TOTAL QUALITY PRINCIPLES IN EDUCATION: 
A FRAMEWORK FOR RESTRUCTURING 

by 

John Alexander Morrison 

A thesis submitted in conformity with the requirements 
for the degree of Master of Education 
Department of Theory and Policy Studies in Education 
Educational Administration Unit 
OISE/UT 
Toronto, Ontario 

© Copyright by John Alexander Morrison (1998)
The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

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

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

L’auteur conserve la propriété du droit d’auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.
TOTAL QUALITY PRINCIPLES IN EDUCATION:
A FRAMEWORK FOR RESTRUCTURING

Master of Education
1998
John Alexander Morrison
Department of Theory and Policy Studies in Education
Educational Administration Unit
Ontario Institute for Studies in Education of the
University of Toronto

Abstract

This study was initiated to stimulate thought and foster a greater understanding in the educational community regarding the effectiveness of Total Quality Principles as a framework for restructuring education. As educators face growing public and political pressures to review and renew the way in which they conduct business and deliver quality services, it is essential that a framework for restructuring, which reflects both a focus on quality and the needs of all stakeholders in education, be in place. Total Quality Principles, which have gained global status as a guide for restructuring business and industry, are now emerging as an effective framework for the restructuring of education. It is critical that educators, charged with the responsibility for managing quality and restructuring, study the effectiveness of these principles and the modifications required to accommodate the needs of the educational community.

Research for this thesis has been conducted through: interviews with leaders in the field of Total Quality, interviews with educational leaders involved with school restructuring on a T.Q. framework and in-depth review of library texts and periodicals dealing with education’s restructuring efforts throughout North America.
The results of this study reveal significant improvements in quality and satisfaction in educational institutions adopting a T.Q. approach to restructuring, and a growing commitment to the use of Total Quality Principles in education throughout North America.

Education, like business and industry before it, must be willing to change in order to reflect the needs of our changing society and economy. To ignore change, and to maintain the status quo in education, destines those institutions to a level of mediocrity that undermines the very future of our youth and the economy and society they will serve. To change and restructure on a framework of quality provides both our education system and the youth that it serves with a springboard for excellence. Educational institutions which have restructured through Quality Principles, have utilized this process to revitalize the organization, its students, and the broader community and society which it serves.
Acknowledgments

I would like to extend a special thank you to my wife, Heather, and my daughters, Julie and Nicole, for their patience, support and encouragement throughout my re-entry into education.

I would like to acknowledge the help that has been afforded to me by the professors at OISE/UT. Special thanks must go to Professor John Davis for his constant support and guidance throughout this project.

I would like to thank Jacqui Sharpe (Quality Consultant) and Dr. Richard Hadden (Executive Director for the Bureau for Excellence, Durham Region), for their many hours of work with myself and the Exeter High School team to create, implement, and document the ‘educational context’ for quality.

At the school level, my thanks go to the following administers for initiating and providing ongoing support for Exeter’s transition, and for their assistance with this thesis: Lynn Parr and Pamela Christoff (Principals); and John Beatty, Ian Skinner, Jeff Cookson, and Allan Nesmith (Vice-Principals). Thanks also to an exceptional Exeter staff, student body, and community for their ongoing commitment to quality education.

All of the aforementioned can rightfully claim a share in this thesis.
Table of Contents

Abstract ........................................................................................................................................... i
Acknowledgments .......................................................................................................................... iii
List of Figures ................................................................................................................................... vi

CHAPTER ONE: THE PROBLEM ........................................................................................................ 1
  Background to the Problem ........................................................................................................... 1
  Statement of the Problem ............................................................................................................. 2
  Definitions ..................................................................................................................................... 4
  Importance of the Study ............................................................................................................... 4

CHAPTER TWO: METHODOLOGY AND ANALYSIS ......................................................................... 6
  Overall Methodology .................................................................................................................... 6
  Overall Analysis .......................................................................................................................... 7

CHAPTER THREE: AN HISTORICAL FRAMEWORK ........................................................................ 10
  Introduction .................................................................................................................................. 10
  Scientific Management Approach ................................................................................................. 10
  Fayol’s Research .......................................................................................................................... 12
  Follett, Mayo and the Human Relations Movement .................................................................... 14
  Deming and his 14 Points ............................................................................................................ 15

CHAPTER FOUR: ORGANIZATIONAL FRAMEWORK FOR TOTAL QUALITY IN EDUCATION ........ 18
  Introduction .................................................................................................................................... 18
  Defining the Organization ............................................................................................................. 18
  Models of Organizational Structure ............................................................................................. 19
  Harwood Secondary School’s Transition to Exeter High School ............................................. 22
  Motivational Theory and Interactive Organizational Models .................................................. 26
  Education and Restructuring ....................................................................................................... 30
CHAPTER FIVE: CUSTOMERS AND STAKEHOLDERS OF EDUCATION........ 45
Introduction.................................................................................................. 45
Production Process v.s Service Provider....................................................... 45
Definition of Customer.................................................................................. 47
Stakeholders of Education............................................................................. 50
A Partnership Approach to Meeting Customer and Stakeholder Needs........ 51

CHAPTER SIX: LEADERSHIP STYLES FOR QUALITY EDUCATION........ 55
Introduction.................................................................................................. 55
Importance of Leadership in Restructuring and Change............................... 55
Transformational Leadership and Total Quality Leadership........................ 56
Effective School Movement and Total Quality Leadership........................... 61
Profound Knowledge and Total Quality Leadership..................................... 63
Deming’s 14 Points as a Framework for Total Quality Leadership................. 65
Leadership as the Key Element in an Organization’s Restructuring and Change ......................................................................................... 88

CHAPTER SEVEN: QUALITY MEASUREMENT TOOLS.......................... 98
Introduction.................................................................................................. 98
Removing Variation From Education’s Processes.......................................... 98
Examples of Educational Institution’s Data Collection and Evaluation .......... 100

CHAPTER EIGHT: SUMMARY, CONCLUSIONS AND IMPLICATIONS...... 111
Summary...................................................................................................... 111
Conclusions................................................................................................. 119
Implications for Further Research............................................................... 119

Bibliography............................................................................................... 121

Appendix A: Exeter High School Strategic Plan 1997-98

Appendix B: Survey Questionnaire - Education

Appendix C: Survey Questionnaire - Non-Education
List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Comparative Overview of Fayol's Elements and T.Q. Principles...</td>
<td>13</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Exeter High School Employee Satisfaction Data</td>
<td>33</td>
</tr>
<tr>
<td>Figure 3</td>
<td>School Improvement Team 1992-93</td>
<td>40</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Exeter High School Organizational Structure 1993-94</td>
<td>41</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Exeter High School Organizational Structure 1995-96</td>
<td>42</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Exeter High School Interactive Organizational Model 1996-97...</td>
<td>43</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Exeter’s Culture 1996-97</td>
<td>44</td>
</tr>
<tr>
<td>Figure 8</td>
<td>University of Waterloo Mathematics Contest Data</td>
<td>83</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Grade 9 Culinary Arts Data</td>
<td>101</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Co-Operative Education Enrollments: Three Year Review</td>
<td>107</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Actual and Projected Student Enrollment for Exeter H.S.</td>
<td>107</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Exeter Citizenship Award: Student Award Recipients Data</td>
<td>108</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Exeter Intergenerational Program: Student Involvement Data</td>
<td>109</td>
</tr>
</tbody>
</table>
CHAPTER ONE: THE PROBLEM

Background to the Problem

Education, like society, is under a great deal of pressure as it attempts to restructure itself to face a global society, overcome massive deficits, and create a sustainable economic structure. These change influences are driving the restructuring process at a rate that our traditional hierarchical organizational structures are unable to cope with. As our organizations flounder, so do the individuals within them, their families, and the broader community. The impact on individual, organizational, and community health is significant, and presents a serious challenge to us as a society.

This climate of crisis has driven business, industry, and education to review their organization and their operations, in an effort towards short-term survival, and long-term restructuring and growth. Education, like business/industry, has suffered through decades of building layer upon layer of bureaucracy. This process has not only developed hierarchies that are very expensive to maintain, but has also separated the average employee from any effective voice in the decisions of the organization. The results have been the development of expensive and inefficient organizations that have provided a fertile base for the development of poor labour/management relations. Compounded by a shifting economic base and greater global competition, these problems provide a formidable challenge.
A great deal can be learned from studying the restructuring processes of business/industry, but an educational organization, although similar to business/industry in many respects, must approach this restructuring process with a full understanding of who education’s customers and stakeholders are, how the organization can effectively meet or exceed their needs, and how to ensure and measure the quality of their service.

Statement of the Problem

Through an examination of research and practice, this study will focus on the identification and documentation of the effectiveness of a framework for restructuring in the field of education through the application of Total Quality Principles.

The First Subproblem

In order for an educational organization to effectively restructure on a framework of Quality Principles, there should be an understanding of the processes that have led to the development of these principles. This section will provide an historical framework for the development of Quality Principles.
The Second Subproblem

The second subproblem will focus on the development of an organizational framework which is interactive and supports continuous improvement. Through a study of the reorganization of Exeter High School, a “model” framework for continuous improvement will be presented.

The Third Subproblem

The purpose of the third subproblem is to identify the customers and stakeholders of education, and to identify opportunities for their involvement in the restructuring of an educational organization towards quality and continuous improvement.

The Fourth Subproblem

Leadership will be the focus of the fourth subproblem. Effective leadership styles for a non-hierarchical framework; how the leader demonstrates a commitment to quality improvement, teamwork and open communication, and the role of the leader in the improvement planning process, and the measurement of that process will be studied.

The Fifth Subproblem

The fifth subproblem will focus on methods which education may use to measure progress in quality initiatives. Through citing research from throughout North America, and providing sample data from Exeter High School, processes and practices will be identified which provide trend data for analysis and decision-making.
Definitions

Customers: Any individual who has a vested interest in the education system including those who fall into one or all of the following categories:

i. Primary Interest: Students, parents/guardians, citizens of the community, Ministry of Education and Training, and anyone having a direct interest in the state of public education (excluding those involved with the delivery of educational services).

ii. Secondary Interest: Business/industry, post-secondary institutions, learning and training institutions, professional associations, unions, service clubs and anyone whose function relies upon the product of public education.

iii. Tertiary Interest: Public service organizations and any organization or individual who has a pecuniary interest in public education.

Stakeholders: Those individuals and organizations that have a vested interest in public education, because of their involvement in the delivery of educational services.

Importance of the Study

There are several reasons for such a study. Education is on a course that requires all levels to review and renew the way in which their business is conducted, and their services delivered. Through providing concrete cases of organizational success, the validity of an organizational framework built upon Total Quality Principles will be established.

Interested stakeholders, such as students, parents, business/industry, post-secondary
institutions, teachers and administrators, will be provided with information and models that will enable them to begin on their own quality journey.
CHAPTER TWO: METHODOLOGY AND ANALYSIS

Overall Methodology

Research for the first sub-problem will involve an in-depth review of library texts and periodicals. This will be supplemented with interviews of business and educational leaders in the field of Total Quality. The list of interviewees includes staff and administrators from local and national quality organizations, representatives of private organizations involved with preparing companies for International Standards Organization (I.S.O.) certification and educational administrators.

The second subproblem will involve a study of Exeter High School's organizational structure. This will focus on changes to the model since 1992, and culminate with the current 1997 model. Information will be gathered from past School Plans, Committee minutes, and past and present administrators.

Research for the third subproblem, identification of customers and stakeholders, will involve an in-depth review of library texts and periodicals, and study of Exeter High School submissions to local and national quality organizations.

The fourth subproblem, focusing on leadership, will involve an in-depth review of library texts and periodicals, a study of Exeter High School's submissions to local and national quality organizations, and interviews of educational leaders in the field of Total Quality.
The fifth subproblem, with its focus on methodologies and evaluation, will involve an in-depth review of library texts and periodicals, gathering and analysis of Exeter’s data, and interviews with leaders in the field of Total Quality.

**Overall Analysis**

The first subproblem: *An Historical Framework.*

Information and data collected from available literature and text, and interviews undergo comparative analysis to identify patterns and trends leading to the development of a framework for Total Quality. The work of Taylor, Fayol, Follet, Mayo, Shewhart and Deming is analysed to identify elements that have contributed to the Total Quality movement. Information gathered through an interview with Dr. Richard Hadden, Executive Director of the Bureau for Excellence in Durham Region is used to substantiate the relationship of Deming’s work to Total Quality.

The second subproblem: *Organizational Framework for Total Quality in Education.*

Through a comparative analysis of available literature and text, research on Exeter High School and an interview with Lynn Parr, former principal of Harwood/Exeter High School, the meaning of an organization is defined, various organizational models are reviewed in relation to their contributions to an interactive organizational framework, the contribution of motivational theory to the development of such a model is identified and an organizational framework for education is presented.
The third subproblem: *Customers and Stakeholders of Education.*

Through a comparative analysis of available literature and text, and the ongoing work and submissions of Exeter High School, customers and stakeholders of education are identified and opportunities noted for their involvement in the restructuring of an educational institution towards quality and continuous improvement. A model for a partnership approach to education concludes this chapter.

The fourth subproblem: *Leadership Styles for Quality Education.*

Through a comparative analysis of available literature and text, and the work and submissions of Exeter High School, this chapter identifies effective leadership styles and qualities for a non-hierarchical framework. Beginning with a discussion of the importance of leadership in the restructuring and change process, this chapter then provides an analysis of Transformational Leadership and the Effective Schools Movement as they relate to Total Quality Leadership and Deming’s 14 Points. Deming’s concept of ‘Profound Knowledge’ is analysed to create the essential link to Total Quality Leadership. The chapter concludes with an analysis of leadership as the key element in an organization’s restructuring and change process.

The fifth subproblem: *Quality Measurement Tools.*

Through citing of research from throughout North America, providing sample data from Exeter High School and information from the interview with Dr. Richard Hadden, processes and practices are identified which provide data for analysis and decision-making.
Collectively, these findings are translated into a framework through which educators can restructure towards quality and continuous improvement.
CHAPTER THREE: AN HISTORICAL FRAMEWORK

Introduction

This chapter provides an historical framework for the development of Quality Principles. First, the Scientific Management approach, and the studies conducted by Taylor, will be discussed with respect to their contributions towards forwarding statistical analysis and organizational management. Fayol’s general approach to administration, and his development of Fayol’s Elements, will then describe a broadening of responsibility for organizational success, extending beyond the front office, to all members of the organization. This important distinction, forwarded by Fayol, was the precursor to Human Relations studies conducted by Follett and Mayo. Mayo’s work at the Hawthorne plant will then be discussed in relation to its impact on Deming’s early work on variability. Deming’s later work with Shewhart, and the resulting development of Statistical Process Control will be linked with earlier work from the Human Relations movement, to provide the basis for Deming’s 14 Points, and the framework quality.

Scientific Management Approach

Much of our world has recently been involved in struggles for democracy. East Germany, the Balkans, China, and many other countries have witnessed their citizens rising up and demanding a voice. Our right to freedom of speech, and our opportunity to participate in
our government's decisions, although taken for granted in a democratic society, represent rights that others are willing to struggle, and sometimes die for. The value of being a participant in determining your future is indeed a precious commodity!

It puzzles me that within our society, we value the democratic form of government and rightfully expect our concerns to be addressed; however, in our workplace, within this democratic society, we often find an organizational structure which has very little resemblance to democracy. Many decisions are made with little or no input from the "common" worker. The organization appears to be run by a politburo of insiders, with "the bottom line" driving decisions. This Scientific Management approach, with its focus on increased efficiency, has been a driving force in our economy for much of this century. Taylor's studies (1947, p.53), while employed at Bethlehem Steel, resulted in his conclusion that,

> It is only through enforced standardization of methods, enforced adaptation of the best implements and working conditions and enforced cooperation that this faster work can be assured, and the duty of enforcing the adoption of standards and enforcing this cooperation rests with management alone.

Standardization of methods, tools, and processes by management, otherwise viewed as prescriptive technologies, became the normative culture for improving efficiency of business operations throughout the early part of this century, and indeed, still exists today. Management was viewed as the steering mechanism of a machine that was driven by efficiency and the "bottom line".
Taylor's conclusions did not find acceptance in all quarters. He was widely criticized by both management and workers. Management was upset by his insistence that as individuals, they were unqualified unless assisted by trained experts. Workers were resentful of the stop watch approach to labour, and Taylor’s lack of understanding and attention to their needs. Strong blows were delivered against Taylor through an amendment to the Army Appropriations Act (1915), which forbade the use of stop watches and the payment of performance bonuses for work within the Army arsenal and, through an investigation conducted for the United States Commission on Industrial Relations. This study, conducted by Professor Robert Hoxie, concluded that Taylor’s studies were not scientific pursuits. Hoxie contends that time-study and task-setting are largely arbitrary rather than scientific, and further decries Taylor’s exclusion of the human aspects of production.

Taylor’s model does however, bring statistical analysis in organizational management to the forefront. This process can be found firmly embedded in the T.Q. approach.

**Fayol’s Research**

Fayol, a professional engineer, is also recognized as having an early influence on the development of the T.Q movement. His *general approach* to administration, is credited with providing a broader perspective of administration than Taylor’s approach. “Fayol’s Elements”: planning; organizing; commanding and co-ordinating, create a framework for
his definition of administration. Within this framework, planning refers to the study of the future and the organization of operations for that future; organize means the organizational buildup of both materials and human resources to implement the plans; command refers to making staff do their work, and, co-ordinate refers to uniting and correlating all of the activities. Parallels with T.Q. are evident in the following chart:

**FIGURE 1: COMPARATIVE OVERVIEW**

This chart provides a comparative representation of Fayol’s Elements and Total Quality Principles.

<table>
<thead>
<tr>
<th>Fayol’s Elements</th>
<th>Total Quality Principle(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Planning for Improvement</td>
</tr>
<tr>
<td>Organization</td>
<td>Planning for Improvement, People Focus</td>
</tr>
<tr>
<td></td>
<td>and, Process Optimization</td>
</tr>
<tr>
<td>Command</td>
<td>Leadership</td>
</tr>
<tr>
<td>Co-ordinate</td>
<td>Leadership, Process Optimization.</td>
</tr>
<tr>
<td></td>
<td>Supplier Focus, and Customer Focus</td>
</tr>
</tbody>
</table>

Fayol’s contention that administration was not the sole function of the “front office”, but should be spread throughout the organization, is perhaps the major difference from Taylor’s model, which serves to create that further bridge to a T.Q. approach. Of his 14 principles, unity of direction, order, equity, stability of tenure of personnel, initiative, and *esprit de corps*, also serve to create a framework for the recognition of the importance of the human element and human interaction in the organizational structure.
Follet, Mayo and the Human Relations Movement

The next period of significant impact on the development of the T.Q. movement occurred with the contributions of individuals such as Mary Parker Follett and Elton Mayo. Follett, Mayo and others did not dispute the importance of efficiency as a goal, but held that other goals must also be considered. Human relations played a significant part in these other goals. Communication and decision-making, between and throughout all levels of the organization, were deemed essential elements to the success of any organization. Follett looked at “cumulative responsibility”; how to unify the work of different units, cross-functioning, group responsibility, and interdependence within an organization. Follett states (1924, p.141) the real service of business is not just production but “to give an opportunity for individual development through the better organization of human relationships”.

As Follett was calling for intensive research within organizations, several intensive studies were being conducted at Chicago’s Western Electric Hawthorne plant. Elton Mayo, a professor of industrial psychology, and Fritz Roethlisberger, a sociologist, were deeply involved with the second Hawthorne project in 1927. At this time, Edward Deming was just graduating from Yale, and began his employment at the Hawthorne plant. The findings of the “Hawthorne Studies” and the resulting “Hawthorne Effect”, which recognized the existence and importance to industrial output and productivity of the informal structures within organizations, would prove to stimulate and support Deming’s
studies, and greatly influence his research and recommendations. A summary of the Hawthorne Studies concluded that people work better if they are treated like human beings. The major impact of these studies was to make "human relations" a major concern in administrative thought and practice.

**Deming and His 14 Points**

Deming began to formulate his ideas in the 1930s while monitoring the Hawthorne Studies and conducting his own research on methods for removing variability and waste from industrial processes. From Western Electric, Deming moved to work at the U.S Department of Agriculture, where he met Walter Shewhart, a statistician from Bell Laboratories. Shewhart had developed techniques to bring industrial processes into what he called statistical control. These techniques are designed to remove the sources of variability within processes, so that these processes can be made more predictable and controllable. The statistical methods of Shewhart, in consultation with Deming became known as Statistical Process Control (S.P.C.). When combined with the insights of the human relations movement, these provide the underpinnings of the Total Quality Movement.

Recently, we have seen a shift in some organizations to more inclusive models, such as those proposed by Deming (1982), Juran (1992), and others. The effectiveness of their efforts in post-war Japan had a direct impact on the renewed health of that economy and
its emergence as a world economic leader. Limited by its size, lack of natural resources, limited trade opportunities, and a severely torn social and economic fabric, Japanese embraced the quality principles and used them as a lever to not only resurrect their own country, but to once again expand its influence in the world market.

In a recent interview, Dr. Richard Hadden, Executive Director for the Bureau of Excellence for Durham Region, stated his ever increasing respect for Deming and his 14 points. Viewing Deming as a futurist, Dr. Hadden sees these points, which were developed before this author was born, as being the commandments for the Total Quality movement. Providing the framework for quality, the points remain as pertinent today as the day they were written.

Deming’s 14 points are fundamentally inter-related and provide a framework for the development of:

- common, and well defined purpose at both the macro and micro levels
- common philosophy based on quality
- process-oriented approach to improvement
- teamwork approach to providing services
- framework for constant improvement
- training and development plan for the people within the organization, at all levels
- leadership qualities throughout the organization
- a supporting environment
cross-functional teams and the removal of departmental barriers
processes and means to improve them
a culture which supports and encourages pride in workmanship
a culture that encourages self-improvement and education
an organization that invites input from all stakeholders

Total Quality Management, a phrase commonly referred to in today’s educational and business literature, is a phrase that both Deming and Dr. Hadden decry. According to Deming, you can’t manage quality - quality is an output, you can only manage systems. In support of this position, Dr. Hadden believes that Total Quality is for everyone, not just management. Labor can be seen to be excluded through the use of “management” in the phrase. Total Quality is only achieved through the collective efforts of all parties in the organization. Throughout the remainder of this thesis, Total Quality (T.Q.) will refer to the application of Deming’s points to the structure and operations of an organization.
CHAPTER FOUR: ORGANIZATIONAL FRAMEWORK FOR TOTAL QUALITY IN EDUCATION

Introduction

This chapter will focus first on the definition of an organization, and various models of organizational structure. Total Quality as a framework for restructuring will then be discussed, with the transition of Harwood Secondary School (vocational format) to Exeter High School (composite format) presented as a framework for restructuring from an hierarchical to interactive model, through the application of Quality Principles. Motivational theory will then be discussed with respect to its relevance to the development of an interactive organizational model. This chapter will conclude with a review of literature and specific initiatives from Exeter High School which support both the need for the restructuring of education, and the validity of Quality Principles as a framework for restructuring.

Defining the Organization

To preface any discussion of organizational structure, under the umbrella of Total Quality, it must be understood that any organization is inherently whole. Belasco (1990, p. 228) defines an organization as, "an interdependent system of groups, departments, and individuals". Gouillart and Kelly (1995, p. 7) speak of the organization possessing a
"corporate mind" and as having an organizational "body". They have also equated the organization to the human brain, where scientists have long searched for specific locations for various functions, only to find them to be intertwined with other areas. Furthermore, the brain, when damaged, can compensate as other parts of the brain assume lost or damaged functions. To therefore consider change to any aspect of an organization, one must understand that it has a ripple effect through the interdependency of the system that impacts on the entire organization. This has not always been the case.

Models of Organizational Structure

The models of business that have prevailed in North America throughout the last century were born in the Industrial Age. Mechanistic in nature, and driven by new technologies of the time, these models sought to free the individual from drudgery, through mechanization and the development of new social systems. The individual became a part of that machinery, a cog in many senses, driven by the engine atop the bureaucratic hierarchy. These social institutions, based on bureaucracy, hierarchy, command-and-control, and specialization, left the individual worker with no sense of personal connection with the company. Under the authoritarian industrial model, the regimented workforce represented an extension of the minds of the organization's leaders. With the advent of automation, functional expertise became prized, and organization occurred around functional capabilities. Organizational charts indicated neat pyramids and blocks, representing layer upon layer of management.
Caught now in the Communication Age, these models have been stretched to the limits of implosion. This new age is bringing with it, social transformations that are forcing Industrial Age institutions to change. With the advent of communications technology, the many layers of management are no longer necessary. Many companies have begun to focus on the development of cross-functional teams and work processes. The manager-worker model is disappearing, there is more integration of specialists, and the previously, clearly defined roles are becoming increasingly blurred. “Most people agree...the hierarchical model of the organization has outlived its usefulness” (Gouillart and Kelly, 1995, p.288).

If any organization is to restructure through Total Quality Principles, be it educational or otherwise, it must understand that Total Quality represents a systemic approach to making improvements, where people are the central focus of all processes and systems. Total Quality is both a philosophy and a set of principles that use leadership, quantitative methods, systems thinking, and empowerment to continuously improve the organization’s capacity to meet both current and future customer needs. The commitment to quality, when systemic, is the glue that binds the organization together.

At the Total Quality Forum, held in Cincinnati, Ohio, in 1992, the following definition of Total Quality was submitted in a report from the Total Quality Leadership Steering Committee and Working Councils:
Total Quality is a people-focused management system that aims at continual increase of customer satisfaction at continually lower real cost. Total Quality is a total system approach...it works horizontally across functions and departments, involves all employees,...extends backwards and forwards to include the supply chain and the customer chain. Total Quality stresses learning and adaptation to continual change as keys to organizational success. Total Quality is anchored in values that stress the dignity of the individual and the power of community action. (Total Quality Leadership Steering Committee and Working Councils Report, 1992, p.6)

According to the U.S General Accounting Office (1991), organizations that have successfully pursued Total Quality (T.Q.) have focused organizational attention on meeting client requirements; senior management has lead the way through both modeling and building quality values into all operations; all associates were properly trained, developed and empowered to continuously improve themselves as well as what they did and delivered, and everyone used a systematic and systemic process for improvement. Siegel and Byrne (1994, p.25) report that, “high performance organizations generally have found that flattening their hierarchies, blurring the boundaries between functional units, and operating in cross-functional teams is a key business advantage.”

At the core of T.Q. is the need for the organization to define, track and improve work processes. Prior to implementing T.Q., successful companies have recognized the need to align work processes with their organizational culture. The organization must seek ways to enhance their peoples’ ability to work together collaboratively and cross-functionally. Key to this process is an organizational framework that promotes communication and a
shared vision. The recent report from the Ontario Royal Commission on Learning (R.C.O.L), when addressing the organizing of education, reported,

The system should... be organized to support the teacher-student relationship. The aim is to have an organizational design that furthers educational objectives,... redresses inequities, and gives all stakeholders a voice in important decisions about education (R.C.O.L, Volume IV p.52).

Harwood Secondary School's Transition to Exeter High School

Harwood Secondary School, located in the Town of Ajax, was opened by the Durham Board of Education in 1971 as a vocational school, serving approximately half of Durham Region. The Throne Speech of April, 1989, called for a variety of initiatives to ensure and improve the quality of education in Ontario, including ones that affected students in grades 7, 8 and 9 (now referred to as the Transition Years), and the future of vocational education. The Durham Board of Education’s response was to create, in the fall of 1989, a 36-member Transition Years Task Force (T.Y.T.F.) whose function it was to study the directives and provide direction. Among the earliest recommendations of the T.Y.T.F. was a call for the establishment of a committee to report to Administrative Council on the future of Harwood S.S. and General Vanier, the two vocational schools in the board. Each school was required to restructure, under frameworks that were independent of each other, and which reflected the needs of their individual communities.

Harwood S.S. had operated since its inception, under an hierarchical model, with the
principal at the top of the hierarchy, and students at the bottom. Upon my arrival in 1989, I found a loose committee structure, with committee chairs reporting directly to the principal. The Parent Advisory Committee was very poorly attended and ineffective in implementing change. The staff, although very supportive of each other, was undergoing significant turn-over each year. In 1987-88 and 1988-89, an average of 24 staff were transferring from the school each year. The staff numbered approximately 66 at that time. In September of 1991, Harwood received a new principal, who brought with her a wealth of information regarding the Transition Years Initiatives and a mandate for change.

Until the arrival of this principal, Harwood staff had been largely unaware of the mandate for change that had been issued by the Ministry of Education and Training. According to L. Parr, the arriving principal in 1991,

Perhaps the most important defining moment or meeting in the restructuring of the organization was the first formal staff meeting that I had with the Harwood staff (September 1991). I spent the entire meeting talking at the staff. I explained the provincial mandated changes for grade 9 students and subsequent impact it would have on vocational schools; I showed them graphs and charts clearly outlining declining enrolment figures at vocational schools...This was the first time that this information had been shared with the staff. I believe the sharing of this information was a critical factor in convincing the staff that a drastic change was needed in how business was done at Harwood. (Interview notes, L. Parr, 1997, p.4)

This meeting initiated a significant change in culture at the school and issued in an era, that continues today, where staff remain well informed on all issues concerning secondary education. This information is no longer provided by the principal alone, but by a network
of individuals and groups that are components of the interactive organizational model.

It became evident to staff very quickly, that not only was change necessary, but they were now to be a part of the decisions regarding that change. The hierarchical model was being flattened, with input requested from all stakeholders. The following is an excerpt from "Milestones in the transition from Harwood to Exeter High School", which is widely used by Exeter staff in many presentations and submissions, and highlights the significant changes in the organizational culture and structure at the school:

Fall 1991  Department Heads met to discuss restructuring initiatives of the Ministry of Education.

Staff and community entered into discussions regarding the restructuring opportunities. (Models included composite school, regional school for Science and Technology, or other special focus school.)

Spring 1992  Restructuring proposal presented to local feeder schools, parents, broader community, business and industry, board of education. Restructuring to composite model approved by all parties.

Fall 1992  Technological Education Advisory Committee's (T.E.A.C.) first meeting on the restructuring of Technological Education to Broad-based Technologies.

School committees restructured with the School Growth Team as the coordinating body - community representatives invited into each committee.

Extensive opportunities for professional development provided.
As evident from this excerpt, the staff and all stakeholders had significant input into determining the restructured vision for the school. Once this shared vision had been established, a framework was developed, with the School Growth Team at the centre, to both facilitate input and co-ordinate direction. The newly renamed Exeter High School (selected by stakeholders and approved by our Board), was officially opened in 1993, with its first group of grade nine students. Grades 10 - 12 remained vocational and were gradually phased out over the next four years.

According to Herman and Herman (1994) it is important that, prior to change, the organization:

1) establish a vision;

2) compare the vision to what it presently is; and,

3) identify the differences, which will also lead to the new organization’s needs.

It is evident that Exeter High School followed this process prior to restructuring its organizational framework. Reframing the concept of what the organization is, to what it can become, addresses what Gouillart and Kelly (1995, p.7) refer to as the corporate “mind”. This reframing process serves to open and infuse the corporate mind with new visions and new resolve. It plants a stake in the ground, guides decisions, inspires actions and keeps the organization tightly focused on the important processes. This shared vision also provides the opportunity for individuals to share and enrich their own experiences through a shared sense of community or organizational purpose. This sense of community is essential for any organization and is an increasingly critical component in this
communication age. Organizations need to develop internal and external communities in which individuals succeed. It is important to remember that organizations don’t make progress...people do. The organizational structure is just a framework that supports and enhances co-operation among people.

**Motivational Theory and Interactive Organizational Models**

Deming believes that any effective leader of an organization committed to T.Q. must possess what he terms Profound Knowledge. Although discussed at length in the leadership section of this thesis, I believe it is relevant to highlight Deming’s belief that each leader must possess an knowledge of psychology in order to be effective. Through knowledge of human psychology, any leader committed to T.Q. will recognize the benefits of such an interactive model to the well-being and productivity of its members. They will also find relevance to their organization through an understanding of motivational theory and a sense of the dynamics that sustain human behavior. Maslow’s hierarchy, Ouchi’s Theory Z, and McGregor’s Theories X and Y will be discussed and linked to the benefits of an interactive organizational model.

Maslow’s hierarchy of needs theory identifies five basic needs of human beings. They are, in ascending importance: physiological; safety and security; belonging, love and social activities; esteem; self-actualization. Maslow has argued that for most workers, the first three levels of needs are normally satisfied, and are therefore no longer motivational.
Esteem and self-actualization are seldom realized completely and can therefore serve as continual motivators (Hampton, Summer and Webber, 1987, p. 179-180). Ishikawa (Bonstingl, 1992, p.17) believes there are clear connections between Maslow’s higher levels of need and the outcomes and advantages of a quality-driven system of management. They are described as: experiencing the satisfaction that comes from being able to utilize one’s own abilities to the fullest and from growing as a person; having self-confidence, and becoming a self-fulfilled person, using one’s own brain, working voluntarily, and, in this way, contributing to society. Opportunities for building esteem and the pursuit of self-actualization are key components of the non-hierarchical structures found in quality organizations.

William Ouchi, in his review of Japanese and American businesses (Hoy and Miskel, 1987) proposed that organizations displaying notable success shared a distinctive corporate culture that exhibited shared values of intimacy, trust, co-operation and teamwork. The critical role of management in these organizations was in the successful use of human resources, rather than technological advantages. Ouchi reports that these Theory Z organizational cultures have distinctive hallmarks: employment security; more opportunities for broadening experiences and diverse career paths; participative and shared consensus decision making which requires co-operation, teamwork, common values, mutual trust and concern for the whole employee (Herman and Herman, 1994). These organizations possess T.Q. elements in the common culture of shared core values and in the pursuit of common goals. The holistic design and orientation of these organizations facilitates and promotes an interactive organizational model and culture.
McGregor equates his Theory X with the externally controlled, traditional managerial approaches from the Industrial Age. This theory includes assumptions that supervisors and management feel the average worker has an inherent lack of motivation, instinctively dislikes and avoids work, and that in order to gain production management must provide strong direction, coercion, and/or have some form of negative consequence for failure to reach goals. Theory Y, which is very similar to Deming's beliefs in an individual's inherent need to learn, assumes that individuals have a natural instinct and desire for both mental and physical work. In the attainment of organizational goals, workers are enabled to employ self-direction and self-control if they feel committed to the objectives.

Worker commitment to and involvement with organizational objectives,...will result in the more fluid and consensus-driven type of managerial style suggested by Theory Y. (Hampton, Summer, and Webber, 1987, p.44)

Each of the three motivational theories presented points to improved organizational success through the inclusion of the individual in establishing a clear vision for the organization and empowering the individual to be a significant player in the establishment and implementation of organizational directions, procedures and systems.

The issue of job satisfaction must also be considered in both the quality of the service delivered, and the impact on the health of the individual. A 1992 study conducted for the Department of Health, Education, and Welfare, in Massachusetts (Dossey, 1992, p.63), found the best predictor for heart disease was not any of the major physical risk factors, but job dissatisfaction. The second best indicator was “overall happiness”. Follow-up
studies of subordinate primates also indicated that chronically stressed animals have higher elevations of certain stress hormones that can have a negative effect on heart function. Platelet aggregation is also known to increase in persons under psychological stress, which can lead to further health complications.

Job satisfaction has also been linked to several other individual health problems:

1. Boeing Corporation in Seattle, found that low-back pain was correlated more closely with job dissatisfaction, than the type of work.

2. Workers in positions that have little control over their work load, e.g. waiters, gas station attendants, and data processors, have a higher than average risk of heart attacks.

3. Of 200 business executives studied at the Illinois Bell Telephone Company, 50% had numerous symptoms and health problems. The remaining 50% did not exhibit these symptoms or problems. All executives were subjected to relatively the same degree of stress during their working day. It was found that the healthy group of executives responded to stress differently. This group exhibited a higher degree of self-esteem and self-worth. They did not feel as out of control as the other group, and exhibited greater faith in their ability to control the situations. (Haller and Strike, 1994, p.236)

As indicated in these studies, the inability of individuals to exercise control over their role in an organization, can lead to the development of health concerns. These health concerns
may then lead to decreased efficiency, productivity, and degree of customer satisfaction. In education this would translate into diminished teaching effectiveness, and student frustration. As indicated in previously stated facts, diminished teaching effectiveness and student frustration lead to increased drop out rates, decreased levels of achievement, and an environment that perpetuates mediocrity and inefficiency.

**Education and Restructuring**

The challenge to education is one of finding a way of restructuring the reorganization in such a way that the potential for self directed activities and innovation can be tapped. To do this, many schools still encumbered by inefficient hierarchical structures, will be required to reconceptualize both the nature of the school workplace and the role of the teacher/support staff as integral and contributing members to the overall direction of the organization. Through an understanding of motivational theory, the leadership of the school can begin to reframe their understanding of the importance of not only teachers/support staff, but also business/industry, post-secondary institutions, and the broader community, in pursuing Total Quality and continuous improvement in education.

In today's political world, the path forward for education is inexorable. It must change in order to reflect the needs of its numerous stakeholders. In order to do so, it must restructure from within, providing a framework for input, and empowering individuals and groups to act. In Ontario, the R.C.O.L. reports that second only to exhortations about
competitiveness, the African proverb, ‘It takes a whole village to raise a child’ was most frequently repeated during the public hearings. Teachers, administrators, trustees, community services and others voiced their growing concern that school cannot do it alone. The R.C.O.L. response is clearly stated,

We believe it is now time to “re-invent” schools by drawing from, and enhancing, the strengths of their communities...We must rethink the partnerships required in educating our children.
(Volume IV, p.35)

Recommendation 113 from this same report recommends that the provincial government review legislative and related impediments, and that it develop a policy framework for collaboration that will support partnerships between schools and the community.

Although partnerships are essential to the restructuring process and the continued prosperity of the organization, they are only one component of the restructuring process. The entire process itself must be considered. It is important that leaders in education recognize that there is no singularly correct process or model for restructuring. Gouillart and Kelly’s (1995) discussion of the four genes within the chromosome necessary for the genetic architecture of an organization, provides insight into one framework for restructuring. This framework reflects the processes used in the restructuring of Exeter High School.

The first “gene”, or guiding principle in restructuring is concerned with organizational design. There are organizational designs that are effective, and others that simply will not
work. It is in this area that organizational leaders must exert the most influence. "Today, more than ever before, the most important function of the manager is planning and implementing change in his/her organization" (Belasco, 1990, p.i). If they are committed to T.Q., it will be evident in the flattening of the hierarchy and the sharing of decision-making power. The recent Ontario R.C.O.L. reflects a similar sharing of power, as it states, “Our recommendations are intended to stride an appropriate balance of power among the various groups and institutions in the education system” (Volume IV, p.52).

Roles will be redefined to empower individual and group action and decision-making, without direct accountability or direction from top management. Successful organizations will understand that their organizational chart/diagram will be a mere approximation of the way the system *should* work, and will be a roadmap for identifying both problem and successful processes. As indicated in the four organizational models for Exeter High School, at the conclusion of this section, the model has changed several times between 1991-92 and 1996-97. This reflects the continued evolution of a model that best represents a system that is in pursuit of continuous improvement. As such, the interactions, roles, and responsibilities are in a constant state of adjustment in order to optimize performance and goal attainment. The transition from the 1992-93 model that was very linear, with groups relating specifically to other designated groups; to the 1993-94 model which signaled the emergence of the School Growth Team as a body through which all stakeholders connected, and in 1995-96 the beginning of a model that indicates the overlapping/shared responsibilities of the School Community Council, Student
Council, School Administration and School Growth Team, continuous improvement and a commitment to involving stakeholders is evident. The 1996-97 Interactive Organizational Model, when overlaid with the model of Exeter's Culture, indicates a continued evolution of the organization that reflects an organizational culture with a shared vision, shared goals and responsibilities. In order to determine the effectiveness of this organizational restructuring, keeping in mind the motivational theories previously presented, staff satisfaction should improve as staff involvement and ownership increases. In October of 1996, statistics regarding staff turnover at Exeter High School were reviewed from 1990-91 to the 1995-96 school year (B.E.D.R. Awards of Excellence Submission, 1997, appendix K) As previously mentioned, approximately 24 staff were transferring from the school on an annual basis in the late 1980s. For the purpose of the graph below, teaching staff transfers (not related to enrollment) were utilized.

FIGURE 2: EXETER HIGH SCHOOL EMPLOYEE SATISFACTION DATA

![Teaching Staff Transfers](chart.png)
For the 1997-98 school year, zero staff again transferred from the school. Six new teaching positions were added and student enrolment continues to climb. Based on this information, and survey results from staff, parents and students (Bureau for Excellence in Durham Region Awards for Excellence Submission, 1997 and National Quality Institute Canada Awards for Excellence Submission 1996), the interactive organizational structure at Exeter High School is evidence of an effective structure that promotes communication for, and is supported by all stakeholders.

The second “gene” in creating the genetic architecture for the organization patterns is the use of teams as the basic connecting node and the driver of organizational adaption. By developing and empowering teams within the organization, the leader(s) are effectively clarifying or sharpening the organization’s vision through the stakeholders eyes, rather than their own. Seen by some as the giving away of power, it is rather, a wise investment that returns far greater dividends when shared goals and objectives are the currency. Through these teams, as evidenced through the addition and redesigning of teams in Exeter’s organizational plans, the leader is effectively testing the validity of the organizational model and the abilities, sense of direction and vision, of the people on the teams. While independence is a virtue for these teams, it is also essential they share a sense of connectiveness to both other teams in the organization, and the shared vision within the school. The role of the leader is crucial, particularly in the early stages, in creating these necessary links. The leader must forge points of connectivity through redefining roles and responsibilities, requiring communication and feedback along those
links, through recognizing achievement, and supporting failures as a necessary step in the
developmental process. As more teams begin to succeed, and as new links are made,
connectivity increases and the model begins to emerge. Leaders in today’s rapidly
changing society can no longer afford to overlook the power of the collective intelligence
of their stakeholders.

Creating global learning is the third “gene” in this process. Within the organizational
structure, there must be credence given to the importance of learning to the continued
improvement of both the individual and the organization. To enhance one, you must
enhance the other. Learning is the most strategically important activity within an
organization committed to T.Q. and continuous improvement. A knowledge management
system must be developed within the organization, to link the common needs of the
individual and organization towards continuous improvement. In education, and
particularly at Exeter H.S, this can be found in the many committees, advisory groups, and
community links that connect to the school Mission Statement. These providers of
knowledge, information and resources are then co-ordinated through the combined efforts
of the Professional Development Committee, School Growth Team, and Administration to
ensure opportunities for all stakeholders to benefit.

Embracing the corporation’s soul and its shadow is the fourth “gene”. Any organization,
no matter how efficient or effective, is not perfect. Organizations, like people, make
mistakes. It is part of the learning process. The truly successful organization will be
endowed, through this gene, with an open-mind, able to recognize its successes as well as its failures, and to learn from them. To ignore failures or 'the corporate shadow' will inevitably lead to dissatisfaction amongst the stakeholders and/or customers, and diminish the organization's commitment to continuously improve. Deming, in his 14 points, speaks of 'Driving Out Fear' as one of the necessities in any quality organization. Each individual must feel encouraged and supported by the leader(s) to be innovative, to take risks, and to challenge the status quo. It is only through challenging and stretching the corporate envelope and processes that strengths and weaknesses can be found. A common saying from the current Principal at Exeter H.S. is, "There is no problem that we cannot fix". Staff find they are constantly challenged to find ways of improving their systems and processes. Through finding "problems", they open new windows of opportunity and support continuous improvement. This can only be done through on an organizational structure that is supportive and willing to change.

“All of the school-based pressures for the restructuring of education lead back to concerns with the prevailing model of governance, organization, program delivery, and management of schools” (Murphy, 1991, p.10).

We are experiencing an era where our increasingly demanding work environment and world economy is driving the need for vast improvements in the way that we teach and learn. The success of our communities and schools in managing this change will determine our ability, and the ability of our students, to compete in this changing and demanding marketplace. Unfortunately, according to Siegel and Byrne (1994, p.x), \textit{“school systems}
remain slow to change - slow to react to the demands of an increasingly technical and competitive world.” The R.C.O.L. echoes Siegel and Byrne as it states,

The implementation of collaborative delivery models has, however, been a long time in coming. There are obvious reasons for this. Some relate to the different mandates, policies, and organizational models....others relate to the natural tendency of institutions to build walls around themselves and to jealously guard their own areas of responsibility (Volume IV, p.39).

Education, through its continued resistance to organizational change, has become shackled to the chains of conditioning and inertia, as the world economies and businesses have changed around it. To maintain a course of professional arrogance, ignoring the collective intelligence of our many stakeholders, is a prescription for organizational deterioration in education, as it was in business.

As educators, we are confronted with the challenge of designing and overseeing a system that maximizes opportunities for all students and stakeholders to succeed. It is not just one company’s future that is at stake, but the future of our emerging economy, through the ability of our students to compete on a global scale. The organization through which these students learn can be equated with a family. If the family is stable, supportive and collectively works for the benefit of everyone in the family, the opportunity for individual and collective success is greater than in a dysfunctional family that is constantly fighting amongst itself. The school system must have the organizational capacity to meet higher standards, collect, analyze and use data to improve student and system performance, and track progress over time in order to map goal attainment and progress. In short, all
processes must be aligned to support learning.

In the face of government cutbacks to education, the challenge of restructuring may seem daunting but it makes even more sense under the current conditions. The hierarchical system of governance has lead to many of the problems that education now faces. Duplication of spending by departments, wasted and expensive bureaucratic time in decision-making and inefficient processes that diminish student learning are only a few of the inefficiencies bred through the disjointed hierarchical models found in education. The scarcity of public funding for education is now driving education to maximize its efficiency and seek customer and stakeholder input into the managing its organizations. In the conclusion to Volume IV of the R.C.O.L. report, the authors state, “Only by developing the capacity for communities to re-invent their relations with schools can student learning be supported and ultimately sustained” (p.49). Education can no longer meet the growing challenges of our society from within. To attempt to do so is to risk mediocrity. Tolerating a lack of productivity in school systems equates with tolerating student underachievement. This is not acceptable by any of the stakeholders of education.

Restructuring through a commitment to T.Q. represents a comprehensive, systemic approach to making improvements. The organization’s ability to define, analyze, and redesign the school’s system is essential for sustaining restructuring efforts targeted at student and organizational performance. Work in education is too often defined in the context of one’s job (be it teacher, principal, or custodian), or one’s professional field
(special education, guidance), rather than being connected by a process to the work of others. "We tend to teach subjects and not learners. We splinter our curriculum and content and thus miss both the coverage of vital areas as well as the synergies among topics and areas" (Kaufman and Zahn, 1993, p.26).

The organizational model, whatever its design for each specific school, must provide a framework which supports, enhances and funnels these processes towards a collective purpose for the organization. The school culture must be altered to support people working together for the benefit of all stakeholders. The "Exeter's Culture" diagram is one example of how a school has attempted to create such a culture of shared responsibility.

Whatever model is selected for the school, the leaders must avoid the tendency to favor either professionalization or community empowerment, one at the expense of the other. When the model favors professionalization, it tends to delimit the participation of parents, citizens, and students. If the model favors community empowerment, it tends to undermine teacher professionalization. There is a critical need to ensure a balanced, comprehensive system of governance that simultaneously increases professionalization and community empowerment. The basic structure must entail an integrated, compound structure that allows for direct and meaningful participation in decision-making processes, while providing for shared authority across all levels of the structure and inclusive of all stakeholders. The philosophical, practical, and moral framework of this model must be directed towards providing the best possible education for our customers.
This model, co-developed by staff, administration and community advisors represents Exeter’s first attempt at a non-hierarchical organizational model.

SCHOOL IMPROVEMENT TEAM
Organizational Structure

The following structure operates within the parameters established with the administration and based upon the school plan and committee mandates.
This model reflects the growing importance of the community and feeder schools within the organizational framework of the school. Both are recognized in the Exeter model. The Transition Years Committee, identified as a separate entity in 1992-93 has now moved to subcommittee status. This change in status coincides with the establishment of the Specialization Years Committee, and a more comprehensive approach to the restructuring of Exeter's programs. The Composite Conversion Committee has been removed in name, but remains a mandate of the School Growth Team. The School Growth Team has become the central reporting and co-ordinating body, making communication and co-ordination more effective and efficient.
FIGURE 5:  EXETER HIGH SCHOOL ORGANIZATIONAL STRUCTURE  
1995-96

The 1995-96 model reflects Exeter's recognition of the interrelated and overlapping functions and responsibilities of the School Community Council, School Administration, Student Council and the School Growth Team (S.G.T). Although the School Growth Team maintains its stature as the central reporting and co-ordinating body, there is representation from the three other elements within the S.G.T, and all four elements are involved with major decisions of the organization.
As Exeter's culture and organization continued to evolve, it became evident that major decisions were guided by the school's Mission Statement. This model reflects the importance of that Mission Statement within the organizational framework of the school. The Department Heads have also been added to the central sphere of the organization. The interaction of the five central elements, guided by the Mission Statement, and the input from the other indicated areas, provides an interactive and inclusive model for all customers and stakeholders. Figure 6 will indicate the School Growth Team's continued role as the central reporting and co-ordinating body.

Exeter High School
Interactive Organizational Model
This model is intended to represent Exeter’s culture as one that is bound together through relationships, the mission statement, conversation, a shared community culture, and opportunities for growth. Continuous improvement cycles and quality principles are also represented as essential elements of this continually evolving culture.
CHAPTER FIVE: CUSTOMERS AND STAKEHOLDERS OF EDUCATION

Introduction

Through a review of literature and text, and the ongoing work and submissions of Exeter High School, this chapter will identify the customers and stakeholders of education, and identify opportunities for their involvement in the restructuring of an educational organization towards quality and continuous improvement. The discussion will initially focus on the definition of education as either a production based or a service delivery organization, then identify products and customers. The work of Juran (1992), Siegel and Byrne (1994), and Exeter High School (B.E.D.R. and N.Q.I. submissions) will then be reviewed to identify the internal and external customers of education, and stakeholders of education. Exeter High School’s partnership approach to education will conclude this chapter, providing a model for community involvement in education.

Production Process vs. Service Provider

Although many educators have argued against the use of the term “customer” to describe the student, it is essential that we look beyond the term itself, to examine the roles and relationships that exist within a school, and between a school and its broader community. The term “customer” will be seen to include more than just students. These roles and relationships also assist us in delineating between the product of education and the
customers and stakeholders of education.

When considering the product of education, the student can often be mistakenly viewed as the product of the educational process. This product is supplied to business/industry or post-secondary institutions for their purposes. Terms such as ‘the supply of graduates’, appear to make education into a production oriented profession. This does not however, fit well with the production model, where the producer needs to specify and control the source of supply, and where the raw product must meet stringent standards and specifications prior to acceptance. This does not fit within the educational context, where schools are required to accept all students, regardless of their abilities, aptitudes or willingness to learn or attend. Provincial standards have consistently failed to bring all students up to a specific level. Educators are increasingly aware of the fact that human-beings are notoriously non-standard, and to consider the student as a product misses the complexities of both human dynamics and the learning process.

If education is not a production process, then one must consider its role as a service provider. If education is providing a service, then what is that service and who is the service provided for? Asking this question of a staff will further assist the school in defining its services and customers. It is important to remember that services differ from production in a number of ways. There are major differences between delivering a service and producing a product. Services generally involve direct contact between the provider and the customers. Services are also delivered directly to people by people. The
interaction between the provider and customer can be variable in nature, and the quality of the service measured only within a margin of acceptable bounds. Services are 'people-based' processes where people both drive and determine quality. The recognition of education as a service certainly falls in line with the philosophy of T.Q., where people are at the centre of all decisions and actions.

**Definition of Customer**

Joseph Juran (1992) often refers to customers as 'those who are impacted if the goals are attained and those who are impacted if the goals are not attained' (pg. 10). Utilizing this description, one must then go about determining who is impacted by the services provided by education, both internal to the organization and external to the organization, in order to identify the customers of education. Identifying and satisfying one's customer is critical to the successful functioning and continued prosperity of the organization.

The organization is viewed in most literature as the collective group of individuals who are on the payroll of that organization. When viewing the internal organization to identify customers, it becomes evident that each person in the organization, particularly if it is committed to T.Q., provides an output that impacts on someone else in the organization. Everyone has a customer(s), and is thus a supplier, and everyone is a customer. It is the web of supplier-customer contracts that binds the organization together, contracts built upon shared visions and goals. The identification of internal customers is relatively simple
in both education and production-based business.

The term of customer can often be used loosely within the organization and caution should be taken to identify the complete set of customers, both individuals and groups, in order to clearly define processes. In a school setting, teachers may be customers for secretaries who prepare schedules; science teachers may be customers for teaching aids/resources provided by mathematics or technology; principals may be customers for services provided by the network technician etc. Everyone working in a school relies upon the internal services of others. Conversely, everyone in a school is a supplier of services for someone else. It is the identification of the many supplier-customer contracts, that assists the school in streamlining its organizational performance and in the pursuit of customer satisfaction. In the previous section dealing with organizational structure, the models of choice for successful organizations had identified their internal customers, and had worked to satisfy those customer needs. This was accomplished through a variety of means including staff involvement in the decision-making process, staff in-service opportunities, and other opportunities that met the needs of the internal customer. This in turn had a positive impact on the organization. Federal Express in an example of an organization that has adopted an explicit strategy stating that the best way to satisfy its external customers is first to address the needs of its internal customers (Siegel and Byrne, 1994). Exeter High School also demonstrated an early commitment to its internal customers, as evidenced in the "Milestones" excerpt in the previous section. Internal customers were central to all major decisions regarding the direction of the school and as indicated in the
fall of 1992, extensive opportunities for professional development were provided. This focus on satisfying the needs of internal customers, as a mean of ensuring external customer satisfaction continues to be a focus for Exeter High School.

When identifying the external customers of education, we are faced with a much more complex task than production-based business, where customers can often be identified as a source of revenue or some other form of tangible return. Education has far more multiple personalities to contend with. In education, the same individual or institutions can be both suppliers and customers. Identifying and separating these roles is a crucial step in creating an organizational structure that optimizes processes. Utilizing Juran’s description of a customer, Exeter High School, in its submission to both the B.E.D.R. and N.Q.I. Awards for Excellence, defined its customers as: “anyone who has a vested interest in the education system including those who fall into one or all of the following categories:

a) Primary Interest: Students, parents/guardians, citizens of the community and anyone having a direct interest in the state of public education.

b) Secondary Interest: Business/industry, post-secondary institutions, learning and training institutions, professional associations, union, service clubs and anyone whose function relies upon the product of public education.

c) Tertiary Interest: Governments at all levels, public service organizations and any organization or individual who has a pecuniary interest in public education” (Awards for Excellence in Durham Region, 1997, p.9).
Stakeholders of Education

Differences between customers and stakeholders can be further delineated by identifying students as the primary recipient of education’s services, thus making students the direct external customers of education. Sallis (1993, p.32) refers to students as the “Primary External Customer or Client”. He further lists: parents/employers as secondary customers and labour market/government/society as tertiary customers. Sallis’s secondary and tertiary customers are impacted in a less direct way than students by education’s services. This impact occurs most often through the success/failure of the students, thus, for the purpose of this thesis, making them stakeholders in education.

“Much educational expertise reflects the agendas of scholars rather than the interests of the customers” (Barlosky, 1994, p.55).

Regardless of whether the term customer or stakeholder is used to describe the relationships internal and external to the organization, school leaders and others with a stake in public education must recognize that the bottom line is the active involvement of all key stakeholders in the interactive organizational culture. “They must become...more responsive and more aware of their customers’ needs” (Bennis and Mische, 1995, p.i).
A Partnership Approach to Meeting Customer and Stakeholder Needs

As indicated in Exeter High School’s Interactive Organizational Model, the school has extensive partnerships with its community. In 1996, Exeter was awarded the Director’s Gold Award for Community Partnerships, for its outstanding partnership efforts. The “Community Links” initiative at the school was established to:

- to enhance the quality of teaching and learning environment through co-operative utilization of community resources
- to foster the acquisition of employability skills and school achievement
- to reinforce life long learning principles for community members and students
- to explore means to share resources and mutually beneficial programs for all aspects of school and community development and growth
- to share partnership experiences with other schools and businesses and community institutions (Partners in Learning Program, Exeter High School, 1997, p.1).

The partnership programs were developed in four areas: business, industry and unions, service clubs, human support services and learning and training institutions. Since the inception of the Technological Education Advisory Committee in 1992, the interaction between Exeter and its community has continued to grow. Some examples of community involvement include participation on advisory committees and in-school committees, reciprocal job shadow opportunities for staff, guest speakers, joint project development and implementation, joint staff development, vocational assessment, counseling, and pre-employment preparation.
Parental involvement and feedback is also crucial to the development of an interactive organizational culture at the school. In addition to the standard parent-teacher night, which reflects isolated concerns rather than organizational direction setting, the school must invite and encourage meaningful participation from parents. Exeter High School’s School Community Council has grown from approximately 3 parents during the Harwood years, to 15-20 parents in 1996-97. This council is directly involved with reviewing and renewing the School Plan, making recommendations on major issues, and is a partner with the School Growth Team in approving and ratifying all major issues at the school. Parents also sit on 80% of the in-school committees, and participate in annual budget meetings where decisions are made regarding allocation of funding throughout the school. Twice annually, all parents have the opportunity to complete a formal survey regarding key school issues such as: safety and security, subject programming, learning environment, staff and administration’s handling of students, facility maintenance, quality demanded of students, communication with home, and their opportunity for involvement with the school.

The notion that students, let alone parents, can make a valuable contribution to educational restructuring and school direction may threaten the sense of professionalism of some teachers and administrators. Educators however, must begin to recognize that although they are key players, they are not the only players. The primary focus of any educational institution should be the needs and views of its students. This does not mean the exclusion of other stakeholder groups, but the students are the reason why the
institutions exist. These customers have a vested interest in education. Their future is dependent upon the quality of the service, and its ability to meet changing needs. It is often difficult to ensure that students' views are at the forefront. Funding and the mechanics of education can often get in the way. It is important that any T.Q. organization maintain a focus on the needs and views of its students, in spite of, and in light of, these impediments. Although resolution of the differences may not be readily possible, acknowledgment of the needs and the involvement of students in seeking solutions will assist in the continued development of a collaborative culture. Students can play a very active and valuable role in a school committed to T.Q. In addition to the traditional Student Parliament and Athletic Associations, students can also play significant roles as members of in-school committees such as Health and Safety or the School Growth Team. Students have also become valuable members of Advisory Committees, and curriculum development teams at Exeter, providing valuable insights from student perspectives regarding key issues. Programs such as Junior Rotary or other Service Club functions can support the development of a culture committed to community service. There are many opportunities for students to contribute to the their school and in so doing, become an integral part of the fabric of the school.

The recent Ontario Provincial Government’s Royal Commission on Learning, “For The Love of Learning”, identifies Community Education as one of the four engines driving the restructuring of education in Ontario. The authors of the report appear to be cognizant of some of the problems facing education’s inclusion of external customers into the decision-
making processes.

No group wants to lose power. Those who have more, at whatever levels of the hierarchy, may resist efforts to decrease their spheres of influence, or to democratize organizational decision-making processes. (R.C.O.L. Volume IV, p.48)

In order to meet the challenges ahead, education and educators must change.

Educators...like others in contemporary society, are aware that times have changed and that the education system must become more responsive to parent and community concerns. (R.C.O.L., Volume IV, p.48)

The key to responding to those challenges ahead, is the ability and willingness of the school leader(s) to initiate, encourage and support change that is inclusive of all customers and stakeholders.
CHAPTER SIX: LEADERSHIP STYLES FOR QUALITY EDUCATION

Introduction

Through a review of the available literature, and the work and submissions of Exeter High School, this chapter will discuss effective leadership styles and qualities for a non-hierarchical framework. Beginning with a discussion of the importance of leadership in the restructuring and change process, this chapter will then proceed into a discussion of Transformational Leadership, the Effective Schools Movement, and their relationship to Total Quality leadership. The relationship of the leadership styles and qualities expounded by both will be linked back to Deming’s 14 Points. The discussion will then focus on Deming’s ‘Profound Knowledge’ as an essential component for Total Quality leadership and the effective implementation of Deming’s 14 Points. A discussion of Deming’s 14 Points as a framework for the leader throughout the restructuring process, will highlight available educational literature, and Exeter High School resources and experiences, in Total Quality leadership. The chapter will conclude with a discussion of leadership as the key element in an organization’s restructuring and change process.

Importance of Leadership in Restructuring and Change

Leading a school through any major change can be a perilous and trying task. To bring about a change in an organizational structure that has been largely unchanged since the
inception of formal education in North America, requires exceptional leadership qualities and personal conviction and commitment.

As leaders in education struggle to lead their organizations to become higher performing, quality organizations, it is becoming increasingly evident that a new leadership paradigm must be adopted in order to successfully develop and sustain a motivated and committed workforce. (Horine & Bass, 1993. p.1)

As schools move from fixed standards to continuous improvement; from individual process systems to team process systems, and; from control and command to commitment and teamwork, the ability and willingness of the leader to share power and involve others in key decisions and direction-setting will be crucial to the organization’s success.

At the heart of any quality organization is the right of each individual to self-determination, and the opportunity to be an active participant in the direction of that organization. Participation is a way in which collective choice becomes linked to individual choice, and organizational decisions become linked to individual decisions. Through listening to individuals, respecting their thoughts and providing opportunities for input, quality organizations can significantly impact on individual health, organizational effectiveness, and community well-being.

Transformational Leadership and Total Quality Leadership

Transformational leadership is one style of leadership which recognizes the value of the individual to the organization, and that has been found to yield levels of work performance
that are beyond normal expectations (Bennis and Nanus, 1985). Horine and Bass (1993), argue that transformational leadership is demanded by today’s restructuring organizations, especially those inspired by the goal of Total Quality Management. Through facilitating the redefinition of the individual/organization’s mission and vision, transformational leaders design to bring about a renewal of their commitment and the restructuring of their systems for goal accomplishment. In three studies conducted by Leithwood (1992), it was found that transformational leaders are more or less in continuous pursuit of three fundamental goals:

1) helping staff members to develop and maintain a collaborative, professional school culture;
2) fostering teacher development;
3) helping them solve problems together more effectively.

Leithwood and Steinbach (1993) agree that transformational leadership does foster many of the changes required to support a total quality organization; however, change and circumstances are not always predictable. The authors argue that:

1. In order for school leaders to be most productive, they need to think expertly about their own school contexts and the consequences for the practices which they choose;
2. Total quality leadership combines such expert thinking with the capacities to act transformationally, when such actions are warranted;
3. School leaders may be highly expert thinkers and yet not act as transformationally
as do their less expert colleagues, in some circumstances; furthermore, high levels of transformational practice are not uncontestable indicators of highly expert thinking.

Podsakoff et al. (1990), reported that through their comprehensive research, all conceptions of transformational leadership can be encompassed within identifiable dimensions of leadership practice. These dimensions served as departure points for Leithwood’s study. The dimensions are:

- **Identifying and Articulating a Vision:** The leader identifies new opportunities for his/her school and inspires others with their vision. When this vision is value-laden, they will lead to unconditional commitment and will also provide compelling purposes for continual professional growth.

- **Fostering the Acceptance of Group Goals:** The leader works towards promoting cooperation among the staff and assists them to work together toward their common goals.

- **Providing Individual Support:** The leader indicates his/her respect for the needs of individuals, to assist them to achieve the common goals.

- **Intellectual Stimulation:** The leader challenges the staff to reexamine some of the assumptions about their work and to rethink how it can be performed.

- **Providing the Appropriate Model:** The leader sets an example for the staff to follow which is consistent with the values that he/she espouses.
• High Performance Expectations: The leader models behavior that establishes the need for high expectations. This modeling may also sharpen the teachers' perceptions of the gap between what the school aspires to and what is presently being accomplished.

Data from the Leithwood/Steinbach study (1993), carried out in nine secondary school in Ontario, were used to demonstrate the meaning and plausibility of each of the elements of their argument.

Prior evidence from school leaders suggested that, as compared with non-experts, experts:

• develop a relatively clearer understanding of the problem before attempting to solve it;

• devote more time and effort to the initial formulation of ill-structured problems;

• are more inclined to view the immediate problem in its relationship to the broader mission and problems of the organization, adopt a broader range of goals for problem solving which considers all stakeholders;

• set goals that involve implications for students and program quality;

• more adequately anticipate may of the constraints likely to arise during problem solving;

• show a greater tendency to plan, in advance, for how to address anticipated constraints;

• respond more adaptively and flexibly to constraints which arise unexpectedly;

• do not view constraints as major impediments to problem solving;
• develop a deliberate solution plan;
• identify detailed steps to be taken;
• consult with relevant individuals or groups;
• monitor the progress of the solution and plan for follow-up;
• are more aware of their values;
• use their values more regularly in solving ill-structured problems;
• use values as substitutes for knowledge in solving ill-structured problems;
• are better able to control intense moods and remain calm during problem solving;
• are more self-confident about their ability to solve ill-structured problems; and,
• are more likely to be reflective about their behavior, thoughts, and moods.

The results of the study indicated the source of transformational leadership was most frequently identified as the principal, administrative team, and department heads acting as a group. Results further indicated that transformational leadership is not sufficient for total quality leadership, because it does not provide sufficient emphasis on the mind of the leader. Expert thinking did prove to be crucial for total quality leadership. It not only provided the cognitive flexibility required of leaders, but it also appeared to create a propensity to act transformationally. Although crucial for total quality leadership, the authors further stated that expert thinking was not, in itself, sufficient for total quality leadership.
Effective School Movement and Total Quality Leadership

The Effective School Movement also provides some insights into effective leadership styles. In a study of twelve highly effective school leaders (Little, 1982), it was reported that effective schools all shared a norm of continuous improvement and a norm of collegiality. The study also reported the key to the collaborative culture was the more equitable distribution of power for decision-making among members of the school. In each case, the willingness of the school leaders to share, and the teachers’ willingness to accept the power proved to be the key to collaboration. With this power came responsibility for decisions and actions. This has the potential for making the teachers’ role in the school more meaningful and more complex. In this study, the most obvious way that school leaders went about sharing power and responsibility was through the establishment of school improvement teams. In some cases, but not in all, the leaders were a part of this team. It was reported that these teams became an important link between teachers and administrators. The School Growth Team from the Exeter High School model, discussed in a previous section, serves as an example of such an improvement team. It is also reported in the study that the most direct contributor to the development of strengthened relationships is for staff to be involved in collaborative decision-making, and the likelihood of staff participation in decision-making is a function of the support from colleagues and opportunities for collaboration provided through adjustments to the organization (e.g. time to meet, suitably structured groups).
Within the educational context, such reorganization also requires a fundamental change in the culture of the organization. The onus for this change rests largely with the leader(s), at least in the early stages of the process. According to the Ernst and Young Quality Improvement Consulting Group (1990, p.24), the leaders of such a change must:

- make decisions consistent with the stated philosophy of the organization
- communicate with data and use some basic problem-solving tools
- develop a vision, strategy and plans with active participation of those who must execute the plans
- be involved in the activities of outside quality-related organization
- make direct contact with the customers
- evaluate subordinates not based on results or outcomes of the system, but on their degree of involvement in and use of the quality improvement process
- develop a management style that fosters openness and co-operation and that encourages people to identify problems rather than to bury them
- display a constancy of purpose
- interact directly with those involved with improvement initiatives
- audit the improvement process and its results
- demand that key measures of quality are developed and given attention equal to the financial measures at all levels

Whereas transformational leadership and the effective school movement touch on aspects of Total Quality Leadership, they are not sufficient, in themselves, for an organization committed to a total quality approach to education. The qualities and traits put forward
by Ernst and Young approach what this author considers to be a blending of the best traits of both transformational and effective school models, with a considered infusion of principles put forward by Deming.

It is the considered opinion of this author, based on research into both transformational leadership and leadership for effective schools, that both are organized according to principles consistent with those put forward by Deming. Deming, in his early work with the Japanese, and in his later works throughout North America and the world, has stated that he believes the new management philosophy (circa 1950) must have two foci:

- the achievement of quality (which Deming defines as meeting or exceeding the needs of the customer) and,

- the acceptance and pursuit of continuous improvement as the only useful standard or goal.

Profound Knowledge and Total Quality Leadership

This new philosophy is based on the acquisition and application of what Deming calls Profound Knowledge. In order to provide leadership for total quality in any context, the people in leadership must be able to understand and apply these four concepts of Profound Knowledge:

- **Systematic Thinking**: This is the interdependence of functions and their
subprocesses and of the organization with its people. The organization must be viewed as an orchestra, where all individuals and groups work together towards a harmonious blend.

- **Theory of Variation:** This is the understanding of the difference between *common* and *special* causes. Through charting processes, the leader can establish control measures that set parameters for the process, and identify *common* causes of variation within the process. *Special* causes are those factors that are not normally identifiable causes of variation within a process. An understanding of variation enables educational leaders to work toward quality within the framework of individual differences.

- **Theory of Knowledge:** Only through a theory of knowledge can a leader understand the past and predict the future. A major component of total quality management is prediction.

- **Knowledge of Psychology:** The new philosophy is based on the understanding of people and their differences, and a commitment to applying systematic thinking to the people system. Through this approach, individuals can be challenged to reach their own potential. Deming believes that people are born with intrinsic motivation, a need to be esteemed by others, and a natural need to learn and be innovative. The leader must recognize both these intrinsic traits and the fact that each individual learns in different ways and at different rates.
When compared to Leithwood’s “expert thinking”, it is evident that Profound Knowledge encompasses much of what Leithwood’s study found to be essential qualities for leaders of a total quality organization.

If leaders are capable of embracing and actualizing the principles and philosophies of Profound Knowledge, they are then capable, according to Deming, of effectively leading an organization committed to total quality. Profound Knowledge in itself, is not however sufficient to bring about the transformation of the organization.

Deming’s 14 Points as a Framework for Total Quality Leadership

Deming proposes 14 points, which provide a framework for the leader throughout the restructuring and renewal process, and which are central to the development and continued commitment to total quality within any organization. Although created with business/industry in mind, these points can be relevant to education. Through the framework provided by Deming’s 14 Points, supported by related literature and experience, I will provide insight into these points as they apply to education and educational leadership for Total Quality.

1. **Constancy of Purpose**: The leader must work with all stakeholders in the school/educational community to identify and articulate the purpose of the school. In a general and simplistic sense, the purpose may be seen as educating students. In today’s
complex and challenging society however, this generalization will not provide sufficient
definition for clear direction setting and a constancy of purpose. The stakeholders must
consider the knowledge, skills, and attitudes required not only for today’s society, but also
project into the future so that education will address the needs of the stakeholders after
graduation. Those involved must spend time on both short-term and long-term planning.
This process will involve visioning and the development of a mission statement for the
school. Through clearly identifying and articulating the purpose of the school, the leader
and other stakeholders create a clearly marked direction for the organization, which will
guide future decision-making.

Once the purpose of the organization has been defined it is essential that school leaders
model behavior consistent with these purposes. Vail (1984) believes that leadership by
purpose is essential to creating an organizational commitment to constancy of purpose.
Leadership by purpose refers to the continuous stream of actions by the organization’s
formal leadership, which has the effect of inducing clarity, consensus and commitment
regarding the organization’s basic purposes. Protzman, an engineer in post-war Japan,
and a proponent of Deming’s work, also emphasizes the leader’s role in,

    securing the faith and respect of those under him by being an
example of high purpose, courage, honor and independence. (Bass,
1985, p.39)

Appendix A provides a sample of the Strategic Plan (1997-98) for Exeter High School.
This plan, which was developed through a review and renewal process of both the
Durham Board of Education Strategic Plan and Exeter High School’s Strategic Plan for 1996-97, provides a clear framework for the current and future directions of the organization. This Strategic Plan also represents the beginning of a Five Year Plan currently being developed by the school community.

The tendency of education to change administrators on a reasonably frequent basis and the transient nature of some instructional staff, highlights the need for this visioning and defining of the organization’s purpose to be a school community function, which involves the more stable members of the educational community. If the purpose is held to be that of the broader school community (administrators, staff, students, community, local business/industry and post-secondary institutions), the changes that occur within the staffing of the organization on any given year should not impact significantly on the purpose of the organization.

This purpose must also be supported by policies that will further ensure clear direction, drive behavior and decision-making, and support constancy of purpose.

2. **Adopt a New Philosophy:** Education, like business/industry, is facing an era of increased accountability. Customers are no longer satisfied with marginal quality. In a competitive marketplace, the organization that can best meet the needs of the customer will survive. In this new era of educational competitiveness, with open boundaries for many secondary schools, private and separate schools competing with public schools for
students and funding, alternative education programs and distance learning, the leaders of
schools must begin to address the need for a new philosophy in order to survive. It is no
longer sufficient that a school’s programs meet Ministry of Education and Training
requirements. If they do not meet the needs of the customers, using students and
business/industry partners as examples, they will leave. Students may move to another
school that seeks innovative ways of relating Ministry requirements to future career or
post-secondary opportunities for them. Business/industry partners may withdraw their
support and channel their efforts and contributions into another school that is willing to
provide that meaningful link between school and the world of work. The school that
prospers in this new era, will be the school that can produce and maintain a quality
educational program. Quality will be defined by the school’s stakeholders.

3. *Cease Mass Inspection:* Deming believes that an organization must cease
dependence on supervision in order to achieve quality. This mass inspection process
predicates an acceptance of a margin of acceptable error. A quality oriented organization
builds quality into the process from the very beginning, rather than settling for mass
inspection. Through this process, ownership is given to the individual for his/her
performance. In education, there are many implications for this approach. Some school
leaders are forced to spend an enormous amount of time documenting ineffective teachers,
at the expense of new teachers entering the school system. The result is often a lack of
support for these individuals and the development of a situation that can lead to less
effective performance. Rosenholtz (1989) found the strongest predictor of shared goals is
teacher socialization. With new teachers, the extent of the newcomer’s mediated entry into the school, the degree that principals and colleagues orient newcomers and communicate what is expected of them, how their purposes fit with those held by others, had a direct impact on their understanding and commitment to the shared goals of the organization.

Sergiovanni (1993, p.217) argues that:

Teachers and students are driven less by bureaucratic rules, management protocols...and images of rational reality than by norms, group mores, patterns of beliefs, values...and socially constructed reality.

Leaders must begin to dedicate more time to working with new teachers in order to build in a commitment to quality from the very beginning and continue to provide a focus on quality as an intrinsic motivator for all staff. If leaders create a workplace committed to TQ, then staff and students will improve and will want to improve. They will conduct their own quality control.

4. *End Price Tag Business:* Awarding business on the basis of the price tag alone does not guarantee quality. Every part of a system, of a process, affects other parts. Overemphasis on cost savings can jeopardize efforts to ensure quality. Warrantees, service commitment, in-service training for teachers, presentations for students/staff and follow-up are all essential components of any business transaction. All schools should be actively involved, through their board of education, in identifying suppliers that are committed to supporting quality education. It is also important to work with the suppliers
that have not met a school's requirements, in order that they might better understand the school's needs and work to both improve its service and strengthen its commitment to quality in education. Both educators and suppliers can benefit through this partnership approach.

5. *Improve Constantly:* The world around us is constantly changing. Technology is advancing at a lightning pace. New products are entering the marketplace daily. New skills are required of graduates as new and expanding careers emerge. Educational leaders must recognize this constant process of change which brings with it improved products and services and new challenges to the educational system. As leaders in a school, they must not only model this commitment to constant improvement, but also provide the support and encouragement for others to seek new opportunities and explore new ways of making learning more enjoyable and meaningful. This pursuit of continuous improvement requires that all stakeholders work together through the visioning process discussed earlier, to predict and plan for the changes that will shape the future.

Leaders must support and encourage risk-taking and innovation by staff and other stakeholders. They must constantly model and support searching, through innovation, for the needs and expectations that future clients will have. Schools must continually innovate so that the best educational processes and experiences will be developed.
6.  *Institute Training Retraining*: As any school begins the process of restructuring or renewal, it is imperative that school leaders maintain a focus on the needs of the people within the organization. During the restructuring of Exeter High School, the most pressing concern for staff was the need to understand how they would fit into the new framework. Through the provision of in-service opportunities, staff were provided with the professional growth opportunities and support necessary to position them well within the restructured environment. These in-service opportunities were provided by other staff members, board level personnel, suppliers and local business/industry.

A common complaint within the educational community is the lack of time after school for in-service. With school (teams, clubs, marking, preparation) and home commitments, it is not feasible for many teachers to take advantage of lengthy after school sessions. To release a teacher for lengthy in-service during the school day is also limiting due to the need for supply teachers and the related costs. Leaders must seek new ways of making in-service practical, affordable, and meaningful. At Exeter High School, staff and administration agreed to the following in-service innovations:

- Monthly workshops, 35 minutes in length, offered within each period of the day, thus enabling all teachers to attend during their preparation period (75 minutes). If in-school staff were leading the workshop, on-call supervision would be provided by other staff.
- All in-school P.D. Day activities were designed around in-service needs relating to the school's change process.
• Departments could arrange for off-site in-service for one or two staff members, with the commitment to provide on-call coverage from within their own department.

• The continuation of after school in-service, with a time limit of 3:30 to 4:30, thus enabling more teachers to attend.

Leaders must continue to validate the importance of the individuals to the organization and provide them with the necessary knowledge, skill, and attitudes to be contributing members of the organization.

7. **Institute Leadership:** In addition to the need for quality leadership for an organization committed to total quality, there is a very strong need for the development of leadership throughout the organization. Effective Schools literature refers to this as a more equitable distribution of power. Sergiovanni (1993) refers to this as “power investment”. Regardless of the term, it is essential that education reexamines its existing power relationships.

Sarson (1990) claims the failure of education to successfully implement changes or reforms rests in large measure on the existing power relationships in schools. The relationships referred to are among teachers and administrators, parents and school staff, and students and teachers. Restructuring of schools, according to Sarson, is analogous to the ground shift in large business/industry more than a decade ago, where there was a
shift from Type A to Type Z organizations (Ouchi, 1981). Type A organizations had centralized control that maintained a difference in status between managers and workers. Their top-down decision making culture is indicative of what Sarson sees as the existing culture in schools.

Type Z organizations rely on strong cultures to influence employees directions and reduce differences in status of members. There is an emphasis on participative decision making, and a form of power manifested through people rather than over people. This approach to leadership is consistent with Sergiovanni’s concept of “power investment” and Deming’s concept of leadership within a total quality organization. According to Sergiovanni (1993), highly successful leaders practice the principle of power investment, where they distribute power among others in an effort to get more power in return. In education, teachers need to be empowered by their leaders to act, and to have the necessary responsibility that releases their potential and makes their actions and decisions count.

Stanley Spanbauer, the President of Fox Valley Technical College, who has taken a lead in introducing total quality into vocational education in the USA, argues that,

... in a quality based approach, school leadership relies on the empowerment of teachers and others involved in the teaching/learning process. Teachers share in decision-making and assume greater responsibilities. They are given more power to act and greater autonomy in almost everything they do. (Spanbauer, 1992, p.15)

Spanbauer visualizes a leadership style where leaders not only walk and talk quality, but also understand that, “change happens by degree, not decree” (1992, p.16).

Furthermore, it is not sufficient for an organization committed to total quality to
implement these practices on a minor scale. The entire organization must be considered, and the review and renewal of all power structures considered. Sergiovanni (1993) believes that highly successful organizations are committed to the concept of "leadership density", which refers to the extent to which leadership roles are shared and the extent to which leadership is broadly exercised throughout the organization. Education, like business/industry, must grasp the concept that all are one team, and that collectively, they must face the challenges ahead. To continue on in the Type A format, will render to education the same fate that befell many businesses/industries during their time of restructuring and renewal.

8. *Drive Out Fear*: Security is the basis on which staff motivation depends. Deming believes that people genuinely want to do a good job providing they work in an environment which supports and encourages them. In the educational setting, fear of failure is a serious impediment to continuous improvement.

Continuous improvement can only occur in an environment where employees can express problems and without fear of reprisal. (Bennis and Mishe, 1995, p.167)

Leaders within the school must drive out fear of failure through encouraging and supporting staff and students to be innovative risk-takers, and to feel secure in doing so. Leaders within the school must also be willing to model this behavior themselves. At Exeter High School, staff are encouraged to search for new and innovative means through which learning can become both more relevant and enjoyable. Leadership at the school will entertain any recommendations from staff, students or community stakeholders.
regarding issues that will support the Strategic Plan. One example was the restructuring of Exeter’s Grade 9 Program into integrated areas of study for 1995-96. During the 1992-93 school year, the school administration had entertained a recommendation by a variety of stakeholders regarding the integration of the Grade Nine Program into four areas of study. Staff, students, and community stakeholders were provided with the support and resources to develop proposals which were presented to the school community later that school year. School leaders modeled risk-taking by not only encouraging the development of this innovative program, but by also allowing the stakeholders to decide on the new timetabling format that would best serve this program and the school. Although there were minor set-backs throughout the developmental process, the leadership continued their support and expressed their view that set-backs are often opportunities to find better ways. The climate that has resulted from this initiative is one of mutual trust and respect, where fear has been driven out. Staff feel very comfortable in approaching school leaders with innovative proposals and recognize the support that is available to them throughout the process.

9. Break Down Barriers Between Departments: Physical and organizational barriers are, as the term states, barriers to organizational quality. Ontario schools have historically been organized in such a manner that both horizontal and vertical barriers to quality exist. Structurally, most secondary schools have separate workrooms, wings, and teaching areas for each department. These “horizontal” barriers effectively block communication and
understanding between departments. Teachers from Science, for example, may not see or communicate with teachers from Mathematics or Technology as a result of these structural barriers, effectively minimizing the many benefits that could be incurred through shared knowledge, resources, and curriculum. These barriers provide cubby-holes that promote thinking within the departmental confines of that area. Many departments have only a cursory knowledge or understanding of what other departments are doing, and little or no knowledge of how their subject areas can relate through curriculum experiences.

The result has been the creation of many separate entities within a school, each pulling in its own direction, with the primary consideration being student performance in its own departmental area. Similarly, budgets are often negotiated on a departmental basis, with little concern for duplication in ordering, combining orders to reduce shipping costs, or consolidating funding to maximize purchasing power. The result has been the creation of an educational system that is far from as efficient and effective as it could be.

Vertical barriers have also been erected by our educational system. These are present in the form of divisions such as: primary, junior and intermediate divisions; administration and teachers, and other organizational hierarchies. Similar to the physical walls between departments, these organizational structures tend to segregate the various partners in education and reduce the effectiveness and efficiency of the over-all organization.
The leadership at Exeter High School has believed that at the heart of any complex structure are simple structures and agreements. It is the role of the leaders to actively work with the stakeholders to reduce the barriers between departments and to promote teamwork and open communication. As indicated in their submission to the Canada Awards for Excellence (1996, p. 4, 5), "The senior management team works together to reduce barriers through several initiatives:

- Long term relationships are established; learning is fostered and communication enhanced when members of the senior management team, along with staff, parents, students, business/industry, and community partners participate together to effect direction, policy and change. These relationships are cultivated throughout the organizational structure, specifically through the School Growth Team, school committees, task forces, advisory committees such as the Technological Education Advisory Committee, and the School Community Council.

- An open door policy where innovation is valued and all stakeholders (staff, students, parents, business/industry and community partners) have an opportunity for input.

- Senior management supports in-house training that emphasizes all staff working collaboratively to achieve shared purposes and goals. This support is provided through the provision of resources, both budgetary and through direct involvement of senior administration on the Professional Development committee."
During the restructuring of the physical structure, individual department work areas were eliminated. In their place, three common work areas were created, with each housing related subject disciplines. This design has removed physical barriers and created an environment of open communication and interaction.

Barriers between disciplines have also been broken down through the development and implementation of integrated curricula, by interdisciplinary teams of teachers.

Staff have been organized into interdisciplinary liaison groups at staff meetings. This format enhances cooperative problem solving and discussion. Learning environments are created and optimized through senior administration and teacher collaboration in this setting.

The majority of the staff have been provided with in-service on Cooperative Learning strategies, which encourages student productivity and provides a framework for students to excel through a team approach to problem solving.

In order for effective organizational improvement to occur in education, the leadership in the school must first begin to view the school as one organization, rather than a collection of separate entities. A common purpose and constancy of purpose for the organization must be established, and the leadership must begin to deconstruct the barriers to quality that have traditionally existed within the educational system. The school organization must have common goals, and its members must work as a team to
solve problems, review and renew procedures, and establish new directions. It is important to remember that people who are forced to administer policies or programs that they had no hand in drafting, or with which they see no relevance to their needs, will do so halfheartedly and without uniformity.

10. **Eliminate Slogans, Targets, and Exhortations:** Most of the problems within any organization are related to the systems in place, and are a leadership problem. Both Deming and Juran (Sallis, 1983, p.52, 53) believe that most quality problems can be traced back to management decisions. Juran’s 85/15 rule states that 85% of an organization’s quality problems are the result of poorly designed processes, which are controlled by management. Similarly, in education, the vast majority of processes, from mark reporting cycles to student timetable organization, are management controlled. Given this reality, it is foolhardy for any leadership group to ask staff to work harder or aim for numerical targets, when the problems lie mainly with the systems, not so much the individuals. The establishment of extrinsic rewards for achieving numerical targets or other goal attainment are also contrary to the philosophy of total quality. The establishment of such goals/rewards implies that teachers, if they tried, could do better. This will be perceived by teachers as a signal that the school leadership does not understand their problems and is not satisfied with their performance. Teachers in the Province of Ontario currently head the list of professions that contribute non-paid overtime. Approximately 38% of teachers (Toronto Star, July 15, 1997) report that they regularly work more than 44 hours per week. To ask
teachers to contribute more of their time and effort, particularly in the face of cutbacks, wage freezes, and other government cost-cutting measures, would serve to undermine and devalue their current level of contribution.

Intrinsic motivation is one of the pillars of total quality and school leaders must concentrate on the development of a school climate, rather than targets or slogans, that supports this. The leaders must begin to work with staff and other stakeholders to identify areas of the system that can make the teachers’ and students’ roles more efficient and effective. In this way, the stakeholders are not only a part of the team that improves the quality of the school, but they are also direct beneficiaries of this change. An example of such an initiative can again be found at Exeter High School. Student Achievement is one of the six Strategic Directions for Exeter High School, and as such, efforts to enhance student achievement are encouraged. Student Development Services (S.D.S.), in response to teacher requests to minimize class disruptions during the student option change time period, asked staff and students to develop alternative solutions that would still enable them to fulfill their mandate, while decreasing disruption. In the past, students had been called out of class via the P.A system, to meet with S.D.S. staff. These interruptions were causing disruptions to instructional/learning time and as such, teachers felt that student achievement was being negatively impacted. Teacher and student frustration was also a factor. It was recommended that S.D.S. staff set student appointments prior to school (8:20 - 8:45) and after school (3:10 - 4:00), with the option for students to make appointments at
lunch hour. Other staff agreed to work with S.D.S. staff during these times, over a two-week period each semester. The Awards for Excellence submission (1997, p.27) reports that, A 95-100% reduction in disruption to instructional time is achievable. Rather than setting numerical quotas, or offering rewards for improvement, Exeter's leaders have provided opportunities for staff and students to improve a system that directly effects them, and to gain pride in creating a system from which they are the direct beneficiaries. Through such initiatives, individuals and groups are intrinsically motivated to constantly improve their teaching and learning organization.

11. *Eliminate Numerical Quotas:* Bradley (1993) reports that many states are implementing proficiency tests that a student must pass before they are issued a high school diploma. One particular school reported in this study, decided its goal was to have 95% of its students pass this proficiency test on the first try. This arbitrary figure, based on the feelings of teachers and board members, is an example of what is wrong with quotas. Statistical process control, as it applies to total quality, has nothing to do with hunches, best guesses or crystal balls. It has everything to do with establishing a benchmark, within a stable organizational system, and then working towards continuous improvement. Using total quality principles, a school leader would focus on using available data to establish limit controls, assessing the educational processes involved, improving the processes involved, and measuring improvement over time. If the educational processes are stable (variation has been minimized or eliminated), there is no value in setting a quota. The process will only deliver what it is able. If the educational
processes are not stable, it is pointless to set a goal/quota because of variation. If a quota was met, it still would not be possible to measure the processes that enabled this to happen because they are unstable and they quite likely cannot be duplicated.

Quotas also become targets which create acceptable margins for underachievement. Teachers working with a goal of a certain number of students achieving a hypothetical mark on a mathematics project, may tend to focus their energies on the group close to attaining that mark, to the detriment of those who have barely achieved, those who could progress much farther with assistance, and those who have little chance of achieving but could improve with assistance. The pursuit of quality and the intrinsic desire to continuously improve is lost in this process of quota setting.

Deming, in his concept of Profound Knowledge, recognizes and dignifies individual variation. The leader in a total quality organization, must also recognize and dignify individual variation. By normative standards, it has been established that one half of the teachers in a school will perform below the norm. This variation in individual ability and performance is normal and leaders must not make these individuals feel that they are below standard. Whose standard is this? Teachers must be measured against their own abilities, as must students. Within any school, the variation is significant, and may vary greatly from school to school. To set numerical quotas for individuals or schools, on a province-wide basis, ignores individual variation, stifles intrinsic commitment to continuous improvement, and creates a barrier to the development of an educational
system committed to continuous improvement.

At Exeter High School, one initiative has been centred on increasing student interest in mathematics and on increasing participation in the University of Waterloo Mathematics Contest. Through a variety of initiatives including integrated curriculum, thematic curriculum days, job shadow experiences, and much more, the relevance of mathematics to students and their daily lives was enhanced. Student participation in the University of Waterloo Mathematics Contest was used as one measure of student participation in mathematics. Since 1994, Exeter High School has experienced an increase in the number of students writing the University of Waterloo Mathematics contests. Exeter High School has one of the highest percentages of students writing these contests in the Durham Board of Education (Awards for Excellence-Durham Region submission, 1997). The following graph shows the number of students writing from the years 1994 to 1997.

FIGURE 8: EXETER HIGH SCHOOL STUDENT PARTICIPATION IN UNIVERSITY OF WATERLOO MATHEMATICS CONTEST 1994 - 1997
The data contained in the preceding graph does not reflect numerical quotas, but efforts towards continuous improvement, based on an established benchmark (1994). Leaders within the organization must model and support these initiatives if they are to be successful. During the 1997-98 school year, each department will be implementing, or continuing with, the gathering of trend data, as it relates to specific areas of the school and department Strategic Plans.

12. **Remove Barriers to Worker Pride:** Deming is an opponent of all performance appraisal processes which he sees as barriers to worker pride. He also argues that performance appraisals lead to short-term solutions and under-performance (Deming, 1982). Rather than improving performance, appraisals often have the opposite effect. Staff concentrate on what is important for gaining a good performance rating rather than developing pride in their work, which is the necessary ingredient for the development of quality. Individual performance appraisals can also tend to put staff into competition against each other rather than building them into a cohesive team. As an educator, I am well aware of the tendency for some teachers to "dust off" their perfect lesson, used in prior periods of assessment, for their performance in front of the administrator(s).

Arguably, this does not provide insight into the daily performance of teachers, or their contributions to the over-all operation of the school through participation in clubs, committees or other extra-curricular activities. Any organization committed to total quality must seriously reconsider the validity of this process.
Within the Durham Board of Education, which has been recognized by the Bertlesmann Foundation for Excellence in Education, an alternative approach to teacher appraisal, which supports individual and collective growth, has been introduced. The "Collaborative Appraisal" allows the teacher to create a "growth profile" in consultation with a school administrator, in an area where:

- the classroom is focused and instructional or managerial in nature
- participant(s) willingly take part in group activities wherein sharing, discussion, and networking take place among the group of participants, related to the target area
- activities are to take place over a period of time somewhat more extended than would usually be the case in a teacher evaluation
- participants produce a written profile of the target area, including information relating to planning, implementation, and evaluation and also to produce a brief written summary at the end of the process. (Sinclair S.S. Staff Guide 1996-97)

Such practices, which still satisfy Ministry and Board requirements for teacher appraisal, also provide for both personal growth and a more comprehensive insight into the individual or groups contribution to self-improvement and organizational growth.

13. **Institute Education-Self-Improvement**: In addition to Deming's sixth point, Institute Training/Retraining, it is also important that school leadership actively model and support the pursuit of further education and self-improvement opportunities. This can be in the arena of formal education and the pursuit of degrees or diplomas, educational
improvement leaves, exchanges or experiential learning programs with other educational or business/industry partners or many other possibilities that promote individual growth.

According to Deming, “No organization [sic] can survive with just good people. They need people that are improving” (Dobyns and Crawford, 1991, p.105). As our society continues to face the reality of constant change, so must educators prepare to teach about that change and its emerging opportunities. We are faced with the challenge of continually acquiring new knowledge and skills in order to adequately address these challenges.

Leaders in education must recognize that in order for their organization to be constantly improving, so must the people within that organization. It is incumbent upon the leaders to be mindful that education is a service industry that is reliant upon people first. All technological and other advancements in education are reliant on the teachers to disseminate their use and create an understanding of their relevance. Opportunities for self-improvement must be both encouraged and created by the leaders.

The DeVry Institute is one educational partner that has offered any teacher in Ontario the opportunity to register for any of its courses free of charge, and offers free workshops throughout the year in new technologies.

School partnerships with business/industry can also open many doors of opportunity for both partners. Exeter High School and Ontario Hydro-Pickering Nuclear Division have agreed to open their workshops to each other, thus doubling the improvement
opportunities for their organizations. Through a partnership network that now exceeds twenty-three partners, Exeter staff have the opportunity to participate in job shadow opportunities in many sectors of our economy. School leaders not only provide support and encouragement for these initiatives, but are also active participants in several self-improvement initiatives.

14. *Putting Everyone to Work, to Realize the Transformation*: The transformation of an organization to a quality culture is everyone’s responsibility. It is also the single most important task of the school leaders. Without the initiative and management by school leaders, any initiative of this scope is destined for failure (Bradley, 1993, p. 189).

If there is any center to the mystery of schools’ success...it lies deep within the structure of organizational goals: whether or not they exist, how they are defined and manifested, the extent to which they are mutually shared. ...the hallmark of any successful organization is a shared sense among its members about what they are trying to accomplish. (Rosenholtz, 1989, p.13)

Current and previous administrators at Exeter High School have recognized the importance of all Deming’s points, but particularly the fourteenth point. Through extensive discussions and interactions with these leaders, throughout the six years of transition from Harwood Secondary School to Exeter High School, it is evident that each leader has demonstrated a strong commitment to involve all stakeholders in the restructuring process. Any undertaking of this magnitude is simply too large for a leader or even a small group of leaders. Without consensus from *all* stakeholders on the need for change and the future direction of the school, failure would have been imminent for this
on the guiding principles provided by Dr. Edward Deming, Exeter High School has been restructured on the framework of an organization committed to total quality. It has been noted numerous times by community members, that a school that was once known in the community as “Coconut College”, has risen and restructured itself as an organization that has received regional (Award of Excellence - Bureau for Excellence in Durham Region, and Director’s Gold Award for Community Partnerships), national (Certificate of Merit for Excellence in Education, National Quality Institute), and international recognition (Carl Bertlesmann Award for Excellence in Education.). Such success is a tribute to the efforts of the many teachers, students and community partners, who, with the support and guidance of school leaders, have restructured this organization.

**Leadership as the Key Element in an Organization’s Restructuring and Change**

Leadership continues to rise to the forefront as the element that makes the difference in organizational restructuring (Peters and Austen, 1986, Sallis, 1993, Spanbauer, 1992, Bass, 1985, Glasser, 1992). Without the initiative and support of leadership, change is destined for mediocrity or failure. The identification of the need for change does not necessarily need to find its roots at the top of the organization or as a ground-swell from the bottom. Change can begin wherever someone is in a position to recognize the need for it and has the capacity to conceptualize and articulate the nature of the change. The determining factor in the success or failure of that change, at least in the beginning phases, is the willingness of the organization’s leaders to support that change and involve those
is the willingness of the organization's leaders to support that change and involve those affected by the change, in the decision-making and planning processes. “Principals who involve teachers in generating information about the goals of teaching, in scanning and choosing the best alternatives, grant teachers a part in constructing school reality” (Rosenholtz, 1989, p.15).

As previously discussed, individuals are guided less by bureaucratic mandate than by their own socially constructed reality. As leaders work with all stakeholders, not just teachers as mentioned by Rosenholtz, the individual and collective stakeholders construct their own social reality for their organization. As such, these social constructs become guiding principles for their actions and behaviors. If properly guided and supported by school leaders from the early stages of restructuring, these constructs can become the framework for a pattern of intrinsic motivation centred on a commitment to continuous improvement and total quality in education. Once established, the fate of the organization is no longer as dependent on the leaders of that organization. The commitment to quality is intrinsic to the individual(s) and the school community. The school organization and processes are more stable and established. The loyalty of the individuals within the organization will be bound more by loyalty to their shared principles and vision, than to individual leaders. This maturing process in organizational development allows a school to undergo a change in leadership without significantly impacting on the purpose or direction of that organization. Such change was evident at Exeter High School in: 1993-94 with a change in the Vice-Principal positions; in 1994-95 with a change in the Principal’s position, and,
1995-96 with another change in the Vice-Principal’s position. The most significant change for the staff was the change in the Principal’s position. The Principal who initiated the change process in 1991-92 was highly respected and was viewed by staff as the central force to the school’s change process. Her leaving created a climate of uncertainty within the staff and a fear that what they had worked so hard to achieve might be changed, yet again. Staff also realized that as an organization, the school was only in the beginning stages of its restructuring process and there still existed a very strong need for administrative support and leadership. The new Principal, although not initially an expert on Deming’s principles, listened to staff, students, community partners and administrative team members, regarding the direction of the school and its vision for the future. With her continued support and leadership, Exeter has successfully crossed many critical thresholds on its journey of continuous improvement. Staff quickly gained respect for the new principal and recognized that Exeter’s future would continue to be determined through a consultative, community-based model, that involved all stakeholders. With each successive initiative, stakeholders have molded Exeter’s organization into a mature, self-supporting organization that is driven, not so much by leadership, but through leadership that supports the shared organizational goals. To use an analogy, Exeter’s first principal guided and parented the fledgling organization, through the “terrible twos” and early adolescence. Exeter’s second principal has guided the organization through to maturity. For each stage, a different personality and leadership style was required, but each encompassed the elements of Profound Knowledge and held true to the principles put forward by Deming.
Within any organization committed to total quality, it is essential there be measures in place to determine the level of commitment of leadership to quality improvement. Organizations are cautioned not to set an arbitrary quota or level of involvement. Rather, as previously indicated, data and information should be gathered to determine a base-line, from which improvement will be measured. The following excerpts from Exeter High School’s Awards for Excellence 1997 application will provide some general indicators:

**How senior management demonstrates a commitment to quality improvement, for example, through direct involvement in improvement initiatives.**

Senior management (principal, vice principal) demonstrate an ongoing commitment to quality improvement in a number of ways:

- the administration team is represented on all committees and task forces
- visibility and accessibility of administration in the school contributes to a positive climate
- providing human and financial resources and training to achieve the school’s improvement objectives
- reinforce educational goals to the organization to ensure that they remain a permanent part of the Exeter’s organizational culture
- model commitment to quality through their own actions
- collaborate with the School Growth Team Chair
- include community expertise and resources (Awards for Excellence, Durham Region, 1997 p.3, 4).
How the senior management team works together to reduce barriers among departments, promoting teamwork and open communication.

The senior management team works together to reduce barriers through several initiatives:

- Long term relationships are established, learning is fostered and communication enhanced when members of the senior management team, along with staff, parents, students, business/industry and community partners participate together to effect direction, policy and change. These relationships are cultivated throughout the organizational structure, specifically through the School Growth Team, school committees, task forces, advisory committees such as the Technological Education Advisory Committee, and the School Community Council.

- An open door policy where innovation is valued and all stakeholders (staff, students, parents, business/industry and community partners) have an opportunity for input.

- Senior management supports in-house training that emphasizes all staff working collaboratively to achieve shared purposes and goals. This support is provided through the provision of budgetary resources and direct involvement of senior administration on the Professional Development committee.

- As a part of restructuring, individual department work areas were eliminated. Three common work areas were created to accommodate related subject disciplines. This design has removed physical barriers and facilitates an environment of open communication and interaction.

- Barriers between disciplines have also been broken down through the development and implementation of integrated curriculum by interdisciplinary teams of teachers.
• Staff have been organized into interdisciplinary liaison groups at our staff meetings thus enhancing cooperative problem solving and discussion. This learning environment is created and optimized through senior administration and teacher collaboration

• The majority of the staff have been provided with in-service on Co-operative Learning strategies which encourage student productivity and provides a framework for students to excel through a team approach to problem solving. (Awards for Excellence, Durham Region, 1997, p.4)

Indicators of senior management effectiveness in setting strategic direction and demonstrating leadership in the Quality Principles.

Leadership by example is the elemental force that drives our organization. Our leadership team has worked alongside the stakeholders in this organization and has demonstrated a commitment to our strategic directions and continuous quality improvement. Indicators of the success of this approach are evident through:

• the active participation of community members on school committees

• an extensive partnerships with business, industry, post-secondary, government and social agencies

• staff involvement in all aspects of the organization’s operations

• an increase in staff retention with provision for leadership opportunities in the development of new initiatives

• Department Strategic Plans which, in turn, supports the mission
the training and formal coaching of candidates for senior management positions. Over the past year, Exeter has developed, mentored, coached and trained the three Vice Principal candidates for the Board

the ongoing training and formal coaching of department head candidates and committee leaders

the modelling of Quality Principles throughout our school by students, staff and other involved stakeholders. (Awards for Excellence, Durham Region, 1997, pp 4-5)

Levels and trends of outcomes compared with sector leaders and other organizations.

The Durham Board of Education was recently recognized by the Carl Bertelsmann Foundation as the most innovative and progressive board in the world. Much of Durham’s submission was based on Exeter’s planning and partnership approach to education. Senior management and staff met with representatives of this foundation and shared their best practices with them. Through this meeting, we also gathered information and resources from other sites throughout the world.

Senior management and staff recently presented at the Third International Partnership Conference. With representatives from many continents, this conference focused on “Business and Education Working Together”. In addition to presenting two workshops with a focus on Exeter’s holistic and community partnership approach to education, staff gathered valuable information and resources through attending other workshops.
Exeter is a member of the Ajax-Pickering Board of Trade. Information shared by other organizations at the Board of Trade also assists us in the planning process.

At the board level, senior management and staff have presented Exeter's organizational model and the School Growth Team constitution to the Durham Board of Education Administrative Council, Program and Staff Development Departments and other schools. Exeter also actively participates in board level workshops where best practices are shared.

Exeter made successful applications to the National Quality Institute and the Bureau for Excellence in Durham Region. The site visits by the assessment teams provided a valuable framework for both self evaluation and external evaluation.

Exeter's partners in education, such as the Technological Education Advisory Committee, the School Community Council and previously mentioned partners and stakeholders, provide the school organization with ongoing information, insights and feedback from business, industry, and post-secondary institutions (Awards for Excellence, Durham Region, 1997, p.7).

**How the approach to leadership by senior management is reviewed and improved.**

Senior management's approach to leadership is reviewed on an annual basis by Durham Board senior administration to ensure congruence with Ministry of Education and Training policies and procedures and the Durham Board of Education System Plan and Future Vision document. All staff have input through both an 'open door' policy that encourages ongoing discussion as well
as a formal survey that is completed in June. The June survey reviews all aspects of the School Strategic Plan and provides an opportunity for staff to evaluate leadership and provide recommendations.

The School Growth Team collates and analyses staff survey results and recommendations. Opportunities for improvement are indicated and these are implemented through the renewed School Strategic Plan. Ongoing initiatives and recommendations include the following:

- publicity of good news items and media releases on staff meeting agendas
- sharing of “Best Practices” among departments at monthly meetings
- creation of the Exeter Excellence Award
- expanded newsletter format
- development of a five-year plan to forecast future scenarios and issues
- addition of a new strategic direction called “Citizenship”
- inclusion of mission statement on school documents, publications and letterhead

In order to reflect Exeter's emerging innovative identity in its quality journey over the past four years, it was felt that a renewed mission statement would more accurately define its purpose and direction for the future. Exeter's mission statement was reviewed by all stakeholders
and Durham Board's Director, Grant Yeo recognized and celebrated Exeter's milestones and future directions at a staff Professional Development day.

Ongoing senior management professional development includes:

- participation in Durham Board of Education P.D. Institutes, workshops and the Learning Consortium
- participation in senior management study groups
- executive summaries of leading-edge literature from the public and private sectors
- presentations to the Principal Association, elementary educators, area team members, Durham Board of Education Program Department, Trustees, Durham Board of Education Administrative Council, parents, and students
- presentations to and exchange of information with regional, national, international, private and public sector organizations. (Awards for Excellence, Durham Region, 1997, p.7, 8)

To lead change is indeed a very demanding task. To attempt to do so without a framework for implementation is indeed perilous. Benjamin Disraeli, a former Prime Minister of Great Britain, once stated that in any progressive society, change is inevitable...change is constant. Education, as it undergoes major restructuring, is in dire need of effective leadership. Leadership based on the qualities and principles provided by Deming, have a proven record of success. It behooves educational leaders to seriously consider a framework that has proven success in both the business/industry, and educational sectors. To ignore such evidence would constitute the construction of yet another barrier to quality education.
CHAPTER SEVEN: QUALITY MEASUREMENT TOOLS FOR EDUCATION

Introduction

This chapter will focus on methods which education may use to measure progress in quality initiatives. Through citing research from throughout North America, and providing sample data from Exeter High School, processes and practices will be identified which provide trend data for analysis and decision-making.

Removing Variation From Education's Processes

When Walter Shewart and Edward Deming began to discuss their related works in the study of the removal of variability from industrial processes, the similarities of their purpose became evident. The resulting marriage of Deming's 'human relations' studies and Shewart's statistical controls approach became known as Statistical Process Control (S.P.C.), and is one of the underpinnings of Total Quality. Any organization committed to quality must work towards the removal of variation in any process before performance can accurately be measured. This was not difficult to achieve in production-based processes, particularly in processes that are technologically driven. In the service sector, such as education, the task is not quite so linear. For the same reasons indicated in the third sub-problem of this thesis, service organizations are dealing with the human element on a far broader scale than production-based organizations. This makes the reduction or removal of variation significantly more difficult. Dr. A.C. Rosander, who
has over 45 years of experience in the area of statistical sampling and control, argues that, attempts at applying manufacturing approaches to service organizations limits the application, does not recognize that services are not the same as physical products...refuses to consider the fact that services are dominated by subjective human elements and not by precise physical measurements (Rosander, 1989, p.42).

Although human variation is difficult to streamline, it is one of the contentions of this thesis that through an interactive organizational model, with support and encouragement from school leaders, variability of human performance can be reduced by having all customers and stakeholders working towards a common vision and goals. How we measure performance and progress is a function of needs of the customers and stakeholders of each specific school. These needs will change by location and may be measured by a combination of attitudinal data and/or 'harder' performance data. The processes to be monitored should reflect elements that are common goals of the school and are reflected in the school's strategic plan. Processes outside of this plan would not be consistent with the shared vision or goals of all customers and stakeholders of that school.

The statistical approach to measurement must be viewed as both a scientific and long term approach to determining organizational performance. Educational leaders who make a commitment to statistical control will find how helpful good data is to the decision-making process. The statistics gathered provide information regarding how well a particular area or the organization as a whole is doing and what areas need attention. Statistics assist the leader to monitor and improve services to all customers. They assist the leader in monitoring progress and
reviewing and renewing the organization’s goals.

When considering the measurement of systems within a school, educators could measure behaviors that influence quality, productivity, and efficiency of operations, such as accidents, mistakes or delays. Studies could be conducted on processes such as: late sign-in procedures, registration processes, equipment maintenance schedules, student participation in various programs, student achievement, computer network down-time or use of classroom time. Data from the studies can be used to solve existing problems, to reveal new problems, or to point to potential problems.

**Examples of Educational Institution’s Data Collection and Evaluation**

An example of one student attitudinal survey conducted at Exeter High School at the completion of semester one, 1996-97, revealed that 100% of grade 9 students enrolled in the Culinary Arts Program indicated they would recommend the course to a friend while 91% rated the course as meeting or exceeding their expectations. However, as the following chart will indicate, only 29.17% of those surveyed indicated their intention to enrol in a Culinary Arts Program next year.
FIGURE 9: GRADE 9 CULINARY ARTS SURVEY

Question #3

Are you planning to select a Culinary Arts course for the next school year?

Yes  07
No   12
Maybe 05
Total 24

(Technological Education Program Survey, Semester One, 1996-97)

The discrepancy between questions 1, 2 and particularly #3, indicated a problem that had not been previously recognized by staff. A course of action was taken to determine causes, and modifications were made to the program to address the deficiencies. Further collection of data will provide information regarding the success of these changes.

Decisions, such as the one previously mentioned, are made on the basis of data. Data in itself, should only be considered as an indicator of the effectiveness of the system. The solution to the problem indicated by this Culinary Arts survey is to be found in the systems and processes relating to the data. Juran’s 85/15 rule pertains as well to education as it does to production.
Processes themselves have variation. Within any school, district, or board, there will be standards for various systems. For a particular board there will be a rate of staff absence for a given year. The same measures will apply to school districts and schools. These will provide indicators regarding a range of staff absenteeism. The absenteeism can be caused by many variables, some controllable by school leaders such as teacher workload reduction through process optimization. This is referred to as common-cause variation. Some variables tend to be intermittent, unpredictable, and unstable (special-cause variation) which may or may not be controllable by school leaders. Although patterns may vary within the ‘acceptable’ range over time, leaders must work to limit both common and special cause variation in order to stabilize the process.

Understanding and controlling variations is a subject that is central to Deming’s theories. Reducing variation is the goal, and education is capable of doing this, and has proven able, in this respect. One approach is to standardize processes so that everyone is using the same procedures, material and equipment. The mark reporting cycle in a school is a good example. Another approach is to study the process, look for potential sources of variation, and collect data. Elimination of special-cause variation should be the first step. The school should then tackle the challenging task of eliminating common-cause variation.

The following examples will provide insight into how different schools have measured processes through the collection of data, towards a goal of continuous improvement.
George Westinghouse Vocational and Technical High School, in New York City, is an example of a school that has faced challenges through the implementation of a Total Quality approach. As that city's largest vocational/technical high school, drawing students from the inner city, the staff and community faced many challenges. Their commitment to Total Quality is believed to be the key to their success.

In 1988, the Westinghouse Education Quality Initiative was developed. This introduced the concepts of Total Quality into public education. This school had a high drop out rate (typical for inner city), an aging faculty, students working with poor speaking and mathematics skills, and unmotivated students. The process began with a restructuring of the organization. The hierarchical model was abandoned in favor of a collaborative approach. The Mission Statement was developed by staff after in-service at a quality training seminar. A Quality Co-ordinator was selected to ensure that T.Q. moved forward. A staff steering committee was established to institutionalize the process and monitor the coordination. Staff established a series of goals, with the first priority being staff morale. It was decided by the organization (staff and administration, through the steering committee), to recognize and reward a quality staff member each month. This was soon expanded to include students from each department.

By 1991, the school was ready to become immersed in T.Q. The principal stated that as long as he was principal of that school, T.Q. techniques and tools would be used to address all challenges. All staff were provided with in-service on T.Q. techniques and tools. The staff, after completing the training, identified 23 areas of concern. Through the Quality Steering committee, these
concerns are being addressed, and by systematically removing them, the atmosphere at the school has improved. Benefits include:

- Class cutting reduced by 39.9% in a 6 week period.
- Failure rate reduced by 92%.
- A student quality team has been formed, which meets with the principal once a month to identify ways to improve overall student performance.
- Parents became an active part of the Quality Steering Committee.
- More students are involved in after school activities. Peer tutoring has been initiated and the number of clubs has increased.
- Enrollment has increased and there are now 10 applicants for every seat.
- Membership in the Parent Teacher Association has grown from 12 in 1987, to 211 in 1991.
- Writing has begun across the curriculum, with departmental barriers coming down.

When Dr. Richard Hadden was asked about the benefits that companies report from adapting a Total Quality approach to business, he reported on increased efficiency, production and competitiveness. According to Dr. Hadden, 20-40% of the cost of sales is based on doing something wrong. This inflates the price, decreases efficiency, creates waste, reduces competitiveness, and may result in the loss of customers and jobs (Interview notes, R. Hadden, 1997, p.3).

Similar analogies can be drawn from the Westinghouse study. Through a quality approach, the school increased efficiency by reducing student absenteeism and developing curriculum across
department barriers, increased productivity by reducing the failure rate and improving student performance, and increased competitiveness as indicated by increased demand for entry into the school and its Parent Advisory Council.

In 1985, Fox Valley Technical College, a two year college in Wisconsin, began using quality principles in both its management and instruction. The administration at Fox Valley was aware of American Education statistics that indicated:

- per pupil spending was increasing while student achievement was stagnant at best
- nearly 60% of 17 year olds lacked the reading skills needed to comprehend materials in higher education
- business and industry were required to spend millions of dollars on basic skills education programs for their employees
- S.A.T verbal and mathematics scores were declining (Spanbauer, 1992, p.XV).

Fox Valley staff recognized that education must be committed to creating a climate in which excellence can thrive. In order to do this, Fox Valley:

- changed its organizational structure to incorporate quality reforms common in business/industry
- recognized the major role that teachers play in quality and productivity initiatives and invited them to participate as equal partners in school management
- demonstrated a new spirit of caring for students, taxpayers, and their fellow educators, and,
collaborated with business, industry and the community in the quality initiatives

A Total Quality Leadership Council, with representatives from all levels of personnel, provided the leadership for implementation and monitoring.

Between 1987 and 1990, an annual Organizational Climate Survey was conducted to measure staff satisfaction. Areas of notable improvement were decision-making practices, concern for people, influence and control, job challenge, job reward, and work interdependence. Over the same period, grievances were reduced from a high of 12 in 1985-86 to 1 in 1989-90 (Spanbauer, 1992, p.139).

Student enrollment has increased each year, in all four major areas of study (adult, apprenticeship, associate degree, and customized training). Graduate placement results increased steadily over this same time period. Study of the Peer Relationships also indicated improvement in peer support, peer goal emphasis and peer work facilitation.

Fox Valley has exhibited a serious commitment to both the N.Q.I. Quality Principles, and the measurement of their effectiveness. The results indicated above, confirm their commitment to those principles and the positive benefits for individuals (job satisfaction), the organization (increased enrollment, graduates and decreased grievances), and the community (increased involvement with the college through business/industry links).
Exeter High School, through its restructuring initiatives has identified and tracked progress in several key areas. The following is a sample of the data that have been gathered for analysis and action:

1. Action: Increase student participation in Co-operative Education.

FIGURE 10: EXETER HIGH SCHOOL’S CO-OPERATIVE EDUCATION ENROLLMENT FIGURES, 1994-97

2. Action: Track accuracy of actual and projected student enrollment.

FIGURE 11: EXETER HIGH SCHOOL’S ACTUAL AND PROJECTED STUDENT ENROLLMENT FIGURES, 1994-99
3. Action: Increase students' community service involvement.

FIGURE 12: EXETER HIGH SCHOOL'S STUDENT CITIZENSHIP AWARD RECIPIENTS 1994-97

Analysis:

The number of students achieving the standard for this award has increased as a result of:

- More extensive promotion of the award to the junior grades, which has resulted in increased participation and increased awareness of the importance of this component of their education and future,
- The continued participation of senior students, which provides an example to younger students and,
- A steady increase in the number of social and community agencies which have found Exeter students to be reliable and good citizens. This has resulted in more opportunities for involvement, and positive press coverage/community profile.
Analysis:

In 1995-96, Exeter hosted 6 Intergenerational events, with an average of 20 students participating at each event. During 1996-97, Exeter is hosting 5 events, with an average of 24 student volunteers per event. There has been a noticeable increase in the number of grade 9 students participating in this project. Additional growth in the number of students involved with each event is not planned, due to space constraints and logistics for activity planning. Students will continue to be encouraged to participate in this, and a variety of other community service activities (Awards for Excellence - Durham Region, Application 1997).

Additional measurement indicators for Staff Satisfaction, and Involvement in Mathematics are found elsewhere in this paper.
Measurement is an essential component to a Total Quality approach to education. To be committed to continuous improvement, the organization must have the means to measure both where they are, and a process for analyzing the data, to determine necessary actions.
CHAPTER EIGHT: SUMMARY, CONCLUSIONS AND IMPLICATIONS

Summary
This descriptive study has examined the effectiveness of a framework for restructuring in the field of education, through the application of Total Quality Principles. Since there has not been a great deal of research into the application of Total Quality Principles to education, such a study can serve to foster a greater understanding of Total Quality to education; contribute to the development of an educational context for Total Quality; and finally, encourage further research into educational restructuring through Total Quality Principles.

The first subproblem addresses the need to identify and understand the processes that have led to the development of Total Quality Principles. Research for this subproblem involved an in-depth review of available literature and interviews with business and educational leaders in the field of Total Quality.

From an historical perspective, it is evident that Taylor’s contributions towards forwarding statistical analysis in organizational management, Fayol’s broadening of organizational responsibility to include all members of the organization, and Follet and Mayo’s Human Relations model all provided a framework for the emergence of Total Quality Principles. Mayo’s work at the Hawthorne plant and the impact that it had on Deming’s early work on variability, and Deming’s later work with Shewhart, resulting in the development of Statistical Process Control (S.P.C.), all were precursors to Total Quality Principles. When S.P.C. is linked with the earlier
work from the Human Relations Movement, the basis for Deming's 14 Points is laid, and the framework for Total Quality is established.

The second subproblem provides a focus on the development of an organizational framework which is interactive and supports continuous improvement. Through research of available literature and a study of Exeter High School's organizational restructuring, a framework for an interactive organizational model is presented.

Global factors such as the rapid movement into the Communication Age, the global marketplace, and a service conscious customer base have driven organizations to review the way in which they are structured and the way in which they conduct business. The organizational models of the industrialized age, based on bureaucracy, hierarchy, command-and-control, and specialization are no longer sufficient. Multiple layers of management represented in pyramids or blocked organizational charts have proven too cumbersome and expensive in today's marketplace. With the advent of communications technology, the many layers of management are no longer necessary. The manager-worker model is disappearing, to be replaced in many organizations by cross-functional teams and processes, integration of specialists, and an organization-wide commitment to continuous improvement. Education is facing many of the same pressures as business and industry. The path forward for education is inexorable. It must change in order to reflect the needs of its numerous stakeholders. In order to do so, it must restructure from within, providing a framework for input, and empowering individuals and groups to act. Although slower than business and industry to react, there are many examples of educational institutions
restructuring on Quality Principles. The transformation of Harwood Secondary School (vocational model) to Exeter High School (composite model) is one such example of a school that has developed an interactive organizational structure, established on a framework provided by Quality Principles. Having received local, regional, and national recognition for its efforts, Exeter stands as a model from which other educational organizations can learn. The challenge for any educational organization attempting to restructure, is to develop a structure that is integrated, allowing for direct and meaningful participation in decision-making processes, while providing for shared authority across all levels of the structure and inclusive of all stakeholders. The philosophical, practical, and moral framework of this model must be directed towards providing the best possible education for its customers.

The third subproblem addresses the need for the organization to identify its customers and stakeholders, and to identify opportunities for their involvement in the restructuring of an educational organization towards quality and continuous improvement. Through an in-depth review of available literature, the study of Exeter High School’s submissions to local and national quality organizations and interviews with educational leaders in Total Quality, the customers and stakeholders of education are identified.

In order for any organization to meet the needs of its customers, it must first identify who its customers are. Education was reviewed in this subproblem within the contexts of a production or service organization. Clearly a service organization, education must then determine the service which it delivers and who receives that service. The recipients of this service are the customers.
Juran (1992) refers to customers as those who are impacted if the goals are attained and those who are impacted if the goals are not attained. When viewing the internal organization, it becomes evident that each person in the organization, particularly if it is committed to T.Q., provides an output that impacts on someone else in the organization. Everyone has a customer, and is thus a supplier, and everyone is a customer. It is this web of supplier-customer contracts that binds the organization together. It is the identification of the many customer-supplier contracts that assists the school in streamlining its organizational performance.

When identifying external customers to education, Exeter High School identified the following categories:

a) Primary Interest: Students, parents, citizens of the community, and anyone having a direct interest in the state of public education.

b) Secondary Interest: Business/industry, post-secondary institutions, learning and training institutions, professional associations, union, service clubs, and anyone whose function relies upon the product of public education.

c) Tertiary Interest: Governments at all levels, public service organizations, and any organization or individual who has a pecuniary interest in public education.

The primary recipient of education's services is the student, thus making the student the direct external customer of education. All other external individuals or organizations are impacted in a less direct way than students. This impact occurs most often through the success/failure of the student, thus for the purpose of this thesis, making them stakeholders in education.
The fourth subproblem focuses on effective leadership styles for a non-hierarchical organizational structure and the measurement of leadership effectiveness. This is addressed through the use of available research and the study of Exeter High School submissions to local and national quality organizations.

Leadership continues to rise to the forefront as the element that makes the difference in organizational restructuring (Peters and Austen, 1986, Sallis, 1993, Spanbauer, 1992, Bass, 1985, Glasser, 1992). Without the initiative and support of leadership, change is destined for mediocrity or failure. The identification of the need for change does not necessarily need to find its roots at the top of the organization or as a ground-swell from the bottom. Change can begin wherever someone is in a position to recognize the need for it and has the capacity to conceptualize and articulate the nature of the change. The determining factor in the success or failure of that change, at least in the beginning phases, is the willingness of the organization’s leaders to support that change and involve those affected by the change, in the decision-making and planning processes. Through a comparative analysis of Transformational Leadership and the Effective Schools Movement with Deming’s 14 Points and his concept of Profound Knowledge, it was established that neither Transformational Leadership nor the principles indicated in the Effective Schools Movement were sufficient to support a Total Quality approach to Education. Deming’s 14 Points, when coupled with a leader who possesses Profound Knowledge, is indicated as an effective framework for Total Quality in education.

Through the citing of research from throughout North America, providing sample data from
Exeter High School and information from the interview with Dr. Richard Hadden, the fifth subproblem addresses the need for education to establish meaningful measures for its initiatives and provides insights into processes and practices in education that provide trend data for analysis and decision-making.

When Walter Shewart and Edward Deming began to discuss their related works in the study of the removal of variability from industrial processes, the similarities of their purpose became evident. The resulting marriage of Deming’s ‘human relations’ studies and Shewart’s statistical controls approach became known as Statistical Process Control (S.P.C.), and is one of the underpinnings of Total Quality. Any organization committed to quality must work towards the removal of variation in any process before performance can accurately be measured. This was not difficult to achieve in production-based processes, particularly in processes that are technologically driven. In the service sector, such as education, the task is not quite so linear. For the same reasons indicated in the third sub-problem of this thesis, service organizations are dealing with the human element on a far broader scale than production-based organizations. This makes the reduction or removal of variation significantly more difficult. Through the presentation of sample data, examples are provided of educational institutions’ efforts to measure processes through the collection and analysis of data, towards the goal of continuous improvement. The successes indicated speak to the potential of this approach in education.

The Conference Board of Canada (1993) reports growing evidence in both public and private sectors, that T.Q. principles and tools offer a valuable strategy for responding to the current
challenges facing our society. Their research shows that a T.Q. approach can be highly effective in creating fundamental, systematic changes in schools. Results from U. S. and Canadian school utilizing a T.Q. approach report the following impacts:

*Student Learning and Attitudes*

- improved performance and dramatic reductions in student failure rates
- reduced drop-out rates
- significant reduction in discipline problems
- major and positive changes in student attitudes to school and to learning

These findings indicate a high degree of customer satisfaction and retention, indicating a healthy relationship between the students and their teachers/schools. Positive relationships decrease confrontations and other stressors, thus creating a less stressful and healthier environment for all participants.

*Classroom Management and Instruction*

- use of student teams for learning, with students applying T.Q. techniques to solve problems
- peer coaching, individual self-improvement strategies
- cross-subject classes and projects

The removal of barriers between departments, students, and teachers/students has provided these organizations with a caring and collaborative learning environment. The positive results of this approach are evident in student success and staff satisfaction.
Organizational Impacts

- more effective administration
- elimination of major irritants for students, teachers and parents
- improved staff morale, smoother labour negotiations, better planning, budgeting and decision-making (Conference Board of Canada, April 1993, p.2–4)

By eliminating barriers, the organization has eliminated another source of stress and inefficiency for all stakeholders in the educational process. The improved morale and student success are indicators of a healthy school environment.

The Summary Findings: T.Q.M. in U.S Schools, February 1993, reports improvements such as:

- excellent relations with the community (Connecticut)
- graduate profiles exceptional and heightened student commitment to learning and to the institution (Alaska)
- unbelievable changes in student approaches and attitudes, participation (Arizona)
- drop out rate 7.8% (17.2% district-wide) and increased membership in Parent-Teachers Association (New York)
- dramatic reductions in failure rates, reduced suspensions, post-secondary attendance up 24% (Wisconsin).

Through both research of available literature, interviews and a study of Exeter High School, it is evident that restructuring through a framework of Total Quality is not only feasible, but also achievable in education. As education comes under increasing public and political review, it is
hoped that this research will serve as a catalyst for discussion and a springboard for further research into educational restructuring.

Conclusions

The Conference Board of Canada reports a growing number of educational organizations adopting a Total Quality approach, largely because of the positive results reported by business, industry and other educational organizations. The old African proverb which refers to it taking a whole village to raise a child, like Deming’s 14 Points, is as appropriate today as when it was first spoken. Education is beginning to recognize the value of utilizing the collective efforts of students, parents, teachers, administrators, taxpayers, and other stakeholders. Through the use of a community approach to the development of an interactive organizational model, educational institutions can, as an educational community, meet the challenges that face them. Through a continued commitment to Total Quality and continuous improvement, the organization will continue to meet or exceed their customer and stakeholder expectations, and provide students with the knowledge, skills, attitudes, and experiences necessary for them to be contributing members of society.

Implications for Further Research

This study reveals both the relevance of Total Quality to education, and the minor inroads that education has made into adopting these principles. The benefits of T.Q. are evident in the
research related to business, industry, and education, but we must ask why education has been so slow to react. Given the current climate in education, the need for change is evident. The need does not however appear to be as seriously perceived by the school/board organizations as by the provincial and state governments charged with managing education. Further research must be conducted to determine the causes of this situation.

Leadership has been identified through this study as one of the key elements in effective restructuring and change. Since individual schools and boards have been largely resistant or hesitant to change, is this a function of the issues at stake, the type of leadership within these organizations, or other factors? The issue of leadership within an interactive organizational model opens research possibilities into leadership profiles for such models. Such research might explore qualities and characteristics consistent with an ability to share power, age, and/or gender trends.

This study represented an inquiry into a number of aspects relating to Total Quality and education. It was never intended to serve as a definitive investigation of the topic. Therefore, innumerable in-depth investigations could be launched into any number of pertinent issues. It is hoped that this paper serves as a basis for further inquiry, research, and solutions.
BIBLIOGRAPHY


Newspapers:


Reports:


Submissions:

Exeter High School’s *Canada Awards for Excellence*, 1996.

EXETER HIGH SCHOOL IS COMMITTED TO ...

CHALLENGING STUDENTS TO STRIVE FOR ACADEMIC EXCELLENCE IN ORDER TO REACH THEIR FULL POTENTIAL;

MAINTAINING A STUDENT FOCUS IN SCHOOL DECISION MAKING WITHIN AN INTERACTIVE ORGANIZATIONAL ENVIRONMENT;

DEVELOPING STUDENTS' COMMUNICATION AND PROBLEM-SOLVING SKILLS;

MAINTAINING A SAFE, SECURE AND SUPPORTIVE LEARNING ENVIRONMENT FOR ALL;

DEVELOPING POSITIVE ATTITUDES TOWARDS SELF, OTHERS, SOCIETY AND THE ENVIRONMENT;

PROMOTING A SENSE OF PRIDE IN THE ACCOMPLISHMENTS AND SUCCESSES OF THE EXETER COMMUNITY;

SUPPORTING A CULTURE OF MUTUAL RESPECT AND TRUST;

PREPARING STUDENTS FOR THEIR FUTURE ROLES AS SELF-MOTIVATED, LIFE-LONG LEARNERS.
STUDENT ACHIEVEMENT

Exeter High School is committed to a teaching and learning environment that promotes academic excellence and technological proficiency.

Through an advisory process involving parents, students, teachers and community partners, Exeter High School provides a broad base of authentic curricular and extra-curricular programming that challenges students to achieve their potential.

Skills of literacy and numeracy are reinforced in all curriculum delivery. Development of problem-solving, critical thinking and social skills are emphasized, enabling students to contribute and function productively in our global society.

A variety of assessment and evaluation strategies are utilized to monitor, measure and guide student progress and performance.

SCHOOL CLIMATE

Exeter High School is committed to a teaching and learning environment that respects the uniqueness of the individual within Exeter’s safe supportive school community.

Through an advisory process involving parents, students, teachers and community partners, Exeter High School ensures a safe, welcoming and caring environment.

Students and staff develop the knowledge, skills and attitudes that support and anti-discriminatory curriculum. Policies and procedures maintain this focus within a culture of mutual respect.

CITIZENSHIP

Exeter High School is committed to a teaching and learning environment that promotes the social development of our students through leadership and participation in the community.

Through an advisory process involving parents, students, teachers and community partners, Exeter High School recognizes and emphasizes the value of the balance between academic achievement and personal growth.

Students are provided with opportunities to contribute to the well-being of others in the Exeter community, Canada and the world.

PARTNERSHIPS

Exeter High School is committed to a teaching and learning environment that is enriched through the development of partnerships with community members.

Through a collaborative process involving parents, students, teachers and community partners, Exeter High School continues to develop, implement and support innovative programs, projects and initiatives.

Resources, ideas and experiences are shared in order to enrich the learning opportunities for our students, staff, parents and community partners.

TECHNOLOGY

Exeter High School is committed to a teaching and learning environment that promotes the understanding and use of technologies.

Through an advisory process involving parents, students, teachers and community partners, Exeter High School takes an innovative approach in creating opportunities for students in the technologies.

Students require knowledge and skills in technologies in order to meet challenges that reflect the complexity of social, economic and technological change.

Technology is integrated into all areas of the curriculum and information systems are co-ordinated to enhance efficiency and effectiveness of our learning organization.

SCHOOL OPERATIONS

Exeter High School is committed to a teaching and learning environment supported by an interactive organizational structure that promotes continuous improvement.

Through an advisory process involving parents, students, teachers and community partners, Exeter High School develops an annual school plan consistent with the vision of our five year plan.

Key directions for student achievement, citizenship, technology, partnerships and climate undergo a review and renewal process supporting our commitment to organizational excellence.
Appendix B: Survey Questionnaire - Education

Organizational Restructuring

1. What year did you arrive at Harwood Secondary School or Exeter High School?

2. How would you describe the organizational structure at that time?

3. What were the strengths and limiting features of that structure?

4. What were your long-term goals for this organization?

5. What were your short-term goals for this organization?

6. What were your strategies for achieving these goals?

7. What were some of the defining moments in the restructuring of the organization?

8. Did you have any guiding principles that helped frame this process? Is so, what were they?

9. What were some of the key indicators of success?

10. In your terms, what is a “quality school”?

Leadership

1. Reflecting upon your experiences throughout this restructuring process, what served you most effectively in your leadership role?

2. How would you describe the role of the leader in the restructuring process?

3. How does/did the organization effectively measure your leadership and provide you with feedback?

4. Reflecting upon your experiences throughout this restructuring process, what would you do differently and why would you change?
Appendix C: Survey Questionnaire - Non-Education

1. What do you see as the relationship between Deming’s 14 Points, and the principles of Total Quality?

2. How do the principles of Total Quality relate to International Standards Organization (I.S.O.) certification?

3. What are the areas of assessment when an application for I.S.O. certification is made from the education sector?

4. What do companies report as the positive elements of adopting a Total Quality approach to business?

5. How do the principles of T.Q. relate to education?

6. Is there data concerning the benefits of this approach in education? If so, what is reported?

7. What do you consider to be the cornerstones of quality for educational organizations?

8. How would an educational organization begin the shift to T.Q. principles?

9. How would they measure their success as an organization?