

When Quality Goes to School, What Do Leaders Do to Put it To Work?

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Introduction

There are so many words and phrases about quality in schools, swirling around these days, that I think it best to begin by defining a few terms. I will avoid using the acronym TQM. There is nothing wrong with TQM, other than no one can say for sure what it is and is not. Instead I shall use the phrase "quality management", and by that phrase I mean a managerial style which approaches the management of complex systems of people, equipment, facilities, economics, politics and society by working on quality as a first priority, ahead of profitability, cost reduction, market share and all other measures. Those who know quality management understand that when quality is increased, the product gets better, costs go down, customers are happier, employees are happier, market share increases, and profitability goes up.

Most of our experience with quality management comes from industry. Before we go any further, however, I want to repeat some warnings about the transference of industrial experience to education. Remember:

- 1 The school is NOT a factory.
- 2 Students are NOT products
- 3 Their education is the product
- 4 The product has several potential "customers" (Beneficiaries of the product)
- 5 The students
 Their parents
 Their potential employers
 Society at Large
 Other institutions of education who might receive the students.
- 6 The objective of education is not profit, but costs do matter.
- 7 In general, the people receiving the education are not the people paying for it.

Some Principles

You will hear it said many times that quality management requires a drastic shift in paradigm. To help you understand the nature of that shift, I have identified a few simple principles which embody some of the main ideas of quality management. I shall go over them quickly as a prelude to giving you advice on what you are to do, starting at once.

Principle #1: The redefinition of the job of a manager

**The people work IN a system.
The job of the manager is to work ON the system,
to improve it, continuously,
WITH their help.**

This definition marks a radical departure from the common conception of what manager's are supposed to do. (For "manager" you should read "superintendent"). The shift is from an emphasis on directing and controlling people, to an emphasis on improving systems.

When you became a superintendent, you probably inherited a whole passle of systems, some of them going back many years. No one taught you how to go about changing or improving them. You have not been provided with the tools. According to the above definition of your job, you are expected to know how to identify a system, describe it to someone else and to lead teams of your subordinates as they help you improve it.

We begin by considering how to define a system. Here, for example, is a general graphic representation of a system of production. The system produces an education for the learners. Like all systems of production, the cooperation of the workers is essential. In this case, the primary workers are the learners, who must participate in the production of their education.

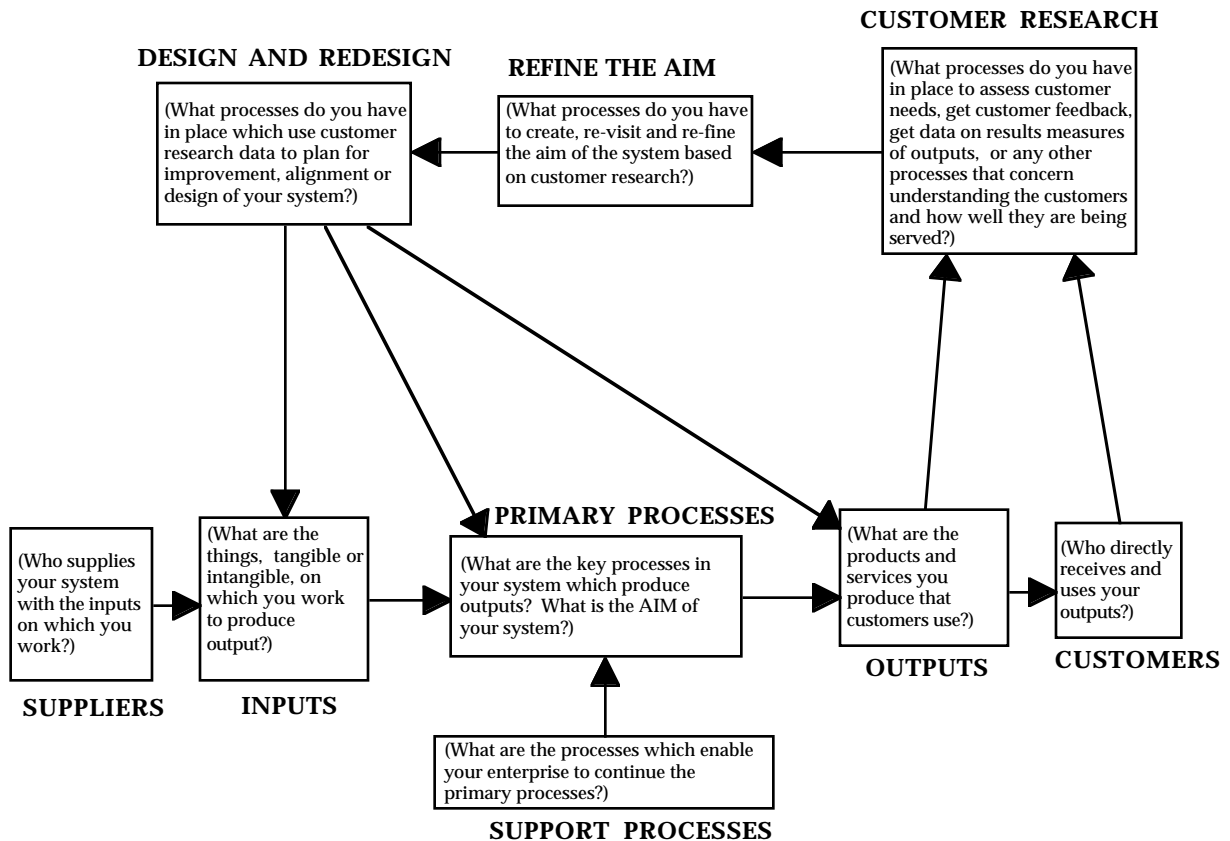


Figure 1. The system of production. ¹

A diagram like this can be very helpful to a superintendent in several ways:

- It draws attention to weak or missing components.
- It provides a basis for discussion with the people who work in the system.
- It identifies which processes are primary and which are supportive.

¹ This diagram was supplied by Elaine Torres of Texas. It is based upon a diagram first described to the Japanese by W. Edwards Deming in 1950 at the start of the redevelopment of Japanese industry.

The next figure shows how the diagram may be applied to a school system.

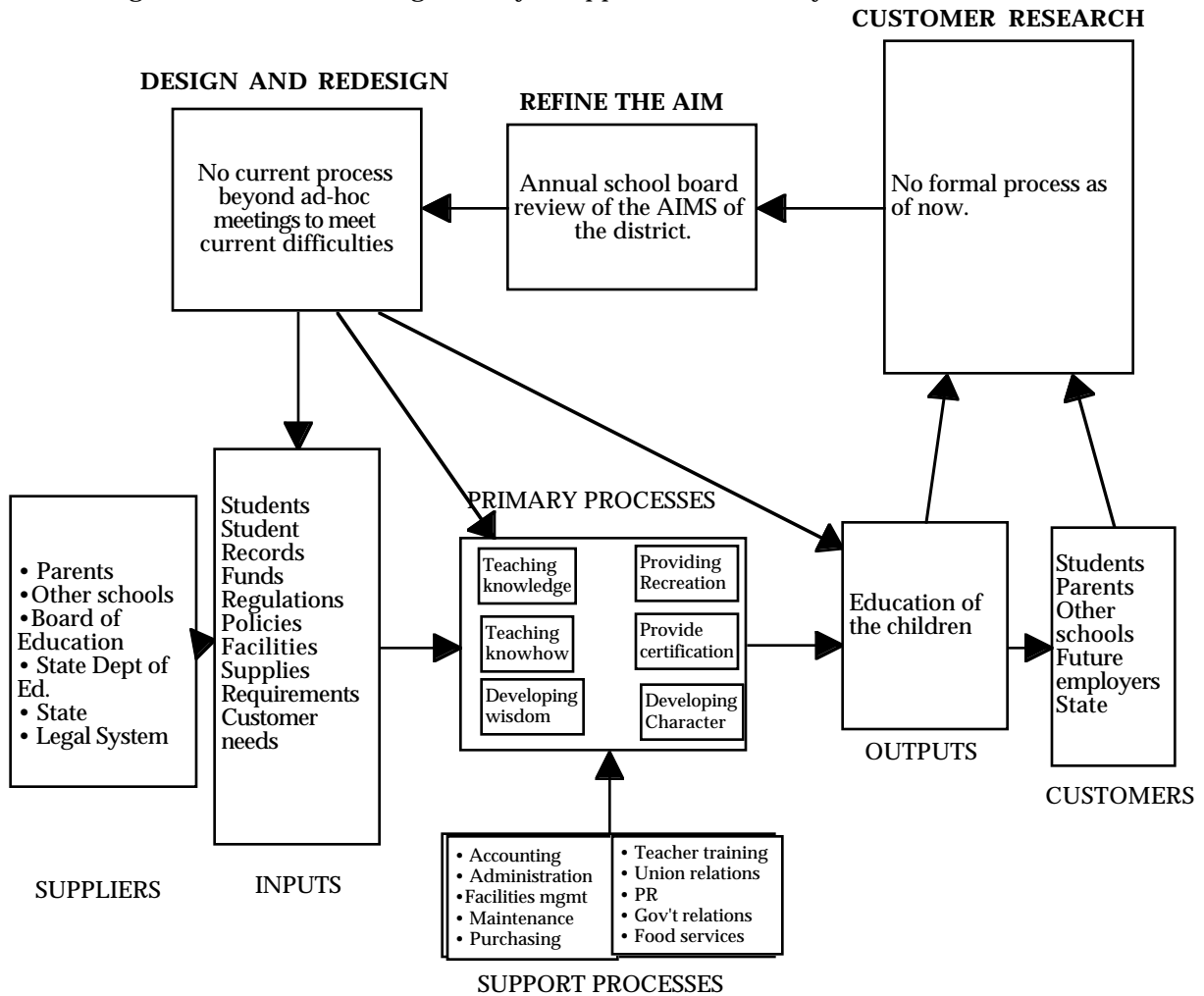


Figure 2. Looking at education as a system. The diagram is incomplete. You should undertake to complete and correct it for your situation.

The word "customer" will seem strange to many educators. We use the word to mean any person who is the beneficiary or recipient of an action. In Madison, Wisconsin, for example, the police department regarded people they arrested as "customers". After the arrest, in some cases, they asked the person arrested to comment on their professionalism! They did so because they believed that respect for the law was an important element in law enforcement. The people you serve are your customers.

In quality management we put great emphasis on discovering how to increase the quality of the service to customers. But what is quality in education? For that we turn to a second and third principle.

Principle #2: Quality of service

**The person next in line is your customer.
Your customer should have the highest possible quality of service.**

According to this principle, not only are the people outside the system (the paying customers) deserving of quality service, but "internal customers" should be served with quality too.

This way of looking at the relationship among workers is quite foreign to conventionally trained managers. Under the old way of looking at things, people tried to please their bosses, who then decided the quality of service to other departments. Co-workers were not considered. In the quality way to manage, each person works to please the next person in line and supervisors are expected to remove any barriers to excellence of service. Imagine what it is like to work in an enterprise where everyone who supplies you with anything does so in a way designed to please you!

In this sense, whenever you issue a policy statement, the teachers are your customers. Therefore, your policy statements should be of the highest quality and the method of dissemination should, likewise, be of very high quality. Do you know how to tell? I'll introduce you to some methods in a later section.

Principle #3: Who defines quality?

Quality is defined by customers.

To make sense of this principle, it is essential to distinguish between "features" and "quality". By *features* we mean those distinguishing characteristics that define the product or service. *Quality* has to do with *how* the features are delivered.

In education, for example, the *features* are the subject matters, such as mathematics, history, geography or science. The *quality* is determined by how these materials are presented.

A building has many features. Or it may have few. How well the building is maintained determines how people judge the quality of the building.

In the classroom, the contents of courses are features. How they are taught determines quality. Adults determine the features for their children. On the other hand, only the learners can judge the quality of the experience.

Principle #4: The definition of quality in education

Quality is what makes learning a pleasure and a joy.

You can increase some measures of performance by using strong external motivators, such as grades, prizes, threats and punishments, but the attachment to learning will be unhealthy.

It takes a joyful experience with learning to attach a student to education for life. When there is joy in learning, the effort required does not seem like work.

Sometimes it takes hard work to master something. However, when there is joy in learning, it does not seem like hard work. Students will spend hours on the basketball court, working up a sweat while they practice their hook shot. Yet it does not seem to them like hard work. When you want to do something, the work seems incidental. It may even seem like fun.

Very few sane and rational people go into education to get rich. Most of us want to provide for youngsters the same joy in learning that we, ourselves, had at one time or another. We who

have been teachers were hooked on learning and we wanted to give others that same sense of joy. The problem is that no one ever taught us how to do it. We either had an instinct for it, which the current system of education seems bent on killing, or we never achieved it at all. If you were to go to the teachers you know who have a reputation for making their classes interesting and joyful, I am confident they will tell you they achieve in spite of, not because of, the system in which they teach.

Principle #5: Constancy of Purpose

**Without an Aim,
there is no System.
It is impossible to improve a system which does not have
constancy of purpose.**

There are many players in the educational system. Most of them are not under the control of anyone. They need something to guide them. A well crafted statement of the aim of a system can providing them with a guiding star. Schargel² uses the following diagram to show the difference with and without an aim.

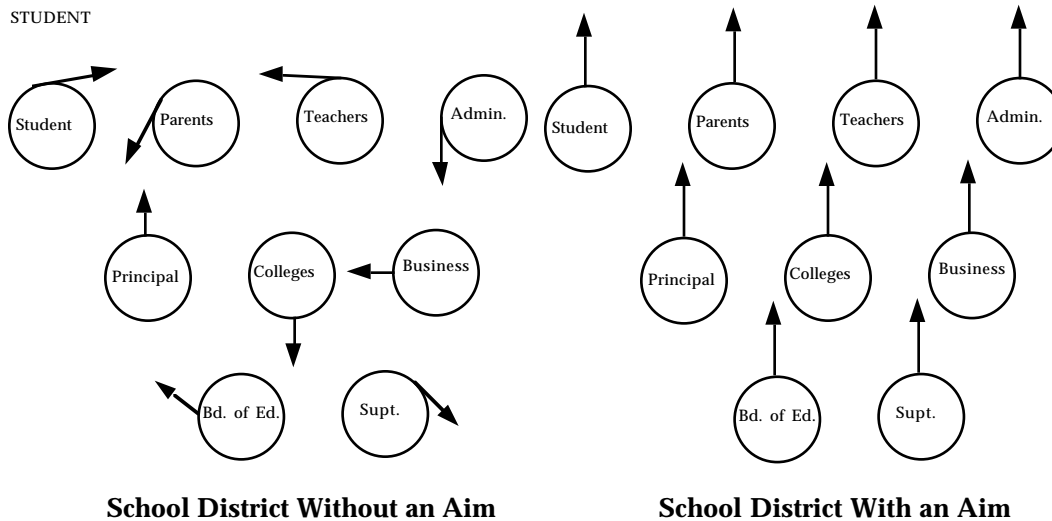


Figure 3. Without an agreed upon aim, the components of a school system will pull in every direction.

Here, for example, is the statement of the aim of the Edina School District of Edina, MN.³

The mission of the Edina Public Schools, working in partnership with the family and the community, is to educate responsible, lifelong learners to possess the skills, knowledge, creativity, sense of self-worth and ethical values necessary to survive and flourish in a rapidly changing, culturally diverse, global society.

²Schargel, Franklin Transforming Education Through Total Quality Management Eye on Education, Box 388, Princeton Junction, NJ 08550 1994

³ Extracted from a more extensive statement of the mission, beliefs and values of the Edina School District, 5701 Normandale Road, Edina, MN 55424, Dr. Kenneth Dragseth, Superintendent.

I am so impressed with their statement, I have reproduced extracts from it in the appendix to this paper.

Principle #6 Juran's principle. The 85-15% rule

**Whenever there is a problem,
85% of the time it will be in the system.
Only 15% of the time will it be the fault of the people.**

W. Edwards Deming goes further and suggests that the ratio is closer to 95-5 than 85-15. The important point is that whenever we have made a careful investigation of a problem, we have found that it originated in the system, not a person. In quality management we have a slogan: Fix the system, not the blame!

Principle #7: Manage by process, not by results. Manage FOR results.

**If you base your decisions on how things turn out,
you will always be late.
Learn to identify the "leading indicators" in the processes
if you want to get better results out of the process.**

A simple example will help. At the George Westinghouse Technical Vocational High School in Brooklyn, they had been for many years distressed over the number of students who were failing all or most of their classes. They didn't like the results, but the results gave no clues as to what to do. Then the improvement teams decided to study the learning processes of these students. They identified causes for not doing homework and instituted a series of measures to change the process. Then the flunk rate went down.⁴

This example is also an illustration of Principle #6.

Principle #8: Use internal, not external motivators

**Stop using exhortations, prizes, threats, special rewards
for people who are just doing what they are supposed to do.
Instead, promote joy in learning.
Promote cooperation.
Diminish competition.**

This principle seems to fly in the face of experience. We are so habituated to the use of external motivators that we are confident that the world cannot run without them. Examples of external motivators often used in education are: Honor rolls, grading on the curve, grades in general, citations as the "Honor Student of the Month", threats of flunking, ridicule. Some people justify them because they say "That's what it is like in the world of adults." True. It doesn't work very well there, either.

There are now many books which make the case against competition. I think some of them go overboard in their condemnation of *all* competition. Because of the controversial nature of this subject, it is worth a few words of discussion. *Friendly competition* is healthy. People competing with one another to see who can offer the better goods and services results in a

⁴Schargel, Franklin

greater variety of choices for consumers. Markets should be open to people who have a better idea and want to introduce it. Our patent system is designed to allow people to develop and introduce their ideas without having someone steal them. After 17 years, they lose their monopoly position and have to compete. I do not think this is bad.

What is bad is when people compete for the express purpose of doing damage to the competitor. At the same time that people compete in the marketplace, they should also cooperate in making the marketplace better. For example, through the American National Standards Institute (ANSI) companies get together and agree on standard sizes, methods of measurement, and definitions of terms. Imagine what would happen if all manufacturers of weighing scales had their own system of weights and measures?

In education the use of grading systems is particularly destructive. To understand what to do about it requires that we keep distinct the two ideas of *grading* and *evaluation*. Everyone needs evaluative feedback. But no one needs to be graded.

It is inescapable that 50% of the children will be in the lower half of the class on any measure. That's a mathematical fact, and there is nothing you can do about it. When a man in the Ministry of Education in England bemoans, in the newspapers, the fact that "fully a third of our schools are below the national average", he is telling us something about the failure of his own education.

What schools need to do is to be able to guarantee that everyone comes up to an agreed upon standard of performance in every *required* subject. As we shall see in a later section, this means development of a system which can be used by teachers, administrators, students, parents, other schools, taxpayers and potential employers to evaluate the education of the student. Grading does not provide the necessary information required for improvement.

So, if grades are out, how do we provide good feedback to learners and their sponsors? I shall come to that in a later section. But first we should look at a few more principles.

Principle #9: The Perversity Principle

**If you try to improve the performance of a system
By setting numerical goals and targets,
You will probably attain them,
But you will pay a price where you least expected it.**

You can tell a group of teachers "Get those reading scores up." They will, but you will find an increase in graffiti, in disciplinary actions, and in other ways the students will rebel. What to do instead? Let us now turn to how to apply these principles in the classroom.

Let's Be Specific About What We Are Trying to Do.

Quality is not only about doing things right. Quality is also about doing the right things. Therefore, before discussing how to teach with quality, it is essential to understand how to use quality methods to decide what to teach.

A decision implies making a choice among alternatives and doing so according to given criteria. Without alternatives, there is nothing to decide. Without criteria, there is no way a group of people can decide. How will they know what is good?

I propose that we judge the adequacy of an education (its features) in four categories:

- Providing **knowledge**
Knowledge enables us to understand.
- Developing **know-how**
Know-how enables us to put knowledge to work. It includes skill but involves more than just skill.
- Development of **wisdom**
Wisdom is the ability to decide what is important and what is not.
- Development of **character**
Character is defined by a set of attributes which distinguish us decent human beings.

The educational experiences provided by a school system should be strong in all four categories. The school leadership should enlist the cooperation of all stakeholders (who appear in one or another of the boxes of figure 2, for example) in a quality process which determines what is done in each of the four categories identified above.

For every *required* subject in a school, a list should be prepared of all of the subject which the students are expected to master. This list should be developed in the form of a tree diagram. For example, figure 5 shows a tree diagram for someone who is to have the ability to facilitate quality improvement. The list presents the *features* of the instructional program. Such a list is prepared by participation of the stakeholders in the educational system. In a later section I shall address the training required so that the stakeholders may participate in a quality way, but for now, let us take the list as a "given".

It should not have escaped your attention that this list applies particularly well to school superintendents!

Before this list can be put to use, it is also necessary to define *levels of competence*. If you have studied education seriously, you will be familiar with Bloom's Taxonomy. The following definitions are based on Bloom, but have been modified to correspond to the categories listed above:

Defining Levels of Competence

	LEVEL 2	LEVEL 2
KNOWLEDGE	Be able to explain, in own words, what the subject is about, answer simple questions posed by a teacher such as: Can you define? Who? What? Where? When? Why? How?	Without the teacher, be able to organize information about the subject and give a coherent explanation to someone else.
KNOW-HOW	Able to solve a problem or do a task which has been define by the teacher and to perform to a prescribed level	Able to define a task and carry it out without the guidance of a teacher. Able to critique own work and work of someone else.
WISDOM	For a given task, with the aid of a teacher, able to develop a plan to carry it out and to use resources which have been identified by others.	Able to decide what to do without being told, to make judgments about the relative importance of possible courses of action, to identify and use proper resources
CHARACTER	To understand the character attributes required to accomplish a particular task and to bale to know, with the help of a teacher, what one's strengths and weaknesses are.	Without the direction of a teacher, to be able to work with others, where necessary, or alone, where necessary and to behave appropriately under either circumstances.

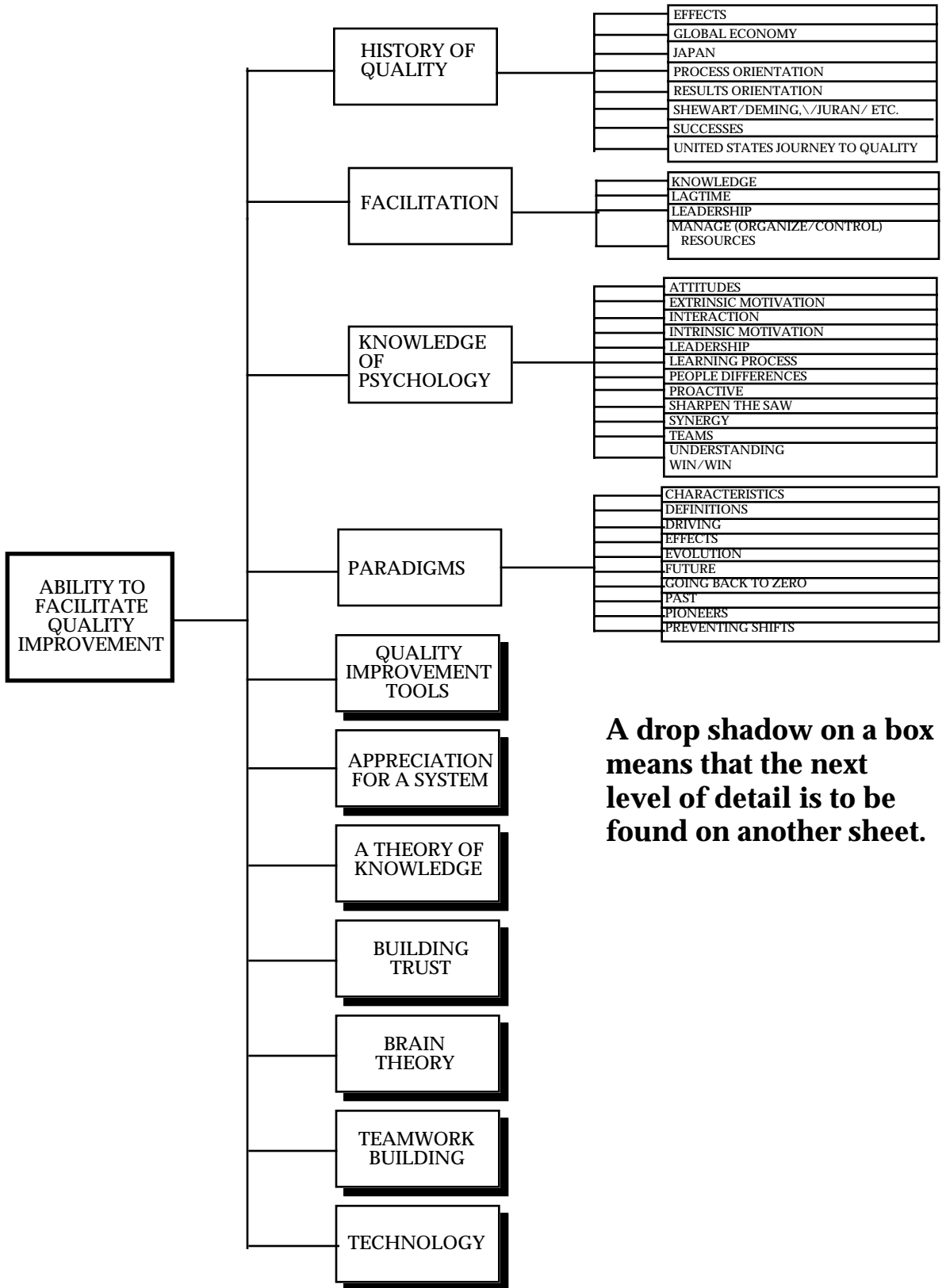


Figure 5. Tree diagram for competencies of a quality improvement facilitator.

The appendix shows the connection between the required topics (the features) and the level of competence (the quality). The matrix defines a minimum set of topics which a person should have mastered to be certified as competent in quality improvement. The matrix requires some interpretation.

1. The rows present topics. The topics are necessarily abbreviated to keep the matrix to a reasonable size.
2. To the right of the topics, the columns represent the *level of competence* to which the learner should achieve.

This particular matrix was prepared in collaboration with David Langford. For the last six years I have been helping David apply quality methods in the classroom. He started in Mt. Edgecumbe High School in Sitka, Alaska. There I first had a chance to observe what goes on in a class where quality methods were being applied. David had taught a number of other teachers at Mt. Edgecumbe how to use quality methods in the classroom, so what I witnessed was not just the charisma of one gifted teacher. Although I have been an educator for well over 30 years, I had never seen students so well educated in my life. It changed my whole perspective on education and I have been following David's lead ever since.

The matrix shown in the appendix was prepared using a spreadsheet program on a personal computer.⁵ The reason to use spreadsheets, beyond their convenience, is to allow easy updating and alteration.

How Should Teachers Use the Competency Matrix?

There are at least four different relationships possible between teacher and learner. The following table was prepared by the students at Mt. Edgecumbe High School.

Table 1

TEACHERS	DO TO	DO FOR	DO WITH	ENABLE
	THE STUDENTS	THE STUDENTS	THE STUDENTS	THE STUDENTS
STUDENTS	NO CHOICE	CAPTIVE	DEPENDENT	EMPOWERED
	CAPTIVE	PASSIVE	ACCEPTING	INVESTIGATOR
	HOSTILE	DO MINIMUM	WAITING	COOPERATIVE
REACTION	LET ME OUT!	MUST I?	WILL IT BE ON THE TEST?	TRUE JOY IN LEARNING!

----->> Direction of Increasing Autonomy ----->>

When the students first come to the class, they should be given a copy of a matrix, similar to the one shown in the appendix, but prepared for the subject of the class. **How** the competencies indicated in the matrix are achieved defines the **quality** of the instruction.

Because student involvement is essential to success, the first few sessions of the class should be devoted to a discussion of each of the topics, why they are on the list, and the competence level to which each student is expected to go. There should be a good discussion of:

- **How the student will know the level has been attained**
- **How the teacher will know the level has been attained.**
- **What the teacher is supposed to do to help the student attain this level.**
- **What the student is supposed to do to attain the level.**
- **How a third party could be assured that the level had been attained.**

⁵In this particular case, Microsoft's EXCEL on a Macintosh computer. Other programs on PC's may also be used.

These steps are crucial to the attainment of quality. The students and the teacher should discuss each of the topic. If it is not evident to the students that the competencies will be important to them, they should do some field studies to assure themselves. For example, in a course on economics, the students should show the list to a few adults, whose abilities they respect and ask for their opinion. The students should compare notes, using an Affinity diagram to make sense of their findings.

If there are state mandated subjects and state mandated texts, the competency matrix should include the topics required. This minimum set may be expanded as a result of the student's research. The important point is to develop a class consensus regarding the importance of what is to be learned. The objective of the teacher should be to get peer pressure working for the learning process, not against it. Langford's experience, and that of others who have tried, is that even if the first 15% of the class is spent gaining this consensus, it is not time lost. The students will be so much better motivated that in the remaining 85% of the time they will learn and retain twice as much as if they had spent all their time in the conventional way of learning.

The teacher and student should also spend considerable time discussing and agreeing on the objective of the class. "Why are we here?" is a good question for the teacher to ask. Again, using an affinity diagram, the class can develop an understanding of their own motivations. IF the student motivation for being in the class is not a positive one (i.e., "I'm here to be with my boyfriend", "I have to take it to graduate.", "It is required.", "I heard it was an easy course.", etc., etc.) the students should interview adults who are likely to give them advice they will respect.

Once the students are persuaded that the contents (i.e., the features) of the course are worth their time and effort, the teacher and students should discuss how the learning is to take place, i.e., the *quality* of the experience. This discussion should revolve around such subjects as :

TESTING

How often? What kind? How to evaluate? What is the purpose?

HOMEWORK

How often? What is the purpose? When?

EVALUATION

How will we know how we are doing? Against what shall we benchmark?

What do we hope to do and how will we know if we are doing it?

CLASS CONDUCT

How much time do we have (count total minutes for the term)? What cuts into the efficiency of the use of this time? How do we make ourselves most efficient?

DOCUMENTATION

How shall we persuade others that we have really done a good job?

DUTIES OF TEACHER AND STUDENTS

What is your job? What is my job? How do we keep each other on track?

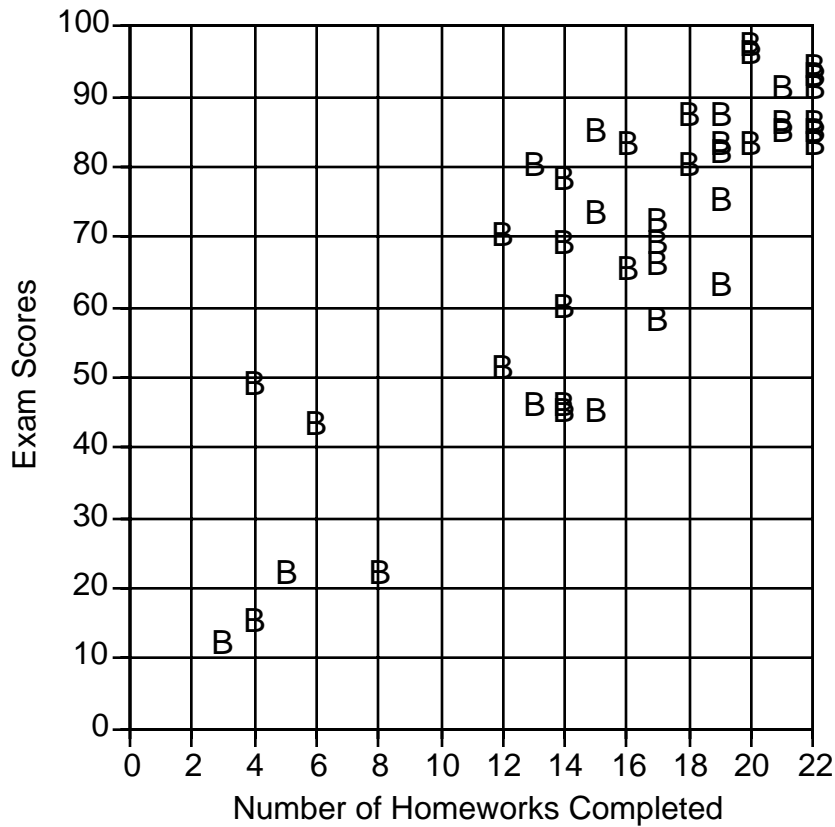
The objective of all this discussion is to get rid of the adversarial nature of conventional teaching. The purpose is to persuade the students to be responsible for their own education.

Making Students Response-able

Larrae Rocheleau, who was the Superintendent at Mt. Edgecumbe High School when David Langford began his experimentation, used to say: "If you want to make students responsible, you must first make them response-able."

One of the pleasant surprises from the Mt. Edgecumbe experience (and classes in other schools where quality methods have been tried) is that students not only enjoy learning the quality management tools and techniques, they derive great value in applying them to their own lives, particularly their own study habits. For example, the following diagram was constructed by students at the George Westinghouse Technical Vocational School in Brooklyn, New York, using data they gathered themselves. This latter point is important, for it is the involvement of the students with the data and the data analysis which energizes internal motivation.

Scatter Diagram: Exam Scores and
Number of Homeworks Completed
(Date from Exam 4/20/93)



From Schargel, Franklin P. Transforming Education Through Total Quality Management
Published by Eye on Education. 1994

Figure 6. Scatter diagram, competency dependence on homework.

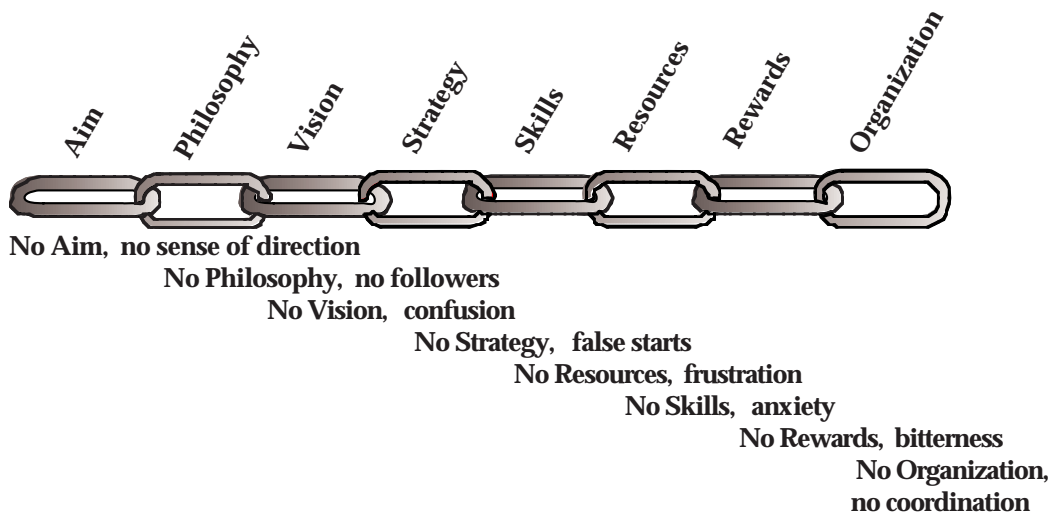
Students have studies such barriers to learning as the time taken to start each class. One parent observing a particular middle school in San Francisco observed that it about ten minutes at the start of each class was lost to taking roll! Students can plot a run chart and see what they can do to prevent lost time.

Links in the Chain of Events Leading to a Transformation of Culture

The description I have given of how a quality school differs from the ordinary school requires that everyone, from the Superintendent on down the chain to the lowest level, changes the way they approach their job. In order for the transformation to take place, it must be led. It cannot be led by someone who does not understand what quality management is. Therefore, the first requirement is for the superintendent to transform his or her way of managing and leading. But a personal transformation is not enough. People need guidance as they change their ways.

There are eight elements required for a successful transformation.

Table 2
Eight Factors for Success and The Consequences of Omitting Any of Them



And finally, What Should a Superintendent Do?

Once when Dr. Deming was asked, "When should we begin?" he replied: "It doesn't matter when you begin so long as you start at once."

Here are some things for you to do, starting at once:

- Learn about quality management. There are many fine books on the market today. In the appendix I have listed some of them that I have found particularly informative. The first three things to do are: Read. Read. Read.
- Use the matrix in the appendix as a self test. In the quiet of your room, go over each of the items in the matrix and score yourself as to the level which you believe you have attained. Use a colored marker and color the squares to the right of each competency. (I have indicated the minimum set required for someone to teach these topics to other.)
- Choose a few volunteers from among your immediate staff and with them, study the system diagram in figure 2. At the same time, with them, review the statement of the aims and values of your school district. (Examine and compare to the statement from the Edina School District in the appendix.) Decide among yourselves what you ought to work on first.

- Inquire of local industry which companies are enthusiastically engaged in adopting quality management. Ask them to loan you one of their better facilitators to help you learn about quality management. You may be able to use some of their training materials for use with your staff.
- Pick a process which is not too big and form a small team to work on it as a means of self education. Remember: You cannot lead what you do not understand. You do not understand how to do something you have not ever done yourself.
- Develop a strategy and a plan for starting on the strategy to transform the culture of your district to quality management.
- Seek out one or two volunteer teachers who would like to try quality management in their classes. Encourage them to try and to keep you informed on how it goes. With their help, identify barriers and work on removing them.
- Ask local industry to set up an advisory committee to help you with the transformation. When you begin to tinker with education, you need friends outside the system who will stand up for you!
- Put all the links in the chain into place.

Competency Matrix for a person to teach quality methods.

		COMPETENCIES TO BE DEVELOPED		KNOWLEDGE		KNOW-HOW		WISDOM	
		(and the levels to be attained)		L1	L2	L1	L2	L1	L2
ABILITY TO TEACH QUALITY METHODS	HISTORY OF QUALITY	EFFECTS							
		GLOBAL ECONOMY							
		JAPAN							
		PROCESS ORIENTATION							
		RESULTS ORIENTATION							
	FACILITATION SKILLS	SHEWHART/DEMING/JURAN/ETC.							
		SUCSESSES							
		UNITED STATES							
		KNOWLEDGE							
		LAGTIME							
UNDERSTAND PARADIGMS	LEADERSHIP								
	MANAGE(ORGANIZE, CONTROL)								
	RESOURCES								
	ATTITUDES								
	EXTRINSIC MOTIVATION								
	INTERACTION								
	INTRINSIC MOTIVATION								
	KNOWLEDGE OF PSYCHOLOGY	LEADERSHIP							
	LEARNING PROCESS								
	PEOPLE DIFFERENCES								
UNDERSTAND PARADIGMS	PROACTIVE								
	SHARPEN THE SAW								
	SYNERGY								
	TEAMS								
	UNDERSTANDING WIN/WIN								
	CHARACTERISTICS								
	DEFINITIONS								
	DRIVING								
	EFFECTS								
	EVOLUTION								
UNDERSTAND PARADIGMS	FUTURE								
	GOING BACK TO ZERO								
	PAST								
	PIONEERS								
	PREVENTING								
	SHIFTS								

Competency Matrix (cont'd)

COMPETENCIES TO BE DEVELOPED (and the levels to be attained)		KNOWLEDGE		KNOW-HOW		WISDOM	
		L1	L2	L1	L2	L1	L2
	AFFINITY DIAGRAM						
	AREA CHART						
	BAR GRAPH						
	BRAINSTORMING						
	BUBBLE CHART						
	CHECK SHEET						
	COLUMN CHART						
	COMPETENCY MATRIX						
	CONSENSOGRAM						
	CORRELATION CHART						
	DEPLOYMENT FLOW CHART						
	FISHBONE						
	FLOW CHART						
	FLOW TREE DIAGRAM						
	FORCE FIELD ANALYSIS						
	FREQUENCY/HISTOGRAM						
	GANTT CHART						
	IMAGINEERING						
	INTEGRATIVE ANALYSIS						
	INTERRELATIONSHIP						
	LEARNING CHART						
	LOSS FUNCTION						
	LOTUS DIAGRAM						
	MATRICES						
	MULTI-VOTING						
	NOMINAL GROUP TECHNIQUE						
	OPERATIONAL DEFINITIONS						
	PARETO CHART						
	P.E.R.T. CHART						
	PIE CHART						
	PILOT PROJECT						
	PDPC						
	RUN CHART						
	SAMPLING						
	SPIDER DIAGRAM						
	SURVEY						
	SYSTEMS PROGRESS						
	VISION						

ABILITY TO TEACH QUALITY METHODS	USE QUALITY IMPROVEMENT TOOLS
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Competency Matrix (Cont'd)

		KNOWLEDGE		KNOW-HOW		WISDOM		
		L1	L2	L1	L2	L1	L2	
		COMPETENCIES TO BE DEVELOPED						
		(and the levels to be attained)						
ABILITY TO TEACH QUALITY METHODS		APPRECIATION FOR A SYSTEM						
		ACTIVITY NETWORK DIAGRAM						
		COMMON CAUSE						
		COMMUNICATION						
		COOPERATION						
		DEPENDENCE						
		INDEPENDENCE						
		INTER DEPENDENCE						
		MANAGEMENT						
		OPTIMIZATION						
		PLAN, DO, STUDY, ACT						
		PROCESS CAPABILITY						
		PROCESS MISTAKES						
		RANDOM FORCES/CHANGES						
		SPECIAL CAUSES						
STABLE SYSTEMS								
VARIATION								
WHAT IS A SYSTEM								
THEORY OF KNOWLEDGE		COMMUNICATION						
		EXAMPLES						
		EXPERIENCE						
		INTERPRETATION OF DATA						
		OBSERVATION/INSPECTION						
		PREDICTION						
		PROFOUND KNOWLEDGE						
		SPECIFICATION LIMITS						
		SOURCES OF UNCERTAINTY						
		TAMPERING						
THEORY OF FAILURE								
TRUE VALUE/FACT								
VARIATION								
BUILDING TRUST		ACTIVITIES						
		COMPETITION						
		COOPERATION						
		EQUALITY						
		INFLUENCES						
		RESPECT						
SUPPORT/COACHING								

Competency Matrix (Cont'd)

		KNOWLEDGE		KNOW-HOW		WISDOM			
		L1	L2	L1	L2	L1	L2		
		COMPETENCIES TO BE DEVELOPED							
		(and the levels to be attained)							
ABILITY TO TEACH QUALITY METHODS		BRAIN RESEARCH AND THEORY		AFFECTIVE					
				COGNITIVE					
				INTUITIVE					
				LEARNING STYLES					
				NEURONS					
				PHYSICAL					
				TAXON MEMORY					
				LOCALE MEMORY					
				BRAIN-BASED LEARNING					
				THEMATIC TEACHING/LEARNING					
				NEUROSCIENCE					
				INTRINSIC MOTIVATION					
				EXTRINSIC MOTIVATION					
TEAM BUILDING				COLLEAGUES					
				CUSTOMERS					
				FOCUS/VISION					
				GOALS					
				PURPOSE					
				REINFORCEMENT					
				SUPPLIER					
				TRUST					
		TECHNOLOGY				AUDIO VISUAL			
						COMMUNICATION			
				GLOBAL INFLUENCE					
				HARDWARE/SOFTWARE					
				PROS/CONS					

Appendix II

Mission and Beliefs
Edina Public Schools
 5701 Normandale Road
 Edina, MN 55424

The Edina Public Schools have been involved in quality management for about four years. A new Superintendent, Dr. Kenneth Dragseth, took over from a predecessor who had started the process and had reached retirement age. One of the early activities the new Superintendent undertook was to appoint a task force from the community to develop a statement of Mission and Beliefs. The complete publication can be obtained by writing to Dr. Dragseth at the above address. Only a portion is reproduced here.

MISSION *A broad statement of the unique purpose for which the organization exists and the specific function it performs*

The mission of the Edina Public Schools, working in partnership with the family and the community, is to educate responsible, lifelong learners to possess the skills, knowledge, creativity, sense of self-worth and ethical values necessary to survive and flourish in a rapidly changing, culturally diverse, global society.

BELIEFS *A statement of the organizations' fundamental convictions, its values, its character.*

We Believe that:

- Every person can learn.
- People learn at different rates and in different ways.
- Learning is a lifelong process.
- Every person wants to do a good job.
- Self-esteem affects learning
- Success promotes further success.
- Education is a shared responsibility among the students, family, school, community and society at large.
- We cannot be all things to all people.
- This community values education.
- People are accountable for their own decisions and actions.
- Every person has inherent worth.
- *Appreciation of individuality and diversity is an important life skill.*
- Global awareness and understanding are essential components of education
- Cooperation is essential in a competitive world.
- *Family involvement is a vital component in the educational process.*
- Creativity linked with knowledge is valued in the educational process.
- Educational progress requires innovation, *risk-taking and the ability to manage change.*
- Continuous improvement is desirable and possible
- A positive and supportive environment is essential to the educational process.
- Physical and mental well-being of people are essential for a healthy school and community.
- Cultural diversity enhances education.
- Survival of our democratic society requires a commitment to fundamental ethical values.
- A well-balanced education includes participation in extracurricular and community activities

- Open and timely communication builds a healthy school/community partnership.

STRATEGIC POLICIES *Management pronouncements that establish the parameters within which the organization will accomplish its mission*

We will:

- Determine appropriate learning environments for all learners.
- Operate the district in a fiscally responsible manner.
- First consider the reallocation of existing resources before adding new programs or services.
- Review on a cyclical basis all programs or services to determine current effectiveness and necessary modifications.
- Adhere to the inclusive education curriculum plan of the district that addresses diversity.
- *Resolve conflicts at their source.*

We will not:

- Tolerate psychological, physical or sexual abuse and/or harassment.
- Tolerate the use of alcohol or illegal drugs by any person in or on school property or at school related activities involving students.
- Tolerate behavior or language which is prejudicial and/or diminishes a person's dignity and worth.

OBJECTIVES *An expression of the desired, measurable end results for the organization.*

- All K-12 students will demonstrate knowledge and appreciation of our rapidly changing, culturally diverse, global society.
- By 1993-94 the school district will show discernible progress in raising the level of student awareness and appreciation of identified ethical values.
- By 1993-94 the school district will show discernible progress in raising the level of student enjoyment, appreciation and value for lifelong learning.
- All students must master specified competencies prior to graduation

NOTE: Statements in *italics* were added by a committee appointed to update the statement.

The foregoing is but an extract from the more complete document, "Creating the Future--1993-94 Strategic Plan"

APPENDIX III

AN ANNOTATED READING LIST
SUITABLE FOR TEACHERS AND ADMINISTRATORS

By the time you read this list, it will probably be out of date. The quality movement plus the renewed interest in education has spawned a new industry--writing books on quality in education.

American Association of School Administrators Quality Goes to School, Readings on Quality Management in Education. AASA, 1801 North Moore Street, Arlington, VA 22209-9988

This is a collection of reprints on various topics relating to quality in education. There are 27 articles dealing with actual experiences in the classroom and the school office.

Brassard, Michael, The Memory Jogger and The Memory Jogger Plus GOAL/QPC, 13 Branch Street, Methuen, MA 01844 Phone: (508) 685 3900 FAX: (508) 685 6151

These books are also available in a version written for teachers and students. They contain descriptions of various tools and techniques useful in problem solving, organizing groups to solve problems and in problem formulation. A must for any teacher serious about quality.

Covey, Stephen R. The 7 Habits of Highly Effective People Simon and Schuster, (1989)
A very stimulating book dealing with self improvement. Available in paperback. Potentially a textbook for high school students but can be used at any level.

Deming, W. Edwards, Out of the Crisis MIT Center for Advanced Engineering Study (1982)
Although aimed at industry and government, this book has an excellent treatment of the foibles and failures of management as practiced in major corporations in the USA. Regrettably, although it is eleven years old, it is still pretty much on the mark. It is well worth reading for the cultural value for it is considered a classic in the field.

Deming, W. Edwards, The New Economics for Industry, Government and Education MIT Center for Advanced Engineering Study (1993)
This book extends and elaborates on ideas presented in Out of The Crisis. Contains many anecdotes useful in driving home his many points about what must change in our present style of management. A few references to education, but many general principles to provoke your mind.

Dennett, Daniel C., Consciousness Explained Little Brown (1991)
This book was on the New York Times list of the ten best books of 1991. Despite its technical content, it is thoroughly readable by non-experts in the field. A good complement to Jane Healy's book.

Dobyns, Lloyd and Crawford-Mason, Clare Quality or Else Houghton Mifflin (1991)
This book is a companion to the PBS three hour series with the same title. While mostly about business, there are several examples taken from education. The videotapes should be available from a local PBS station but it may take some digging to get them.

Healy, Jane M., Ph.D. Endangered Minds: Why Children Don't Think and What We Can Do About It Touchstone Press, Simon and Schuster, 1990

A review of the neurophysiology of brain development and the effect of early childhood experiences in the development of linkages within the brain. This is a hopeful book based on factual information.

Schargel, Franklin P. Transforming Education Through Total Quality Management, A Practitioner's guide Eye on Education, P.O. Box 388, Princeton Junction NJ 08550 (609) 799 9188

This is the first book written by someone who has actually practiced what so many other people are preaching! The book is written in a fast, New Yorker style, easy to read and honest about what worked and what didn't. Highly useful for people who want to get started but are afraid to begin.

Scholtes, Peter R., Editor, The Team Handbook Joiner Associates, Inc., 3800 Regent Street, Madison, WI 53705-0445

Phone: (608) 238 8134 FAX: (608) 238 2908

*This book is also available in a version written for educators. It contains practical instruction for forming groups, for organizing them to solve problems and for problem analysis. **This book is a required reading for any teacher serious about quality.***