sure, it sounds like a great idea, and I’d be really happy to implement that great idea if I had any direction. Tell me, how do I teach a kid who can barely read while at the same time I’m teaching a kid who’s so gifted that the parents are saying, “come on, they’re not being challenged”? So I think there’s that feeling on the part of the teachers that some how a lot of people who have good ideas or good intentions for the educational system don’t know what it’s really like to be there.

At Nicom and Floridav there was evidence to support that learning was both cognitive and behavioral, as teachers had a strong commitment to making the change work. At Floridav the new format they had developed for their school was accepted by all of the staff and now there was interest in other schools about replicating at least portions of their innovative system. At Nicom the social studies teacher noted a shift in the attitude of the staff since the beginning of the year: “I’ve seen some people taking their classes to one of the labs when, this time last year, they never would have even dreamed they would know how to turn on a computer”.

At CAL there was evidence of behavioral change but there was also evidence to suggest that people had not bought into the reason for the change. For example, the mathematics department head noted, “I’ll try this new homeroom format but I really don’t see what was wrong with what we were doing all of these years – it worked for me”.

**Stage Descriptors**

The key objective in building organizational learning capacity is to maintain or improve organizational performance. Such improvements come when an organization is capable of learning from its own experience or from the experience of others. Part of increasing organizational capacity to learn is the establishment of feedback loops that can inform individuals, teams and organizations about the success of learning initiatives. By assessing the level, breath, rate and strength of learning we are able to provide insight into the effectiveness of learning initiatives. Table 19 outlines the stages of growth for the key dimensions that determine the effectiveness of new learning initiatives.
Stages of Growth: Dimensions of the Learning Process

<table>
<thead>
<tr>
<th>Factors</th>
<th>Stage 1: The Coping Stage</th>
<th>Stage 2: The Emerging Stage</th>
<th>Stage 3: The Developing Stage</th>
<th>Stage 4: The Learning Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levels of learning</td>
<td>Learning is single-loop; there is very little reflection</td>
<td>Learning is primarily single-loop but there is some evidence of double-loop learning; some reflection at the administrative level; reflective sessions being introduced to teachers</td>
<td>There is evidence of both single-loop and double-loop learning; administrators question status-quo as a response to changes in society</td>
<td>There is evidence of both single-loop and double-loop learning but the emphasis is on double-loop; reflective sessions are planned; and teachers are encouraged to question status-quo; deutero learning</td>
</tr>
<tr>
<td>Breadth of learning</td>
<td>Little evidence of new learning</td>
<td>Learning is superficial</td>
<td>Learning is somewhat pervasive and accepted by most teachers</td>
<td>New learning is pervasive and widely accepted throughout the school</td>
</tr>
<tr>
<td>Strength of learning</td>
<td>Any changes are token or behavioral changes</td>
<td>Most change is behavioral but key individuals understand things from a cognitive perspective</td>
<td>For the most part change is both behavioral and cognitive as most people buy-in to the reason for change</td>
<td>Change is both behavioral and cognitive throughout the organization</td>
</tr>
<tr>
<td>Rate of learning</td>
<td>Very Slow</td>
<td>Slow – able to get through the learning cycle but it takes a long time</td>
<td>Moderate – able to move efficiently through the learning cycle one or two iterations at a time</td>
<td>Fast - able to move through multiple iterations of learning cycle, simultaneously</td>
</tr>
</tbody>
</table>

Table 19: Stages of Growth - Dimensions of the Learning Process

For schools that are in Stage One there is very little commitment to new learning and little evidence to show that knowledge moves through the organization at all. The learning that does occur is primarily single-loop in nature. It focuses on error detection and correction and is concerned with obtaining direct solutions to immediate problems or roadblocks encountered by individuals or the organization. This type of learning ignores the need to reflect on organizational problems and usually results in treating the symptoms of the problem rather than focusing on long-term solutions to the problem itself. This type of learning is most often a token behavioral response to an external stimulus (an example might be a change in organizational behavior as a result of a change in board or ministry policies) where people do little more than pay “lip service” to new initiatives. The senior science teacher at Janjonner claimed that is often the case with new initiatives:

*Teachers are really inundated with outside ideas from people who really don’t know what it’s like to be in the classroom…. And often when something is implemented, it’s obvious that thought didn’t go into it and also there hasn’t been any preparation for the teacher as to how to carry it out. There’s no consistency, because no one knows, we just do our own thing and hope it’s what they want.*
At Stage Two there is very little in the way of organization-wide learning, however, there is a commitment to individual professional learning and some evidence to support double-loop learning. At CAL the science department head explains how his learning on a school administrative software package got transferred to the entire school:

…I’m working with the administration to get the teachers, as much as possible, to make use of that system. So through a number of workshops and staff meetings …we’ve done sessions with teachers to show them how this works and how they can use it and how we can have marks available…. It’s an example of how an innovation came along and a couple of us took it, learned how to use it and then shared it with the rest of the staff.

The organization-wide transfer that does occur is more by chance than because of a refined or polished process, however, there is slight evidence to show that these schools are able to navigate through the learning cycle even though the rate of learning is slow.

In these schools leaders take time to reflect on the needs of the organization and teachers are being challenged to reflect on their work. The principal at CAL explains how he approached the issue of reflecting on the teaching practice:

We took it from a workload point of view because teachers were talking workload so I gave them five questions that were based on workload reduction. Now, re-think what you’re doing, from a workload point of view you want the same performance at the end, but you want to reduce your workload. Now how can we do things differently from both a teaching strategy and evaluation point of view? We came up with some interesting suggestions from some departments.

However, while these schools are beginning to “warm-up” to change, they are not skilled at innovating. At this stage, behavioral change may occur but change is also occurring at the cognitive level as some teachers begin to realize the importance of innovating and they begin to think about how things can be done differently. The English teacher at CAL gave his opinion on new learning initiatives at his school: “There’s a small group of us who have a genuine interest in learning but the vast majority - unless they’re being paid every minute for everything they do - they just won’t do it”. The mathematics teacher felt that when it came to new initiatives, many teachers were just going-through-the motions.
In schools that have reached the third stage of development there is an awakening of an organization-wide interest in learning and innovation, as these schools are at the beginning of an innovation cycle. For example at Nicom, the school had recently gotten involved in school-wide learning initiatives involving the utilization of new technology in the curriculum, career exploration for students along with an environmental education project. At this stage, schools engage in both single-loop learning (dealing with day-to-day issues like attendance and discipline) and double-loop learning (finding new applications for technology, writing new curriculum) but they also focus on learning by anticipating the future. As the physical education teacher at Nicom acknowledged when he was speaking about the Future Pathways program:

*I think the program itself will lead to changes in student attitudes…. I think the work-placement will be a reality check for many of them as they will get a taste of what it’s like to be held responsible for their actions by someone from outside the school…. I think when that happens it will help develop the maturity of the student and students will need to develop this skill if they are to be successful in finding a job when they leave school.*

Developing Schools may also engage in action learning projects - a type of learning that involves working on real problems, focusing on the learning acquired and implementing solutions to the problems. The mathematics teacher at Nicom was collaborating with a professor from the local university to help develop group skills in a mathematics classroom.

At the developing stage, learning is beginning to occur at a faster rate, as it is somewhat pervasive and accepted by most teachers. As evidenced by the new learning initiatives at Nicom, these schools are able to move efficiently through the learning cycle. Apart from the administration, who are beginning to challenge the status quo there is little emphasis placed on reflecting on organizational practices. The learning resources teacher crystallized this point when she claimed “*we absolutely do not have enough time for professional development, a couple of days a year is nothing, there’s not nearly enough time for us to reflect on our work*”. Teachers in developing schools understand the need for change and are trying to be innovative. For the most part, change is both behavioral and cognitive in nature. The science department head noted this as he spoke about his experience working with teachers to integrate new technology into their classroom activities: “*This is real, this is real, this is real…. I know a few teachers are just tinkering because of the novelty…but there is still a lot of innovative and very interesting things happening.*”

At Stage Four organizational learning is both single-loop and double-loop, as schools realize they have to address the need for transformational as well as incremental learning. At Floridav, both
of these issues get addressed through the school growth team as well as during the Wednesday planning sessions. These schools thrive on transformational learning in that they are helping to define the future by developing and creating innovative approaches to education that will influence how other schools will operate in the future. The focus on teaching an integrated curriculum and scheduling quality planning time for teachers were two of the innovative features at Floridav High. Also, since learning is transformational, there is evidence that schools at this level are able to engage in deuterol learning. When a school engages in deuterol learning it is capable of learning by reflecting critically on its taken-for-granted assumptions and, organizational members explore prior learning experiences in an attempt to discover what they did that inhibited or eased the learning process. They are able to invent new strategies for learning and integrate these strategies into their day-to-day learning activities. At Floridav, this occurs regularly as the teachers working in the integrated curriculum meet weekly during the Wednesday morning planning sessions.

There is an organization-wide commitment to professional learning as teachers are provided with regularly scheduled, quality planning time. This scheduled time provides opportunities for teachers to reflect on their teaching practices, to question the status quo, and to discuss new curriculum and new teaching methodologies. At Floridav High such an initiative has resulted in new learning that is pervasive at the organizational level and widely accepted by teachers.

Schools in the fourth stage of development are innovative schools. They are constantly “pushing the envelop” - experimenting and generating new ideas and concepts and then implementing the new ideas throughout the organization. These schools are able to move through multiple iterations of the learning cycle, which results in continuous organizational learning. Learning at this stage is much faster, controlled and focused as organizations feel comfortable with innovative thinking and translating that thinking into new patterns of organizational action. At this stage, new learning is both behavioral and cognitive, as organizational members understand why they make changes and adjustments in organizational procedures. For example, at Floridav there were numerous new learning initiatives occurring concurrently (e.g. TAGS, Wednesday program, Integrated Curriculum, workroom structure, performance appraisal, action learning projects).

**Assessing the Learning Processes**

The first step to strengthening organizational learning capacity in schools is to conduct an assessment of current learning activities. This assessment can be achieved by conducting structured interviews and observations, as was the case for this research, or by administering a dimensions of the learning process survey, such as the one developed from this research (see Figure 13).
Key questions that will help determine stages in the dimensions of learning will focus on determining how effectively organizations are able to navigate through multiple iterations of the learning cycle as well as, whether the learning is behavioral or cognitive or both. Questions will determine the types of learning that the organization engages in (single-loop, double-loop, deutero) and the degree to which they encourage, support and engage in reflective learning. The final set of questions in this section will provide insights regarding the pervasiveness of the new learning.

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**Diagnostic Questions - Learning Processes**

1. **In this school,...**
   a) there is little focus on professional learning.
   b) most learning focuses on reacting to and trying to solve day-to-day operational problems.
   c) teachers and administrators look internally and question themselves about why errors or successes occurred in the first place.
   d) teachers and administrators try to avoid negative results and experiences by identifying the best future opportunities and then finding ways to achieve that future.
   e) in addition to (b), (c) and (d), we contemplate our own learning behaviors, in other words we engage in activities that help us learn about our own learning.

2. **In this school...**
   a) there is little sharing among colleagues.
   b) teachers are inclined to share with their departmental colleagues. However, there is a limited ability to transfer knowledge beyond the departmental level.
   c) people are inclined to share with each other but there is no formal distribution plan. Basically, if I want to know something I know who to see.
   d) peer-to-peer sharing and the existence of cross-department teams ensures that knowledge diffuses throughout the organization, however, it occurs slowly.
   e) we are skilled at moving knowledge efficiently and quickly throughout the entire organization.

3. **As a school...**
   a) we never take time to reflect on what our school is all about.
   b) we take time to reflect on what our school is about, once or twice a year on professional development days.
   c) we take time to reflect on what our school is all about when we meet as teams or committees and at regularly scheduled staff meetings.
   d) challenging the status quo and experimenting with new ways of doing things is a way of life.
   e) In addition to (d), we collaborate with each other on action learning projects.
4. In this school...

a) new ideas are resisted.
b) it takes forever to implement a new idea.
c) there are groups of teachers who will take a new idea and run with it but there are others who resist anything that even resembles change.
d) we strongly support innovation and we have become skilled at moving knowledge efficiently and quickly throughout the entire organization, therefore new ideas get implemented quickly.
e) as a result of (d), we are able to successfully implement multiple innovations, simultaneously.

5. In this school...

a) things are pretty routine; there is not much change.
b) new ideas are usually imposed upon us and we have no choice but to comply.
c) new and innovative ideas are acknowledged but most people pay lip service to them therefore implementation is difficult.
d) teachers and/or administrators get excited about innovative ideas but they often become frustrated because of a lack of resources to implement the ideas.
e) innovative ideas usually result in new ways of thinking as well as new ways of doing things.

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**Figure 13: Learning Process Questions**

**Learning Levers**

As noted earlier, there is also a normative perspective to organizational learning. These are generic factors that are present (to some degree) in all organizations and have an impact on the capacity of the organization to engage in powerful learning initiatives. Like the learning dimensions these learning levers are multi-dimensional and most behavior ranges from one end of a continuum to the other. A profile of these levers can enable an organization to pinpoint successful areas around which to plan improvement initiatives. By identifying the areas of greatest leverage an organization may be able to maximize its improvement initiative. The organizational learning levers that were identified in this study are: leadership, building a shared vision, taking a systems perspective, building a flexible organizational structure, creating a collaborative organizational culture and providing support and resources for learning. Table 20 outlines the number of references that were made to each of these levers by organizational members.
Table 20: Learning Levers by School

<table>
<thead>
<tr>
<th>Learning Lever</th>
<th>Number of citations (number of teachers mentioning)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAL</td>
</tr>
<tr>
<td>Leadership</td>
<td>16 (4)</td>
</tr>
<tr>
<td>Vision</td>
<td>6 (2)</td>
</tr>
<tr>
<td>Systems perspective</td>
<td>8 (2)</td>
</tr>
<tr>
<td>Structure</td>
<td>25 (7)</td>
</tr>
<tr>
<td>Culture</td>
<td>14 (7)</td>
</tr>
<tr>
<td>Resources</td>
<td>10 (7)</td>
</tr>
</tbody>
</table>

Leadership for Learning

Leadership is critical for an organization that is trying to stimulate organizational learning. While it pervades each of the learning levers its significance dictates that it also stand alone as a learning lever. At Floridav, where there was an emphasis on individual and collective learning, the administrators were seen as role models that were comfortable in the roles of coaching, mentoring and facilitating learning. The principal in this school did not simply tell teachers what to learn. She encouraged and motivated them to develop and refine their own learning goals within the context of the organization. She was actively involved in the learning process and was an advocate and champion for new learning initiatives:

*I do think it's important to develop leaders and to allow leadership to emerge. Certainly, with all of the teams, committees and task forces teachers take on those roles and develop leadership skills. And I try to be a positive role model, I encourage them, I speak with them, and we often talk about leadership in the school and I always encourage people to seek promotion. Nowadays though, I've got so many young people here who are still getting their feet wet with teaching that the onus right now is on helping them get better.*

At Floridav the principal had given considerable thought to improving learning opportunities and had taken an organization-wide focus on learning that would enhance learning at the individual, team and organizational level. Here learning was viewed as a critical, continuous process and was linked to performance appraisal and future organizational plans. Teachers were encouraged to maximize their own individual learning, to strive towards personal mastery, to take some chances and to share with their colleagues.

At CAL and Nicom the principals were visionary leaders and advocates for personal professional learning. They encouraged and worked with their teachers to identify and explore problems and
to create new learning opportunities. For example, at Nicom the principal played a major role in helping his staff identify a gap in their curriculum, explore options to the problem and develop a workable solution that resulted in the development of the Future Pathways curriculum. At Nicom, the principal became involved in some new learning initiatives but his major focus was on providing opportunities for others to learn. At CAL the new principal was focusing his attention on creating an environment that would enable others to learn. While he was actively involved in new learning initiatives and some staff viewed him as a mentor/coach, there were still several dissidents who were not motivated to become involved in any new learning.

At Janjonner people in administrative positions possessed strong management skills, but did not display a working knowledge of the skills necessary to plan, develop or implement learning plans. There were no formal strategies for growth or learning and they did not get involved in teacher learning.

**Building a Shared Vision**

At Nicom and Floridav, teachers and other stakeholder groups demonstrated widespread support for the school vision. At Floridav all of the stakeholders were involved in the creation of the vision and they appeared to share ownership for it. The vision was shared with teachers through the interview process and those that demonstrated the greatest commitment to making the vision a reality were hired. As the principal claimed, “for us the first step to a shared vision was finding the right people. We had over 500 to choose from so we took the ones that shared our vision for education”. She goes on to say that the vision is now widely accepted by the community but it wasn't always that way; she explains how the staff had to deal with the media and a few parents who were not initially impressed:

> Because there’s certainly those people, in the early stages, who said let's get serious up at Floridav, let's get it right, and get back to having a school that operates the way schools should operate, and stop with this play day, or this fun day. We absolutely got some very bad coverage at the beginning. We had a small, very vocal group of parents who got the ear of the media and we had some pretty negative coverage turn out in the newspaper. But it was an ongoing battle with parents who supported us writing into the editor, and parents who didn't, writing back. The people who work here are every bit as capable of talking about the bits and pieces of every part of the vision - well, some know a little bit more because they've been here all three years, some know a little bit more because they've been in more leadership roles than others, but there isn't a person here who can't, or hasn't, had to answer a parent who says, well, I'm still not sure I believe in these Wednesdays, why do you have them again? They've all been there.
At Nicom the administration had consulted with their department heads and other key teachers to create a vision of the future. The vision was then communicated to the teaching staff and they were asked to support it. After support was gained from the teaching staff the plan was shared with other stakeholder groups and they were asked to support it - which they did. The physical education teacher noted things weren’t all positive but he did say, “I think we’re united in our support for the new initiatives. There’s only a small amount of opposition, but I think that anytime we propose major changes there are going to be people who are reluctant to be a part of it”.

At CAL the principal was crafting a vision and he had garnered external support (school board, parents, funding bodies) but was experiencing difficulty getting his staff to share in the vision. The social studies teacher, who was supportive of the new vision, noted there was some dissension but acknowledged that it was inevitable if things were to change.

Yes, I do sense some decisions are probably made before they come to the staff. I know some teachers in certain situations are not terribly happy with the way some decisions that affect the whole school are made and they sometimes feel that they weren’t consulted – that they weren’t actively involved in the process. But, you know, it really wouldn’t change things if they were.

At Janjonner the focus was more on day-to-day management; there was no evidence of a shared vision for the future.

**Taking a Systems Perspective**

At Floridav and Nicom, schools where organizational learning was apparent, it was obvious that teachers and administrators saw the ‘big picture’. They understood the complex interrelationships between the school and the community and they were able to think and act with a comprehensive understanding of the entire system. At Nicom, the principal spoke repeatedly about the global economy and the changing nature of work and the need for schools to produce graduates that were prepared for the world of work as well as university.

At Floridav, when teachers were asked: How does this school keep up to date with what’s happening in the local environment and societal trends in general? Teachers identified a wide variety of sources - a school based secondary school reform committee, a School Growth team, expert resources at the school board, the principal and the school council. The guidance counsellor also noted that:
A lot of people are involved in groups outside of the school and so...I'm on the executive for the Counsellor's Association for Durham Region, others are members of Rotary and the Chamber of Commerce, or groups like that. I have a lot of connections with the Junior Achievement, so those kinds of organizations within the community in general. We also do a lot of stuff through co-op. We have one hundred and eighty students out on co-op placements within the community, so that's quite a wide network. We do a lot of work with E.D.S. and DuPont and other local companies.

In addition, the concept of leverage was well understood as organizational members understood how a small well-focused change in one area could produce significant, long lasting improvements in another. In these school the administrators were able to analyze problems and difficulties from an internal perspective – they generally realized that the problem and the solution resided within the school and they were committed to uncovering both. For example, at Floridav, the principal was adamant that "it was improved opportunities for professional learning that translated into a better quality of work-life for the teachers, a better learning environment for students and higher student achievement". These schools also demonstrated the ability to link new learning to the organizations long-term goals.

At CAL, where there were difficulties learning at the organizational level, the administrators had articulated an understanding of the complex relationship between the school and its environment and they were actively working to connect the school with its community. As the principal himself said, “the principal and vice-principal in this school need to visit the community more”. However, he acknowledged that it would take some time to alter mental models as he noted "many of the teachers are still living in the past".

At Janjonner, where there was virtually no evidence of planned organizational learning, and there was little evidence that administrators or teachers recognized the interrelationships that exist within the school or between the school and its environment. However, the English teacher did comment that he tried to get his dramatic arts class out to perform in the community every year and the social studies teacher mentioned that some students were involved in co-operative education as well as other social responsibilities (e.g. Red Shield Appeal).

Building a Flexible Organizational Structure

In three of the schools there was evidence of participative decision-making. At Floridav the organizational structure was flattened to facilitate decentralized decision-making processes which enabled most decisions to be made at the level that was closest to where the impact of the decision would be felt. In this school “form followed function” and teachers were empowered to
make decisions in the best interest of children. The principal spoke frequently about decentralizing decision-making and trying to flatten the organization. She explained how they run their staff meetings:

*We have liaison groups in our staff meetings. Our staff meetings are run by the School Growth team, we have two co-chairs, and they run the show. They collect agenda items, admin might ask to be on the agenda, but they might not, and there's no sharing of factual information, that goes down on the back of the agenda if you got some facts. We don't waste time with that. We do business. So liaison groups are cross-grade, cross-departments, random selections of people, and there is a School Growth team member in each liaison group. So that if the business of the day is to look at, oh, I don't know, I mentioned the school plan, let's say we're looking at that...here are the three parts of the school plan that we've been engaged in this past year, how have we done? And it's always what are the good things, what are the pluses, what little things did we not accomplish, and then some interesting notes, the old PMI, plus/minus/interesting, comments. I'm not a liaison group leader. I'm in a liaison group, again as a member, but there is another School Growth team member there who takes that responsibility. I wanted to be part of the School Growth team as a member as we set things up. I thought it was important but it doesn't have to be a principal. In my last school it was the vice-principal.*

At Nicom and CAL where they spoke of participative decision making there was more talk than action. While there appeared to be good intentions, the leaders (for different reasons) had chosen to progress slowly in devolving responsibility to other staff members. At Nicom efforts were made to decentralize but the principal held on to some of the traditional bureaucratic functions. However, at CAL the principal was forced to move slowly because the staff were unwilling to accept much responsibility. The principal of Nicom explained how they were in a transition:

*We've gone from the old traditional, department head advisory group to broadening things out this past year to include representation from special needs, from that inner advisory group, from technology, physical education, music, industrial arts, and representatives of all those speciality areas. All I can say is we are in transition.*

At JanJonner, where there was little evidence of organizational learning the organizational structure was very rigid. Codified rules and regulations dictated what happened. There were clearly defined areas of responsibility as well as clearly understood roles and responsibilities, and
people were careful not to go beyond their own area of responsibility. However, there was no doubt that decision-making for curriculum and instructional issues had been delegated to the various subject area departments. Unfortunately, with no direction from the school administration there was little energy devoted to developing structures to promote collective or individual learning.

Creating a Collaborative Culture

This complex lever involves mutual sharing and assistance and an orientation towards the school as a whole. In these schools risk-taking and experimentation are accepted as a way of organizational life and individuals take responsibility for and contribute to one another's learning as they go about their work. Opportunities are provided for teachers to engage each other in dialogue about their work and they are encouraged to challenge each other on professional and academic matters. Collaborative work cultures also proved to be essential to the transfer and collective interpretation of knowledge.

At Floridav, teachers and administrators took responsibility for and contributed to one another’s learning as they went about their daily activities. The principal explained that one of the board’s strength over the last few years was making a significant investment in developing collaborative work cultures. She continued by describing her staff as a collaborative one:

“This staff has learned to rely on colleagues. On this staff we all learn together. So very early on we saw the value of not just networking, but buddying up for support and help when we needed it. And people here aren’t afraid to say, I don’t understand this, I don’t know how to do this. Help! And it's not just to me or to the other administrators; it’s to their colleagues. I think our cross-curricular workrooms facilitate this collaboration and support.

Staff members also had quality time to meet and share ideas on curriculum and instructional issues that had the potential to improve the teaching-learning process. One of the major benefits of the Wednesday program was that it provided teachers with scheduled, quality time for planning. The family studies teacher, one of the many advocates for the Wednesday program had this to say: “we have a two hour common planning time, and students don’t come in until 10:30 am. Teachers will tell you, to a person, that most of what happens here is because of the Wednesday planning time”.

Also, at Floridav, where organizational learning was most evident, administrators encouraged and provided a forum for teachers and administrators to share professional conversations and
members were encouraged to be open with each other and to challenge each other on academic concerns and issues. The principal explained how this happens at the School Growth Team meetings: “We’ve got to be receptive to hearing issues of concern, issues for debate, concerns that things aren’t working well – because if you don’t, you don’t grow. On the growth teams people are given support and encouragement because everyone is committed to improving the way we do things”. Also, there was no sacred ground as teachers and administrators were open to exploring sensitive topics and admitting mistakes. The principal also explains how they had made a mistake with a student evaluation policy and how it had to be corrected:

…and parents put together an evaluation policy along with some staff members and some students, but it was pretty simplistic and consequently it got raised as an issue in a staff meeting. We referred it to the School Growth Team and they reviewed it. They felt that since it was a curriculum issue the Department Heads Council should develop it and then go to parent and student groups for ratification. So, now we have a much more comprehensive policy that everyone is comfortable with, and that has been approved by teachers, students and the community council. In fact, as a result of the process we are in the process of investigating the potential of a student self-evaluation policy.

Experimentation and risk-taking are also critical factors to organizational learning and there was evidence of an experimental mind-set at Floridav. This school promoted responsible risk-taking and was open to new ways of doing things as teachers were constantly challenged to create and use new products and processes in their day-to-day teaching. The science teacher made the following points:

It gives teachers the feeling that we can take risks, take chances, design innovative teaching strategies…. You’re encouraged to develop different teaching styles, different co-operative strategies to engage the students…. I’m not finding my creativity stifled, I’m finding rather that it’s encouraged. And there again, is that element of risk taking. Actually, my department head encourages us to work in different directions. He doesn’t want us to be clones he wants us to really explore our own interests and share with each other.

At Nicom the staff spoke freely about a community atmosphere and a friendly place to work. People also claimed that the school was so small that almost every new, and some old, concepts got hotly debated in the staffroom. Teachers claimed there were many opportunities for professional dialogue. The family studies teacher, who is also one of the teachers involved in the Future Pathways program explained how her group functioned:
Right now, we're working on this Future Pathways and there's a group of us doing up curriculum now. I don't know that much about it, so I'm more listening than speaking, but there's a lot of throwing out ideas and back and forth badgering. One person doesn't necessarily accept things just because the other person has said that it's okay. So there's a lot of debate and dialogue and a lot of compromise. It's funny because there's two strong personalities who are the basic people deciding the curriculum that we're doing for the internship, and they're both having real difficulty conceding on what they believe, but they're doing it.

The science department head at Nicom claimed that experimentation and responsible risk-taking were also encouraged in his school: “Here at Nicom, the leadership supports you if you want to go in a new direction, you're encouraged to go off and do your own thing. So that backing is there for you”.

At CAL the staff was collaborative socially, but professional sharing and collaboration was focused on resisting change. Until recently the staff had not been encouraged to take risks and try new things. However, the new principal was encouraging an experimental mindset. Engaging teachers in professional dialogue also proved to be a real challenge at CAL. The principal explained some of his frustration with a lack of leadership from his teachers: “I started an advisory group this year and I cancelled it after the third meeting. I got tired of doing all of the speaking. Because they were used to being spoken to and not used to having a real role and they couldn't get used to it”.

Janjonner provided the opportunity to look at organizational learning processes in a school where there was virtually no school wide collaboration on educational issues. In this large school there was evidence of learning at the team level but there was no evidence to suggest that learning got transferred throughout the entire organization. At Janjonner, things appeared to go pretty much by routine. There were limited opportunities for teachers to share professional conversations and risk-taking and experimentation were not part of their daily work life. The teachers interviewed indicated they were not currently involved in any new or creative programs, nor were they aware of any of their colleagues who were.

**Providing Resources for Learning**

Resources for learning refers to the human and other resources that are available to enhance learning at the individual, team and organizational level. Three of the schools (Floridav, Nicom and CAL) indicated a familiarity with modern computer and communications technologies. Each
of these schools had a local area network and claimed to have a large percentage of teachers/administrators who were making use of the new technologies (e.g. World Wide Web, E-mail, presentation software) and that email had been a real facilitator for internal communications. But, there was no evidence to suggest that all teachers had embraced the new technologies and were utilizing them in their day-to-day teaching/work. Neither of the schools studied in this research was utilizing technology to its fullest extent in the learning process.

At Floridav, support for learning was overwhelming, as there was strong internal and external support for learning initiatives. In this school, teachers were champions of their own learning projects but there were many advocates from within and outside the school for organization-wide learning initiatives as teachers, board office personnel, parents and business partners were on the same wave-length. Teachers at Floridav were almost boastful over their organizational structure as it allowed for scheduled planning time. Teacher after teacher explained that this was critical to everything that happened at the school because it provided the time they needed to collaborate and reflect on their teaching practices. In fact, many of them indicated that the scheduled time was a real catalyst for learning as often people didn’t complete their plans during the allotted time so they would decide to get together during preparation periods or after school. They all agreed that it was this characteristic that clearly separated educational practice in this school from others where they had taught. In the other schools lack of time and other resources was identified as a barrier rather than a lever for learning.

At Nicom and CAL the principals were powerful advocates for new learning but due to a lack of support from their school board and the ministry they were finding they could not accomplish nearly as much as they wanted to.

Teachers at Janjonner claimed there was little support for and little interest in new learning initiatives. They reported no building-wide local area network and that they had limited access to computer technology therefore, it had no real affect on professional learning. The English department head explained how the limited access to technology was a barrier for him and teachers in his department:

*The only computers that can be connected to the Internet are in the library. They're not in our department offices. We do have computers but they're not hooked into that network which means we have to go to the library and that's not really convenient.*
Stage Descriptors

The learning levers are the practices and conditions that promote learning within all kinds of schools. The presence of these factors and the level of sophistication to which they are developed can determine the learning efficiency and effectiveness of the organization. These levers provide the necessary and sufficient conditions that enables learning to emerge and flourish. These schools varied in the extent to which the levers were present and some schools that looked good on some factors were deemed only marginally or non-effective in others.

Schools in Stage One are characterized by an organizational structure that is fairly rigid and decision-making tends to be centralized. Formal leaders tend to be autocratic leaders who are somewhat detached from learning initiatives. For example, at Janjonner teachers claimed that the school was run from the office. The social studies teacher claimed “He really dictates. Simply from the point of view of the people he hires, his management plan and his policies – he is the one that makes things tick”. Another teacher claimed, “Mr. ___ tells us about PD opportunities but we are not really encouraged to participate and I never see or hear about him participating.”

Most organizational members tend to operate in an organizational vacuum, as they are unable to make the connections between the school and its communities. The English department head at Janjonner was frustrated by the lack of direction he received from the community and policy makers: “Tell us what is the philosophy? Does the community want kids who can come out with basic social and business skills or do they want kids that have reading, writing and arithmetic. There are different philosophies and that is what’s really frustrating.” However, the social studies teacher noted the connection between Co-op education, Theatre Arts and social programs like the Salvation Army Red Shield Appeal and Crimestoppers to indicate that some teachers were making an effort to connect their teaching to the community.

Risk taking and experimentation are not encouraged as codified rules and regulations dictate what happens on a day-to-day basis. There are clearly defined areas of responsibility as well as clearly understood roles and responsibilities that people are careful not to go beyond. The French teacher at Janjonner spoke about school rules and how she wished there was more flexibility. “We have one rule and that’s, well we have many rules but one rule we have is no hats, and I find it is a real problem because some tolerate it and others don’t. When that happens we look bad – why not let teachers decide what goes in their classrooms…. I really don’t like this rule”.

140
<table>
<thead>
<tr>
<th>Factors</th>
<th>Stage 1: The Coping Stage</th>
<th>Stage 2: The Emerging Stage</th>
<th>Stage 3: The Developing Stage</th>
<th>Stage 4: The Learning Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>Leaders uninvolved in learning – their own and their teachers; no formal plans for learning;</td>
<td>Leaders involved as co-learners and as supporters; formal plan for individual learning is in the developmental stage</td>
<td>Leaders seen as co-learners; mentors; leaders are visionary; learning plan focused on individual learning linked to goals of organization; some transfer to whole organization</td>
<td>Leaders involved; co-learners; mentors; coaches; leaders are transformational; leader has an organization-wide plan focused on individual, team and whole organization learning; structure facilitates learning</td>
</tr>
<tr>
<td>Vision</td>
<td>No evidence of a vision for the future</td>
<td>Vision being crafted by the principal</td>
<td>Vision crafted by administration and key staff members then shared with teachers and others</td>
<td>Stakeholders involved in the creation of a shared vision</td>
</tr>
<tr>
<td>Systems perspective</td>
<td>No evidence that anyone is concerned about the relationship between school and their environment</td>
<td>The principal and a few others are aware of the relationship between school and their environment</td>
<td>Organizational members aware of the relationship between school and their environment</td>
<td>Organizational members aware of the relationship between school and their environment</td>
</tr>
<tr>
<td>Structure</td>
<td>Very bureaucratic and rigid; codified rules and regulations</td>
<td>Somewhat rigid; principle still controlling most decision-making; some attempts to share are being made</td>
<td>Somewhat flexible structure; decision-making on programs are decentralized but operations remain with the administration</td>
<td>Flattened hierarchy with a flexible structure; form follows function; decentralized decision-making on programs and operations; use of teams</td>
</tr>
<tr>
<td>Culture</td>
<td>Fragmented school culture; strong culture within departments; very few professional discussions; strong personalities dominate; no encouragement to take risks or to try new ideas; external support may exist</td>
<td>Strong culture; focus on resisting change; dialogue occurs within subject departments but not on a school-wide basis; teachers encouraged to experiment but are reluctant to take chances</td>
<td>Strong culture; focus on innovation; organizational survival is an issue; dialogue occurs on a school-wide basis; evidence of some domination by strong personalities; responsible risk-taking and experimentation is practiced by many; internal support</td>
<td>Strong collaborative culture; focus on innovation and improving student learning; open, honest and frank discussion as a way of interacting; respect for others; organizational structures facilitate dialogue; Responsible risk-taking and experimentation practiced by everyone; internal and external support</td>
</tr>
<tr>
<td>Resources</td>
<td>Little internal support; strong external support; resources are available from external sources but are not utilized; no access to technology</td>
<td>Some internal support; some external support; resources scarce generated by internal sources; technology used for communications</td>
<td>Strong internal support; some external support; resources scarce generated by internal sources; technology used to support learning and communications; quality time to plan</td>
<td>Strong internal and external support; resources available from internal and external sources; technology used to support learning and communications; quality time to plan</td>
</tr>
</tbody>
</table>

Table 21: Stages of Growth - Learning Levers
These schools provided little in the way of resources and there is limited access to modern computer and communications technology. A somewhat frustrated social studies teacher at Janjonner stated: "we're really slow in the area of technology but we're slowly getting into the Internet". At this stage a shared vision for learning does not exist and there are no formal strategies for teacher growth or learning. While some teachers do accept responsibility for their own learning there is little internal support or encouragement. Teachers at Janjonner were unanimous in saying there were opportunities for PD provided by the board and advertised by the school but they also felt it was left to the individual teacher to decide if they wanted to participate. As the senior science teacher said, "it's very much left up to the individual to decide, there is no pressure to get involved".

The culture of schools in the first stage of development is somewhat fragmented, even though a strong culture may exist within a department of the school. All teachers at Janjonner agreed that the school was really departmentalized and that there were limited opportunities to share on a school wide basis. The science teacher explained it this way "You often talk about your own curriculum...unfortunately you stay in your own area, because your classes are there and you're busy through the day. So there really isn't a lot of movement amongst staff – we don't really have any social activities involving entire groups so really it becomes more segmented". There is evidence of professional discourse related to courses, at the departmental level but on a school-wide basis it is basically non-existent. At this stage small groups of teachers may engage in professional conversations but as a whole the staffs do not engage in any critical reflection or dialogue about their teaching and they are more inclined to collaborate on resisting change and defending the status quo than on change and innovation.

In stage two, formal leaders become actively involved in the learning process as co-learners and sometimes as mentors. The English teacher at CAL explained how his principal helped him learn how to use the World Wide Web:

"He really wanted me to use the World Wide Web in my language course so I told him I would if he would show me what he had in mind. He came down for a couple of afternoons and ran me through some activities until I figured out that it wasn't rocket science. I work on my own now but it was his push that got me started."

While there is no formal plan for individual professional learning, leaders advocate the importance of organizational change and innovation and actively promote and support individual professional
learning as critical for organizational growth. For example, teachers at CAL are encouraged to enroll in summer training courses while the school agrees to pay the full tuition. While this incentive is attractive to some teachers, many are contented to ignore changes that are occurring as they close the door behind them when they walk in the classroom. Often these schools are characterized by a strong culture but the focus is on resisting rather than embracing organizational change. While some teachers are beginning to “open-up” to the idea, there are still core groups of teachers who are fighting to maintain the status quo.

In these schools the structure is still somewhat rigid but leaders are inclined to experiment with participative decision-making and encourage an experimental mindset amongst teachers. The principal at CAL was trying to flatten the organizational structure of the school by involving his department heads in the decision-making process but they were not willing to accept the additional responsibility, therefore he had to postpone the move.

Schools in the second stage are typically in the process of crafting a vision of the future and are in the process of soliciting internal (staff) and external support (school board, parents, funding bodies). The school administrators and a few key teachers have an understanding of the complex relationship between the school and its environment and they are actively working to connect the school with its community. This was the case at Nicom as they had invested considerable energy into developing over 100 partnerships with the local community.

In spite of the fact that resources are scarce, schools that are in Stage Three are at the beginning of an “innovation cycle”, and organization-wide learning is beginning to occur. In these schools change and innovation are part of the school vision that has been crafted by administrators and staff and is supported by the major stakeholders. At Nicom, all of the teachers credited the principal and the school advisory council with developing the school vision and then soliciting support for it from other teachers and community members. At this stage, leaders are visionary and are capable of understanding the complex interrelationships that exist between the school and the community, and they are able to think and act with a comprehensive understanding of the entire system. These leaders constantly search out and identify future trends and opportunities and they are able to work with their teachers to implement new learning initiatives (e.g. Future Pathways and new technology at Nicom). Also in these schools, new learning initiatives are linked to the perceived future needs of the school community.

There is an organization-wide commitment to professional learning and all teachers are empowered to take the lead in initiating change. To facilitate decentralized decision-making leaders are moving away from a bureaucratic structure towards a flattened hierarchy. For
example, the advisory council at Nicom was involved in decision-making and crafting a future vision for the school. At this stage schools are open to new ways of doing things, responsible risk-taking is promoted and teachers are constantly challenged to create and use new products and processes in their day-to-day teaching. Teachers have a forum to share professional conversations and, members are encouraged to be open with each other and to challenge each other on academic concerns and issues. In schools at this stage though, one or two dominant people often dominate the discussion. The Physical Education teacher at Nicom explained that a number of groups are folding because of dominant personalities: "For example, there was a hassle with school improvement here recently because some people can't get along with others because they have an opinion and they have no interest in listening to the opinion across the table."

Schools in the fourth stage of development have transformational leaders who articulate a vision of learning, participate in its implementation, and become actively involved in the learning process. Teachers acknowledge their administrators as role models who are comfortable in the roles of coaching, mentoring and facilitating learning. The principal at Floridav is on record as being a strong supporter of staff development and her teachers indicate that she gets involved as a learner on some projects (e.g. the school growth team, the school carousels), while at other times she acts as a mentor or coach (e.g. working with new teachers and coaching senior teachers on administrative appointment opportunities). The school vision, has been developed in consultation with the major stakeholders (the school board and central office staff) and has broad-based support. It is obvious, that organizational members understand the complex interrelationships that exist between the school and the community, and they are able to think and act with a comprehensive understanding of the entire system. For example, at Floridav the entire Wednesday program was aimed at providing new learning opportunities for teachers and students, alike.

In these schools the organizational hierarchy is flattened to facilitate internal communications and decentralized decision-making which enables most decisions to be made at the level that is closest to where the impact of the decision will be felt. At Floridav, the school growth team, which was comprised mainly of teachers, had responsibility for deciding on the agenda and running staff meetings. In these schools “form follows function” and teachers are empowered to be creative, to experiment, and to make decisions in the best interest of children. The guidance counselor described the school as “…very democratic in its processes in terms of leadership from the administration”. She goes on to say that it’s very decentralized in terms of decision-making claiming “there’s a lot of opportunities for staff at all levels, not just department heads, to make decisions within the school".
Schools at this stage of development are characterized by strong collaborative cultures with regular opportunities for open, honest and frank professional conversations. At Floridav, teachers are provided with numerous opportunities to engage in such dialogue through the school growth teams and the curriculum planning meetings that occur every Wednesday morning. Teachers are also organized into cross-functional teams, a strategy that focuses on team building and developing group collaboration skills and provides opportunities for teachers from diverse backgrounds to learn from each other. In these schools teachers take responsibility for and contribute to one another’s learning as they go about their daily activities. Also, at the fourth stage, schools are focused on innovation and improving learning opportunities for students and teachers, alike. These schools are able to learn rapidly and effectively because they are able to access resources from internal and external sources and they have developed an organizational climate that makes learning a priority. At Floridav, all teachers agreed the single biggest difference between this school and others where they had worked was the Wednesday Program and the common planning time that was provided for teachers.

The fourth stage of development is also characterized by an organization-wide focus on learning (individual, team and organizational) and it is obvious that schools have the ability to link new learning to the organizations long-term goals. Here, professional learning is viewed as a critical, continuous process and is linked to performance appraisal and future organizational plans. Teachers are encouraged to maximize their own individual learning, to strive towards personal mastery, to experiment and take chances and, to share with their colleagues. The holistic education teacher at Floridav felt the collaborative atmosphere and a desire by staff members to engage in new learning was a pleasant change from his last school. In his opinion there is “a real desire from most of the staff to increase professional development, to really preach the philosophy of lifelong learning ... it gives teachers the feeling that we can take risks, take chances, design innovative teaching strategies”.

Assessing the Factors that Leverage Learning
The first step to assessing the strength of the organizational learning levers is to conduct an assessment of current learning activities. This assessment can be achieved by conducting structured interviews and observations, as was the case for this research, or by administering a learning survey, such as the one developed from this research (see Figure 14).

This section presented the learning levers that support learning in any organizational setting. Indeed, the more prevalent are these learning levers then the greater the numbers of opportunities that exist for learning. The ease and amount of learning is related to the strength of
these levers. To assess the strength of these levers questions will be designed to determine the
degree to which leaders develop a shared vision, encourage an experimental mindset and
become involved with the learning process. Other questions will assess the organizations
structure and culture and the degree to which organizational members understand the complex
relationships that exist within the school and between it and its communities. It is also critical to
determine the levels and sources of support for new learning initiatives, the strategies that
schools use to facilitate new learning and the degree to which they engage in professional
conversations about new learning. A diagnostic instrument that contains questions that will
solicit answers to these questions will provide organizational members with a profile of the factors
that influence learning in their organization.

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**Diagnostic Questions - Learning Levers**

1. **In this school...**

a) organization-wide changes rarely occur.
b) organization-wide changes are usually short-term and deal with treating symptoms rather
   than finding solutions to problems. Once the plan has been developed implementation is left
   to organizational members – there is little follow-up.
c) organization-wide changes focus on long term growth and improvement plans but the
   designers make an assumption that the external environment will not change.
d) organization-wide changes are part of a formal plan that was developed by and is shared with
   all stakeholder groups. Innovations may also develop at the grass roots level; in fact,
   administrators encourage innovation and facilitate the movement of successful innovations
   throughout the school.
e) in addition to (d), recognize that the future cannot be predicted and that schools must prepare
   students for an uncertain future. Plans are reviewed frequently and modified as needed.

2. **In this school...**

a) virtually no one recognizes the interrelationships that exist between the school and its
   environment.
b) administrators appear to understand the complex relationship between the school and its
   environment but they experience difficulty explaining these relationships to teachers.
c) teachers and administrators understand the complex relationships that exist between the
   school and the environment.
d) teachers and administrators understand the complex interrelationships between the school
   and the community, and they are able to think and act with a comprehensive understanding
   of the entire system.
e) in addition to (d), teachers and administrators understand the concept of leverage and how a
   small well-focused change in one area can produce significant, long lasting improvements in
   another.
3. **In this school...**

   a) there is no shared vision of the future.
   b) a vision of the future was created by the principal. It is his vision and it is not widely shared.
   c) a vision of the future was created by the school administration and then communicated to other organizational members.
   d) the school administration, department heads and other key teachers created a vision of the future. The vision was then communicated throughout the organization in an attempt to get everyone to support it.
   e) everyone shares the same vision. All stakeholders were involved in the creation of the vision and they feel ownership for it.

4. **In this school...**

   a) professional conversations focus on defending and maintaining the status quo.
   b) professional conversations focus on how to make things better.
   c) professional conversations provide an opportunity for teachers and administrators to be open with each other and to challenge each other on academic concerns and issues.
   d) in addition to (c), teachers and administrators are able to suspend their personal beliefs when different views are presented and debated.
   e) in addition to (c) and (d), teachers and administrators are open to exploring sensitive topics and admitting mistakes.

5. **In this school the work culture...**

   a) there is very little professional sharing or collaboration.
   b) professional sharing and collaboration is focused on resisting change and defending the status quo.
   c) teachers and administrators work together on non-curricular problems.
   d) in an attempt to improve the teaching-learning process, teachers frequently collaborate with other teachers and administrators on curriculum and instructional issues.
   e) in addition to (d), teachers and administrators take responsibility for and contribute to one another’s learning as they go about their daily activities. As well, staff members are provided with quality time to meet, share ideas and plan collaboratively.

6. **In this school...**

   a) there are few resources to facilitate new learning initiatives.
   b) there are plenty of skilled people and non-human resources (e.g. time, money, technology) but there is little new learning.
   c) there are plenty of non-human resources but no skilled people to facilitate the learning.
   d) there are plenty of skilled people who are anxious to engage in new learning initiatives but we are handcuffed by a lack of non-human resources.
   e) we are fortunate. There are many skilled people who are engaging in new learning initiatives and we have the non-human resources to make the experience worthwhile.
7. **In this school...**

a) the organizational structure is very rigid. The principal dictates what happens.

b) In addition to (a), there are clearly defined areas of responsibility as well as clearly understood roles and responsibilities, and people are careful not to go beyond their own area of responsibility.

c) there is an allowance for participative decision-making.

d) the organizational structure is flattened as authority is decentralized and delegated so that decisions are made at the level where they will have an impact.

e) in addition to (c), “form follows function” and teachers are empowered to make decisions in the best interest of children.

8. **In this school, strategies for growth and learning (e.g. action plans, professional development, innovative methodologies)...**

a) are virtually non-existent.

b) have been developed but they are not widely accepted by staff members.

c) focus on improving individual teacher learning.

d) focus on individual teacher learning and learning as a part of a team.

e) focus on individual learning, team learning and organizational goals. They are carefully designed and implemented.

9. **In this school, computer and communications technologies have...**

a) had no real effect on professional learning.

b) been introduced and accepted by a small minority of teachers and/or administrators. Some classroom integration activities are occurring.

c) been adopted by a large percentage of teachers/administrators who use the new technologies (e.g. World Wide Web, E-mail, presentation software) in their day-to-day teaching/work.

d) been adopted by everyone in the school. Everyone has access to the information highway and all staff members use the new technologies (e.g. World Wide Web, e-mail, presentation software) in their day-to-day teaching/work, and all staff members communicate via email.

e) in addition to (d), have stimulated new learning. Staff members are constantly looking for new ways to apply the technologies to their teaching and learning.

10. **In this school...**

a) people in administrative positions possess strong management skills, but there is a leadership vacuum.

b) administrators do not possess the skills necessary to plan, develop or implement learning plans. As a result they do not get involved in any new learning initiatives.

c) administrators recognize that expertise lies outside the school so they arrange for teachers to attend external seminars and training programs. They provide support for learning by ensuring follow-up activities.

d) administrators take on the roles of coaching, mentoring and facilitating learning.

e) administrators articulate a vision, participate in its implementation, interact with teachers and become actively involved in the learning process.
11. In this school...
   a) there is little support for new learning initiatives.
   b) there is school board and Ministry of Education support for new learning initiatives but little in-
   school support.
   c) there is plenty of in-school support for new learning, but there is little from the school board.
   d) there is strong support from the school and the school board for new learning initiatives.
   e) in addition to (d), there is strong support from other stakeholder groups (e.g. The Ministry of
   Education, school councils)

12. In this school...
   a) risk taking and experimentation are not encouraged or tolerated.
   b) responsible risk-taking and openness to new ways of doing things are promoted.
   c) in addition to (b) continuous improvement initiatives are supported.
   d) in addition to (b) and (c) teachers are free to create and use new products and processes.
   e) in addition to (b) and (c) and (d) innovative teachers receive extrinsic rewards.

Figure 14: Learning Lever Questions
Chapter Six

Discussion

The recent acceleration in the movement to reform and restructure education has confirmed that we have entered a new era in the organizational life and structure of schools. Changes in society caused by changes in economic policies, the trends towards globalization and the integration of new technologies have highlighted the necessity for schools to make significant transformations if they are to be successful in meeting the needs of their stakeholders. One way to meet this challenge is to increase the organizational learning capacity of schools.

This study examined schools from an organizational learning perspective and resulted in the development of a Model of Organizational Learning Capacity. Seven research questions guided the study: What is the nature of individual professional learning in schools? What is the nature of team learning in schools? What is the nature of whole organization learning in schools? How can schools increase their capacity for organizational learning? Can changes in a school’s organizational learning capacity be described as a series of stages and, if so, what are the stages? What conditions stimulate and restrict movement through stages of organizational learning? And, how is it possible to assess organizational learning capacity? While it is not possible to make broad generalizations based on the results in four schools, I am optimistic that this framework will serve as a critical reference point for future work in the area. That is precisely why the diagnostic instruments were developed. More research needs to be done to assess the reliability and validity of the instruments before we can draw conclusions about their effectiveness. We can, however, make some observations and pose questions for future research.

In the next section I will focus the discussion on implications that are related to the practice of increasing organizational learning capacity. Section two will discuss some of the implications for organizational learning theory and the third section will examine some of the implications for further research.
Implication for Practice

Individual Learning

The foundation of a school as a learning organization is enhanced capacity for continuous learning. Learning, however, is more than the information processing that occurs inside the brain. While this is one component, learning is also a social process that has the potential to result in increased individual, team and/or organizational intelligence contingent upon the quality of the organizational environment. An environment that supports and facilitates new learning can result not only in increased capacity for individual learning but in an increased capacity for organization-wide learning. In schools where these fertile environments exist, new learning moves beyond the individual to become the collective property of a group or the entire organization. Because individual learning is critically linked to organizational learning (Leithwood and Aitkens, 1996; Kim, 1993; Watkins and Marsick, 1993; Senge 1990; Hedberg, 1981: Argyris and Schon, 1978) there are many implications for schools seeking to increase their organizational learning capacity.

First, because individual learning is the foundation of team and organizational learning, an obvious point of departure for a school wishing to increase its learning capacity is to focus attention on creating continuous learning opportunities. This strategy enables the organization to build a critical mass of learners while refining other learning processes.

Second, the shift towards continuous individual learning provides a significant challenge for some teachers and administrators. Fullan (1993) and Stoll and Fink (1996) noted that many educators have been accustomed to following routine procedures and to maintaining established policies, rules and regulations. In essence, educators have been defenders of the status quo and have been slow to respond to the learning challenge. In the schools, in this study, where organizational learning was prevalent teaching was certainly not routine, as teachers were encouraged to collaborate on their teaching and to develop an experimental mind-set. In order to begin the journey towards a learning organization, educators and administrators will need to open to new ways of doing things – which may result in periods of rapid learning and high levels of discomfort.

Third, the literature from the corporate community clearly indicates that for learning initiatives to be successful they must have the support of top management or the organizational leaders (Marquardt, 1996; Dibella, Nevis and Gould, 1995; Inkpen and Crossan, 1995; Garvin, 1993). A similar case can be made for the education community, in fact this research supports earlier findings by Leonard (1996) who found that individual and organizational learning initiatives were most successful when school principals supported them. Therefore, when principals are enthusiastic about learning and provide direction and opportunities for others to embrace
learning, the potential for learning initiatives to be successful increases greatly. Providing new learning opportunities and removing barriers that have traditionally slowed or stopped new learning initiatives will be significant challenges, for leaders in a system that is strapped for resources. Besides strong internal (school-based) support, school leaders will need to be instrumental in developing external (e.g. school board, ministry, and business) partnerships to support new learning initiatives. Like earlier studies by Stoll and Fink (1996) and Leithwood and Aitken (1996), the findings indicated that when schools behaved as learning organizations they had developed multiple partnerships with their local community.

Fourth, building on earlier findings by Fullan, 1996; Leithwood and Aitken, 1995; Prestine, 1994; Chapman, 1996; Van Den Berg and Sleeegers, 1996; this study supports the evidence that it is teachers promoting and practicing continuous lifelong learning that makes organizational learning a possibility for schools. From this perspective it is clear, for individual learning to be continuous it must evolve beyond single, isolated events to the point where it becomes a natural part of work. Successful individual learning initiatives must be integrated into the daily routines of everyone within the organization. In essence this involves moving away from an emphasis on isolated training opportunities to an emphasis on continuous learning, and planning for learning. Continuous individual learning is a certain challenge for educational institutions, but schools that make learning a core value will be poised for success in the next generation of schools.

Fifth, this study supports the work of earlier scholars who found that in organizations (Watkins and Marsick, 1993; Marquardt, 1996) and in schools (Leithwood, Jantzi and Steinbach, 1996) where individual learning was promoted and supported there was an understanding that learning involved an integration of formal and informal learning approaches. Formal approaches involved such practices as inservice training, professional development sessions, and graduate degrees. At it's most informal level learning was integrated within work itself, for example, action learning projects, performance appraisal, and new job assignments. This approach promoted individuals working less in isolation and working more in partnership with other learners both within and outside the organization. This type of learning supports the notion of team learning, a learning trend that appears to be growing in popularity.

Team Learning
As a result of the many complex problems associated with educational reform and restructuring initiatives, the use of teams in schools has become more and more important for establishing a dynamic learning community. While all schools recognized the importance of teams there is some confusion in the education community on how teams are defined. Most people interviewed in this survey were inclined to think, wrongly so, that any group of organizational members who
were working on the same project comprised a team. In essence, these people were confusing committees with teams. Whereas team learning is a relatively new concept for schools, most organizational members (i.e. teachers and administrators) are not skilled in team learning practices. I would agree with the observation of Neck and Manz (1994) that team learning tends to be a highly valued yet poorly practiced skill.

With the increased focus on decentralization of the school system the use of teams to solve organizational problems will become a necessary reality. As a result, schools will have to become skilled in collective learning processes if they are to effectively deal with the plethora of challenges awaiting them. There are various team and organizational conditions that will influence team learning and determine whether team learning becomes organizational learning. First, if a team is to function effectively, members must be knowledgeable about teams and be open to placing the interest of the team ahead of their own individual interests. While almost everyone has had some experience with teams it would be presumptuous to assume that teamwork or team learning is a natural phenomena. It is not enough to just name people to a team, it is critical that all members receive training on how to learn as a part of a team.

Second, principals and district office staff must become skilled at leading the team learning initiative without being so directive as to get in the way of the learning of those involved. Leithwood, Steinbach, Ryan and Jantzi (1997) in their study on Team Leadership in Secondary Schools found that team leadership can make a significant difference to a team’s learning. It is critical that leaders understand change in a complex system, so that they themselves can help team members see the “big picture” of which most problems are only a contributing factor.

Third, when individuals learn they don’t always share their learning insights with members of their team or their organization. Therefore, communication within schools must become a priority. Deliberate attempts must be made to ensure a knowledge management plan is put in place to facilitate the exchange and sharing of information. This would appear to be more of an issue in larger schools than in smaller ones. In any case, current and sophisticated communications technology can support the installation of a network with universal access to email and school-based web sites that can be used as a vehicle to facilitate the movement of knowledge throughout the organization.

Fourth, it is not possible to instantly create high performing learning teams. In schools, consideration must be given to providing quality time and a suitable environment to allow for the development of cross-functional teams. Without this commitment to teams and team learning, schools will not be able to maximize their learning capabilities. Developing team and team
learning skills would be a logical next step for schools where individual learning is already a priority. In any event, schools that are not skilled at individual and team learning will find it impossible to improve organizational learning capacity to the point where they become highly skilled at organizational learning.

Whole School Learning

Knowledge is the fuel for organizational learning; it is the resource that enables the organization to grow. While some schools, in this study, were skilled at using environmental scanning techniques to acquire knowledge from outside their organization, the distribution of knowledge, if it happened at all, was simply accidental. Floridav was an exception to this finding. There, learning was considered too valuable to be left entirely to chance. By focusing on the acquisition, transfer, utilization and documentation of knowledge, Floridav was able to build on the recognition of the importance of knowledge management to the school growth and improvement process. As a result, structures were in place to help guide individuals through the steps involved in successfully moving knowledge throughout the organization and making it widely available to those who needed it. However, despite the success in this school, this research has led me to conclude, as did Seashore Louis (1994), that overall, knowledge is not effectively managed in schools and that administrators are not well versed in the skills of knowledge management.

How well a school manages information has many implications for organizational learning. First, if the organization is to learn effectively and efficiently all members of the organization must take responsibility for their own learning and integrating it into the day-to-day activities of the organization. Also, the knowledge management processes must be seen as an ongoing and interactive process where the distribution of information and knowledge occurs through multiple channels and not as single events.

Third, principals and other school-based leaders will have to become knowledge managers well versed in the processes of knowledge management. Not only will they have to actively promote knowledge management they will have to ensure that others are trained to store and retrieve valuable knowledge. They will also have to decide what is valuable, how to code it, the form in which it will be stored and how it will be retrieved when it is needed.

Fourth, information and communications technologies are not utilized to their fullest potential in many schools, yet they offer tremendous potential for transferring and storing knowledge within an organization. These technologies improve the ability of people to communicate with one another and provide people with real-time access to knowledge and information – when they want it, where they want it, and how they want it. Principals who are serious about knowledge...
management will have to be skilled at the use of computer technology for the efficient movement, storage and retrieval of knowledge.

Fifth, through the development of teacher learning labs, technology can be used not only as a management tool, but as a learning tool. In today’s fast changing society, where teachers are faced with upgrading their teaching skills and methodologies and improving their depth of knowledge in their teaching area, knowledge-based technological systems can be an asset to learning. If the knowledge databases in these systems are properly developed, whereby the knowledge is up-to-date, consistent and valid, teachers can access these systems to update themselves on new curriculum or any other topic of professional interest. For example, in the case of teachers who are expected to integrate new technologies into their teaching, a fully developed and maintained web site with projects, instructional strategies and guidelines, along with an interactive forum to discuss comments and experiences would be a feasible way to help teachers learn new curriculum and instructional strategies. This type of infrastructure can also lead to knowledge sharing and distribution, as the web becomes a bridge, connecting local, provincial, regional, national and international knowledge databases. To ensure the success of this type of infrastructure, leaders will have to become involved in coaching and mentoring users of the system.

Sixth, there was little evidence to support planned knowledge management and few instances where schools were involved in more than one learning initiative at a time. To become skilled at organizational learning, schools need to focus on transformational as well as incremental learning initiatives and develop skills that enable efficient movement through multiple iterations of the learning cycle.

**Learning Processes**

In this study, the dimensions of *level, breadth, strength and rate of learning* have been identified for consideration as one attempts to increase the learning capacity of schools. How well a school can navigate its way along these dimensions will play a significant role in determining its capacity for organizational learning. Like Stata (1989) this research concludes that once new learning processes are embraced people learn more efficiently and effectively and organizational learning capacity increases.

Even though neither of the schools in this study had a comprehensive plan aimed at increasing organizational learning capacity, Floridav demonstrated a fairly sophisticated approach to learning. The distinguishing feature between Floridav and the other schools was the allocation of quality time within the school day, for teachers to plan collectively and to critically reflect upon
their classroom practices. This modification of the traditional school day, to allow time for reflection and planning, provides a stimulus for new learning and is a logical first-step for schools wishing to improve their capacity for organization-wide learning. As Fullan (1996), Leithwood and Aitken (1995), Prestine (1994), Chapman (1996) and Van Den Berg and Sleegers (1996) noted in their earlier research, critical reflection is central to successful organizational learning. By improving the depth of learning within the organization, one can expect a synergy that results in new learning that is pervasive and widely accepted by organizational members. In schools like this, teachers are committed to working with change as a way of life. This enables schools to move quickly through multiple iterations of the organizational learning cycle, and as a result they are able to engage in a process of continuous, rigorous learning.

Learning Levers and Barriers

As normative elements, the six learning levers represent the conditions or practices that stimulate organizational learning to take place. In effect, they provide the reasons or incentives for organizational learning. Exactly what gets learned and how much learning takes place, depends on how the learning levers combine with the learning dimensions. Both are needed in order to have a full understanding of an organization's learning capacity. The schools in this study varied in the extent to which each of the factors were prevalent, however, there was evidence to suggest that progress along one dimension could facilitate progress along other dimensions, at the same time. This is an area that requires further research and it is anticipated that the assessment instruments developed in this study will help to clarify these and other relationships among and between the learning levers and the learning dimensions. Each of the six learning levers that were identified in this study has the potential to create an environment that stimulates learning at the school level.

First, throughout the course of this study it became increasingly clear that leadership was one of the most critical factors in using organizational learning theory as a vehicle for school improvement. As Leithwood and Aitken (1995), Seashore Louis (1994), Van Den Berg and Sleegers (1996), Leithwood, Leonard, and Sharratt (1997) and Leonard (1996) found in their work on organizational learning in schools, visionary leaders (principals) and transformational leadership are influential factors for facilitating organizational learning in schools. Consequently, if schools are to become skilled at organizational learning, future principals must possess transformational leadership skills and ensure that processes and procedures are in place to facilitate ongoing organizational learning.

Second, in schools where there was a clearly communicated and shared vision of learning, new learning initiatives were more inclined to be followed through to fruition in a timely and productive
fashion. As was the case with Leithwood, Jantzi and Steinbach (1995), Leithwood and Aitken (1995), Chapman (1996) and Leithwood, Leonard and Sharratt (1997), the shared vision must be meaningful, widely held and pervasive in professional dialogue and decision-making throughout the school. A shared vision of learning also mitigates against the urge to adopt “flavor of the month” fads that can lead the school in the wrong direction, or nowhere at all.

Third, the impact of globalization and interactive communication technologies dictates the necessity for schools and other educational institutions to be ever cognizant of the “big picture” and recognize the interconnectedness of the school with the larger community. Senge (1990) refers to this as systems thinking, one of the cornerstones of a learning organization. Both Stoll and Fink (1996) and Leithwood and Aitken (1996) note that when principals lack a systems perspective robust organizational learning is unlikely to occur and that in schools that are characterized as learning organizations external partnerships are common. In schools where organizational members were unaware of the interconnections between the school and its communities, learning systems were developmentally delayed. These schools were generally caught in a “time warp” and were unresponsive to organizational change. Despite its importance, a systems perspective was relatively lacking in most schools.

Fourth, when schools are structured so that boundaries between groups and function tend to be very rigid, learning tends to become somewhat departmentalized. In such instances it becomes difficult and challenging to ensure that knowledge gets transferred, collectively interpreted and utilized by organizational members. Like Leithwood, Jantzi and Steinback (1995), Prestine (1994), Stoll and Fink (1996), Fullan (1996) and Leithwood, Leonard and Sharratt (1997), the results of this study also indicated that in schools where organizational learning was prevalent and refined, the principal had been successful in flattening the organizational structure of the school by removing bureaucratic layers and placing authority in the hands of the teachers. Decision-making was decentralized to the point that decisions were made by teachers who were closest to the impact point of the decision. Flattening the organizational structure and empowering teachers to make decisions was important in that it increased the credibility of change and improvement initiatives. In schools where there was a dynamic approach towards change, members were able to break down many of the traditional structures familiar to schools (e.g. department rooms, rigid timetables), and create opportunities for the development of policies to ensure that the organization moved forward. These findings are consistent with the work of Leithwood and Aitken (1995), Seashore Louis (1994), Fullan (1996), Rait (1996).

Fifth, consistent with the findings of the earlier research by Leithwood, Jantzi and Steinbach (1995), Leithwood and Aitken (1996), Rait (1996), Stoll and Fink (1996), Fullan (1996),
Leithwood, Leonard and Sharratt (1997), Van Den Berg and Sleeegers (1996) and Prestine (1994), the nature of learning and the manner in which it occurs in a school are determined in a large measure by the culture of the school. Unfortunately, in some schools the culture was one of non-learning or maybe even anti-learning. However, in schools where learning was prevalent there was an intellectually stimulating environment and a strong collaborative culture. Individuals in these schools took responsibility for and contributed to each other’s learning as they engaged in their daily work. Also, when there was a truly collaborative culture, individuals were more likely to utilize teams to solve problems and analyze complex issues.

Sixth, professional dialogue is central to organizational learning since it promotes collective thinking and communication. In some schools, organizational discourse took the form of discussions that did not question organizational patterns of behavior. In schools where organizational learning was occurring, discourse was in the form of a dialogue that resulted in open, honest and frank communication that challenged patterns of organizational action. Successful dialoguing enabled people to recognize the distinctions between their espoused theories and their theories-in-use.

Seventh, having survived the first stage of the educational reform movement, the one thing we have learned is that the way things are done today may not be the way they will be done in the future. Encouragement of risk-taking and an experimental mindset fosters an entrepreneurial culture, in which teachers and administrators are not inhibited from trying new things on a regular basis. As Seashore Louis (1994) noted, changing actions (experimentation) may create changes in paradigms, rather than vice-versa. Schools that want to improve their organizational learning capacities must develop an entrepreneurial culture where teachers and administrators are creative and eager to develop new and innovative programs. As most schools and educators are somewhat reluctant to tamper with established routines the best way to develop an experimental mindset may be to focus on small incremental changes that focus on evolutionary experimentation rather than revolutionary blowouts. As was the case at Floridav, though, the key ingredient for success is to get all teachers moving in this direction at the same time.

Eighth, strong internal and external supports are critical to establishing a learning culture. Unless such a base of support exists it is unlikely that new knowledge will ever become broadly available. While Leithwood, Leonard and Sharatt (1997) concluded that school principals were influenced by district level decision-making they also noted a surprising amount of influence exercised by districts on the organizational learning of teachers themselves. During the course of this study it became obvious that for new initiatives or knowledge to get transferred throughout a school, there had to be a core group of teachers and administrators who were willing to champion
the initiatives. This happened most frequently when teachers took advantage of district level resources, in the form of support for professional development and collaborative planning. While it is a critical point that administrator and district support are important, it is often the teachers themselves who are the most powerful advocates for new learning initiatives.

Ninth, as Leithwood, Jantzi and Steinbach (1995) and Leithwood, Leonard and Sharatt (1997) found during their research, schools cannot commit to organizational learning and increasing organizational learning capacity unless resources are made available. While financial support for training and new technologies are certainly important, creating time for learning is perhaps the most critical step in promoting whole school learning. As was the case at Floridav, quality time during the regular school day must be found to enable educators to reflect on their practices, assess the needs of their students, analyze their results and find new ways of doing things.

Tenth, the more opportunities that schools created for learning, the more learning that occurred and the better quality it was. Schools that were skilled at organizational learning inspired their teachers to learn, created opportunities for such learning to occur and demonstrated a culture where organizational members had high expectations of each other. In these schools, resource experts from inside and outside the school were utilized regularly in planning and delivering new learning opportunities. As in the schools studied by Rait (1996), Stoll and Fink (1996) and Chapman (1996), teachers relied on the resources and experiences of other teachers in the school as an important source for professional learning. Learning forums and carousels were designed with explicit learning goals in mind and wherever possible, new learning initiatives were designed so that teachers could learn as a part of daily activities. For example, learning as a member of an action learning research project or as a component of performance appraisal were some of the innovative learning opportunities.

While the model of organizational learning capacity being proposed has the potential to transform schools into learning organizations, one must be ever cognizant of the obstacles that can prevent the process from happening. In the schools studied for this project, there were four obvious obstacles to organizational learning: holding on to the status quo, lack of resources and support, no time for reflection/learning and intellectual isolation. Interestingly, in one of the schools there was little evidence of new learning yet there were also very few identified obstacles. This may indicate that some barriers pose a greater obstacle to learning than do others.

Teachers in two of the schools indicated they had not embraced the concepts of the technological revolution and the worldwide trend towards globalization. These teachers, who thought they had been doing a good job at preparing students for graduation and that the basics of a sound
education should not change, had mastered what Argyris (1992) referred to as “skilled incompetence” as they thought everything in their school was fine. This perception, in fact, kept them from learning. To these teachers, change represented a threat and they felt it was their responsibility to resist the changes and to help maintain the school in its currently functioning form. While there were resistors, there were also a group of teachers who were keen on the concept of professional learning but they were not committed to making it happen without the support of their employer. In two of the schools, teachers spoke of the need for professional learning but in the same sentence they complained bitterly about the lack of resources that the Board and the Ministry were investing in their professional learning. These teachers interpreted the lack of support from these agencies to mean that they weren’t really serious about supporting and promoting professional learning anyway.

It has already been substantiated that if organizational learning is to occur, teachers must be provided with quality time to reflect on their daily practices. In most schools this did not happen and indeed it is a rare phenomenon, in any school. Consequently, the essential element of reflection in action is a missing requirement in most of our schools. By refusing to provide quality time for this type of reflection, teachers miss out on the opportunity to interact with their colleagues on a professional level, and to openly question and debate existing practices and methodologies. In essence, these teachers have been sentenced to a career of intellectual isolation.

Finding solutions to these concerns will influence the way educators and administrators go about their work in the coming years. If leaders don’t emphasize the creation of a stimulating work environment that fosters individual, team and organizational learning skills among professional staff, then we will all face the prospects of an underachieving educational system.

**Stages of Growth**

A four-stage model representing the stages of growth in the organizational learning capacity of schools was developed to complement the research on the learning dimensions and learning levers. Profiles representing four different stages of growth and development in the organizational learning capacity of schools are provided. Are these stages the only possible stages of growth and development? Probably not. But, they are four distinct stages that emerged from the analysis of the four sample schools and they do illustrate a logical progression along the dimensions of organizational learning capacity.

Stage theories are always controversial, provoking questions about validity, which take a variety of forms. For example, stage theories raise the ire of those who are offended by “reductionism”,...
the inevitable simplification of the phenomena which stage theories attempt to describe. And then there is the popular post-modern view that just the concept of stages implies the basically wrong-headed notion of orderly progression and the possibility of managing that progression when the “truth” of the matter is that most social phenomena are almost entirely iterative and inherently unmanageable.

But these and other objections to stage theories are typically invoked by theorists, at the same time as those who must act in worlds of practice embrace the leverage that stage theories provide for making their jobs a bit easier and quite a lot more effective. It would be surprising if theorists and practitioners reacted differently to the stages of growth in organizational learning capacity outlined in this study.

**Implications for Theory Development**

*I believe that we have only just begun the process of discovering and inventing the new organizational forms that will inhabit the twenty-first century. To be responsible inventors and discoverers, though, we need the courage to let go of the old world, to relinquish most of what we cherished, to abandon our interpretations about what does and doesn’t work. As Albert Einstein is often quoted as saying: No problem can be solved from the same level of consciousness that created it; we must learn to see the world from anew. (Wheatley, 1992, p 5 ).*

Today, there is a growing recognition by educational scholars (Louis, 1992; Louis and Simsek, 1991; Louis, 1994; Fullan, 1993; Fullan, 1996; Leithwood and Dart, 1994; Leithwood and Aitken, 1995; Leithwood, 1996; Leithwood et. al. 1995 and 1997; Leithwood and Louis, 1999) and practitioners alike, that the knowledge, strategies, structures, leadership and technology of the past will not produce success in the schools of the future. It has become obvious that schools and school systems will have to increase their capacity to learn if they are to function successfully in our fast-changing society.

I began this study by suggesting that we were at the beginning of a new era in the organizational life and structure of schools and school systems, and that the development of schools as high-performing and continuous learning organizations was a matter of utmost urgency as a new model of education was needed. It is obvious that concentrating our change efforts on the attainment of some normative state and not focusing on the learning needs of the individual and
the organization would restrict the flexibility required to cope with organizational transformation in times of rapid change.

The underlying principle in this study was that change and improvement efforts in education need to be more than single, isolated events. Organizational learning theory provided a relatively new perspective from which to view schools and school systems and served to help understand our non-linear organizational world as it focused on individual and collective learning as the core skills for organizational change and adaptation. As a result, the learning focus shifts to empowerment and capacity building rather than planned change.

This study on organizational learning capacity demonstrated that schools could be viewed through an organizational learning lens that integrated three perspectives on organizational learning (normative, descriptive and developmental) into one model. Most models of organizational learning focus their efforts on only one of the previously mentioned organizational learning perspectives. In fact, the dominant perspective being promoted today by Peter Senge and his colleagues at MIT, is the normative perspective; a perspective which supports the notion that something is wrong with the organization, and individuals and groups cannot learn unless they follow some prescriptive model of intervention. This normative perspective provides us with an incomplete view of the organization. By combining the insights from each of the three perspectives we can generate a more complete picture of what it takes to build organizational learning capacity.

As schools move to create an environment and culture that is conducive for learning, there is an emerging need for tools and diagnostic instruments that can assess organizational learning capacity. To adequately assess organizational learning capacity the assessment process must integrate aspects from each of the normative, descriptive and developmental perspectives. To address the need to measure learning within such an integrated approach, a model to measure an organization’s learning capacity and a set of diagnostic instruments was developed. Using this multi-dimensional model, a school can create its own organizational learning profile. The first step in utilizing the model is to administer the Organizational Learning Capacity Diagnostic Survey (see Appendix F). From this survey, an organizational learning profile is developed around the learning dimensions and the learning levers. This profile offers the group an increased awareness of learning issues in their school that need to be addressed, and provides a point of departure from which to build a learning plan.

The second step involves a series of interviews and or focus groups with organizational members, to review the organizational learning profile. This serves to stimulate discussion and
provides opportunities for teachers to share insights about their own individual and their organization’s learning practices. By engaging in this process teachers become more cognizant of their learning capabilities and therefore should be able to use this awareness as a launching pad for new learning.

The third step involves organizational members assessing their own learning profile to identify gaps between where they are and where they want to be, determining their desired new state and designing a learning plan to help close the identified gaps. Because organizational learning is an ongoing and iterative process, this assessment should also be ongoing. By engaging in this process at periodic intervals, the school will get feedback relative to its developmental history as well as an evaluation of it’s progress to date.

Like stage theories, the development and use of profiles is also a controversial topic as their general utility is supported by practitioners and debated by theorists. Begley (1996) noted that profile development has methodological underpinnings that can reflect a positivist orientation towards practice, and when the profiles are used in isolation this observation has merit. However, when used in conjunction with the other notions of organizational learning being proposed here, the orientation shifts to a post-positivist orientation as the actors are involved in gathering their own data and creating and monitoring their own profiles, over time. The profiles and the stages of growth model that are presented in this study are intended to be growth-orientated, formative resources. To utilize them for summative purposes would be a mistake.

Implications for Future Research

While organizational learning is a perspective that has been frequently used to help understand non-school organizations, it has received limited exposure in the education literature. However, I believe this research adds to the existing yet modest body of research that suggests that when translated into action, organizational learning offers a promising vision for future schools.

While it is not possible to make broad generalizations based on the results in four schools, I am optimistic that the framework and the diagnostic instruments developed in this study will be a point of departure for future work in the area. That is precisely why the diagnostic instruments were developed. While research needs to be done to assess the reliability and validity of the instruments before we can draw conclusions about their effectiveness, we can make some observations and pose questions to help guide future research.
First, although the study tracked a number of variables that were linked to increasing organizational learning capacity, the conceptual framework developed to guide the study was preliminary and should be considered as a catalyst for future research.

Second, the diagnostic instruments that were developed from this study have not been tested to ensure that they are valid and reliable. To ensure that the instruments are indeed valid and reliable, this testing needs to take place in a wide variety of schools across a number of school districts that represent geographical and cultural differences.

Third, in this study teams and team learning appeared to be misunderstood concepts. Initiating a series of action learning research projects that provide team members with a series of training sessions on how to function as a team member, and then following these sessions with direct observations of teams at work in schools, could provide more informed insight into team learning processes and the conditions that are most influential in stimulating such learning.

Fourth, in this study, the concept of knowledge management was poorly understood and school administrators were not well versed in the skills of knowledge management. The development of a series of action-learning research projects that focus on prior training in knowledge management would provide valuable insight into the knowledge management process in schools and could potentially lead to an increase in a schools organizational learning capacity.

Fifth, I believe this to be a unique period in the history of schooling in that during this time of rapid change we have an opportunity to observe schools as they progress through a number of stages of development. Although the framework provided in this study offers a point of departure for future research on the developmental perspective of organizational learning in schools, at this time, what is needed is a longitudinal study that can establish these stages of development over a period of time.

Sixth, there is evidence in this study and in other studies, that organizational learning capacity increases when schools allocate quality time for collaborative planning. Future research in this area could focus on studying schools where the organizational structure has been modified to allow for collaborative planning. This could help determine if indeed there is a direct linkage between organizational learning in schools and collaborative planning. A second design could focus on schools and school systems that are willing to voluntarily restructure their school day to allocate quality time for collaborative planning to assess the impact that such a move would have on learning.
Conclusion

In this thesis I argue that the intellectual or organizational learning capacity of schools increasingly is being viewed as a major source of variation in the productivity of schools’ responses to change. If this is the case, an important practical task for school leaders and others managing change is to diagnose the extent of that capacity, locate areas of strength and weakness in capacity, and take steps to further develop it. The main purpose of this study was to begin to codify, synthesize, and extend knowledge useful for carrying out this practical task.

This purpose was accomplished using a two-phased research design. The first phase identified, from an extensive review of literature, the main dimensions along which the development of organizational learning capacity could be described. These were dimensions of individual professional learning in a school context, as well as dimensions of team, and whole school, learning. The second phase, informed by such dimensions, collected data in four secondary schools that varied substantially in their organizational learning capacity. Informed but not constrained by the literature review in the first phase of the research, these data were used to create a Model of Organizational Learning Capacity suitable for use in schools.

By integrating the three theoretical perspectives on organizational learning into a practical model this work departs from the work of other organizational learning theorists who focus primarily on one approach or another. The model developed in this study, if utilized properly, will provide theorists with a better understanding of organizational learning principles and provide practitioners with a better understanding of the processes needed in order to progress through the stages of growth.

This is not to say, however, that no more work is needed. Far from it. This model needs to be tested with larger samples of secondary schools; it needs to be tested against data from elementary schools, as well. Much more work is needed to assess the reliability and validity of the diagnostic questions, especially in survey form. And carefully documented efforts to use these diagnostic tools in the context of significant school improvement initiatives will be helpful in learning how best to implement these tools. Should educational practitioners wait until this work is completed before using the results of this study? Hardly. Practice can never be based on perfect knowledge, only the best knowledge available at the time.
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APPENDIX A

Overview of Sample Schools
Overview of Floridav Secondary School

Floridav was a new and modern Secondary School located in the centre of a large middle class community with a variety of income levels. It opened its doors in September 1994, with eight hundred students and fifty-four teachers. At the time of this research in 1997 there were 1100 students and 70 teachers. A distinguishing feature of this school was that the school board selected the principal a year in advance of the school opening and she had full reign over the hiring process. And, by her own admission she wanted dynamic, skilled teachers who would buy-in to the school's vision and work to make it a reality. At Floridav the basic principles for teaching and learning centered on the flexible use of time, integration of technology in learning, student empowerment, and a teacher advisor program. To facilitate the integration of curriculum and the creation of a safe and positive school environment, emphasis was placed on collaborative planning by teachers. Floridav's daily timetable was somewhat unique for a secondary school as it had varied period lengths and on Wednesday the timetable was structured to allow for a morning collaborative planning session for teachers, and students had opportunities for self-directed study.

Floridav was a dynamic learning community characterized by enthusiastic people who were committed to learning as a way of life. Opportunities for learning were available on a daily basis whether it was in the form of resource people from the community, subject matter experts from the board, attending conferences or learning on the job. An effort was made to customize learning to meet the needs of the learner. In this school leaders got personally involved in learning activities and learning was seen as critical for individual and organizational growth, and it was given a high priority. Teachers were also expected to have a personal professional learning plan that reflected the needs of the school as well as their own personal needs. This school was also characterized by high expectations. Not only did administrators have high expectations of their staff, teachers had high expectations for each other.

The use of teams was a part of normal daily activities at Floridav as teachers were organized into cross-functional work teams that were successful in generating new knowledge, analyzing complex issues and taking innovative action. For example, each Wednesday morning teams of teachers collaborated on issues that were related to teaching and learning and these sessions frequently resulted in teachers experimenting with new curriculum and instructional techniques. Teams worked well here because the school administrators had the necessary team building and team learning skills to facilitate their progress. In this school, administrators insured that teachers were knowledgeable about teams and co-operative learning techniques, they provided quality time for the teams to work, and they respected the decisions made by the teams.
The stimulus for learning, at Floridav, was a response to changes that were occurring in the larger community. The school district and the new principal recognized that a new model of education was needed if students were to be successful when they finished school. The program at Floridav focused on placing decision-making responsibilities on students and then making them accountable for the decisions. For example, on Directed Study Wednesday, students chose four sessions, the majority of which related to the subjects they were taking during the calendar year. These sessions offered by staff, included enrichment and extra help in all subject disciplines, as well as special interest courses. They also created a venue for school-business partnership where a regular stream of community speakers presented workshops on particular career options for students. This school was also skilled at scanning its environment to acquire knowledge from outside as well as generating new knowledge from within. Experimentation and risk-taking were promoted, and teachers were encouraged to develop new curriculum and new instructional skills. At Floridav, knowledge was viewed as a resource that had to be managed and the transfer of new knowledge was too important to be left to chance. Processes and procedures ranging from organizational structure to the use of email were put in place to ensure the sufficient movement of knowledge throughout the organization.

Floridav’s was an innovative school that placed a high priority on the integration of technology into the teaching and learning process. The school was technologically modern, as there were three hundred and fifty fully networked computers and all teachers used the network for communication purposes. All students and teachers were expected to utilize the technology in the learning environment.
Overview of Janjonner Secondary School

Janjonner Secondary School was a large multi-cultural school located in a large upper middle class community. At the time of this research in 1997 there were over 1700 students and approximately 120 teachers. At Janjonner there was a very traditional approach to teaching and learning but there were a wide range of options for students. The school prided itself on its approach to multi-culturalism and its extensive extracurricular program. The teachers who were interviewed as a part of this study could not articulate a vision for the future at Janjonner nor could they name any particular academic initiative that the school was involved in at the time.

These teachers viewed the large size of the school staff and the physical plant as barriers to school-wide communications. In fact, the culture of the school could be described as fragmented in that there was evidence of strong cultures within department areas but there was no evidence of school wide or inter-department collaboration. Teachers claimed there were many codified rules and regulations and that risk-taking was not encouraged. They also indicated there was virtually no access to technology for student or teacher use.

At Janjonner, teachers appeared to be somewhat reluctant to get involved in individual professional learning and in the opinion of the teachers surveyed it was it was given a fairly low priority by administrators and other teachers, alike. There were extensive resources available from the school board but they were rarely utilized. Teachers made the point that professional learning was something that should happen during the school day and not after school or on weekends. Most professional learning opportunities took the form of single-event workshops or closeout days. There was very little evidence of formal teams or opportunities for team learning. It appeared as though administrators were not comfortable with teams or team processes and the teachers indicated that most were skeptical about the use of teams because in the past team decisions were not respected.

New learning initiatives at Janjonner were usually initiated from outside the school, at the district or ministry level. There was no evidence that the school was periodically scanning its environment for new initiatives nor were they involved in the generation of new knowledge. Most information got transferred throughout the school through a hierarchical distribution network (board to principal to department heads to teachers) and sometimes through informal networks. The information got disseminated but it did not get collectively utilized beyond the department level. Information and knowledge was stored in organizational routines and resided with experienced staff members. Often things were not publicly available but if you knew what questions to ask and the right people then information and knowledge was readily available.
Overview of Nicom High School

Nicom was a relatively small inner-city school (350 students and 20 teachers) housed in a somewhat run-down building that had been rumored to be closing since the late 1980’s. These rumors resulted in many student requests for transfer to other schools and a high turnover rate among the teaching staff. In spite of these challenges the school was surviving and in certain aspects, thriving.

Nicom was a forward looking school and like many forward looking schools, had a broad array of innovative efforts, ranging from the integration of technology into the curriculum and the development of multiple educational partnerships with local businesses to special programs designed to help prepare students for a smooth transition to the world of work. As a result of these programs the staff were acutely aware of the relationships that exist between the school and the community. In fact, many credited the community for much of the progress the school has been able to make. The biggest frustration for the staff at this school was the lack of school board and ministry support for professional development and other innovative programs.

Everyone interviewed credited the principal for much of the innovation that was occurring. It was he who had spearheaded the move to bring the administrative council together to develop a school vision and he was the one who sold the vision to the staff and the local community. Teachers described him as a visionary leader who was supportive of teachers. They also felt they were encouraged to take some risks and to try new things.

At Nicom, individual professional learning was viewed as critical for individual and organizational growth but organizational members felt it is an organizational rather than a personal responsibility. There was some evidence that learning got integrated into the day-to-day work routines of teachers but most of the focus for learning was on single event inservice sessions that occurred on or off-site. The administrators got personally involved in the learning process, however, there was no evidence of personal professional development plans nor was there a school plan for learning. It is safe to say, though, that the learning needs were based on the perceived future needs of the school.

There was some evidence that teams were functioning effectively but the major focus was still on committees. The principal promoted teams as a way of work but there was no training on how to function as a part of a team and there was no quality time provided for most teams to do their work. Teachers claimed that many of the committees were negatively affected by dominating personalities who weren’t willing to make compromises for their team members. The team that
was most functional was working on developing new and innovative curriculum and they did have time allocated from within the school schedule.

Most of the learning initiatives at Nicom were stimulated by an urge to remain competitive with the other neighborhood schools. As a progressive school, Nicom realized they had to do a better job of preparing students for a smooth transition into a modern-day workplace. This school was constantly scanning its environment looking for new and innovative ideas and the also invested a lot of their own time in developing new programs for their own students (e.g. Future Pathways).

Knowledge was actively managed as the transfer of knowledge was planned through the distribution of memos, reports, letters, bulletin boards, departmental meetings, informal networks, face-to-face communications and electronic communications. Some knowledge did move beyond the team or the individual to become the collective property of all members (e.g. technology integration). At Nicom, there was a high teacher turnover rate so knowledge was stored and documented to ensure that when individuals left the organization, their knowledge resided with the school. This knowledge was stored in promotional brochures, web page, minutes of meetings and on video recordings.
Overview of CAL Secondary School

CAL was one of the larger schools in its community with 650 students and 37 teachers. It was located next door to a university and drew its students from an upper middle class neighborhood. The school had a long history of academic excellence and looked at the teaching of academics in a very traditional way. That was one of the major challenges for this school as it had been slow to respond to large-scale changes in society and in education. This strong history of academic excellence produced a culture of teachers who were struggling to maintain the status quo and as a result the school’s vision, or the lack of one, was questioned.

CAL was still recognized as a good school and the foundation was there for an innovative and dynamic learning community. The missing ingredient was leadership. Enter Mr. Hall, the new principal. Mr. Hall was charged with the task of revitalizing the curriculum and the teaching staff at CAL. His initial efforts were in the area of participative decision-making but they had to be put on hold because teachers did not want to make decisions that had been traditionally made by the administration. Efforts to stimulate new teaching practices by integrating technology into the curriculum and the move towards creating an electronic learning environment met with resistance from a large group of teachers who just didn’t see the necessity for change. In general, Mr. Hall found it was, more than often, easier to get support for change from outside the school than from within.

Teachers at CAL were somewhat reluctant to get involved in professional learning activities but there seemed to be an acknowledgement that it was critical to personal and organizational growth. All teachers recognized it was a priority of the new principal but many were not pleased with the amount of support and resources they received from the district and the ministry to make things happen. Most of the learning experiences focused on single event one-day training sessions that could occur in or out of school. At this stage there was no evidence of organizational or individual goals for learning but the principal did indicate this was a priority for the future.

There was little evidence of teams and team learning but committees with a low degree of responsibility were common. Most of the committees focused on extracurricular activities, for example, the graduation committee, the food drive committee. In this school it was clear that teachers did not want to work in teams, as they were not at all comfortable with collective decision making.
The new learning that was occurring in this school was stimulated by a change in school leadership. The principal was constantly scanning the local environment looking for new ways to stimulate learning in his school and he had begun to encourage teachers to go on workshops and professional development sessions. There was no evidence of new knowledge being generated in the school. Information and knowledge were transferred through memos, reports, letters, bulletin boards, departmental meetings and informal networks but did not get collectively utilized. There was no formal plan for documenting knowledge and prior learning but there was promotional brochures, a school web page and minutes of meetings. Informal knowledge resided in organizational routines and in the heads of the more experienced teachers who were willing to share – but only if they were asked.
APPENDIX B

Questions from OISE Survey on Teacher Professional Learning
Questions used in OISE Survey of Professional Learning in Schools

1. To what extent have you been involved in significant professional learning during the past several years? (Circle the number below the most appropriate category)

   Not at all       Minimum extent       Moderate extent       Great Extent
   1                  2                  3                  4

2. To what extent have your colleagues been involved in significant professional learning during the past several years? (Circle the number below the most appropriate category)

   Not at all       Minimum extent       Moderate extent       Great Extent
   1                  2                  3                  4

3. To what extent have those involved in formal or informal leadership roles in your school assisted with such learning? (Circle the number below the most appropriate category)

   Not at all       Minimum extent       Moderate extent       Great Extent
   1                  2                  3                  4
APPENDIX C

Sample - Letter of Permission to Principals
May 29 1997

Dear

Thank you for agreeing to participate in my research project on organizational learning capacity. The project will focus on the nature of professional learning as it relates to changes that may be occurring in your school community. This should help us as educators better understand school responses to increased learning demands on schools.

I would like to interview people with varying degrees of experience and involvement in school-initiated improvement efforts. I hope to be able to interview the following: 2 teachers with 1-5 years experience in the school, 2 teachers with 6-10 years experience in the school, 2 teachers with 11-20 years experience in the school, 1 teacher with more than 20 years experience in the school, and you as the principal. The interview will take about 50 minutes to complete and will be audiotaped.

I realize that this request comes late in the year and you and your staff are busy with many other matters. If you are able to accommodate this request, I will appreciate it very much.

Sincerely

David C. Dibbon
22 Foran St.
St. John’s, NF
A1E 4G1
APPENDIX D

Interview Schedules
Teacher Interview Schedule

**Personal Information Relating to the Individual**

Experience / experience in the school / other schools etc.

**Whole Organization Learning Questions**

1. Please start by telling me about your school. What sorts of things happen here? What makes it unique and special for you? How would you describe the culture of the school?

2. Tell me about some initiative/project that the entire school is or has been working on. Are they affecting peoples teaching practices? Do people really believe in it or are they just paying lip service?

3. Did people have to learn new skills, processes, patterns of action etc. to make this initiative work? Give me an example and explain the processes that were put in place to facilitate this new learning.

4. How do you know what is happening here in the school? How are you kept up to date on things?

5. What opportunities do you have to share your knowledge with others?

6. How does this school keep up-to-date with the local environment and societal trends?

7. Who or what has the greatest influence over what happens in the school? People or groups inside the school; people or groups outside the school.

8. What would happen to the school if these influential players were to leave?

9. Can you tell me a little about how problems are identified and solved, in the school? How are they identified? Who identifies them? What types of things get discussed in the problem-solving process?

10. To what degree does this school engage in critical examination about how and why things are done around here?

11. Do people actively engage in conversation about and plan for professional learning? Tell me how? Who takes responsibility for professional/lifelong learning?
**Team/group Learning Questions**

1. Tell me about the colleagues you work most closely with. Have any of the organization wide changes that you just mentioned influenced their work?

2. What is the nature of your relationship with them? What brings you together? Do you ever meet formally?

3. How does this group keep up-to-date with the local environment and societal trends?

4. Tell me about how group members interact with each other? How are decisions arrived at? How is new information shared? Does the group have any responsibility for reporting to the other staff members?

5. Have these colleagues influenced you teaching practices? How?

6. Do you think you have had an influence on any of your colleagues teaching practices?

7. Is teamwork emphasized in this school? Are many of your other colleague’s part of similar groups or teams? Explain?

8. Would you describe this collection of people as a team? Why? Have you or your colleagues had any training on how to function as a team/group?

9. If yes to number 8, how and why are these teams formed?

**Individual Learning Questions**

1. Has your teaching style and practice changed since you began working here? How? Who or what has been most influential in making the change?

2. Tell me about how a recent professional learning experience has influenced your teaching practices.

3. Tell me about your own professional learning experiences? How do you plan for it? Who else takes an interest in it? Where does most of your professional learning occur? What has been the biggest stimulus to your professional learning?

4. What would happen to the work that you do if you had to leave the school?
Principal Interview Schedule

Whole Organization Learning Questions

1. Please start by telling me about your school. What sorts of things happen here? What makes it unique and special for you? How would you describe the culture of the school?

2. Tell me about some initiative/project that the entire school is or has been working on. Is it affecting peoples teaching practices, attitudes, beliefs etc.? Do people really believe in it or is it just lip service?

3. Did people have to learn new skills, processes, patterns of action etc. to make this initiative work? Give me an example and explain the processes that were put in place to facilitate this new learning.

4. How do teachers find out what is happening here in the school? How are they kept up to date on things? What opportunities do they have to share new things with you and others? Is new information and knowledge transmitted quickly or slowly? Explain?

5. How does this school keep up-to-date with the local environment and societal trends?

6. Who or what has the greatest influence over what happens in the school? People or groups inside the school / people or groups outside the school?

7. Is staff turnover a challenge to what the school is trying to accomplish? What would happen to the school if influential players were to leave? How are new teachers socialized into the environment?

8. Can you tell me a little about the decision-making processes in the school? How are they made? Who makes them? What types of things get discussed in the process? Is there a different process for small vs larger decisions?

9. To what degree does this school question its own basic assumptions about how and why things are done?

10. Do people actively engage in conversation about and plan for professional learning? Tell me how? Who takes responsibility for professional/lifelong learning?
**Teams/Group Learning Questions**

1. Is it common to see teams or groups of people working together? If so, why are they formed? How are they formed? Are they formally organized? How long do they remain in tact? What happens as team members come and go?

2. Tell me about how group/team members interact with each other? Does the group have any responsibility for reporting to other staff members? How is group information/knowledge shared with the rest of the staff?

3. Have these teams influenced colleagues teaching practices? How?

4. Have team members ever received any training in how to function as part of a team/group?

5. What is the nature of your relationship with the teams? Do you ever formally meet with them? How is their effectiveness evaluated?

**Individual Learning Questions**

1. Tell me about your own professional learning experiences? How do you plan for it? Who else takes an interest in it? Where does most of your professional learning occur? What has been the biggest stimulus to your own professional learning?

2. What role do you play in the professional learning of your teachers? What are your expectations of teachers in this area?

3. How do teachers share their new learning with their colleagues?

4. Do educators have access to a professional learning center? If yes tell me about it? How and why it get started? What resources are available etc?

5. What would happen to the work that you do here if you had to leave the school?
APPENDIX E

List of Participants
<table>
<thead>
<tr>
<th>Interview Number</th>
<th>School</th>
<th>Position</th>
<th>Years Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CAL</td>
<td>Mathematics</td>
<td>11</td>
</tr>
<tr>
<td>2.</td>
<td>CAL</td>
<td>Social Studies</td>
<td>17</td>
</tr>
<tr>
<td>3.</td>
<td>CAL</td>
<td>Science (Department Head)</td>
<td>21</td>
</tr>
<tr>
<td>4.</td>
<td>CAL</td>
<td>Mathematics(Department Head)</td>
<td>26</td>
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<tr>
<td>5.</td>
<td>CAL</td>
<td>English</td>
<td>25</td>
</tr>
<tr>
<td>6.</td>
<td>CAL</td>
<td>Science (Young)</td>
<td>05</td>
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<tr>
<td>7.</td>
<td>CAL</td>
<td>Principal</td>
<td>10</td>
</tr>
<tr>
<td>8.</td>
<td>Nicom</td>
<td>Principal</td>
<td>24</td>
</tr>
<tr>
<td>9.</td>
<td>Nicom</td>
<td>Physical Education</td>
<td>14</td>
</tr>
<tr>
<td>10.</td>
<td>Nicom</td>
<td>Social Studies</td>
<td>02</td>
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<td>11.</td>
<td>Nicom</td>
<td>Family Studies</td>
<td>12</td>
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<tr>
<td>12.</td>
<td>Nicom</td>
<td>Learning Resources</td>
<td>22</td>
</tr>
<tr>
<td>13.</td>
<td>Nicom</td>
<td>Science (Department Head)</td>
<td>26</td>
</tr>
<tr>
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<td>Nicom</td>
<td>Mathematics</td>
<td>19</td>
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<tr>
<td>15.</td>
<td>Floridav</td>
<td>Guidance Counselor</td>
<td>26</td>
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<td>16.</td>
<td>Floridav</td>
<td>Holistic Education</td>
<td>03</td>
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<td>17.</td>
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<td>Science</td>
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<tr>
<td>20.</td>
<td>Floridav</td>
<td>Principal</td>
<td>27</td>
</tr>
<tr>
<td>21.</td>
<td>Jan Jonner</td>
<td>English (Department Head)</td>
<td>26</td>
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<tr>
<td>22.</td>
<td>Jan Jonner</td>
<td>French</td>
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<tr>
<td>23.</td>
<td>Jan Jonner</td>
<td>Social Studies</td>
<td>06</td>
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<tr>
<td>24.</td>
<td>Jan Jonner</td>
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<tr>
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<td>Science (Senior)</td>
<td>17</td>
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<tr>
<td>26.</td>
<td>Jan Jonner</td>
<td>Principal (Did not show up)</td>
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</tbody>
</table>
APPENDIX F

Stages of Growth and the Organizational Learning Capacity of Schools:
Diagnostic Instruments
Stages of Growth and the Organizational Learning Capacity of Schools: Diagnostic Instruments

To date, most of the research on organizational learning and learning organizations has focused on one of the three organizational learning perspectives identified in the conceptual framework. Each of these perspectives considers the assessment process from a slightly different viewpoint.

The normative view focuses on those factors and conditions that must be present in order for learning to take place. The assumption is that once present these conditions ensure learning will occur. Thus to assess learning from this perspective one must first identify those traits and characteristics and then simply test for their presence or absence.

The descriptive view focuses on organizational learning processes. It assumes that all organizations are learning systems and that all are capable of learning, however some may be more sophisticated than others. This perspective provides organizational members with a snapshot of their current learning capacity.

The developmental perspective recognizes that organizational learning progresses through a series of developmental stages, over time. Assessment focuses on those factors and conditions that are associated with a particular stage of development. Each stage is a point of reference that can be contrasted with previous and desired stages of development and can assists in determining an organizations next step.

The diagnostic instruments developed in this study attempt to combine aspects from each of the three perspectives and use them to build a more comprehensive approach to assessing organizational learning capacity. This assessment tool incorporates thirteen learning dimensions and ten learning levers with a developmental framework that enables organizations to assess their learning capacity over time. This particular survey was designed to assess the organizational learning capacity of schools.
Organizational Learning Diagnostic Survey 1

The purpose of this survey is to build an organization al profile that reflects the learning style of your school. Please answer all questions by circling the most appropriate answer.

1. To what extent have you been involved in significant professional learning during the past several years? (Circle the number below the most appropriate category)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Minimum extent</th>
<th>Moderate extent</th>
<th>Great Extent</th>
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2. To what extent have your colleagues been involved in significant professional learning during the past several years? (Circle the number below the most appropriate category)

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3. To what extent have those involved in formal or informal leadership roles in your school assisted with such learning? (Circle the number below the most appropriate category)

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4. To what extent have you been involved in critical reflection and debate about your teaching during the past several years? (Circle the number below the most appropriate category)

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5. To what extent have you been a part of a high functioning team during the past several years? (Circle the number below the most appropriate category)

<table>
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Organizational Learning Diagnostic Survey 2

Stages of Growth in the Organizational Learning Capacity of Schools

Diagnostic Survey

Directions

This survey is designed to reflect your perception of your school’s capacity to learn. On the following pages you will be asked to respond to 35 survey items. They are divided into five categories:

Part 1: Individual Learning
Part 2: Team/Group Learning
Part 3: Knowledge Management
Part 4: Learning Dimensions
Part 5: Organizational Levers

For each of the items, you will be provided with four or five choices. In most cases, more than one choice will apply to your school. Select the best choice that characterizes your school. Circle only one response for each item. It is critical that you be as candid as possible.

By examining your scores in each of these areas and sharing your perceptions with others, you will be able to identify those key areas that should be targeted for future development.

After you complete the survey you will find a guide to help you score the survey and interpret the results.
Part 1: Individual Professional Learning

1. In this school...
   a) professional learning is given a very low priority.
   b) training and professional development are viewed with skepticism.
   c) professional learning is seen as important to help keep teachers and administrators up-to-date on current information.
   d) professional learning is seen as critical for organizational growth.
   e) in addition to (d), professional learning is viewed as essential to the school’s ability to change and to prepare organizational members (administrators, teachers and students) for an uncertain future.

2. In this school...
   a) there is very little support for professional learning.
   b) most professional learning is generated as a result of initiatives by the Ministry of Education.
   c) the concept of professional learning is supported in principle but there are very few resources allocated to professional learning (e.g.) money, leave time.
   d) professional learning occurs because there is a school-wide commitment to it, and individual initiatives are supported by the school.
   e) In addition to (d), individual and school initiatives are supported by the school district.

3. In this school, our administrators...
   a) do not get involved in professional learning – for themselves or their teachers.
   b) defer responsibility for professional learning to district level administrators.
   c) share responsibility for professional learning with school level committees.
   d) facilitate professional learning by planning and working closely with district level administrators and school-based committees.
   e) in addition to (d), become actively involved in the learning process by modeling desired learning habits and coaching other people to manage their own learning.

4. In this school...
   a) there is little or no planning for professional learning.
   b) professional learning is viewed as a one-shot deal and not as a continuous process.
   c) planning for professional learning occurs infrequently as part of performance appraisal.
   d) planning for professional learning is based on the current and projected needs of the school.
   e) teachers are encouraged to develop a personal professional development plan that aims to meet their personal needs along with the needs of the school.

5. In this school, most professional learning occurs...
   a) entirely by chance.
   b) as a result of attending district planned inservice or outside training sessions.
   c) by attending district planned inservice or outside training sessions along with planned follow-up to ensure what is learned is integrated into administrators’ and teachers’ daily activities.
   d) in addition to (c), in-school, through training and professional development sessions that are customized to meet the learners needs.
   e) on the job, on a daily basis. This includes learning from other staff members, cross-training, accepting new work assignments and from formally planned training sessions.
6. In this school, I estimate that...

a) less than 20% of teachers are serious about their own professional learning.
b) between 20% and 39% of teachers are serious about their own professional learning.
c) between 40% and 59% of teachers are serious about their own professional learning.
d) between 60% and 79% of teachers are serious about their own professional learning.
e) between 80% and 100% of teachers are serious about their own professional learning.
Part 2: Team/Group Learning

1. In this school, when people come together as a part of a team...

   a) no one wants to participate.
   b) most people feel comfortable addressing issues and exploring problems but they are careful not to offend anyone.
   c) most people are willing to participate but they don’t want to be held accountable for their actions.
   d) most people are open with each other and willing to admit mistakes and explore problems, but there are topics and issues that are not open for discussion.
   e) people feel comfortable raising issues and putting them on the table for discussion even when the findings maybe embarrassing. They are not afraid to challenge themselves on professional issues.

2. In this school...

   a) people do not come together as groups or teams.
   b) school wide teams are non-existent. However, professional support groups do develop in subject areas (e.g. English, science, and mathematics).
   c) ad hoc committees and task forces are established by the administration to deal with issues as they arise (e.g. graduation committees, evaluation committees).
   d) both (b) and (c).
   e) cross-functional teams are formally organized by the administration, for the purpose of solving a problem, analyzing a complex issue, taking innovative action or to generate new knowledge.

3. In this school when people come together as a group or team...

   a) groups or teams are not part of our formal operations.
   b) it is usually to organize or manage an existing committee or club (e.g. graduation committee).
   c) they have one or more tasks to perform and the group produces some outcome for which members have collective responsibility.
   d) in addition to (c), the group works with other groups and individuals within the context of the school community.
   e) in addition to (c) and (d), members are dependent upon one another for some shared purpose, and specialized roles develop within the group as they work towards their goal(s).

4. In this school...

   a) groups or teams are not part of our formal operations.
   b) there are no formal training programs so people can learn how to work together in teams.
   c) the school administrators receive special training on how to function as a member of a team.
   d) teams of teachers receive some formal training on how to work as a part of a team (e.g. training and coaching in problem-solving, decision-making, communication and group facilitation).
   e) all teachers and administrators receive extensive training in how to work as a part of a team (e.g. training and coaching in problem-solving, decision-making, communication and group facilitation).
5. In this school...

a) people are not encouraged to work in groups or teams.
b) when we form teams, administrators monitor our activity and insist on having the final say.
c) our administrators usually look at teams as a way for people to provide input before making the final decisions themselves.
d) team members are encouraged to arrive at a decision based on achieving group consensus.
e) the decisions of teams are respected. Administrators make themselves available for input and offer information when it is requested but they do not try to lead the debate.

6. In this school, when people come together to form a team...

a) we do not operate in teams.
b) the team is usually dominated by the opinions of a few and the result is poor quality decisions.
c) the team operates like a democracy and results in decisions that are based on the opinions of the majority.
d) team members recognize the diversity and expertise of the group and work towards a consensus.
e) in addition to (d), there is a free flow of ideas and creativity that generate new ideas about teaching and learning that are then transferred throughout the organization.
Part 3: Knowledge Management...

1. In this school, most change initiatives have been stimulated by:
   a) new programs being implemented by The Ministry of Education or The school board.
   b) pressure from the parental and business community.
   c) a change in leadership and or key personnel.
   d) teacher led initiatives.
   e) school and community partnerships (parents, businesses, school boards) designed to improve services to students and teachers.

2. This school acquires high quality and highly relevant knowledge by...
   a) accident. Teachers and administrators don't pay much attention to what happens outside the school nor are there any internal efforts to be innovative.
   b) accident, as well as through the school board and the Ministry of Education.
   c) accident, as well as intentionally scanning the local environment and importing new ideas from other organizations. For example, attending conferences, hiring external consultants, using benchmarks from other schools.
   d) in addition to (c), partnering with other schools, businesses and professional organizations for the purpose of developing new ways of doing things.
   e) both (b) and (c).

3. This school creates high quality and highly relevant knowledge by...
   a) there is little evidence that this school creates any new knowledge.
   b) experimenting with new ideas and curriculum to see what works.
   c) teachers and/or administrators working closely together on curriculum and instructional issues exchanging personal knowledge(e.g. teacher mentorships).
   d) teachers and/or administrators taking some piece of existing knowledge and adding their knowledge to it, in order to create something new (e.g. designing an electronic learning resource (virtual field trip) that improves student learning).
   e) adapting new knowledge to the entire organization (e.g. when designing electronic resources is accepted by all staff members are as a new and improved way of teaching).

4. In this school the sharing of knowledge...
   a) does not occur on a large-scale basis. When it does occur it is by chance, on an informal basis.
   b) does not occur on a large-scale basis. The few new ideas are usually protected by the owners and are not willingly shared.
   c) is common. It happens as a result of informal networks, within and between departments and through peer-to-peer communication. It is often a response to a crisis.
   d) is common. It happens as a result of carefully planned events and processes (e.g. reports, bulletin boards, staff meetings, briefings, cross-functional work teams, and electronic communication networks).
   e) both (c) and (d).
5. **In this school, when new knowledge and new initiatives are introduced and shared around...**

   a) it initially results in a lot of hype but it usually fizzles out.
   b) adequate training and follow-up is lacking and most members cannot utilize the new knowledge.
   c) the idea is presented to all staff members, and expectations are agreed upon long before the implementation date.
   d) in addition to (c), just prior to implementation extensive training is provided. This enables the new knowledge to be utilized by all staff members.
   e) in addition to (c) and (d), follow-up training sessions and other support systems are in place to ensure that new learning is maintained and the new knowledge can be utilized.

6. **In this school...**

   a) when leaders and other knowledgeable teachers leave we usually find ourselves in a state of crisis, because skills and knowledge have not been retained.
   b) there is no formal plan for storing knowledge but undeclared knowledge is stored with department members and is available to other members if they know where to look and who to ask.
   c) In addition to (b), teachers and administrators are aware of the need to retain organizational knowledge.
   d) teachers and administrators are aware of the need to retain organizational knowledge. They have systems and structures in place (e.g. teams, documents, and/or electronic files) to ensure that important knowledge is not lost.
   e) in addition to (d), the stored knowledge is stored and organized in such a way that it is easily accessible to organizational members when it is needed.
Part 4:  Learning Dimensions

1. In this school,...
   a) there is little focus on professional learning.
   b) most learning focuses on reacting to and trying to solve day-to-day operational problems.
   c) teachers and administrators look internally and question themselves about why errors or successes occurred in the first place.
   d) teachers and administrators try to avoid negative results and experiences by identifying the best future opportunities and then finding ways to achieve that future.
   e) in addition to (b), (c) and (d), we contemplate our own learning behaviors, in other words we engage in activities that help us learn about our own learning.

2. In this school...
   a) there is little sharing among colleagues.
   b) teachers are inclined to share with their departmental colleagues. However, there is a limited ability to transfer knowledge beyond the departmental level.
   c) people are inclined to share with each other but there is no formal distribution plan. Basically, if I want to know something I know who to see.
   d) peer-to-peer sharing and the existence of cross-department teams ensures that knowledge diffuses throughout the organization, however, it occurs slowly.
   e) we are skilled at moving knowledge efficiently and quickly throughout the entire organization.

3. As a school...
   a) we never take time to reflect on what our school is all about.
   b) we take time to reflect on what our school is about, once or twice a year on professional development days.
   c) we take time to reflect on what our school is all about when we meet as teams or committees and at regularly scheduled staff meetings.
   d) challenging the status quo and experimenting with new ways of doing things is a way of life.
   e) In addition to (d), we collaborate with each other on action learning projects.

4. In this school...
   a) new ideas are resisted.
   b) it takes forever to implement a new idea.
   c) there are groups of teachers who will take a new idea and run with it but there are others who resist anything that even resembles change.
   d) we strongly support innovation and we have become skilled at moving knowledge efficiently and quickly throughout the entire organization, therefore new ideas get implemented quickly.
   e) as a result of (d), we are able to successfully implement multiple innovations, simultaneously.

5. In this school...
   a) things are pretty routine; there is not much change.
   b) new ideas are usually imposed upon us and we have no choice but to comply.
   c) new and innovative ideas are acknowledged but most people pay lip service to them therefore implementation is difficult.
   d) teachers and/or administrators get excited about innovative ideas but they often become frustrated because of a lack of resources to implement the ideas.
   e) innovative ideas usually result in new ways of thinking as well as new ways of doing things.
Part 5: Organizational Levers

1. In this school...
   a) organization-wide changes rarely occur.
   b) organization-wide changes are usually short-term and deal with treating symptoms rather than finding solutions to problems. Once the plan has been developed implementation is left to organizational members – there is little follow-up.
   c) organization-wide changes focus on long term growth and improvement plans but the designers make an assumption that the external environment will not change.
   d) organization-wide changes are part of a formal plan that was developed by and is shared with all stakeholder groups. Innovations may also develop at the grass roots level; in fact, administrators encourage innovation and facilitate the movement of successful innovations throughout the school.
   e) in addition to (d), recognize that the future cannot be predicted and that schools must prepare students for an uncertain future. Plans are reviewed frequently and modified as needed.

2. In this school...
   a) virtually no one recognizes the interrelationships that exist between the school and its environment.
   b) administrators appear to understand the complex relationship between the school and its environment but they experience difficulty explaining these relationships to teachers.
   c) teachers and administrators understand the complex relationships that exist between the school and the environment.
   d) teachers and administrators understand the complex interrelationships between the school and the community, and they are able to think and act with a comprehensive understanding of the entire system.
   e) in addition to (d), teachers and administrators understand the concept of leverage and how a small well-focused change in one area can produce significant, long lasting improvements in another.

3. In this school...
   a) there is no shared vision of the future.
   b) a vision of the future was created by the principal. It is his vision and it is not widely shared.
   c) a vision of the future was created by the school administration and then communicated to other organizational members.
   d) the school administration, department heads and other key teachers created a vision of the future. The vision was then communicated throughout the organization in an attempt to get everyone to support it.
   e) everyone shares the same vision. All stakeholders were involved in the creation of the vision and they feel ownership for it.

4. In this school...
   a) professional conversations focus on defending and maintaining the status quo.
   b) professional conversations focus on how to make things better.
   c) professional conversations provide an opportunity for teachers and administrators to be open with each other and to challenge each other on academic concerns and issues.
   d) in addition to (c), teachers and administrators are able to suspend their personal beliefs when different views are presented and debated.
   e) in addition to (c) and (d), teachers and administrators are open to exploring sensitive topics and admitting mistakes.
5. In this school the work culture...

a) there is very little professional sharing or collaboration.
b) professional sharing and collaboration is focused on resisting change and defending the status quo.
c) teachers and administrators work together on non-curricular problems.
d) in an attempt to improve the teaching-learning process, teachers frequently collaborate with other teachers and administrators on curriculum and instructional issues.
e) in addition to (d), teachers and administrators take responsibility for and contribute to one another’s learning as they go about their daily activities. As well, staff members are provided with quality time to meet, share ideas and plan collaboratively.

6. In this school...

a) there are few resources to facilitate new learning initiatives.
b) there are plenty of skilled people and non-human resources (e.g. time, money, technology) but there is little new learning.
c) there are plenty of non-human resources but no skilled people to facilitate the learning.
d) there are plenty of skilled people who are anxious to engage in new learning initiatives but we are handcuffed by a lack of non-human resources.
e) we are fortunate. There are many skilled people who are engaging in new learning initiatives and we have the non-human resources to make the experience worthwhile.

7. In this school...

a) the organizational structure is very rigid. The principal dictates what happens.
b) In addition to (a), there are clearly defined areas of responsibility as well as clearly understood roles and responsibilities, and people are careful not to go beyond their own area of responsibility.
c) there is an allowance for participative decision-making.
d) the organizational structure is flattened as authority is decentralized and delegated throughout the organization so that decisions are made at the level where they will have an impact.
e) in addition to (c), “form follows function” and teachers are empowered to make decisions in the best interest of children.

8. In this school, strategies for growth and learning (e.g. action plans, professional development, innovative methodologies)...

a) are virtually non-existent.
b) have been developed but they are not widely accepted by staff members.
c) focus on improving individual teacher learning.
d) focus on individual teacher learning and learning as a part of a team.
e) focus on individual learning, team learning and organizational goals. They are carefully designed and implemented.
9. In this school, computer and communications technologies have...

a) had no real effect on professional learning.
b) been introduced and accepted by a small minority of teachers and/or administrators. Some classroom integration activities are occurring.
c) been adopted by a large percentage of teachers/administrators who use the new technologies (e.g. World Wide Web, E-mail, presentation software) in their day-to-day teaching/work.
d) been adopted by everyone in the school. Everyone has access to the information highway and all staff members use the new technologies (e.g. World Wide Web, e-mail, presentation software) in their day-to-day teaching/work, and all staff members communicate via email.
e) in addition to (d), have stimulated new learning. Staff members are constantly looking for new ways to apply the technologies to their teaching and learning.

10. In this school...

a) people in administrative positions possess strong management skills, but there is a leadership vacuum.
b) administrators do not possess the skills necessary to plan, develop or implement learning plans. As a result they do not get involved in any new learning initiatives.
c) administrators recognize that expertise lies outside the school so they arrange for teachers to attend external seminars and training programs. They provide support for learning by ensuring follow-up activities.
d) administrators take on the roles of coaching, mentoring and facilitating learning.
e) administrators articulate a vision, participate it its implementation, interact with teachers and become actively involved in the learning process.

11. In this school...

a) there is little support for new learning initiatives.
b) there is school board and Ministry of Education support for new learning initiatives but little in-school support.
c) there is plenty of in-school support for new learning, but there is little from the school board.
d) there is strong support from the school and the school board for new learning initiatives.
e) in addition to (d), there is strong support from other stakeholder groups (e.g. The Ministry of Education, school councils)

12. In this school...

a) risk taking and experimentation are not encouraged or tolerated.
b) responsible risk-taking and openness to new ways of doing things are promoted.
c) in addition to (b) continuous improvement initiatives are supported.
d) in addition to (b) and (c) teachers are free to create and use new products and processes.
e) in addition to (b) and (c) and (d) innovative teachers receive extrinsic rewards.
Score Sheet

Directions: Please circle the letter corresponding to your answer. Then add the number of circled items in each column. Multiply by the number provided at the bottom of the column. Then add the tallies at the bottom of each column to provide a total category score.

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### Part 4: Learning Capacity

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### Part 5: Learning Levers

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Figure 15: Organizational Learning Score Sheets
**Composite Score Sheet**

**Directions:** After you have completed your survey and scored it, write your scores in the appropriate columns. This reveals your perception of your organization's stage of development. Shortly afterwards you will be provided with data that represents your department and the school as a whole. This information will enable you to dialogue with other organizational and department members to identify key areas that should be targeted for future development.

<table>
<thead>
<tr>
<th></th>
<th>Individual learning</th>
<th>Team/group Learning</th>
<th>Knowledge Management</th>
<th>Learning Capacity</th>
<th>Learning Levers</th>
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<tr>
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Figure 16: Composite Score Sheet
Organizational Learning Profile

This profile will provide you with a snapshot of your organization's current stage of development on the dimensions and factors that are critical to becoming a learning organization: individual learning, team/group learning, knowledge management, organizational learning capacity, and learning levers. Generally speaking, to classify your school as a Learning Organization, you must be a stage four on each of the dimensions.

<table>
<thead>
<tr>
<th>Stage 1: The Coping Organization</th>
<th>Stage 2: The Emerging Organization</th>
<th>Stage 3: The Developing Organization</th>
<th>Stage 4: The Learning Organization</th>
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</table>

### Part 1: Individual Learning

| Level | 6 | 13 | 20 | 27 | 30 |

### Part 2: Team/group Learning

| Level | 6 | 13 | 20 | 27 | 30 |

### Part 3: Knowledge Management

| Level | 6 | 13 | 20 | 27 | 30 |

### Part 4: Organizational Learning Capacity

| Level | 5 | 11 | 17 | 23 | 25 |

### Part 5: Learning Levers

| Level | 12 | 26 | 40 | 54 | 60 |

Figure 17: Organizational Learning Profile
APPENDIX G

Letter to Participants
Dear Participant,

Thank you for agreeing to participate in my research project on organizational learning capacity. The project will focus on the nature of professional learning as it relates to changes that may be occurring in your school community. This should help us as educators better understand school responses to increased learning demands on schools.

The interview will consist of a series of open-ended questions, which will be audio taped; the complete interview should take approximately 40 minutes. I assure you that all responses will be kept in strict confidence and the names of individuals, schools and school district will not be used in reporting the results of the study.

Participation is voluntary and you are free to withdraw, at any time, during or after the interview.

Sincerely

David C. Dibbon
The places I hiked to!
The roads that I rambled
to find the best eggs
that have ever been scrambled!
If you want to get eggs
you can’t buy at a store
You have to do things
never thought of before.

Scrambled Eggs Supper
Dr. Seuss