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An examination of teachers' perceptions of district staff development programs  
and their relationship to perceptions of district quality management

by

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A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of the  
Requirements for the Degree of  
DOCTOR OF PHILOSOPHY

Department: Professional Studies in Education  
Major: Education (Educational Administration)

Approved:

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For the Major Department

Signature was redacted for privacy.

For the Graduate College

Iowa State University  
Ames, Iowa

1995

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## TABLE OF CONTENTS

	<u>Page</u>
LIST OF FIGURES	v
LIST OF TABLES	vi
CHAPTER I. THE PROBLEM	1
Introduction	1
Statement of the Problem	3
Purpose of the Study	5
Objectives of the Study	6
Research Questions	6
Hypotheses of the Study	6
Basic Assumptions	7
Delimitations	7
Definition of Terms	8
CHAPTER II. REVIEW OF LITERATURE	9
Introduction	9
Educational Change	9
Goals 2000	10
The Concerns-Based Adoption Model	12
Staff Development	13
What is staff development?	13
History of staff development	17
Changes in staff development	20
Staff development models and effective practices	22
Staff development and educational reform	40
Impact of staff development	41
Systems Thinking	42
Continuous Quality Improvement	43
History of Continuous Quality Improvement	43
Continuous Quality Improvement and school reform	45
Basic principles of CQI	48
The Malcolm Baldrige Award	53
Use of a business model	55
Staff Development and Continuous Quality Improvement	58
Summary	63
CHAPTER III. METHODOLOGY	64
Procedures of the Study	64
Population of the Study	65
Research Design and Variables of the Study	65
Development of the Instruments	66
Human Subjects Release	68
Data Collection Procedure	68

Statistical Analysis of the Data	69
CHAPTER IV. FINDINGS	70
Introduction	70
General Characteristics of the Sample	70
Analysis by position	72
Analysis by other demographics	75
Reliability Analysis of the Instruments	75
Quality Management Perceptions	75
Staff Development Perceptions	76
Results of Hypotheses Tested	81
Summary of Findings	83
Evaluation of the Perceived Quality Assessment Instrument	85
Summary	87
CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	88
Summary	89
School System Perceived Quality Assessment Instrument	91
District Staff Development Questionnaire	91
The relationship between staff development and district management	91
Staff development ratings and the seven Baldrige dimensions	92
Differences between high and low districts in quality effectiveness	92
Conclusions	93
School System Perceived Quality Assessment Instrument	95
District Staff Development Questionnaire	96
The relationship between staff development and district management	96
Staff development ratings and the seven Baldrige dimensions	97
Differences between high and low districts in quality effectiveness	98
Limitations	99
Discussion	100
Recommendations for Applied Practice	103
Recommendations for Further Research	103
REFERENCES	105
ACKNOWLEDGMENTS	117
APPENDIX A. SCHOOL SYSTEM PERCEIVED QUALITY ASSESSMENT INSTRUMENT	118
APPENDIX B. DISTRICT STAFF DEVELOPMENT QUESTIONNAIRE	122
APPENDIX C. VALIDATION PANEL FOR THE PQAI	126
APPENDIX D. VALIDATION PANEL FOR THE DSDQ	129

APPENDIX E. HUMAN SUBJECTS APPROVAL FORM	132
APPENDIX F. COVER LETTERS FOR SURVEYS	134

**LIST OF FIGURES**

	<u>Page</u>
Figure 1. The three CBAM components	14
Figure 2. Standards for staff development: Middle level edition	38
Figure 3. Deming's 14 points	50
Figure 4. Restatement of Deming's 14 points as "14 obligations for the board of education and administration"	51
Figure 5. The Malcolm Baldrige Award criteria	54



## LIST OF TABLES

	<u>Page</u>
Table 1. Subscale areas and demographic variables of the PQAI	66
Table 2. Demographic information of respondents on the PQAI	71
Table 3. Demographic information of PQAI respondents by position	73
Table 4. Reliability analysis of current and ideal sections of the PQAI	76
Table 5. Quality effectiveness index for districts on the PQAI	77
Table 6. District means for the District Staff Development Questionnaire	78
Table 7. Comparison of ranks on the District Staff Development Questionnaire and the Perceived Quality Assessment Instrument	79
Table 8. One-way analysis of variance: Group means on the District Staff Development Questionnaire	80
Table 9. Group means and standard deviations on the District Staff Development Questionnaire	80
Table 10. Comparison of group means on District Staff Development Questionnaire	80
Table 11. Correlation matrix for the seven dimensions of the PQAI	82
Table 12. Mean scores and ranks for the highest and lowest ten districts on the District Staff Development Questionnaire and the Perceived Quality Assessment Instrument	84
Table 13. Comparison of the current a-priori Baldrige dimensions with empirical factors	85
Table 14. Comparison of the ideal a-priori Baldrige dimensions with empirical factors	86

## CHAPTER I. THE PROBLEM

School improvement and reform seem to be the focus of many educators and business leaders today. Dramatic changes in society make schools very different places than they were even ten or twenty years ago when their critics were in school. The increase of poverty and crime, lack of family support, student alienation, poor student performance, a high dropout rate, a growing number of regulations, race and class discrimination, international competition, and varying roles and expectations for educators all demand new solutions (Fullan, 1991; Rebore, 1991; Neuroth et al., 1992; Sparks & Vaughn, 1994). In addition, people inside the schools sometimes blame each other for the proliferation of these problems (Neuroth et al., 1992). In many of our nation's approximately 15,000 school districts and 80,000 schools, independent and state-led reform models are being implemented. Often these reforms focus on only one part of the system rather than on systemwide change (USGAO, 1993).

### Introduction

The Goals 2000: Educate America Act was signed into law by President Clinton on March 31, 1994, in recognition that our country could no longer ignore the fact that change in our schools is desperately needed. Students' lives during and after schooling leave much to be desired. As our pluralistic society becomes more complex, it is probable that pressures for educational change will increase. Goals 2000 calls for improving the nation's schools through high expectations and state and local improvement efforts (Haack, 1994). The implication for educators is that they must constantly be developing the art and science of teaching to meet growing demands. "Educational change depends on what teachers do and think--it's as simple and complex as that" (Fullan, 1991, p. 117). Whether these efforts are positive and lasting or simply frustrating and ineffective will depend on the methods used (Fullan, 1991).

As job requirements and roles in school districts become more complicated, the need for quality staff development programs increases. The introduction of new services, instructional materials, and equipment has resulted from public pressure to adapt to our rapidly changing society (Rebore, 1991). The Elementary and Secondary Education Act of 1965 and the Educational Professions Development Act of 1968 provided for some funding for staff development (Rebore, 1991). However, progress in improving schools has not

been widespread (Fullan, 1991).

According to Senge (1990), "organizations learn only through individuals who learn. Individual learning does not guarantee organizational learning. But without it no organizational learning occurs" (p. 139). Senge uses the term *personal mastery* to describe the discipline of personal growth and learning from which comes the spirit of the learning organization. Simply acquiring more information is not enough to produce the results we want. People at every level of a learning organization must practice generative, lifelong learning, a continuous, ongoing process (Senge, 1990). School districts respond to this need by providing various staff development opportunities for their employees.

Staff development has become an essential part of the reform movement because of the many recent events which have caused teachers and administrators to face situations for which they were not trained in college (Sparks, 1994). In addition, shifting needs and the constantly expanding knowledge base require school employees to continually stay on the leading edge of knowledge and strategies. Individual attendance at workshops, conferences, and courses is not enough for a comprehensive staff development program to help school organizations reach their goals. Evolving roles for teachers and increased participation on district improvement teams also require additional training for new tasks such as analyzing data, resolving conflicts, and building consensus (Sparks & Vaughn, 1994). The real key to reform in the 1990's is comprehensive teacher development throughout their careers (Fullan, 1991).

"If we constantly remind ourselves that educational change is a *learning experience for the adults involved* (teachers, administrators, parents, etc.) as well as for children, we will be going a long way in understanding the dynamics of the factors of change" (Fullan, 1991, p. 66). Learning to do something new is basic to every improvement. The probability of teachers developing new meanings, behaviors, and skills depends on whether they are isolated or working together to exchange ideas and support. Social learning relies on interaction. (Fullan, 1991). Quality staff development addresses the needs of educational organizations with the goal of more effective instruction through the enhancement of teachers' and administrators' skills (Rebore, 1991). For educational systems to improve, educators must learn new ways of thinking and doing. Staff development plays a central part in this learning. Research has shown that many teachers

are willing to upgrade their classroom practices under the right conditions, but most do not have adequate access to information, or enough time or energy (Fullan, 1991).

### **Statement of the Problem**

Professional development and school development are inextricably linked.... Nothing has promised so much and been so frustratingly wasteful as the thousands of workshops and conferences that led to no significant change in practice when the teachers returned to their classrooms. Neither teacher participants nor workshop leaders are satisfied with the results of their efforts. (Fullan, 1991, p. 315)

Historically, most inservice training has not been designed to give teachers the ongoing, interactive learning needed for new knowledge and skills. It has been wasteful and ineffective. It has failed because it has been fragmented and unconnected to any comprehensive plan (Fullan, 1991; Sparks & Vaughn, 1994). Fullan (1991) reminds us that, "As implementation is the essence of change, it follows that the teacher as implementor is central" (p. 10). Research on implementation has continually shown that sustained interaction and staff development are crucial no matter what the innovation. According to Fullan (1991), social energy is required for people to improve. School districts can provide that energy by offering continuous staff development opportunities for teachers, administrators, and others.

The purpose of reform in education is to help schools accomplish their goals by replacing less effective practices with better ones. Quality staff development programs have been successful in implementing instructional improvements in schools, but many inappropriate practices have also resulted from ineffective training (Fullan, 1991). In fact, these programs have been notorious for being insensitive to individual needs and interests. Recent staff development research has indicated that major modifications are needed if we are to make a difference in student and teacher performance (Fullan, 1991; Goodlad, 1991; Marzano, 1991). Schools will always need to find ways to improve, and professional development will always be needed to help school employees obtain new insights into the problems of our complex, modern society and work toward the betterment of our schools (Fullan, 1991).

Continuous Quality Improvement (CQI), also known as Total Quality Management

(TQM), offers an opportunity to effect organizational reform in America's schools. Continuous Quality Improvement is a revolutionary philosophy sweeping across our country. Developed by Dr. W. Edwards Deming, this theory has implications affecting business, government, and education (Leonard, 1991). Our largest companies as well as our schools have become painfully aware that international competition is a serious threat to their effectiveness and survival (Holt, 1993b). Educators are now beginning to look more closely at the connections between Deming's philosophy and educational settings in order to learn how it impacts administrators, teachers, parents, and students (Glasser, 1990; Lezotte, 1992; Bonstingl, 1992; Holt, 1993b; Bradley, 1993; Schenkat, 1993).

Systemwide reform, a guiding principle of Deming's philosophy, may be the key to improving student learning. Linking the major components of the educational system together helps us monitor student achievement for continued progress and allows all school personnel to work together to improve performance. Research has shown that providing adequate instructional materials and professional development will enable teachers and administrators to help students succeed (USGAO, 1993). Staff development experts are now telling us to listen to the advice of business people and educators involved in "total quality" efforts (Sparks & Vaughn, 1994). "Pay attention to those you serve, be they students, parents, community members, or district employees. Engage in continuous improvement. Gather data to assess progress regarding important outcomes" (Sparks & Vaughn, p. 21).

Making staff development an integral part of the total program can benefit school districts in a number of ways. Student learning will increase as the latest research-based practices are applied. Staff morale will improve as employees develop the competencies they need to keep up with increasing demands. And, in addition, community satisfaction with schools will grow as teachers seek to continually improve (Sparks & Vaughn, 1994). Staff development and school-based improvement depend on each other. No significant improvements in teaching or school programs can be made without effective staff development, and staff development is ineffective without a clear picture of the kinds of improvements needed in our schools (Wood et al., 1993).

Putting theory into practice is the true test of the theory's usefulness and the organization's understanding of its key elements. This process requires time, commitment, patience, and hard work. All over the country, school districts are

attempting to implement the basic tenets of quality improvement. It seems logical that the staff development programs would be a good place to start. Despite numerous efforts over the past few years, theory and research about CQI in schools is still limited compared to that in business. We know about many school districts that are utilizing the quality principles in their restructuring efforts, but most are still in the early stages (two years or less) of implementation (Horine et al., 1993). More data are needed to assess the results of these attempts.

Because considerable attention has been given to the study of staff development, we do have an impressive knowledge base about effective inservice practices. However, for the most part, staff development activities have been only moderately successful in bringing about needed changes in teaching practices (McBride, et al., 1994). By using a systems approach inherent in CQI, staff development programs may begin to be more effective. And conversely, quality professional development may influence the overall operations of the entire district.

### **Purpose of the Study**

The purpose of this study was to identify the extent of any relationships between the perceived quality of staff development programs offered in forty-four Iowa school districts and perceptions of *current* and *desired* quality management in these districts. The study attempted to learn whether school districts with greater staff development activity, as measured by the District Staff Development Questionnaire (DSDQ), reflect greater levels of quality management, as measured by the Perceived Quality Assessment Instrument (PQAI), than districts with lesser staff development activity. Insights gained from analysis of the data gathered should help districts seeking positive change to see more clearly what gaps may exist between present and desired district conditions and what part staff development plays, if any, in a total systems approach to quality schools. This study attempted to show the impact that a quality staff development program may have on closing the gap between "current" and "ideal" states. If Continuous Quality Improvement is an umbrella philosophy that can be used for educational innovation, can well-designed district staff development programs help us to reach our goals more quickly?

### **Objectives of the Study**

This research study had the following objectives:

1. Design and administer a teacher questionnaire based upon research and best practices in staff development programs.
2. Determine the indicators of quality in school districts which correspond to the seven criteria of the Malcolm Baldrige Award and assess current and ideal levels in participating districts.
3. Compute descriptive statistics for each district for perceived staff development quality and district quality management.
4. Identify differences in the various groups' perceptions of overall district quality.
5. Determine whether any differences exist between high quality and low quality districts on the two surveys.
6. Analyze whether any relationships exist between each Baldrige category and overall staff development quality.

### **Research Questions**

This study was designed to find answers to the following questions:

1. What are the perceived current and ideal levels of quality management and the quality effectiveness index (ratio) between the two levels in the selected districts?
2. What are teachers' perceptions of the effectiveness of staff development programs in the selected districts?
3. Is there a relationship between the perceived quality of district staff development and the perceived quality management of the districts?
4. Is there a relationship between ratings of perceived levels of staff development programs and the seven dimensions of district quality in these districts?
5. How do districts rated highest and lowest in perceived quality of staff development differ or compare on the perceived quality effectiveness index?

### **Hypotheses of the Study**

The following null hypotheses were formulated to answer the research questions:

1. There is no relationship between the perceived quality of district staff development and the perceived quality management (ratio) of the districts.

2. There are no relationships between ratings of perceived levels of staff development quality and the seven dimensions of district quality (current) in these districts.
3. There is no difference in districts rated highest and lowest in perceived quality on the perceived quality effectiveness index.

### **Basic Assumptions**

The basic assumptions of this study included the following:

1. The districts surveyed are representative of other districts in Iowa.
2. Respondents understood the content and directions of the surveys.
3. Subjects voluntarily assisted in the study by completing the surveys.
4. The surveys accurately reflected individual perceptions.
5. The instrument-measured perceptions are reflective of actual levels of organizational quality.
6. Survey respondents were knowledgeable about their school district's operations and staff development programs.
7. Subjects responded honestly and independently to both survey questionnaires.
8. The perceptions expressed in the surveys are representative of the districts' populations as a whole.
9. All districts surveyed sponsor some form of staff development activity.

### **Delimitations**

1. Districts surveyed were forty-four school districts in the state of Iowa that volunteered to participate.
2. Respondents to the *School System Perceived Quality Assessment Instrument* (PQAI) included the superintendent and all school board members in each district. In addition, the board secretary selected two administrators, five teachers, three support personnel, and two high school students to respond.
3. Respondents to the *District Staff Development Questionnaire* (DSDQ) were six teachers from various levels in the districts selected by the board secretary.
4. The critical components identified in the DSDQ reflect the researcher's identification of current professional thought on the subject of staff development, and not an absolute or enduring measure of the same.



5. The data for this study were collected in March and April of 1994.
6. Surveys were personally delivered to the districts with return postage provided.

### **Definition of Terms**

These definitions are presented to provide clarity and understanding of their use in this study:

1. *Continuous Quality Improvement (CQI) or Total Quality Management (TQM)* - a customer-focused strategic and systematic approach to continuous performance improvement (Vincoli, 1991, p. 28).
2. *Inservice* - training sessions designed to help teachers learn or improve in a particular content or skill area.
3. *Malcolm Baldrige Award* - a national award given yearly to honor companies which exemplify quality principles (Schenk, 1993).
4. *Model* - (a) a design for learning which embodies a set of assumptions about where knowledge about teaching practice comes from and how teachers acquire or extend their knowledge; (b) a pattern or plan which can be used to guide the design of a staff development program (Sparks & Loucks-Horsley, 1989, p. 41).
5. *Quality Effectiveness Index* - the score derived by dividing the current situation response by the desired situation response on the PQAI, expressed as a decimal.
6. *School reform* - the process of changing school practices to improve teaching and learning.
7. *Staff development or professional development* - any school district activity which is intended to prepare staff members for improved performance in their present or future roles in education. These terms are used interchangeably.
8. *Staff development program* - a school district's plan for designing, delivering, and assessing professional development opportunities over a given period of time.
9. *Total systems approach* - the practice of looking at interrelationships among all parts of the organization, recognizing that each of the components is affected by all the others.

## **CHAPTER II. REVIEW OF LITERATURE**

### **Introduction**

This study investigated the relationship between district staff development programs and the quality of management in the districts. The review of the literature in this chapter provides further explanation of the concepts examined in the study. It is presented in five sections: (1) Educational Change, (2) Staff Development, (3) Systems Thinking, (4) Continuous Quality Improvement, and (5) Staff Development and Continuous Quality Improvement.

### **Educational Change**

Reform is the watchword of the day in education. Whether it is called restructuring, transformation, or educational improvement, school reform means change in our current educational system. Changes can encompass what or how students learn, how schools are managed, or different rules, roles, or responsibilities under which we operate (Lezotte, 1991), new materials, behaviors, or practices, and/or different understandings and beliefs (Fullan, 1991). In making educational decisions, it is critical that school leaders consider the assumptions, issues, and factors affecting these changes.

The coming of the "Information Age" requires the rethinking of essential knowledge in major subject-area disciplines as well as skills in the workplace. It has been estimated that the knowledge base in our culture doubles every seven years. According to Harvard University President Neil Rudenstine, the "half-life" of knowledge in the humanities is eight or ten years--three or four in math and the sciences. Textbooks and curricula written five or ten years ago are no longer current (Wagner, 1995). In the Information Age, it is essential that students and adults are able to find, use, and make sense of information, not just memorize facts. They must be able to develop a breadth of understanding of major concepts and be able to integrate and apply that knowledge within and across the disciplines (Wagner, 1995).

Our schools have been loosely-coupled institutions, with teachers and administrators working in isolation (Munger, 1990). Joyce and Showers (1988) tell us that change must occur in the workplace, incorporating norms of collegiality and

experimentation. Staff development is a critical element for teachers and administrators in making these necessary changes in schools.

### **Goals 2000**

Staff development has recently taken its place as one of the National Education Goals. A large sum of federal dollars is targeted for this area of educational improvement. In fact, staff development is at the core or provides critical support for all of the state plans (Loucks-Horsley, 1994). This bipartisan legislation which canonizes eight national goals for education is a big step toward improving our nation's schools. Significant change becomes increasingly possible when the country places a sharper focus on readiness for school, community partnerships, professional development, and funding for school-based initiatives (Wagner, 1985).

The historic meeting in Charlottesville, Virginia, in September of 1989 brought together the President and the nation's governors to address the concern for the low achievement of many students in public schools. The group agreed to adopt a set of "challenge goals" for the nation's schools. President Bush highlighted these goals in his State of the Union address in 1990 and they were formally adopted in February of that year (Manatt, 1993). In March of 1994, President Clinton signed into law the *Goals 2000: Educate America Act* (Public Laws 103-227) which aims to encourage states and local education agencies to voluntarily meet these eight goals by the year 2000 and thereby reform our educational system. Higher expectations for all students and reaching world-class standards are the guiding principles.

According to the latest *Phi Delta Kappan* Gallup Poll (Elam et al., 1994), 51 percent of those who responded believed that U.S. public schools had gotten worse in the past five years. President Bush and the National Governors' Association, at a 1989 educational summit, decided to set six national goals for education. President Clinton was then the governor of Arkansas and was a key player in developing these goals. The current Secretary of Education, Richard Riley, was then governor of South Carolina. Riley saw the importance of adding two more goals--teacher training and parental participation (National Education Goals Panel, 1994; Manatt, 1995).

The intent of *Goals 2000* is for each state to create plans for reform which local districts and schools will implement. Providing model standards and funding for state

and local standards and professional development is the federal responsibility. Raising the achievement of all students is the goal. Manatt (1995) states that the best available knowledge and research will be used in reaching these standards. He finds that many current educational practitioners and curriculum and assessment experts support the thrust of *Goals 2000*.

The eight goals, as recently revised, are listed below:

1. By the year 2000, all children in America will start school ready to learn.
2. By the year 2000, the high school graduation rate will increase to at least 90 percent
3. By the year 2000, all students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our Nation's modern economy.
4. By the year 2000, the Nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century.
5. By the year 2000, U.S. students will be first in the world in mathematics and science achievement.
6. By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.
7. By the year 2000, every school in the United States will be free of drugs, violence, and the unauthorized presence of firearms and alcohol and will offer a disciplined environment conducive to learning.
8. By the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children. (*Goals 2000*, 1994, Title I, Section 102)

Of special concern to this study is goal 4, "Teacher Education and Professional Development," which was introduced by Indiana Congressman Tim Roemer. Including this goal sends a clear message that the preparation and continuing professional development of educators is necessary in implementing federally supported school improvement. When the original six goals were introduced, many educators were concerned that they could not be accomplished without training. With the addition of goal 4, that objection has been answered.

The objectives of goal 4 are listed below:

- (i) all teachers will have access to preservice teacher education and continuing professional development activities that will provide such teachers with and skills needed to teach to an increasingly diverse student population with a variety of educational, social, and health needs;
- (ii) all teachers will have continuing opportunities to acquire additional knowledge and skills needed to teach challenging subject matter and to use emerging new methods, forms of assessment, and technologies;
- (iii) states and school districts will create integrated strategies to attract, recruit, prepare, retain, and support the continued professional development of teachers, administrators, and other educators, so that there is a highly talented work force of professional educators to teach challenging subject matter; and
- (iv) partnerships will be established, whenever possible, among local educational agencies, institutions of higher education, parents, and local labor, business, and professional associations to provide and support programs for the professional development of educators.  
(*Goals 2000*, 1994, Sec. 101[4]B)

### **The Concerns-Based Adoption Model**

According to Hord and associates (1987), innovations in instructional strategies and curriculums have usually failed. Examples cited include open classrooms, team teaching, educational television, new math, and inquiry-oriented science. The main reason they give for these failures is assuming that, after training, all users of the innovation will react similarly. They claim that change facilitators must sometimes encourage, persuade, or even push people to change. With this belief in mind, the Research and Development Center for Teacher Education (R&DCTE), at the University of Texas at Austin, developed the Concerns-Based Adoption Model (CBAM) in order to learn more about the school improvement process. The CBAM is based upon several assumptions about change:

1. Change is a process, not an event.
2. Change is accomplished by individuals.
3. Change is a highly personal experience.
4. Change involves developmental growth.
5. Change is best understood in operational terms.
6. The focus of facilitation should be on individuals, innovations, and the context. (Hord et al., 1987, pp. 5-6)

The three main components of CBAM are (1) Innovation Configuration (IC), (2) Stages of Concern (SoC), and (3) Levels of Use (LoU). Using these tools, facilitators can obtain diagnostic information to help individuals change by providing resources and interventions to facilitate the school-improvement process. Figure 1 describes these three components in more detail.

The authors of the CBAM believe that having an understanding of change should lead policy makers to better appreciate the complexities of the human change process and the demands that it makes on every level of the system. This model has implications for staff development programs as districts attempt to help individuals progress through the implementation of innovations designed to improve schools.

### **Staff Development**

A fundamental lesson about school reform from the past decade is that far more time is required for staff learning and joint work than is currently available. Staff development days--typically for workshops--and brief meetings before, during, or after the school day are grossly insufficient for the collegial learning essential to successful...improvement efforts. (NSDC, 1994, p. 12)

Staff development has often suffered from a poor reputation among both teachers and administrators. Exactly what is meant by staff development? What is its history? How has staff development changed through the last twenty-five years? What are the critical elements of effective staff development programs? And how is staff development related to school reform? These are important questions that must be addressed when attempting to understand this integral component of our educational system.

### **What is staff development?**

According to the National Staff Development Council (1985), staff development is one of the areas currently receiving the most emphasis in education. Most large districts in the United States and many smaller ones have a department or administrator responsible for providing continuous professional growth opportunities for staff members.

## **Innovation Configuration**

The concept of the Innovation Configuration (IC) is an attempt to discover how teachers are using the program being implemented. In gathering this information, facilitators must be able to talk about the program in clear, operational terms. To be helpful to others, they must be able to describe how the program should look in actual practice in the classroom. An IC component checklist enables facilitators to determine what "ideal" practice is and how much variation from that ideal is acceptable. Once the program is underway, the checklist can be used to monitor progress by interviewing teachers about their classroom practices. When the data gathered are organized by individual user, the types of assistance that would be most beneficial to each person can be identified.

## **Stages of Concern**

The Stages of Concern (SoC) component of the CBAM focuses on seven kinds of concerns that users might have about the innovation. These seven stages may be grouped into three dimensions--self, task, and impact. Self-concerns (stage 0 - awareness, stage 1 - informational and stage 2 - personal) often develop in teachers when a change effort is in its early stages. During final preparations for beginning use of an innovation and the early period of use, task concerns (stage 3 - management) become more intense. The impact level (stage 4 - consequence, stage 5 - collaboration, and 6 - refocusing) is reached when teachers are more concerned about the effects on students and how to improve the program's effectiveness. Concerns may be determined using three procedures. Face-to-face conversations are the most practical procedure. The more formal open-ended statement is used for soliciting information from groups. The Stages of Concern Questionnaire (SoCQ), a 35-item paper and pencil measure, is the third procedure which is used with groups when research or program evaluation is being conducted. Effective facilitators help people resolve their concerns and advance to higher stages.

## **Levels of Use**

The Levels of Use (LoU) dimension of the CBAM attempts to define operationally what the user is doing. It describes the behaviors of the users through various stages or levels. The eight Levels of Use identified are Level 0-Nonuse, Level I - Orientation, Level II - Preparation, Level III - Mechanical Use, Level IVA - Routine, Level IVB - Refinement, Level V - Integration, and Level VI - Renewal. A LoU chart and the focused interview are essential tools for determining an individual's Level of Use. The information obtained through this dimension can be of great assistance to a change facilitator as it may reveal problems that exist in the implementation process.

Figure 1. The components of CBAM (Hord et al., 1987)

Many authors use the terms staff development and inservice interchangeably. According to Dale (1982), they either equate the two or fail to mention the differences between the terms. Georgea Mohlman Sparks (1983) who has written and studied staff development extensively over many years uses both terms to mean "any training activity that attempts to help teachers improve teaching skills" (p. 72).

The term *staff development* is defined by Dennis Sparks and Susan Loucks-Horsley (1989) as "those processes that improve the job-related knowledge, skills, or attitudes of school employees" (p. 41). Bates and Stachowski (1991) define it as "the on-going and job-related program within the school district that is designed to maintain and refine the required competencies of the employees" (p. 4).

Hazel Loucks (1987), in her doctoral dissertation, concludes that staff development should be defined as "any systematic attempt to reinforce and/or bring about effective change in the professional practices, skills, beliefs and understandings of a person" (p. 15). A *staff development plan*, according to Loucks, consists of "a series of systematically designed activities planned to increase the competencies, knowledge and attitudes needed by school personnel to perform their tasks and consequently improve the quality of the total school program" (pp. 15-16). She further explains that *inservice education* is only "one segment of staff development such as a lecture, workshop or other activities which represent offerings within the program but not characteristic of it as a whole" (p. 16).

Dale (1982) offers a similar analysis of the terms, stating that staff development is "the totality of educational and personal experiences that contribute toward an individual's being more competent and satisfied in an assigned professional role" (p. 31). He also agrees with Loucks that *inservice education* is "but one of the several functions of staff development" (p. 31). The functions of a staff development program proposed by Dale, based on these definitions, are as follows:

- *Inservice education*--improving skills; implementing curricula, procedures; expanding subject matter knowledge; planning and organizing instruction; and increasing personal effectiveness
- *Organization development*--building program climate; solving problems; increasing communication among staff members
- *Consultation*--conducting workshops; assisting with building staff development, implementation, and evaluation; assisting with administrative planning
- *Communication and coordination*--assisting with inter-building



communication; organizing and providing information about resources; assisting with communication between administration and staff; providing central coordinating service

- Leadership*--providing suggestions for new curricular, instructional approaches; informing about innovative approaches; identifying problems and suggesting solutions; researching ideas for evaluating practices and procedures; providing assistance with innovation processes

- Evaluation*--conducting needs assessments; evaluating resources; evaluating staff development efforts (Dale, 1982, p. 31)

For the purposes of this study, staff development or professional development will be defined as any school district activity which is intended to prepare staff members for improved performance in their present or possible future roles in education. These terms will be used interchangeably. A staff development program is a school district's plan for designing, delivering, and assessing professional development opportunities over a given period of time.

It has gone by many names--inservice education, staff development, professional development, inservice training, teacher renewal, teacher retraining, and human resource development (Worth, 1986; Loucks, 1987; Sparks, Fall 1994). Whatever it is called, staff development too often has been essentially the same thing--educators (usually teachers) sitting passively while "experts" "exposed" them to new ideas or "trained" them to use new practices. A "happiness quotient" has typically been used to judge success, measuring participants' satisfaction with the experience and their opinions of its usefulness for their jobs (Sparks, 1994a).

According to Loucks (1987), "the basic intent of staff development is the improvement of instructional programs for students through systematically designed activities planned to increase the competencies, knowledge and attitudes needed by school personnel to perform their tasks and, consequently, improve the quality of the total school program" (pp. 10-11). It is the main way that many educators receive information about updated and innovative curriculum and instructional practices (Worth, 1986).

Guskey (1994) tells us that 25 years ago staff development was seen as a series of one-shot events interrupting the school year. He compares that perception with today's belief that continual, high-quality staff development is essential to effective professional practice. Staff development *does* make a difference. The role of the staff developer today is crucial for educational improvement. For knowledge to become practice and improvement realized, some form of staff development must be in place.

However, Guskey writes, although staff development has come a long way, it still has a long way to go. There is still a depressingly large gap between our knowledge about education and our practices.

Why do we need staff development? Bates and Stachowski (1991) believe it is necessary for maintaining high quality education, for extending and enriching instruction, helping teachers continue to improve, and letting emerging needs surface. Paul (1990) cites data from several studies revealing that new teachers *think* that they are prepared to teach, but they actually are not. In addition, he reminds us that even the most effective teachers need to be constantly updated and apprised of new ideas in the education profession. He contends that staff development is needed to provide continual training in new developments in education. According to Wood and associates (1981) even the best graduating teachers are only adequately prepared to teach for about five to seven years before their effectiveness begins to decline. The nature of change requires a vehicle for communicating new ideas, methods, and discoveries to teachers. Staff development is that mechanism (Paul, 1980).

Joyce and Showers (1987) emphatically profess their belief in the importance of staff development for experienced teachers, and state the following:

We believe that the study of academic substance, teaching, and school improvement should be an inescapable part of the job and that the organization should arrange and pay for the system that ensures that formal study is an important component of the job of teaching. (p. 2)

Loucks-Horsley (1994) reports that one of the greatest advances in staff development is our increasing understanding of our ability to influence fundamental beliefs, knowledge, and behaviors and the processes that affect change. As a result, we now have a broader concept of staff development, including organization development, focusing on student development.

### **History of staff development**

"Staff development is a relatively young 'science' within education" (Sparks & Loucks-Horsley, 1989, p. 54). What was known about teaching in the early 1970's still makes up much of our current knowledge base. During the 1970's and 1980's, educational research advanced from the descriptive type to correlational to experimental (Gage, 1984). Therefore, much of the research available, with the exception of

research on training, is theoretical and descriptive rather than experimental (Sparks & Loucks-Horsley, 1989).

The role of teacher inservice or staff development has changed through the years. At first, "inservice" was aimed at educating teachers in how to teach (Paul, 1990). Cruickshank, Lorish, and Thompson (1979) tell us that graduating teachers since the 1950's have been better prepared to enter the profession. As a result, inservice education changed from being compensatory to being complementary. Extending professional growth rather than eradicating major deficits is now the focus. This new role includes implementing changes in the curriculum, and it results in the teaching process becoming increasingly complex.

According to Paul (1990), although the scope of staff development has broadened, teacher behaviors have remained amazingly unchanged. He cites a 1983 survey of over one thousand elementary and secondary teachers which uncovered very little variety in teaching methods. It was found that typical classroom interactions included teacher lectures, student practice, and little else. Direct verbal interaction comprised 70 percent of class time, with the remaining time being spent on routine activities like preparation, roll-taking, and clean-up. Of that 70 percent, approximately 20 percent involved student talk, with about five percent consisting of direct questioning. Nearly all of this questioning was designed to solicit a specific answer. Only about one percent of the class consisted of questions seeking complex thinking or affective responses.

The field of staff development as a professional responsibility has been growing over the past twenty-five years. In 1969, Ron Brandt, now the executive director of ASCD's *Educational Leadership*, called together a few colleagues having the assignment of staff developer in a large district to discuss the issues facing them. Since that time, that group of less than 15 has grown into the National Staff Development Council with a membership of over 7000, with a budget of \$1,288,000, and 34 state, provincial, and regional affiliates (Yastrow, 1994).

Sparks and Loucks-Horsley (1989) tell us that staff development "came of age" in the 1980's (p. 40). It became the focus for countless conferences, workshops, books, articles, and research. In addition, legislators and school district administrators began to see staff development as a key to school improvement efforts. Many extensive projects to improve student learning were initiated. Studies of these projects have

substantially increased our understanding of effective staff development beyond the earlier overview research.

Wood (1994) echoes the belief that staff development views and understandings have been dramatically altered over the last 25 years. Among the many changes in the field, he describes seven advances which have had the most impact on the quality of staff development programs over the years:

1. staff development has moved from an isolated inservice to a systemic long-term process,
2. the focus of staff development has moved from district-wide change to improving practices at the school level,
3. it is now recognized that staff development designs must be based on research about adult learners,
4. staff development has moved from inservice planned by district administrators to involving teachers and principals in planning,
5. it is now recognized that staff development must involve all district personnel throughout their careers, not just teachers,
6. staff development has moved from operating in isolation in a district to *working together with other systems in the schools* [italics added],
7. research is now used as the basis for designing, selecting, delivering, and evaluating staff development programs. (p. 5)

Staff development is becoming a blend of individual development and organization development (Schmuck, 1994; Dillon-Peterson, 1994). Wood (1994) predicts that staff development will become increasingly important as we approach the 21st Century. He anticipates a bright future for those who believe in the continuous improvement of schools through professional development.

As the National Staff Development Council (NSDC) celebrated its 25th anniversary in 1994, Ron Brandt (1994) stated that staff development had become an "established professional function" (p. 2). Although good programs are not available in all school systems, many educators expect continuing education to be provided in their districts as well as by universities. The goal of the National Staff Development Council is to make continuous learning part of every educator's life.

According to Dillon-Peterson (1994), a founding member of NSDC, the most important advancement in this field is the change from staff development programs being nearly invisible to the almost total inclusion today in school districts of all sizes. Most provide a professional development budget and use staff development to introduce new initiatives. Twenty-five years ago, few districts saw the need for education beyond

certification. Teachers' conventions or brief "training" institutes were used to upgrade teachers' skills with no attention to continuous improvement. "Inservice education" was designed to *fix* teachers--to shore up weaknesses and inadequacies. The preferred format for staff development twenty-five years ago was the "smorgasbord" approach, consisting of fifty to one hundred "one-shot" activities an hour or two long, with content not necessarily relating to the curriculum or the individuals' assignments.

Today, staff development programs are supported by numerous individuals and groups including local teachers' associations which are showing the desire to become directly involved by collaborating with administrators in selecting and monitoring efforts to improve schools through professional development (Dillon-Peterson, 1994). The mission, goals, and objectives as well as the inclusion of technology to support all levels offer extraordinary promise for the future of our schools.

A solid research base for training, developed by Joyce and Showers, and many other strategies such as action research and professional networks represent other advancements in this growing field (Loucks-Horsley, 1994). In fact, recognizing it as a "field" rather "a few people with a vision" is one more difference in the last quarter century (Joyce & Calhoun, 1994, p. 3). District programs have taken the place of college and university courses for many educators. However, although the change in control and site, the wide range of topics, and district-based presenters have increased the relevance for district employees, the desired effects on instruction have not come about. Ratings for polished workshops have gone up, but implementation of new learning has not. Changes in curriculum have not produced the hoped-for results (Joyce & Calhoun, 1994).

Joyce and Calhoun (1994) believe that as school districts continue to learn how to organize training and to conduct action research so that the effects on students can be measured, they will increasingly view staff development as the key to the restructuring of our education system. They further predict that this field is our best hope for an improved school system.

### **Changes in staff development**

According to Sparks (1994), staff development has made many changes in the past 25 years. One major shift has been the transition from individual development to

individual development *and* organization development. Improving individual performance is not enough to produce the results we need. He reminds us that quality improvement expert W. Edwards Deming estimated that 85 percent of the problems in a system resulted from the organization's structure and processes. A second development has been the move from fragmented, piecemeal improvement efforts to clear strategic district staff development plans. The change in focus from district to school approaches represents a third advancement. In addition, student needs and learning outcomes are now taking precedence over adult needs.

Another difference in today's staff development, in Sparks' view, is the change from training away from the job to many forms of learning embedded in the job. The focus on generic instructional skills of previous years has given way to a combination of generic and content-specific practices. Staff developers have also moved from being primarily trainers to providing consultation, planning, and facilitation in addition to training. Another transition is from staff development being provided by one or two departments to the responsibility being spread throughout the school system. The shift from teachers being the primary recipients of staff development to continuous improvement for all who affect student learning represents one more change. The final factor that sets today's practices apart from those of earlier years is the belief in staff development as an essential process instead of a "frill" to be cut during difficult economic times.

During the 1980's, many districts began to redesign their programs according to the research on adult learning, shared leadership, effective schools, and the change process (Wood, Thompson, & Russell, 1981; Lieberman & Miller, 1991; Wood & Thompson, 1993). A new set of assumptions has developed from this research and from best practice which Wood and Thompson believe must guide decision makers' efforts in order for staff development to be effective. These assumptions are summarized below:

1. The school, not the district, is the primary focus of improved practice.
2. Significant change in educational practice takes considerable time.
3. School cultures which support improved practice and professional growth are essential.
4. All educators should be involved in staff development throughout their careers.
5. The principal is the key to any staff development effort to improve professional practice.
6. Selection of improvement goals guiding staff development should involve

- all stakeholders.
7. Participants must feel commitment and ownership before wanting to become involved in staff development activities.
  8. Opportunities for both school improvement and individual professional growth should be supported.
  9. Staff development should help to improve teaching in ways that increase student learning.
  10. Knowledge about adult learners should be the basis for planning and implementing staff development.
  11. Change is difficult and requires systematic support to sustain over time.
  12. School districts have the primary responsibility for providing resources and staff development for implementing new programs and practices.
  13. Staff development should be thought of as a component of a system for improving instruction.
  14. School-based staff development, site-based management, and site-based budgeting are all important components of school-based improvement.
- (Wood & Thompson, 1993, pp. 53-56)

### **Staff development models and effective practices**

Although Wood and Thompson (1993) have stated that staff development programs must be grounded in research and best practice, a major problem over the last 15 to 20 years has been that inservice education has been planned and implemented based on faulty assumptions. They submit that educators start down the road to incompetence the minute they stop their education.

Although participants in staff development activities may include principals, non-certified staff, school central office administrators, and board members (Sparks & Loucks-Horsley, 1989; Wood & Thompson, 1993, Sparks, 1994), this review focuses primarily on staff development for teachers. In particular, it examined what is known about professional development that is intended to improve student learning by enhancing teacher performance.

Two uses of the word *model* are being combined (Sparks & Loucks-Horsley, 1989) in order to understand the concept of staff development and make it useful to practitioners. The first use is "a design for learning which embodies a set of assumptions about (a) where knowledge about teaching and practice comes from, and (b) how teachers acquire or extend their knowledge" (p. 41). These models may differ in their assumptions. The second use of the word concerns a *staff development model* and is described as "a pattern or plan which can be used to guide the design of a staff

development program" (p. 41).

Sparks and Loucks-Horsley (1989) organize what is known about effective staff development into five models being used currently in school districts. The five are (a) individually-guided staff development, (b) observation assessment, (c) involvement in a development/improvement process, (d) *training*, and (e) inquiry. Individually-guided staff development is a process by which teachers plan and pursue activities to promote their own learning. The observation/assessment model gives teachers objective data and feedback about their own teaching. This process may produce growth or provide information for areas of growth.

Involvement in a development/improvement process involves teachers in curriculum development, program design, or a school improvement process to solve problems. Training, which is often thought of as synonymous with staff development, is the area where much more substantial research has been conducted. It involves educators in gaining new knowledge and skills through individual or group instruction. When appropriate, it can significantly change the beliefs, knowledge, and behaviors of teachers and their students' performance. In the inquiry model, teachers identify an area of interest concerning instruction, collect data, and make changes in their teaching based on their findings. Of these five designs, this study will be mainly concerned with the training model of staff development.

One of the earliest comprehensive training models offering a systematic approach to designing staff development is the RPTIM Model (Wood, McQuarrie, & Thompson, 1982; Wood et al., 1993). The RPTIM describes a research-based process for designing systematic and comprehensive inservice education. It identifies what should happen before, during, and after the planning and training, and specifies the practices to be used when developing staff development programs. The five stages that grew out of the research literature include Readiness, Planning, Training, Implementation, and Maintenance. Each stage identifies specific tasks to be completed and the persons responsible:

- |          |  |
|----------|--|
| Stage 1: | <i>Readiness</i> - Teachers select goals for improvement and make a commitment to implement new practices and programs to achieve these goals. |
| Stage 2: | <i>Planning</i> - Staff members design a training program to achieve the goals in Stage 1.   |



- Stage 3:     *Training* - Teachers participate in the training which reflects the research about adult learners.
- Stage 4:     *Implementation* - Behaviors learned in the training are translated into practice in the work setting.
- Stage 5:     *Maintenance* - Systematic monitoring techniques are used maintain the changes over time. (p. vi)

The authors stress the importance of trained facilitators throughout the five stages of the RPTIM process to assist staff members in changing their professional behaviors. They state that it has become more and more important over the last decade to have at least one person in each school to guide the staff through these stages. Facilitators must be knowledgeable about staff development and school improvement as well as the RPTIM process. They may be staff development administrators, other central office personnel, principals, teachers, or parents. Wood and his associates (1993) believe that successful, long-term improvement is unlikely without such a facilitator.

In 1981, a national study was conducted to determine to what extent the practices in the RPTIM Model actually represented the practices considered to be most important for effective staff development. The regular membership of the Council of Professors of Instructional Supervision (COPIS) and the National Staff Development Council (NSDC) were mailed a survey. Strong support for all of the practices in the model resulted. Since that time, this model has been validated several times in research (Wood et al., 1993). According to Sparks and Loucks-Horsley (1989), this model has been used widely in planning and implementing staff development programs. As a result of improvement efforts such as the RPTIM, schools and teachers may develop better curriculum, improve communications with parents and faculty, and show growth in instructional practices.

A similar model, implemented in over fifty schools in metropolitan Detroit in the 1980's, is called Staff Development for School Improvement (SDS, Sparks, 1983). There are six steps involved in the SDS model:

1. awareness, readiness, and commitment among staff;
2. needs assessment;
3. planning;
4. implementation;
5. evaluation; and
6. reassessment and continuation. (p. 66)

An evaluation of 19 schools was conducted after the second year of the project. It was found that 82 percent or more of the participants felt there had been improvement in the teachers' knowledge, skills, and communication. The opportunity to have responsibility for staff development and improved climate in the schools were the program strengths mentioned most often.

The Teaching Research Inservice Model (TRIM) represents a process for designing, developing, and evaluating Inservice training efforts. Validated in 1979 and revalidated in 1985, evidence of impact at three levels was shown: (1) training could be designed using the components of TRIM which teaches new skills to teachers, (2) teachers thus trained did implement the major components of the training, and (3) improved student performance resulted from the implementation. Outcomes are defined in terms of three training levels: awareness, knowledge, and skill implementation. Evaluation and follow up are also included in the model (Templeman and Peters, 1992).

Another model proposed by Stallings in 1982 is based on mastery learning and includes the following steps: (1) pretest or diagnosis, (2) informing and discussing, (3) guided practice and feedback, and (4) post-test (Sparks, 1983). Joyce and Weil (1986) report that a number of models of teaching have been developed over the years to deal with different developmental levels or situations (Joyce & Weil, 1986).

An extensive research base on professional development has been gathered. However, for the most part, it has documented the inadequacies of teacher training, occasionally offering some solutions (Guskey, 1986; Joyce & Showers, 1988; Wood & Thompson, 1993; Guskey, 1994b). Many of the studies were archaic and did not meet today's standards for methodology and precision (Griffin, 1982). In addition, studies synthesizing what context variables are valuable in a staff development program have been lacking (Bennett, 1987).

The major problem seems to be in looking for one right answer. It is important to gather evidence from many studies and to combine and synthesize them in order to identify the characteristics which are consistently associated with a measure of effectiveness. A *meta-analysis* is often used to conduct such a synthesis. Often the effectiveness of the program is determined by an index of the participants' satisfaction or evidence of change in professional knowledge. Change in professional practice is seldom considered and assessment of the impact on student learning even less often

(Guskey & Sparks, 1991). The result is a list of nebulous practices which offer very little guidance to change agents who want to know exactly what to do and how to do it and make it difficult to determine universal truths.

The powerful impact of *context* is often neglected in these studies. Evidence which is synthesized across studies results in the elimination of the effects of context. The uniqueness of the educational setting is a critical factor in staff development (Fullan, 1985; Guskey, 1994b). Because context has such a dynamic influence on professional development programs, Guskey (1994b) tells us that we cannot make precise statements about the elements of an effective program. There is not one "right answer" or "best way." There are many ways, depending on the specific context. Research can only offer *procedural guidelines* that appear to be critical for staff development. These guidelines offer a framework for the design of the best mixture of processes, elements, and technologies for a particular setting at a particular time. Additionally, techniques that worked five years ago may not work today, and today's successful elements may be different from those five years from now. However, a body of professional literature does exist which identifies certain characteristics for effective staff development programs (Showers, Joyce, & Bennett, 1987).

Most of the research conducted on teacher development has been done in the last 20 years, with the major portion appearing in the last ten years (Showers, Joyce & Bennett, 1987; Paul, 1990). In the past decade, the quantity and the quality of staff development research has dramatically increased. New research technology methods have made these studies more scientific (Paul, 1990). Some researchers have attempted to discover the elements which are important for developing successful teacher development plans by reviewing the literature and analyzing the data thus collected (Cruickshank, Lorish, & Thompson, 1979; Worth, 1986; Bennett, 1987; Loucks, 1987; Joyce & Showers, 1988; Paul 1990). From these studies, several components have emerged which appear to be critical to staff development programs. This study provides further insight into those trends.

A major finding emerging from the literature has been identified by Joyce and Showers (1988) showing that teachers have a great deal of capability for learning new strategies and methods, and the design of the training program influences how much they learn. When teachers have learned a broad array of teaching techniques they *can* then

make a difference in students' learning.

If a staff development program is properly designed, it should yield instructional benefits in the form of *effect size* (Paul, 1980). The concept of effect size describes the magnitude of change from a given educational improvement and allows us to predict what can be accomplished by using that particular practice (Joyce, Showers, & Rolheiser-Bennett, 1987).

This technique does not replace the concept of statistical significance but lets researchers assess how practices affect the outcomes they are designed to influence. Effect size is measured by standard deviation units. If the difference between a control group and an experimental group is one standard deviation, the effect size would be one. Joyce and Showers found that teachers who were properly trained in using different instructional practices have yielded an effect size of from one or two up to eight (Joyce & Showers, 1988).

Fullan (1982) credits Bruce Joyce and associates with the development of the definitive model for effective staff development. Showers, Joyce, and Bennett (1987) conducted a meta-analysis of nearly 200 research studies and a review of the literature which generated some meaningful insights into training and staff development. They identified certain specific elements which make for an effective training design in a teacher development program including coaching, sustained practice, a clear statement of goals and objectives, and teacher involvement in planning the program. We presently know more about practices that fail than successful ones (Showers, Joyce, & Bennett, 1987; Guskey, 1994b). There is no guarantee that programs that follow these procedures will succeed, however there is substantial evidence that neglecting these guidelines may limit their success or fail to result in lasting change.

Research on curriculum implementation and staff development has demonstrated that difficulties in implementation and the low frequency of use of the more powerful teaching strategies has been a product of weak preservice and inservice programs, not in the learning ability of teachers. (Joyce & Showers, 1988, p. 3)

The work of Joyce and Showers (1980, 1981, 1982) has highlighted the importance of the careful design of staff development training activities. Four training components were initially suggested as the most effective for acquiring competency in a new model of teaching--presentation of the *theory* being taught, *demonstration* of the

new strategy, initial *practice* in the workshop, and prompt *feedback* about the results. Joyce and Showers believe that practically all teachers can learn even complex procedures using this approach. A fifth component, *coaching*, was later added to aid in the transfer of the new skills to everyday practice. This coaching may be provided by another teacher, an administrator, or a trainer (Sparks, 1983).

**Professional development paradigm** A professional development paradigm has been recognized by Joyce and Showers (1988) as a structure for assisting with staff development or professional growth providing a framework for the systematic implementation of organizational change in schools. The three main components of the professional development paradigm have been identified as (1) the training design, (2) the support structure, and (3) the innovation to be implemented. The training design and the support structure both have many facets and are equally important for successful implementation. Both are further defined below.

**Training model/design** As previously mentioned, Joyce (Joyce, Hersh, & McKibbin, 1983; and Joyce, 1986) isolated five major components in the research--theory, demonstration, practice, feedback, and coaching--which impact the quality of training. The five have been described as follows:

1. *Presentation of theory* - journal articles, lectures, videos, and discussions which provide "the rationale, conceptual base, and verbal description of an approach" (Joyce et al., 1983, p. 139). The impact of this step is raising awareness and increasing conceptual control.
2. *Modeling or demonstration* - enacting the strategy using live demonstrations with students or adults or the use of media such as videos. This stage serves to increase the mastery of theory.
3. *Practice* - simulation activities working with small groups to try out the strategies. Practice provides an efficient way to apply awareness and knowledge of the strategies.
4. *Feedback* - a structured plan for observation with opportunities for reflections about the observation. It is believed that regular and consistent feedback is needed in order to maintain the changes being implemented.
5. *Coaching* - support in analyzing the content and the approach to be taught and help in adapting to the approach.

Transferring learning from the training session to the classroom is not automatic. It requires planning and facilitation. For this reason, coaching and other

follow-up support are necessary in helping teachers use their new skills in daily practice (Wood & Thompson, Fall 1993). Joyce and Showers (1988) suggest that coaching can provide needed support for change. Providing practitioners with technical feedback can guide them in adapting the learnings to their unique situations (Guskey, 1994).

Bennett's (1987) study of different training elements found that a design that includes theory, demonstration, practice, and feedback was effective in training teachers. His meta-analysis showed that excluding even one of the elements resulted in significantly reduced teachers' knowledge, attitudes, and skill level. However, the data further showed that these four elements were insufficient by themselves to ensure that the teachers would actually use the new practices in their classrooms. When the element of coaching was added, the effect size increased significantly.

In her meta-analysis of 91 studies published between 1968 and 1983, Wade (1985) determined that coaching does not have the potential to change teacher behavior in spite of the many claims to the contrary. She stated that she could find no evidence of instructional effectiveness being enhanced in the 225 cases using coaching in her studies. Strategies such as coaching, modeling, mutual assistance, printed material, production of instructional materials, programmed study, and film were all shown to be moderately effective but did not increase effect size above the mean for all methods examined.

Sparks (1985), however, expressed concern that the techniques used by Wade could distort the variables being studied. She suggests that without enough accompanying details and clarification, a meta-analysis can result in our "missing the trees for the forest" (p. 57). She also criticizes Wade for not reading all of the studies in her meta-analysis herself. In addition, Wade provides no details to aid in understanding the terms observation, coaching, modeling, or mutual assistance, thus making it difficult to translate her findings into practice. Sparks concludes, "I am not convinced that coaching is as ineffective as the findings of this meta-analysis might suggest (Sparks, 1985, p. 57).

Joyce and associates (1983) and Showers (1984) remind us that attainment of a new strategy does not ensure transfer back to the classroom. Skill development is required in the transfer process. They find that teachers must be exposed to 20 to 30

hours of training in theory, must observe 15 to 20 demonstrations of the skill, must practice the skill 10 to 15 times, and continue practicing with the help of a coach at least 20 to 25 times, in order for the new approach to become part of her/his repertoire.

Paul (1990) concludes that all four of the training elements--theory, demonstration, practice, and feedback--are crucial in a staff development design in order to show significant gains in student outcomes. Many workshops provide the theory and demonstration but omit the practice and feedback. He finds that when these last two elements are left out, the model is not powerful enough to insure transfer. Practice during the workshop and feedback from others can prevent new skills from being eroded.

**Support structure for the professional development paradigm** Joyce and Showers (1988) recommend a support structure comprised of study groups, peer coaching, and staff development specialists. They suggest that districts build a community of learners by forming a district-level staff development governance body. Further, they advise districts to establish a building-level structure whereby every teacher and administrator belongs to a study group of no more than six members. In these groups, each member belongs to a coaching team of two or three. The leaders of each study group and the building principal form a staff development/school improvement council for that school. A representative from each school joins the district committee, thus tying the schools with the district and a central office administrator. The three groups are further defined as follows:

1. *Study Group* - a collegial support group formed with the goal of improving teaching competencies and growing professionally. Teachers report feeling less isolated and more confident in their ability to make needed changes in their teaching (Sparks, 1983).
2. *Peer Coaching* - a way to provide support and encouragement to colleagues when new strategies or innovations are being implemented (Joyce & Showers, 1982; Sparks & Loucks-Horsley, 1989). It can help to develop a collaborative workplace where teachers interact to improve curriculum and instruction, develop materials, and solve problems together (Robbins, 1991).
3. *Staff Development Team* - a group which includes the staff development specialist(s) and the building administrator(s). Their purpose is to provide instruction and give support to the teachers who are learning new practices.

Munger (1990) analyzed the effects of the professional development paradigm on

the implementation of cooperative learning in a suburban Iowa school district. Her findings from survey information and interviews with participating staff members revealed that the staff development team had the greatest influence on the teachers in their implementation of cooperative learning. However, the other two components did provide information, support, and assistance to some of the teachers. Johnson (1991), in a similar study, found that the staff development teams were rated as the most beneficial in helping staff members to implement authentic assessment, with study groups second, and peer coaching groups third.

**Staff development specialists** Joyce and Showers (1988) refer to staff development specialists as persons with "a high level of competence in an area to the point they can deal with its theory, demonstrate it, organize practice with it, and help coaching teams and study groups sustain its use in the instructional setting" (p. 13). According to Hord and associates (1987), the second change facilitator is someone in a leadership role at the school site. This person may be more efficient, effective, and better received by fellow teachers because she or he is based at the building.

**Building administrators** A critical element in any change effort is the support of the building administrator (McLaughlin and March, 1978; Orlich, 1983; Sparks, 1983; Wood et al., 1993; Showers, 1985; Loucks-Horsley et al., 1987; LeBlanc and Zide, 1987; Sparks & Loucks-Horsley, 1989). Planning, collegial interaction, and professional development take time. Administrators show support for these activities by providing time for their teachers to observe and give feedback to each other through coaching. They may provide substitutes or part-time teachers to relieve teachers for professional development or pay stipends to teachers who participate in after-work or weekend workshops (Showers, 1985). Another key role principals can play is that of facilitator, guiding teachers through the school improvement process. The principal's role will vary from school to school depending on the strengths of the principal and faculty, but whatever the role, she or he needs training in order to be prepared for these new responsibilities (Wood et al., 1993).

LeBlanc and Zide (1987) identified administrative support as a key element in the success of staff development. They listed six important functions of an administrator



in this role: (1) identifying the need or goal collaboratively with teachers and consultants, (2) defining instructional areas associated with the goal, (3) providing incentives, time, and space, (4) delegating responsibility for coordination of the program, (5) attending planning and training sessions, and (6) expressing the importance of the program.

The process of teacher development is complex and depends upon a positive context and appropriate training activities (Loucks-Horsley et al., 1987). Factors which can make a difference in teachers' motivation to improve their practices include sufficient resources, flexible hours, support from colleagues, and recognition. Loucks-Horsley and associates summarized ten characteristics which help to make teacher development successful. These characteristics are listed below:

1. collegiality and collaboration
2. experimentation and risk taking
3. incorporation of available knowledge bases
4. appropriate participant involvement in planning, implementation, and evaluation
5. time for implementation and transfer
6. leadership and *administrative support* [italics added]
7. appropriate incentives
8. based on research about adult learning and the change process
9. integration of individual, school, and district goals
10. placement of the program in the organizational structure of the school and district. (Loucks-Horsley et al., 1987, p. 8)

**Teacher involvement** Although many studies report the importance of administrators as key leaders in staff development and change processes, Sparks and Loucks-Horsley (1989) point out that others can also take on these leadership and support roles. In fact, some may be in an even better position to perform these functions. In Paul's (1990) description of the principles of effective teacher development programs, *teacher involvement* is listed as a critical element. His review of the literature yielded information on programs whose organization and delivery has been affected by the Japanese model of management and the worldwide movement toward participatory democracy at work. He surveyed over 350 Illinois school administrators and concluded that it is critical to involve teachers in the governance of staff development plans for teachers.

Joyce and Bennett (1987) found that participation in planning motivates teachers to use the innovation in the classroom and to "buy in" to the program. Wood and associates (1993) stress the importance of ownership and commitment by teachers in the RPTIM model. The research is clear that participant involvement in key decisions about staff development is necessary if a program is to have maximum impact (Sparks & Loucks-Horsley, 1989). Both a "top-down" and "bottom-up" approach is required for a supportive staff development context (Lieberman and Miller, 1986, 1991).

**Mandated training** Closely related to the aspect of teacher involvement is the dilemma about whether professional development should be mandated for teachers. Many researchers have found that educators will be more motivated to learn when they feel they have control over their own learning and are free from threats (Wood, McQuarrie, & Thompson, 1982). Wood and Thompson (1993) suggest that it is important for adults to originate their own learning and further that they will resist situations which they perceive to be an attack on their competence. They conclude that educators must be given some control over the "what, who, how, why, when, and where of their learning" (p. 28). In a synthesis of successful teacher development programs, Orlich (1983) found that teachers benefit from programs where they have some voice in the selection of goals and activities.

Wade's (1985) findings on this subject are quite different from other researchers. "Contrary to popular opinion, whether a participant voluntarily chooses to attend inservice training or is required to attend does not make a significant difference in training effect size" (p. 51). She states that it is reassuring that over 85 percent of the 609 data sets she studied reported voluntary participation; however, the difference of .23 standard deviations greater effectiveness than mandatory participation is not statistically significant. Sparks (1985) again faults Wade's methods on this point, stating that there is no way to investigate these findings since references for the original studies are not provided. She concludes instead that in order for teachers to use the recommended practices in their classrooms they must become convinced that the practice is valuable and that the change can be made with little disruption (Sparks, 1983).

**Teachers as trainers** What are the advantages of having teachers train other teachers? Sparks (1983) suggests that the cost of conducting workshops can be lowered if teachers are used as trainers and the effects on teaching behavior and student learning are the same as when professional consultants conduct them. Other advantages include ongoing staff development, honoring the school's or district's own people, and being independent of outside people. Criteria for selection of teacher-trainers should include excellence as a teacher, analytical skills, a strong (not big) ego, ability to take criticism, intelligence, openness to new learning, good health, energy and enthusiasm, personal and professional integrity, and proactive orientation (Bates & Stachowski, 1991).

**Outside consultants** Some of the reasons for schools and districts to invite outside trainers include their expertise in needed areas, the fact that there is no one in the district who can do it, motivation for participants, the cost of sending people elsewhere for training, the difficulty of being "a prophet in your own land," and that of finding a good match with the district. A key criterion for selection is the ability and desire to help build in-house trainers for the future (Bates & Stachowski, 1991).

**Adult Learning** It has become more and more apparent that adults as well as children reach different developmental levels which cause them to make specific career decisions. Many surveys of adult learners have shown that adults need more activity-oriented, involved methods of training (Worth, 1986). Other needs include meaningful information, known expectations, respect for experiences, reinforcement, feedback, diverse teaching styles, a feeling of relevancy, self-direction, freedom from anxiety, and immediate application (Templeman & Peters, 1992). The National Staff Development Council (1985) affirms that a comprehensive and effective staff development program must incorporate sound principles of adult learning and stages of concern which are reflected in research. It is therefore critical for teacher development programs to provide appropriate settings and activities and to accommodate specific needs of adult learners (Worth, 1986).

**Duration** Many researchers have studied the effects of differing amounts of

time spent in professional development (Hall & Loucks, 1978; Sparks, 1983; Sparks, 1984-1985; Goldenberg & Gallimore, 1991). Sparks (1984-1985) concludes that the total amount of time may not be as important as the distribution of that time. Significant changes in teaching behaviors may require five or more half-day sessions. The goals and content of the workshops as well as the distribution of time must be considered.

Most research on professional development indicate that single-session training programs are ineffective. Those that have an effect on teaching behavior are spaced over time. The concept of *mutual adaptation* was introduced by the Rand researchers in 1976. This term describes the process of teachers trying out new practices and modifying them to fit their individual situations. When the techniques and the settings gradually changed over time, successful implementation was greater (Sparks, 1983).

The Concerns-Based Adoption Model (CBAM) (Hall & Loucks, 1978; Sparks, 1983) provides another rationale for long-term change efforts. The CBAM, described previously, focuses on the concerns of teachers at various stages of the change process. Training activities are then designed to address their concerns which may change over time. A long-term staff development effort can deal with changing concerns and adapt the training to them. One schedule that appears to make a difference is a series of three-hour workshops meeting every week or every other week for four to six times. Sparks (1983) reports on studies in which significant changes in teacher behavior have resulted from at least two training sessions a week or more apart. The rationale for this type of scheduling is that the content of inservice education needs to be presented in "chunks" over time in order to address teachers' changing concerns and to attempt only a few changes at a time. The gradual change indicated by CBAM and the concept of mutual adaptation are not possible in the "one-shot" presentation (even one lasting two or three days). In addition, the opportunity to have ongoing discussion of implementation problems and concerns is lessened.

Goldenberg and Gallimore (1991) discuss the need for increased intellectual stimulation of teachers through the use of "instructional conversations." An extended period of time is suggested for teachers to meet with their colleagues and a trained consultant to learn new knowledge and skills. They argue that making fundamental changes in schools requires that teachers continually analyze their instruction in the

style of a graduate seminar.

**Time of day** The National Staff Development Council (1985) believes that released time for staff development activities should be provided by the local school board and administration as part of the regular school calendar. Orlich (1983) agrees, stating that when adequate time for teacher education is planned within teachers' contract time, the training is likely to be more effective.

**Incentives** Wade (1985) found that college credit used as an incentive for participating in professional development yielded a moderately positive effect size, followed by released time. Other incentives which resulted in a small positive effect size include pay and certificate renewal. Orlich (1983) states that incentives must be identified for staff development. It is important to have an array of incentives including money, time, credit, and recognition. Money should not be the only incentive, and unless it's a large amount, often does not matter to teachers (Bates & Stachowski, 1991).

**Evaluation** It is important to evaluate every aspect of the inservice to provide feedback for making adjustments during the operation of the program (Orlich, 1983). In actual practice however, the necessity for evaluation of the trainee and the impact on students is not sufficiently emphasized (Templeman & Peters, 1992). Documenting the effects of training on students is much more involved than simply looking at achievement test scores. Sparks (1993/1994) recommends that planners of staff development must determine the intended effects, develop a program powerful enough to produce those effects, and gather data to assess whether the objectives were met. Four levels of evaluation have been identified in the literature: (1) satisfaction of trainees, (2) development of knowledge and skills by participants, (3) implementation of new behaviors in the classroom, and (4) impact on the students (Templeman & Peters, 1992).

**Context** District teacher development programs do not happen in a vacuum. The organizational context in the district influences their success or failure. Many factors affect the way teacher training is viewed, including the climate of the school

and/or district, the attitudes and behaviors of district leaders, the policies and systems in the district, and participant involvement (Sparks & Loucks-Horsley, 1989). Additionally, the context for staff development activities is within a comprehensive staff development program which includes a philosophy, goals, resources, and coordination.

**Standards for Staff Development** The National Staff Development Council (NSDC) recently published its *Standards for Staff Development: Middle Level Edition*. Through a grant, the NSDC brought together more than fifty educators, including representatives from five national educational associations, to create a set of standards for staff development programs. Designed as a study guide, this document assists schools and districts in assessing and improving their efforts in teacher education. The standards for elementary schools and high schools are expected to be published in 1995. These standards are organized in three categories: context, process, and content. All three elements must be present for staff development to improve student learning. A summary of the important points from each appears in Figure 2.

In Georgea Mohlman Sparks' (1983) syntheses of research on staff development, she states that while it is not possible to conclude that one design is more effective than the others, some general recommendations can be made by putting together the many pieces which were reviewed:

1. Content should be shown by research to improve student achievement.
2. Teachers involved in decision making and administrative support are needed.
3. Training sessions should be conducted two or three weeks apart.
4. Presentation, demonstration, practice, and feedback activities should be included.
5. Small-group sessions should be provided for application and sharing of new ideas.
6. Teachers should be encouraged to visit other classrooms between workshops.
7. Research and rationale about the effectiveness of the practices should be presented.
8. Detailed discussions and teacher sharing about the use of techniques are needed.
9. Teachers should be encouraged to try only one or two new strategies each time.
10. More time should be provided for practices requiring complex thinking skills. (p. 71)

**Context:** Effective middle level staff development

- requires and fosters the norm of continuous improvement
- requires strong leadership for continuing support and motivation
- is aligned with the school's and district's strategic plan and funded in the budget
- provides adequate time during the work day for teachers to learn
- requires study of the change process

**Process:** Effective middle level staff development

- provides information about organization development and systems thinking
- is based upon knowledge of human learning and models understanding
- provides for initiation, implementation, and institutionalization phases
- establishes priorities by analyzing disaggregated data regarding student learning
- uses content valuable in increasing student learning
- provides a framework for integrating innovations according to the district's mission
- requires ongoing evaluation including multiple information sources at all levels
- uses a variety of staff development approaches to improve instruction
- provides the necessary follow-up to ensure improvement
- requires staff members to learn and apply collaborative skills to work collegially
- uses the stages of group development to build collegial teams

**Content:** Effective middle level staff development

- increases understanding of providing responsive environments and instruction
- facilitates management plans providing strategies to maximize student learning
- increases administrators' and teachers' ability to provide guidance to students
- addresses diversity by providing training ensuring equitable education for all students
- increases educators' ability to provide challenging and appropriate curriculum
- prepares educators to combine academic goals with community service
- prepares teachers to use research-based teaching strategies
- prepares educators to demonstrate high expectations for student learning
- helps teachers and administrators engage parents in their children's education
- prepares teachers to use various types of performance assessment

Figure 2. Standards for Staff Development: Middle Level Edition (NSDC, 1994).

In her review of the literature from 1965 to 1985, Loucks (1987) found that many discrepancies exist as to the practices and procedures which consistently produce effective results. The components which seem to stand out as being important to include in a district's plan for professional development are listed below:

1. Program content should be relevant to classroom activities and staff needs.
2. A needs assessment provides important information for program planning.
3. Teachers should be involved in program planning.
4. The school is the most appropriate unit of change in education.
5. Programs should include both individual and group goals for participants.
6. Teachers should be given the choice of participating or not participating in the training.
7. Programs should have support and coordination from the district's central office.
8. Incentives should be provided for participation in staff development activities.
9. Outside consultants who have credibility in teachers' eyes should be used often.
10. Trained local school personnel should be used as trainers when possible.
11. Staff development sessions should be spaced over time.
12. Adequate time during the work day is needed for training purposes.
13. Summer courses should be offered when teachers are not with students.
14. Participants should be aware of training objectives.
15. Training of new staff members is needed to give them additional assistance.
16. Training in the classroom applications of technology is incorporated.
17. A budget should be provided for materials, consultants, and release time for teachers.
18. Specified goals and objectives must be seen as important and realistic to participants.
19. Staff development must have improvement of skills as a primary objective.
20. Programs should include improved student performance as a goal.
21. Coaching should be used to provide feedback for participants.
22. Programs should include follow-up activities for maintenance of new skills.
23. A monitoring component should be included.
24. Staff development programs should include an evaluation component.

These elements were mentioned often in the literature or by staff development consultants who reviewed the instrument for this study. Therefore, these practices and



procedures were selected for inclusion in this study.

Although including these critical components has been found to be necessary for implementing a quality staff development program which impacts student learning, one implication concluded by Paul (1990) pertains to "knowing" as opposed to "integrating" staff development theory. The two concepts are not the same. In his survey, many administrators felt that it was valuable to include the critical components in a staff development plan, but also unrealistic. Many respondents stated that school districts had too many other needs which were not met to give staff development high priority.

We have learned a great deal about effective staff development in the last twenty-five years, but many questions still remain unanswered. There is still a need for long-term studies dealing with school improvement based on staff development. A solid base of research is needed which goes beyond description and advocacy to helping educators to understand the factors which improve classroom practices (Sparks & Loucks-Horsley, 1989).

#### **Staff development and educational reform**

When we consider the magnitude of change that is occurring in our world and that is being proposed in schools, it is easy to feel overwhelmed. At times we may feel virtually powerless in the face of the improvements called for in instruction, curriculum, staff development, assessment, and management style, just to name a few issues. What powers do each of us possess, and how can we find and claim these powers to make a better world for ourselves, our schools, and the students we serve? (Sparks, 1994, p. 2)

We know that education today offers many challenges. Pressures from society impinge upon our schools, often in conflicting ways. Teachers need to be prepared for new roles. As teaching roles have expanded, teaching materials have become more complex. The organization of schools is changing as citizens demand more and teachers seek increased involvement. With all of these changes, one idea remains constant--that the interactions between teacher and student determine the quality of the education. Another factor that is generally agreed upon is the idea that improving the way teachers teach is critical for increased growth in student performance. It is therefore obvious why continuing professional growth of all educators is being emphasized more and more (NSDC, 1985).

Experts believe that this emphasis on school improvement and staff development will continue to be a major factor in the school reform movement in the 1990's and early Twenty-first Century (Wood & Thompson, 1993). It has been shown that school improvement and professional development are dependent on each other (Sparks & Loucks-Horsley, 1989; Wood & Thompson, 1993). "There can be no significant improvement in administrative practice, teaching, or school programs without effective staff development. And staff development is aimless and ineffective without clear direction concerning the kinds of improvement we want in our schools" (Wood et al., 1993, p. v). The two intertwining themes will continue to dominate in school districts' efforts to improve current practices throughout our country. Systematic and comprehensive planning is needed in order to realize the desired results for school reform (Templeman & Peters, 1992).

Schools have an obligation to prepare all their students for productive, satisfying lives in the 21st Century. Quality staff development is an essential ingredient in school reform that truly benefits all students. (Sparks & Vaughn, 1994, p. 20)

### **Impact of staff development**

"The most obvious accomplishment of staff development over the past quarter of a century is that it has become firmly established as a major force for educational development and reform" (Fullan, 1994, p. 6). As previously noted, the past twenty-five years have seen the development of a more rigorous definition for staff development. Fullan (1994) finds that Joyce's model of theory, demonstration, practice, feedback, and coaching have become household words among staff developers. However, he believes that current practices rarely live up to the requirements of this model. Wood and associates (1993) believe that in the next ten years, schools will be required to change their practices and to recognize the need for a coordinated staff development plan which will make significant changes and improvements for many years.

The recognition of the importance of professional development has never been greater than it is today. It has come to be recognized as the main vehicle for needed change in every proposal for reforming and restructuring schools (Guskey, 1994). As a result, collecting evidence to show that such programs do make a difference has become a requirement by law makers, funding agencies, and the public. Measuring student

learning has been emphasized instead of limiting evaluation to surveys of teachers' attitudes (Guskey & Sparks, 1991).

Loucks (1987) conducted a survey of officials in fifty states and discovered that thirty-one states required that staff development plans be written by all public schools including an evaluation and updating component. Twenty-one states provided monetary and technical assistance for developing, implementing, or evaluating the programs. Twelve states were considering laws requiring written staff development plans at the school level. Twenty-three states had requirements for teachers to participate in staff development in order to be certified. She concluded that these results provided support for the premise that staff development is generally accepted as a means of educational change. Having once been simply an add-on or optional activity, staff development is now recognized as necessary for large and small scale reform (Loucks-Horsley, 1994).

Focusing on deficits in teacher preparation is much less needed, while improving the schools as total learning communities based on new demands and rapid changes in curriculum and technology is now being emphasized (Dillon-Peterson, 1994). It is important that staff development continue to become part of larger conceptual frameworks. Fullan (1994) recognizes the need to pursue linkages among staff development, assessment, and human resource development in order to attain *systemic reform*. It must be "organically" connected to day-to-day work. He states that it is still too often seen as a frill. However, it is well known that staff development can make a substantial difference in the improvement of our schools through increasing the achievement and learning capabilities in our students (Showers, Joyce, & Bennett, 1987).

### **Systems Thinking**

Because educational leaders typically have not thought systemically, reform has been approached in a piecemeal fashion. (Sparks, 1994, p. 27)

Systems thinking recognizes that even minor changes in one part of a system can significantly affect other parts of the system either positively or negatively. Attempts at improving one area may result in unintended consequences in another, although they may not appear for months or even years (Sparks, 1994).

The United States General Accounting Office (1993) found that there is currently a focus on the potential of systemwide reform to improve student learning and to achieve the National Education Goals. Their studies found five key interrelated system components to have the greatest influence on school improvement:

1. establishment of goals or standards expected of *all* students,
2. development of curricula linked directly to those standards,
3. use of high-quality instructional materials appropriate to the curricula,
4. institution of *professional development programs* [italics added] to enable teachers, administrators, and other school staff to understand the curricula and the most effective ways of instructing students, and
5. creation and implementation of student assessment systems that are based directly on the curricula (p. 2).

Legislation proposed in the 103rd Congress provides federal support for systemwide reform. It is strongly suggested that systemwide reform, designed to serve all students, promises improved student learning by linking components of the system and enabling school personnel to work together (USGAO, 1993). *The Goals 2000: Educate America Act* requires systemic change by providing total-systems support (Manatt, 1994).

In addition to addressing the needs of the individuals within the organization, school districts must attend to the systems and processes of the whole district (Deming, 1986). "Systems thinking is a discipline for seeing wholes," according to Peter Senge (1990). "It is a framework for seeing relationships rather than things, for seeing patterns of change rather than static 'snapshots'" (p. 68). Senge believes that systems thinking is needed today more than ever because of the overwhelming complexity in the world. He refers to it as the "fifth discipline" because it is "the cornerstone of how learning organizations think about their world" (p. 69).

## Continuous Quality Improvement

### History of Continuous Quality Improvement

Continuous Quality Improvement (CQI), also known as Total Quality Management (TQM), is a management philosophy gaining momentum in this country. This change in thinking, led by Dr. W. Edwards Deming, has affected American businesses, government,

and educational institutions (Leonard, 1991; Brown, 1992). Our schools and many of our largest companies, such as General Motors, are becoming more and more aware of the threat of international competition (Holt, 1993). Literature on quality has exploded on the American scene over the past few years. All American efforts to implement this philosophy are based to a considerable degree on the teachings and writings of Dr. W. Edwards Deming, Joseph M. Juran, Kaoru Ishikawa, and Genichi Taguchi, who are credited with dramatic increases in Japanese quality management and performance (Krone, 1990).

Deming, a Sioux City, Iowa, native, whose ideas were initially shunned by American industry, rose to prominence in post-war Japan, where he was brought by General Douglas MacArthur as a consultant in 1947. There he taught the Japanese companies a statistical approach to quality control which he had learned from Walter Shewhart, his mentor at Bell Laboratories during the war. The Deming Prize for quality was established in 1951 by the Union of Japanese Scientists and Engineers (Holt, 1993).

After a 1981 NBC broadcast documenting the success of Japanese car makers, Ford Motor Company invited the 80-year-old Deming to Detroit to meet thirty of their senior executives (Holt, January 1993). That meeting was the first of many over the next twelve years with the leaders of America's largest corporations. Although Dr. Deming passed away on December 20, 1993, at the age of 93, his ideas about quality will continue to live through the many books and articles they spawned. Recently published books on Total Quality Management would fill several bookshelves in the library, guiding managers to constant improvement and meeting or exceeding the needs of customers (Holusha, 1993).

Total quality management is the generic term evolving from American industry's adoption of quality management programs similar to those in Japan. Because they utilize a systems approach, the word *total* was added. Many, including Dr. Deming, have not been enthusiastic about this term, but no alternative has replaced it (Krone, 1990). Deming often wrote and spoke of *continuous improvement* with the goal of quality, thus the term Continuous Quality Improvement (CQI) used in this study.

The concept of CQI has been catching the attention of CEO's and top executives of manufacturing companies, service industries, health care and educational institutions,

and the federal government. In fact, the government has established the Federal Quality Institute to encourage the use of quality principles and methods and to provide training and consulting to federal agencies and departments (Hendricks & Triplett, 1989). School personnel are now starting to take a look at how Deming's philosophy can be implemented in the schools and what its effect might be upon all those involved in the educational process (Glasser, 1990; Lezotte, 1992; Bonstingl, 1992; Holt, 1993; Bradley, 1993; Schenkat, 1993).

### **Continuous Quality Improvement and school reform**

Transformation is required in government, industry, education. Management is in a stable state. Transformation is required to move out of the present state. The transformation required will be a change of state, metamorphosis, not mere patchwork on the present system of management. We must of course solve problems and stamp out fires as they occur, but these activities do not change the system. (W. Edwards Deming, 1989, in Walton, 1990, p. 11)

Education has been at the forefront of the national agenda for over a decade; public dissatisfaction with the American educational system is becoming more apparent. Therefore, it seems natural to inquire whether that educational system should follow the lead of the private sector in pursuing quality improvement initiatives.

With the passage of the *Goals 2000: Educate America Act* and the enactment of two new educational goals, there is now a clear imperative for U.S. schools to improve. How this improvement should be accomplished is the question. Minnesota Lt. Governor Joannell Drystad told attendees at the Third Annual Partners for Quality National Governors' Conference in April of 1994 that individual, fragmented attempts at system repair have not succeeded, therefore the only answer is "fundamental, systematic transformation" (Rubach, 1994b, p. 94). Addressing more than 2000 teachers, administrators, students, policymakers, and business partners from 26 states, Finland, and Canada, she stated that schools need to accelerate local transformation efforts in order to meet the national goals by the year 2000 by deploying quality quickly. "By sharing and working together through the total quality systems approach, we can improve our nation's schools, provide better learning options to our students, and ensure a world-class work force" (Rubach, 1994b, p. 95).

Since the early 1980's, after seeing the impressive industrial successes of the Japanese, American business, government, and service organizations have begun to embrace the concepts of quality improvement. They too are experiencing success by redirecting their focus to serve the needs of their "customers" and using processes aimed at doing things right the first time. School leaders and reformers are now looking to these quality principles to help transform schools and the educational system so that their processes and results reflect the goals that have been set for them (Stampen, 1987; Rhodes, 1990; Glasser, 1990; Moen, 1991; Melvin, 1991; Meaney, 1991; Tribus, 1991; McLeod, 1991; Leonard, 1991; Glaub, 1991; LeZotte, 1992; Bradley, 1993; Holt, Fall 1993; Schenkat, 1993; Tieglund, 1993).

In the past four or five years, quality concepts have become part of "the lexicon of American education" (Sparks, 1992, p. 2). Dr. Deming's writings, and writings about him, have shown up prominently in numerous publications. In his wake, a multitude of consultants, of differing experience and expertise, have appeared carrying the quality message to schools. Such well-known educational journals as *The School Administrator*, *Educational Leadership*, and *Education Week* have featured articles on this subject. At the American Association of School Administrators' (AASA) 1992 convention, which is primarily attended by superintendents and central office administrators, there was so much interest that sessions on quality had standing room only (Sparks, 1992).

Public Laws 103-227 (Goals 2000) require assessment data which should be turned into meaningful information contained in progress reports to students, parents, the community, and the state. Continuous Quality Improvement supports the growing consensus on educational change goals. According to Neuroth and associates (1992), this theory is compatible with educational reform themes and actually builds a case for their existence. Building responsive relationships with those who need schools is the main focus, along with providing a process for agreeing on standards which will satisfy and delight them. Teachers and students are freed to use their best judgment, based on a clear purpose used to hold individuals and teams accountable. Systems are then redefined so that people work freely with accountability. Students become active co-producers of knowledge as the new philosophy helps schools progress toward their goals by improving the work processes (Neuroth et al., 1992).

The American Association of School Administrators enlisted the expertise of Dr. Deming to help school leaders view the school transformation being called for by the year 2000 in a new way (Marx, 1991). In one conversation with AASA, Deming promoted several of his principles for education:

1. that education can only be transformed one system at a time;
2. that leaders must have a vision and must understand their system in order to put that vision into practice;
3. that schools must expect and design for variation among children; and
4. that the goal of education leaders should not be achieving numerical goals, but transforming school systems. (Marx, 1991, pp. 1-2)

Teigland (1993) concludes that piecemeal interventions in our current educational system have not increased the productivity of most schools. Recent evaluations show that educational improvement efforts of the 1980's have not resulted in any significant changes. He found that there is a belief that our current system has reached its peak of effectiveness and efficiency and that a fundamental restructuring is therefore needed if significant improvements are to be made.

For a school district to adopt any degree of quality improvement, some financial outlay is needed. One expense would, of course, be trainers or quality consultants who need to be compensated until staff members are trained to train others in the district. Another expense is for substitutes or compensation for the teachers receiving the training. It is possible to conduct training on a shoestring for a short time, but it won't last long or be of high quality. People and time are critical in our educational system. The problem comes when the staff needs training while the budget is shrinking (Bender, 1994).

Crawford Central School District in Meadville, Pennsylvania, near Pittsburgh is one district that decided to educate its staff on the potential benefits of quality improvement. It sent its first team to learn about quality concepts during the 1989-90 school year. Since that time, the district has chosen a number of quality projects to pursue each year. However, the district continues to have problems finding the optimal time for training teachers without disrupting their classrooms. Insufficient financial support is also a barrier for conducting training outside contract hours (Bender, 1994).

Constant exposure to CQI concepts is a key to developing commitment in



employees. Crawford Central School District does not compel employees to pursue quality initiatives, but the administration of the district is committed to transforming it through continuous improvement. Although the district is experiencing some barriers, it is responding by using its available resources to focus on attainable objectives and a productive future through CQI (Bender, 1994).

If meaningful school reform is to take place, it is apparent that there will need to be tremendous changes in the way schools do business. Public school leadership must also change. How will this be accomplished? The past successes of quality management in business and industry raise the possibility for applying CQI to education (Brown, 1992; Teigland, 1993). Although Dr. Deming believed that people are an organization's greatest resource, he stated that approximately 85 percent of the problems are the fault of the system, not the individual. It is important that leadership at the highest levels of the organization be provided for quality improvement to occur (Walton, 1986). School administrators need to look seriously at CQI as one option for bringing about needed change and improvement in our schools (Teigland, 1993).

Profound improvements can be realized in U.S. national security and stability if industry, government, and education can implement CQI successfully (Krone & Crawford, 1985). "We've got to realize that education in America is a journey, not just a destination. We in academia collaborate, communicate, and coordinate among ourselves, and with industry and government, to build a network for continual improvement of our institutions, our education, and our nation" (Tompkins, 1990, p. 36).

Dennis Sparks (1992) tells us that it is not just a matter of the quality of an innovation that determines whether it will be perceived as a fad or a change of long-term value. We all know of good ideas and practices which have been ignored both in and outside education. The quality of the implementation process is the critical element. He believes that we must apply the lessons of quality improvement learned in the past twenty years to the innovation and change needed in our schools.

### **Basic principles of CQI**

According to Neuroth and associates (1992), three basic principles form the foundation for Continuous Quality Improvement:

1. *Systems Thinking* - Agreeing with Senge and others, Deming believed that we must understand the *whole* to which any *part* belongs. It is dangerous to break things down and just focus on parts unless we also consider the whole. Understanding the interrelationships in the system is critical to the organization's survival and success. In education, different schools will construct their own pictures of the system that are most useful to them.

2. *Management by Data* - Choices and decisions must be based on real world data and objective criteria when an improvement is needed. Understanding the theory of variation, documenting systems to control variation, and empowering workers to make decisions are necessary for an organization to deliver what the customer needs. In schools, teachers and students are accountable for making decisions to help the system deliver according to its current capability.

3. *Continuous Improvement* - We must find ways to constantly respond to new conditions. The connection to school reform is an obvious one. As discussed above, school improvement will always be needed. It seems only prudent that we study Deming's teachings to see what we can adopt and adapt in our efforts to transform schools. As Senge (1990) points out, "the need for understanding how organizations learn and accelerating that learning is greater today than ever before" (p. 8).

CQI differs from traditional management in many ways. Teigland (1993) lists several key differences found in the literature: (1) traditional management focuses on its own requirements, CQI on the customer; (2) in CQI there is a belief that profits follow quality; in traditional management, profits are the first responsibility; (3) CQI sees quality as having many dimensions and is oriented toward the customer; traditional management views quality as a single dimension; (4) CQI helps every employee find improvements in their work; traditional management's belief is that workers should work and managers should manage; and (5) CQI improves process quality with a long-term, process-oriented approach, while short-term, results-oriented gains concern traditional management (p. 73).

Another key component of CQI is maintaining a constant focus on the needs of the customer, and of defining quality related to those needs. Customers may be internal or external, but all workers have customers who need and receive the products that individual produces (Deming, 1986; Hendricks & Triplett, 1989; Bonstingl, 1992a;

Neuroth et al., 1992; Bradley, 1993; Telgland, 1993).

1. Establish constancy of purpose.
2. Adopt the new philosophy.
3. Cease dependence on mass inspection to achieve quality.
4. End the practice of awarding business on the basis of price tag.
5. Improve constantly and forever the system of production and service.
6. Institute training on the job.
7. Institute leadership.
8. Drive out fear.
9. Break down barriers between departments.
10. Eliminate slogans, exhortations, and targets for the work force.
- 11a. Eliminate work standards (quotas). Substitute leadership.
- 11b. Eliminate management by objectives. Substitute leadership.
- 12a. Remove barriers that rob the worker of pride in workmanship.
- 12b. Remove barriers that rob people in management of pride of workmanship.
13. Institute a vigorous program of education and self-improvement.
14. Put everybody in the company to work to accomplish the transformation.

Figure 3. Deming's 14 points (Deming, 1986, pp. 23-24)

Fundamental systemic changes in an organization's culture are called for in Dr. Deming's approach to quality improvement. His fourteen points (Figure 3) taken together, summarize his philosophy of management in small as well as large organizations (Deming, 1986; Holt, 1993a; Holt, 1993b). These points have been continually reviewed and updated through his many seminars (Holt, 1993b), therefore many versions exist. Since Deming first espoused these fourteen points, many writers have attempted to elaborate upon them and to translate them into usable formats. In recent years, a number of educators have come forth to aid our understanding of how these principles relate to our field (Leonard, 1991; Blankstein, 1992; Holt, 1993b; Schmoker & Wilson, 1993; Bradley, 1993; Schenkat, 1993). Some of these interpretations, as might be expected, have held conflicting views on key points. It is therefore necessary to become familiar with those who have studied and worked with Deming intensively if we wish to discover CQI's applications for schools and education. Figure 4 shows one interpretation of Deming's 14 points for education.

Most Quality experts seem to agree that these fourteen points would have little meaning outside the context of his concept of *Profound Knowledge* (Rhodes, 1990). The four components of Deming's *Profound Knowledge* are statements which apply to any type

of organization (Brown, 1992), cause us to grapple with the complexities of life (Schenkat, 1990), and challenge prevailing mental models (Rhodes, 1990). According

1. Create constancy of purpose toward improvement of the entire school system and its services.
2. Adopt the new philosophy; we are in a new economic age.
3. Cease dependence on tests and grades to measure quality.
4. Cease dependence on price tag when selecting curricula, texts, equipment, and supplies for the school.
5. Improve constantly and forever every process for planning, teaching, learning, and service.
6. Institute more thorough, job-related training.
7. Institute leadership (management of people).
8. Drive out fear.
9. Break down barriers between groups in the school system.
10. Eliminate the use of goals, targets, and slogans to encourage performance.
11. Closely examine the impact of teaching standards and the system of grading student performance.
12. Remove barriers that rob staff and administrators of pride of workmanship and rob students of the joy of learning.
13. Institute a vigorous program of education and self-improvement for everyone in the system.
14. Plan and take action to accomplish the transformation.

Figure 4. Restatement of Deming's 14 Points as "14 Obligations for the Board of Education and Administration" (Leonard, 1990, p. 6)

to Deming (1991), "Hard work and best efforts, put forth without guidance of profound knowledge, leads [*sic*] to ruin in the world that we are in today. There is no substitute for knowledge" (p. 10).

Deming (1991) describes the four related parts thusly:

A. *Appreciation for a system* - defined as a "series of functions within an organization that work together for the aim of the organization" (p. 13). He stated that there is interdependence between components in almost any system, and that management must understand the inter-relationships between these components. Everyone must understand the aim of the system. "Without an aim, there is no system" (p. 13). A second component of systematic thinking is "optimization" which means that everyone in the organization must benefit (Deming, 1991).

B. *Theory of variation* (statistical theory) - includes understanding of special and common causes of variation, stable and unstable processes, and the distinction

between enumerative studies and analytical problems (Deming, 1991). Educators can use this understanding of variation to work toward quality while dealing with individual differences (Bradley, 1993).

C. *Theory of Knowledge* - involves prediction about performance, interpretation of data, questioning, communication, and measurement procedures (Deming, 1991). Prediction and long-term perspective are necessary for schools to succeed in the future (Bradley, 1993).

D. *Knowledge of Psychology* - helps us understand people and interactions between them. People are different and learn in different ways. They may be rewarded by intrinsic motivation, extrinsic, or overjustification. Management must work to increase intrinsic rewards so there will be joy in work and in learning (Deming, 1991). School leaders must use this knowledge to tap into the potential of the individuals in the organization (Bradley, 1993).

These four beliefs are credited with changing the economy of Japan over the past 40 years to the competitive system it is today (Walton, 1986; Melvin, 1991). Some experts believe that Deming's profound knowledge helps us understand how things are connected in a fragmented world, supports individual human growth in organizations, and facilitates asking the right questions as we attempt to restructure schools (Rhodes, 1993). CQI creates learning organizations which think of work as learning. As CQI is internalized in organizations, every person learns ways to continually improve in what s/he does. For this reason, many organizations make substantial investments in employee education (Neuroth et al., 1992).

Teigland (1993), after a thorough review of the literature, lists attributes which are common in organizations which have successfully implemented quality management: (1) a high degree of enthusiasm and empowerment of employees, (2) total commitment by top management, (3) total commitment throughout the organization, (4) implementation strategies focused across the whole organization, (5) the implementation process managed by a cross-functional quality team, (6) recognition of the significance and enormity of the task from the beginning, (7) allocation of appropriate funds to ensure success, (8) appointment of full-time, long-term facilitators, (9) well-developed communication lines, (10) a true team concept, (11) established and accessible measurement systems, (12) involvement of employees

in developing the measurement systems, (13) a vision of quality throughout the organization, (14) understanding of quality processes throughout the organization, and (15) motivation to change within the organization (pp. 71-72).

Continuous Quality Improvement is not concerned with finding defects in quality after the fact, but with planning and preventing defects. CQI means doing things right the first time. Identifying potential problems and reducing deficiencies are encouraged. Constant attention, persistence and a proactive attitude are required as performance standards are adjusted frequently. Rewards rather than criticism or punishment must be provided to motivate employees to identify problems and inform management about them (Hendricks & Triplett, 1989).

CQI improves the entire organization by enhancing quality through well-defined processes. It changes the way the business world does business, manages, and conducts its daily life. It is a proven method of infusing quality and customer service into the organization, developing happier and more productive employees, and creating innovation in its products (Hendricks & Triplett, 1989).

### **The Malcolm Baldrige Award**

The Malcolm Baldrige National Quality Award has recently had a great influence on the quality transformation in U.S. industry. This award, first given in 1989 at the direction of Congress, honors up to six companies yearly which exemplify excellence and continuous improvement (Neuroth, 1992; Schenkat, 1993). It provides a nationally accepted set of criteria for evaluating the extent to which a company has implemented quality management in the U.S. Altany (1992) calls the criteria a "virtual blueprint for business success" (p. 49). The criteria act as guidelines for defining the quality philosophy. The best thinking of the major "gurus" in the quality world is embodied in them (Altany, 1992). Recent winners include Motorola, Florida Power and Light, and Xerox (Krone, 1990). "Suddenly, everybody wants a Malcolm Baldrige National Quality Award. Given the formidable strength of our overseas competitors, the scramble toward quality is not only timely but vital" (Kaufman, 1991, p. 51). The seven criteria used in rating performance and quality each year and their application for schools are listed in Figure 5.

State-level awards are now being developed by many states based on the highly

1. *Leadership* - the role of top school district officials is described to make it more supportive of individual efforts to serve customers better.

2. *Information and Analysis* - data is continuously supplied and examined for planning, developing people, improving the performance of the workers.

3. *Strategic Quality Planning* - practical long- and short-term goals are set based upon the expectations of customers and information about current methods and capabilities.

4. *Human Resource Development* - data is used to improve individuals' abilities to do quality work by helping them get what they need to do the job better.

5. *Management of Quality Process* - work processes such as teaching and learning, business support services, and management of suppliers are examined.

6. *Quality and Operational Results* - key indicators developed by strategic planning are tracked.

7. *Customer Focus and Satisfaction* - the district's relationships with customers and customer satisfaction are examined.

Figure 5. The Malcolm Baldrige Award Criteria (Neuroth et al., 1992, pp. 27-28.)

rigorous Baldrige criteria. The Minnesota Council for Quality patterned its Minnesota Quality Award (MQA) after the Baldrige Award. In that state, quality improvement programs have been established by 43 percent of the companies employing 50 or more people. The benefits of the criteria in planning, the learning during the application process, and the feedback received are motivating for these businesses. The criteria are used by Alliant Techsystems in Minnesota for corporate planning (Schenkat, 1993).

Minnesota Lt. Governor Drystad stated that there is hope for transforming educational systems using a Baldrige type of quality assessment (Rubach, 1994b). The Minnesota Council for Quality believes strongly in the application of CQI ideas to schools. The Minnesota award processes were determined to be appropriate and helpful to elementary and secondary schools, as well as institutions of higher learning by participants in a pilot process involving 16 educational institutions. Results of such an education award could include the sharing of a common language, format, and pool of examiners with manufacturing, service, and small business categories. School districts became eligible to apply for this award in the 1993-94 school year. Other states are also initiating similar efforts (Schenkat, 1993).

Because of the effectiveness of the Baldrige Award, school leaders are being encouraged by business to develop a similar award as an offshoot (Schenkat, 1993). The behaviors described in the seven criteria exist in all organizations accomplishing

quality results. All the interlocking pieces of a quality system are identified through these criteria (Neuroth et al., 1992). It is not difficult to see how each of these pieces can be applied to school districts and to teaching and learning as they are to Deming's philosophy.

### **Use of a business model**

Why should schools use a business approach to transform education? There are detractors who feel that a business model should not be applied to education (Bonstingl, 1993; Kohn, 1993a; Kohn, 1993b). Holt (1993a) addresses the question of what a business proposal has to offer schools. While he admits that attempts to link business and schooling may direct us away from our purposes of developing the mind and toward training for skills, he points out that the marketplace demands vigorous minds that can create new solutions to our problems. Although we must be careful in our collaborations with business, we can benefit from each other if we have mutual respect. Since there is now increasing awareness that school improvement will require fundamental changes, we may find some surprising parallels in Deming's experiences with businesses. Borrowing ideas from the business world might be beneficial if schools recognize that they will need to be reinterpreted for educational use.

Schenk (1993) also discusses the use of a business model in educational reform. He believes that Continuous Quality Improvement can give the teaching profession some needed dignity and rigor; it can guide the transformation of our workplace and indeed the transformation of education as it becomes a better learning environment. In addition, businesses are looking for graduates with well-rounded educations, of which knowledge of CQI is a valued part. Unions are also incorporating many of the principles of the quality movement. And finally, CQI provides for us a planning structure which could serve as an umbrella for many innovations being developed in education today. He fears that an opportunity to professionalize our education system will be missed. Some of the ideas CQI has to offer include self-regulated learning, construction of knowledge, and self-efficacy--keys to empowering workers. Schenk believes that "alive learning organizations are much better environments to foster the talents of educators and bring joy to their work" (p. 65), and



that Deming's ideas on quality can create the conditions for nurturing learning organizations.

Rhodes (1990) lists some of Deming's ideas that have application in the school improvement process: (1) Humans want their actions to be meaningful and have an effect on the world around them. (2) Organizations are connected systems requiring management of those connections. (3) Management and workers are both trapped in processes they feel unable to change. Deming's philosophy offers a different way of looking at education and dealing with what we see. (pp. 32 & 34).

Teigland (1993) concludes that the past success of quality improvement in business, industry, and the private sectors suggests possibilities for applying it to education. Some of the latest trends in school-based management such as strategic planning, effective schools, and school improvement theories blend well with the CQI philosophy. He states that Deming's concept of "customer" is not new in educational administration professional literature, however determining who is the customer may be more difficult than in business. Educators may have many customers including students, parents, school board members, the community, and businesses. Students may be viewed as the targets, if not the customers, of education. Louis and Miles (1990) see students as the customers whose needs must be met by schools.

According to Bonstingl (1992a), "a customer-supplier focus" is an essential element in total quality education. Students will benefit from the learning processes offered in their schools when educators work with parent-family suppliers. Customers both inside and outside the system must receive attention by school boards, administrators, and teachers.

Studies which have compared Deming's ideas to the effective schools research have shown that both offer similar guidelines (MacKenzie, 1983; Purkey & Smith, 1983, 1985). Many management strategies like strategic planning and site-based management are being found by school practitioners to be enhanced by CQI processes (Tribus, 1990; Meaney, 1991; McLeod, 1991; Melvin, 1991; Teigland, 1993). Many quality principles seem to be basic for educators. Beliefs about what motivates people and how they learn are at the foundation of CQI. Quality management principles allow educators to change their processes, policies, and practices to align them with their professional beliefs and values. CQI is based on the belief that people are already

doing their best and need a work setting that helps them to be more successful (Teigland, 1993).

Deming himself (1986), made "no distinction between manufacturing and service industries. The service industries include government service, among which are education and the mail. All industries, manufacturing and service, are subject to the same principles of management" (p. xi). Deming's ideas are deserving of educators' serious consideration, according to Stampen (1987), who believes that this approach to improving quality in industry is very adaptable in education. Attempting to translate business terms such as *customer*, *supplier*, and *product* into education may give us new insights to help us understand schooling's complex processes (Rhodes, 1992).

*Quality Progress* published its Fourth Annual Quality in Education Listing in September of 1994. The directory, which includes institutions that are implementing either quality improvement practices in their administrations or quality-related courses in their curriculums or both, shows an all-time high of 415 institutions. The total represents a 43.1 percent increase from 1993 when 290 schools were listed. K-12 school districts showed steady growth, increasing from 105 in 1993 to 135 in 1994. Seventy-one percent of the 135 districts responding have business partnerships supporting their quality improvement efforts. Ninety-two percent use quality improvement practices in administration, 55 percent in their teaching methods, and 47 percent in their curricula (Rubach, 1994).

Byrnes and associates (1992) think of quality as a way of life--a belief system insisting that we improve and grow. They also consider quality as a measure which can be applied widely. Schools must believe that everyone can achieve some measure of excellence, given adequate time and support. Continuous Quality Improvement provides all teachers and students opportunities to achieve success which has not previously been realized. The encouragement of teamwork and collaboration is one of the reasons that CQI works. According to Holt (1993), "Demingism" can cause far more significant improvements in school quality than some of the outmoded national recommendations currently being proposed. He states that Deming's concern with change is not an end in itself, but a way of bringing about improvement--linking theory with practice in order to make good decisions.

The purpose of education should be to help students develop the desire and skills

to become continuous learners and find joy in learning (Moen, 1991). All students need to learn certain skills and knowledge which must be selected based on the society in which they will live. Their learning must be ongoing, as they learn how to learn. To improve the quality of our students' learning, education and training for teachers and administrators are vital. Knowledge is required for all organizations to improve their products and services. "Improvement in quality will be the result of people learning" (p. 12). Schools, like all other organizations, must give every employee opportunities for training, education, and self-improvement in order to achieve their goals.

Holt (1993b) attended one of Dr. Deming's last seminars, sponsored by General Motors, in March of 1993. He gives us some insights into some of Deming's later thoughts. He tells us that teaching and learning were very important to Dr. Deming. As he admonished the top people at General Motors that their job was to teach, he also applied his thinking to education: "In school, there's no shortage of winners. But we need the right system to find them and nourish them" (p. 330). Bonstingl (1992b) sums up the thinking of many educators about CQI with these words, "the Quality movement can help us prepare young people to succeed as future leaders in developing a more democratic, humane way of thinking and acting in every aspect of their lives" (p. 66).

CQI insists that the first responsibility of management is to establish and hold a clearly defined purpose or vision, and it provides practical tools for leaders to do that (Neuroth et al., 1992). Staff development leader Dennis Sparks, too, encourages us to heed the advice of those involved in "total quality" efforts in business and education. Districts must pay attention to those they serve including students, parents, community members, and employees. They must engage in continuous improvement and gather data to assess their progress (Sparks, 1994).

### **Staff Development and Continuous Quality Improvement**

We now understand that the only way we can ensure our own growth is by helping others to grow; the only way to maximize our own potentials is by helping others to improve little by little, day by day. (Bonstingl, 1992a, p. 5)

Training, or staff development, has long been recognized as a key element in public school management (Hunter, 1990; Leithwood, 1990; Louis & Miles, 1990;

Shanker, 1990; Glickman, 1991; Teigland, 1993). Hunter (1990) stated, "A final criterion of a profession is that its practitioners never stop learning better ways of providing service for their clients" (p. xii). Shanker (1990) asserts that the staff development must be an ongoing, continuous part of the school's mission. The improvement of practice is a legitimate expenditure of teachers' time.

According to Sparks (1992), staff developers have long advocated many of the ideas supported by CQI including continuous improvement, a view of change focusing on the system as well as the individual, the need for strong support from the leader, using data to improve performance, the importance of teamwork, the need for establishing trust, and the limitations of employee evaluations. He believes that CQI will heighten the need to develop group process skills in all employees. Listening skills, conflict resolution strategies, and approaches for seeking consensus will become more important.

There are usually two processes involved in adult learning--training and education. Training is a process for learning programmed behaviors and applying knowledge and procedures to guide work-related behaviors. The emphasis is on acquiring skills and methods to improve ability to perform on the job (Rebore, 1991). On the other hand, education is the process of helping people understand and interpret the knowledge they have gained. They learn reasoning processes, not just facts, and gain the ability to analyze relationships between variables (Rebore, 1991).

Two of Deming's fourteen points are particularly applicable to professional development. Points 6 and 13 deal with the training and education of all employees. Leonard (1991) tells us that education for our school leaders has no substitute as we attempt to increase the quality of our schools. Deming (1991) believed that we are all born with a "natural inclination to learn and to be innovative" (p. 24). Senge (1990) sums up this inclination in this way:

Human beings are designed for learning. No one has to teach an infant to walk, or talk, or master the spatial relationships needed to stack eight building blocks that don't topple. Children come fully equipped with an insatiable drive to explore and experiment. Undoubtedly, the primary institutions of our society are oriented predominantly toward controlling rather than learning, rewarding individuals for performing for others rather than for cultivating their natural curiosity and impulse to learn. The young child entering school discovers quickly that the name of the game is getting the right answer and avoiding mistakes--a mandate no

less compelling to the aspiring manager. (p. 7)

Points 6 and 13 are obviously related but different in their scope. Point 6 focuses on training employees in the skills and knowledge needed to do a specific job or task, aiming to help the trainee perform better in the job. This training not only involves instruction in how to do the work, but in its importance and how it fits into the bigger picture (Tveite, 1989). Deming (1986) noted an important distinction, stating that point number 6 deals with the foundations for training management and new employees. He insisted that training should be totally reconstructed. Knowledge of the way people learn is essential. Our co-workers cannot adequately train us to do our jobs because they did not receive proper training.

Lezotte (1992) ties point number 6 to the Effective Schools proposition that "all children can learn" and extends that idea to the adults in the schools. He believes that in order to change the outcomes of education, we must change what teachers and administrators know, and do it in a coordinated way. According to Lezotte, districts must make staff development a major priority. In order for schools to change, our leaders must invest in staff development at a higher level than ever before. New teachers need to learn about the school's culture and expectations, how to set goals, to teach effectively, and to self-evaluate (Lezotte, 1992). They must also teach their students more effective ways to produce quality work (Bonstingl, 1992).

Leonard (1991) stresses that it is management's job to create and manage the training for school personnel. One aim of this training should be to reduce variation in teaching methods, while keeping in mind the different ways people learn. Unless everyone receives adequate training, quality will not become a reality (Byrnes et al., 1992). Bradley (1993) reminds us that educators call this process *inservice training*, which has typically been extracurricular in nature. Conducting training after school or on weekends reduces its effectiveness seriously. He notes that our most significant resource, teacher expertise, is not given sufficient time to be developed in depth. Our people and financial resources must be concentrated at the teaching level to make scheduled, flexible, or variable periods of time available.

Conversely, point 13 deals with continued education and self-improvement for everyone (Deming, 1986). It stresses the importance of educating workers in any subject. The intention is to stimulate employees and help them think innovatively about

ways to improve themselves and the company. Building their self-esteem and confidence in order for them to become more valuable employees is an important goal. The aim of both points is to help people improve personally and in their abilities to do the job. School leaders use this training and education as tools for helping employees grow (Tveite, 1989).

In principle 13, Deming (1986) tells us that organizations don't just need good people, they need people who are improving through education. Every field has plenty of good people but a shortage of people who have high levels of knowledge. He emphasizes that the promise of reimbursement and receiving training directed toward immediate needs may not be critical elements. More important than money, people need to feel they are continually adding something to society. New learning and education are essential for everyone including management.

Lezotte (1992) agrees that this self-improvement must be for everyone. He tells us that of the teachers and administrators who will be in our schools in the year 2000, two-thirds are already on the payroll today. Therefore, to make a difference in quality then, a massive investment in professional development is necessary now. The Effective Schools movement suggests that for change to occur, staff development must help teachers become more involved in decision making and problem solving. Although it is not uncommon for businesses to spend seven to ten percent of their budgets for employee renewal in order to stay competitive, most school districts spend less than two percent. Lezotte warns that unless local and state leaders are willing to invest in improved quality through continuing education, teachers will keep doing things the way they've always done them.

School employees must see themselves as constantly improving in order to believe that their organization is constantly improving. Because education is a service industry, there is no improvement we can make that is more important than improvement in the people who deliver those services (Bradley, 1993). Deming's theory of profound knowledge, discussed above, is particularly significant in the education/improvement component of quality management, exemplified in point 13. According to Bradley, companies have spent too much time teaching strategies and not enough on the implications of knowledge. What better organization is there than the schools to study ways that in-depth knowledge can help us to make things better for

everyone. Since we are dealing with adult learners, schools must understand adult learning processes in order to increase profound knowledge.

Senge (1990) confirms Deming's philosophy for use in school settings stating that "leaders in learning organizations are responsible for building organizations where people are continually expanding their capabilities to shape their future--that is, leaders are responsible for learning" (p. 9). He stresses that leaders must be teachers, helping everyone in the organization, including themselves, to grow in their understanding of current knowledge. They must be coaches, guides, and facilitators. The Japanese have a saying that "quality begins and ends with education" (Scholtes & Hacquebord, 1988, p. 47). However unless the learning is planned, coordinated, and supported by top management, it may be wasted.

The promise of the quality improvement philosophy is to enhance and to improve the schooling provided to learners across this country. No task is more significant or important for school boards than that of improving the quality of teaching and learning steadily over time. At the same time, no task is more elusive, confusing, or difficult to grasp. Schools are burdened with diminishing resources, rapidly changing clientele, rising public expectations, and, occasionally, ineffective tools and leadership. (Poston, 1994, p. xi)

As school districts in this country attempt to implement the basic principles of CQI, staff development seems to be a good starting place. Guskey (1994b) reminds us that the many innovations being implemented in education today must not be viewed as isolated fads, but as integrated parts of the whole reform effort. According to Sparks (1994), the shape of our nation's schools and their staff development programs is being altered by three powerful new ideas: 1) results-driven education, 2) constructivism, and 3) *systems thinking*--recognizing the interdependent relationships among the parts of the organization. Systems thinkers see how all of the system's parts influence each other by supporting or hindering improvement.

Experts agree that the improvement of schools is a systematic process (Fullan, 1982). Recognizing that changing one part of the system affects all others is part of the ecological approach. As a result, staff development both influences and is influenced by its organizational context. Therefore, the models which have been discussed will make more or less of an impact depending on the features of the organization in which they

take place. A systematic view of a comprehensive staff development program is needed at the district level. Studies are also needed of what activities at the individual, school, and district level look like, from the individual teacher's point of view as well as the overall coordination view (Sparks & Loucks-Horsley, 1989).

### **Summary**

This review of the literature included five areas: (1) Educational Change, (2) Staff Development, (3) Systems Thinking, (4) Continuous Quality Improvement, (5) Staff Development and Continuous Quality Improvement. The literature provided evidence that staff development and school improvement go hand in hand. It also supported the use of the Continuous Quality Improvement philosophy for restructuring schools. Combining the two could have profound results for school reform.

This study examines teachers' perceptions of their district staff development programs and their relationship to perceptions of district quality management in Iowa school districts. Do districts which are perceived to have more effective staff development programs also rate high in overall district quality management? What components of district management are more affected by staff development? These are questions which need to be answered as schools attempt to meet the goal of raising achievement for all students.



### CHAPTER III. METHODOLOGY

The purpose of this chapter is to describe the methods and procedures used in conducting this study. It is divided into the following sections: (1) Procedures of the Study, (2) Population of the Study, (3) Research Design and Variables of the Study, (4) Development of the Instrument, (5) Procedures for Data Collection, and (6) Statistical Analysis of the Data.

#### **Procedures of the Study**

The following procedures were followed in conducting this study:

1. A review of the relevant literature was performed and the problem of the study was formulated.
2. Stakeholders in forty-four school districts were identified as the population for the study using information supplied by doctoral students at Iowa State University.
3. Two surveys were developed. The Perceived Quality Assessment Instrument (PQAI) is based on the seven criteria of the Malcolm Baldrige Award. The District Staff Development Questionnaire (DSDQ) uses critical elements mentioned in the staff development literature as well as those suggested by professionals in the field.
4. Two advisory panels were identified to validate the instruments.
5. Both instruments were modified based on the suggestions of the panels.
6. Approval was sought and obtained from the Iowa State University Committee on the Use of Human Subjects in Research.
7. Packets containing both instruments were delivered to the participating districts for distribution to the subjects specified in the directions.
8. Phone calls were made after four weeks to assure a reasonable return rate.
9. The data were coded and analyzed using the Excel, Statview, and SPSS statistical programs.
10. Conclusions were drawn and the final report written which was then presented to the researcher's Program of Study committee for final approval.

### **Population of the Study**

The target population of this study was identified before the questionnaires were written so that questions could be framed with the respondents in mind (Borg & Gall, 1989). Forty-four of Iowa's 362 districts were identified and selected to participate in the study by a graduate seminar group in quality management. Participation was voluntary on the part of each district. The districts selected were representative of the state as a whole in size and geographic distribution. Agreement to cooperate in the study was received from the superintendent of each district by phone in order to increase the response rate. Instruments were delivered to the superintendents' offices for distribution to respondents. The superintendents were asked to have their board secretaries select the respondents randomly and distribute the surveys. The Perceived Quality Assessment Instrument (PQAI) was to be completed by the superintendent, all board members, two administrators, five teachers, three support personnel, and two high school students for a total of 720 possible respondents in the 44 districts. The District Staff Development Questionnaire (DSDQ) was to be filled out by six teachers (different from those completing the first instrument) selected at random by the board secretary from varying instructional levels. The total possible was 264.

### **Research Design and Variables of the Study**

A survey design was used to answer the research questions. The first instrument (PQAI) consisted of two parts: Part I - Demographic Information, and Part II - Rating of School System Quality Components. The second instrument (DSDQ) was composed of thirty components of staff development programs drawn from research literature. The dependent variable was the ratio (quality effectiveness index) between current and ideal perceptions of quality management in each district, including the seven subscales: Leadership, Information and Analysis, Strategic Quality Planning, Human Resource Development and Management, Management of Process Quality, Quality and Operational Results, Client Focus and Satisfaction. The independent variable of the study was the perception of quality of the districts' staff development programs. The subscale areas and demographic variables of the PQAI are shown in Table 1.

Table 1. Subscale areas and demographic variables of the PQAI

Quality Components	Demographic Information
Leadership	Position
Information and Analysis	Home Annual Income
Strategic Quality Planning	Gender
Human Resource Development and Management	Age
Management of Process Quality	Level of Education
Quality and Operational Results	Years Experience in Job
Client Focus and Satisfaction	

### Development of the Instruments

Use of the questionnaire in educational research can be very valuable if carefully planned and developed (Borg & Gall, 1989). Two questionnaire surveys were developed for use in this study. The first, School System Perceived Quality Assessment Instrument (Poston & Bax, 1994, see Appendix A), is based upon the seven dimensions of the Malcolm Baldrige Award: Leadership, Information and Analysis, Strategic Quality Planning, Human Resource Development and Management, Management of Process Quality, Quality and Operational Results, and Client Focus and Satisfaction. Six to eight items were included in each category with statements addressing the operations and policies of school districts. Respondents were asked to judge their *current situation* and the desired or *ideal situation* in their school system for each item using a Likert scale (Borg & Gall, 1989) of five possible responses for each (*Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree*). Demographic items were included (*position, income, gender, age, level of education, and years of experience in current or similar job*) to aid in possible statistical breakdowns of the groups. Neuroth et al. (1993) state that the self-assessment tool can be thought of as an aerial view of territory to be explored. By plotting a district's current location on this map, educational leaders can see what there is to be learned next.

The District Staff Developmental Questionnaire (Appendix B) was developed by the researcher after reviewing staff development literature in the areas of (1) *planning*

(Wood et al., 1982; Fullan, 1985; Joyce & Showers, 1988; Sparks & Loucks-Horsley, 1989; Senge, 1990; Rebore, 1991; Guskey, 1994b; McBride et al., 1994, Sparks & Vaughn, 1994), (2) *administrative support* (Sparks, 1983; Showers, 1985; Wade, 1985; Loucks-Horsley et al., 1987; Fullan, 1991; Rebore, 1991; McBride et al., 1994), (3) *delivery* (Wood et al., 1982; Joyce, Hersh, & McKibbin, 1983; Sparks, 1983; Sparks, 1985; Joyce, 1986; Bennett, 1987; Showers, Joyce & Bennett, 1987; Joyce & Showers, 1988; Sparks & Loucks-Horsley, 1989; Paul, 1990; Senge, 1990; Bates & Stachowski, 1991; Rebore, 1991; Guskey, 1994; Sparks & Vaughn, 1994), (4) *follow up* (Joyce & Showers, 1988; Rebore, 1991; Wood & Thompson, 1993; Sparks & Vaughn, 1994), and (5) *evaluation* (Sparks, 1983; Orlich, 1983; Guskey & Sparks, 1991; Rebore, 1991; Templeman & Peters, 1992; Sparks, 1993). Fortunately, a great deal is known today from research and exemplary practice about good staff development which can aid in our improvement efforts (Sparks & Vaughn, 1994; McBride et al., 1994).

Borg and Gall (1989) report that specific behaviors can be predicted from attitude measures about those behaviors, therefore a Likert-type scale of five possible responses for each item was again used: *Almost Never*, *Occasionally*, *Don't Know*, *Frequently*, *Almost Always* (Tesh, 1992; Knudsen, 1993). The third response, *Don't Know*, was considered to be equivalent to similar responses such as *uncertain* and *undecided* used in other Likert scales in the literature (Mueller, 1986). Questions posed in closed form aid in the efficient quantification and analysis of results (Borg & Gall, 1989). Two items--number 6 ("Some staff development topics are mandated by the district") and number 11 (The length of most district staff development sessions is one day or less)--were purposely stated in reverse form, that is, with the most likely response being *Almost Never*. This was done for two reasons: (1) so that all statements would be written in similar (positive) format (Borg & Gall, 1989), and (2) so that respondents would not feel that every answer should be marked *Almost Always* to be "correct." When the data were recorded, the scales for items 6 and 11 were reversed to aid in comparison with other items. The length of the items and the length of the questionnaire itself were kept as short as possible for ease in understanding and increased chance of the instruments being returned (Borg & Gall, 1989).

Both instruments were validated by separate advisory panels, the first by thirteen

superintendents, university professors, or university officials with an understanding of quality processes (Appendix C), the second by ten staff development professionals recognized throughout the state and nation as very knowledgeable in this field (Appendix D). The panels were asked to assure that each item accurately reflects the concepts purported to be measured by the instruments, to evaluate the items for clarity and completeness, and to make suggestions for improvement. Based on the recommendations of the panels, the instruments were revised and the final drafts produced. The Perceived Quality Assessment Instrument was further reviewed by a group of Iowa State doctoral students interested in quality management in the schools. Both final drafts were submitted to the major professor of this study for approval prior to printing and distribution. Each instrument took approximately ten to fifteen minutes for a respondent to complete.

#### **Human Subjects Release**

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected, that risks were outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data was assured, and that informed consent was obtained by appropriate procedures (Appendix E).

The questionnaires were both anonymous; there was no request for names of respondents. However, the questionnaires were coded to determine the districts of the respondents for follow-up and data analysis. Approval was received from the University Human Subjects Review Committee on February 1, 1994. Confidentiality and anonymity were assured on the covers of the instruments. The completion of the questionnaires was voluntary and constituted consent to participate in the research project. All questionnaires were kept secure throughout the duration of the study and filed for safekeeping after its completion.

#### **Data Collection Procedure**

The two survey instruments were delivered by a group of doctoral candidates to the superintendent in each district in late February and early March of 1994. The accompanying directions for completing the surveys were self-explanatory. Instructions were printed on the questionnaires to mail the completed instruments directly to Iowa

State University by dropping them in the U.S. mail. A postal permit was printed on the back of each. To increase the rate of return, phone calls were made to participating superintendents in April asking them to encourage those who had not yet responded to do so. As a result, 471 of the 720 PQAI surveys were received for a return rate of 65.4%. Of the 264 DSDQ surveys delivered, 196 were mailed back for a 79.55% return. Appendix F contains copies of the cover letters delivered with the surveys.

### **Statistical Analysis of the Data**

After the surveys were returned, the responses were entered into the Excel spreadsheet program. One of the PQAI surveys was unusable because it was shredded in the mail. Four of the districts were removed from the study because an insufficient number of PQAI surveys was returned (one survey was returned from two districts, and three surveys were returned from two others). As a result, 462 surveys representing forty districts were used for data analysis. The items were ranked on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Means for each respondent and each district for each question were computed. On the Perceived Quality Assessment Instrument, means for each respondent and district for the current and ideal situations were calculated as well as the ratio (quality effectiveness index) of the current divided by the ideal. On the DSDQ, the items were ranked on a scale ranging from 1 (*Almost Never*) to 5 (*Almost Always*), and composite means were determined for each district. Districts were then ranked on both surveys from highest to lowest. Four groups of ten districts each were determined based on these rankings on the DSDQ.

Descriptive statistics were computed on the demographic variables of the PQAI. Preliminary analyses using the one-way analysis of variance (ANOVA) were conducted to compare the responses of demographic groups. Factor analysis was conducted on the PQAI to determine reliability. The ANOVA and Scheffe' post-hoc method were used to determine differences between groups. The Spearman correlation coefficient was computed to test for a relationship between responses on the two instruments. Stepwise multiple regression was used to find a relationship between staff development and the seven Baldrige dimensions. The difference between high and low districts on the two instruments was determined using the *t* test. The Excel, Statview, and SPSS statistical programs were utilized in the analyses of the data.

## CHAPTER IV. FINDINGS

### Introduction

The findings of the study are presented in this chapter and are organized into the following sections: (1) General Characteristics of the Sample, (2) Reliability Analysis of the Instruments, (3) Quality Management Perceptions, (4) Staff Development Perceptions, (5) Results of Hypotheses Tested, (6) Evaluation of the Perceived Quality Assessment Instrument, and (7) Summary.

### General Characteristics of the Sample

The primary purpose of this section is to describe the participants in this study who completed the *School System Perceived Quality Assessment Instrument* (PQAI) with respect to the following demographic variables: (a) position, (b) home annual income, (c) gender, (d) age, (e) level of education, and (f) years experience in current/similar job. The descriptive information is presented in Table 2.

*Position* - Of the 458 respondents who filled in this question, 132 (28.8%) were teachers, 76 support staff (16.6%), 68 administrators (14.8%), 30 superintendents (6.6%), 108 board members (23.6%), and 44 students (9.6%). Four people did not complete this category.

*Home Annual Income* - Of the 358 people answering this question, 24 reported earnings of less than \$10,000 (6.7%), 77 from \$10,000 to \$29,999 (21.4%), 147 from \$30,000 to 49,999 (40.9%), and 110 reported earnings of \$50,000 or more (30.9%). There were 104 respondents who did not fill in this information.

*Gender* - The number of male and female participants reporting their gender was fairly even. Male respondents numbered 215 (52.6%) while females totaled 194 (47.4%). The number who did not fill in this item was 53.

*Age* - The age of the respondents was divided into five categories: (1) under 18, (2) 18-29, (3) 30-55, (4) 56-70, and (5) over 70. The largest group was the 30-55 year category (73.8%). The second largest group was the 56-70 year group (11.9%). The smallest group was the over 70 category with only one person. Forty-two people did not report their age group.

*Level of Education* - The educational level of the respondents was classified into

Table 2. Demographic information of respondents on the PQAI

Category	Frequency	Percent
position		
teacher	132	28.8
support staff	76	16.6
administrator	68	14.8
superintendent	30	6.6
board	108	23.6
other	44	9.6
total	458	100.0
income		
<\$10,000	24	6.7
\$10,000-\$29,999	77	21.4
\$30,000-\$49,999	147	40.9
\$50,000+	110	30.9
total	358	100.0
gender		
male	215	52.6
female	194	47.4
total	409	100.0
age		
<18	23	5.5
18-29	36	8.6
30-55	310	73.8
56-70	50	11.9
70+	1	.2
total	420	100.0
education		
<B.A.	151	34.6
B.A.	142	32.5
Master's	129	29.5
Doctorate	15	3.4
total	437	100.0
experience		
<5 years	88	20.4
5-10 years	96	22.3
11-25 years	191	44.3
25+ years	56	13.0
total	431	100.0



four categories: (1) less than a B.A. degree, (2) B.A. degree, (3) Master's degree, and (4) Doctorate degree. The largest group (151 people) represented those who had less than a B.A. degree, (34.6%). Those having a B.A. degree were the second largest group with 142 people (32.5%). The third largest group, those having a Master's degree, were very close with 129 people ((29.5%). Fifteen respondents (3.4%) reported having a Doctorate degree. Twenty-five respondents did not report their level of education.

*Years of Experience* - The years of experience of the respondents were divided into four categories: (1) under 5 years, (2) 5-10 years, (3) 11-25 years, and (4) 25 years or more. The findings revealed that 191 (44.3%) of the participants had 11-25 years of experience, 96 (22.3%) had 5-10 years of experience, 88 (20.4%) had under five years, and 56 (13%) had 25 or more years of experience. Thirty-one respondents did not complete this item.

One-way analysis of variance and *t*-test procedures were used to determine differences in the quality effectiveness index among different demographic groups. It was found that there were significant differences in responses by position, gender and education. The Scheffe' method was used to analyze these differences. It was found that there were significant differences in the position category between the responses of teachers and administrators and between teachers and board members, both at the .05 level. A description of respondents by position follows.

### **Analysis by position**

In order to gain a better understanding of the respondents on the PQAI and their differing characteristics, further analysis was conducted on the position category by generating cross-tabulations with the other variables--income, gender, age, education, and experience. The results are shown in Table 3.

*Position with income* - As shown in Table 3, the majority of teachers (50) reported incomes in the \$30,000 to \$49,999 category with the second highest number (44) being at the over \$50,000 level. Support staff reported 29 people in the \$30,000 to \$49,999 and 27 at the \$10,000 to \$29,999 level. For administrators, the two highest categories were over \$50,000 (39) and \$30,000 to \$49,999 (28). Only one administrator reported making less than \$29,999. All of the superintendents except two (27) reported incomes over \$50,000, while the remaining two reported earnings in the

Table 3. Demographic information of PQAI respondents by position

Category	Teacher	Support Staff	Admin.	Supt.	Board	Other	Total	Percent
<hr/>								
income (35 missing)								
<\$10,000	0	1	0	0	0	23	24	5.6
\$10,000-\$29,999	30	27	1	0	16	3	77	18.0
\$30,000-\$49,999	50	29	28	2	31	7	147	34.4
\$50,000+	44	12	39	27	51	6	179	41.9
total	124	69	68	29	98	39	427	100.0
gender (53 missing)								
male	39	21	50	22	65	18	215	52.6
female	82	48	10	0	30	24	194	47.4
total	121	69	60	22	95	42	409	100.0
age (42 missing)								
<18	1	1	0	0	0	21	23	5.5
18-29	18	4	1	1	0	12	36	8.6
30-55	93	56	54	22	80	5	310	73.8
56-70	10	9	8	6	14	3	50	11.9
70+	0	0	0	0	1	0	1	.2
total	122	70	63	29	95	41	420	100.0
education (25 missing)								
<B.A.	1	57	1	0	55	37	151	34.6
B.A.	95	10	3	2	32	0	142	32.5
Master's	30	4	64	18	10	3	129	29.5
Doctorate	0	0	0	9	6	0	15	3.4
total	126	71	68	29	103	40	437	100.0
experience (31 missing)								
<5 years	12	13	18	4	17	24	88	20.4
5-10 years	30	21	17	8	20	0	96	22.3
11-25 years	67	33	24	15	48	4	191	44.3
25 + years	17	6	9	2	18	4	56	13.0
total	126	73	68	29	103	32	431	100.0

\$30,000 to \$49,999 category. The majority of board members (51) were in the over \$50,000 category, with 31 at the \$30,000 to \$49,999 level, and 16 at the \$10,000 to \$29,999 level. Of those in the other category (students), 23 reported earnings under \$10,000 with the remainder (16) dispersed throughout the other three levels.

*Position with gender* - There were over twice as many females as males in the teacher (82 and 39) and support staff (48 and 21) categories, as shown on Table 3.

However, male administrators (50) outnumbered females (10) 5 to 1, while there were no female superintendents and 22 male superintendents who reported their gender. There were more than twice as many male board members (65) as females (30). In the *other* category, 18 were males and 24 were females.

*Position with age* - The majority of the teachers (93) were in the 30-55 years age group, with 18 falling in the 18-29 category, 10 in the 56-70 division, and one reporting being under 18. Most of the support staff (56) reported being 30-55, with 9 in the 56-70 age group, 4 in the 30-55 range, and one under 18. Administrators, too, reported the majority (54) in the 30-55 group, with 8 in the 56-70 category, and one in the 18-29 age group. Twenty-two superintendents reported being in the 30-55 age range, with six in the 56-70 category, and only one in the 18-29 age group. No board members reported being under 30, while the vast majority (80) were in the 30-55 range, 14 in the 56-70 category, and 1 over 70. In the *other* group, 21 reported being under 18, 12 said they were 18-29, 5 filled in the 30-55 group, and 3 marked the 56-70 age group.

*Position with education* - Most of the teachers (95) reported having B.A. degrees, with 30 having Master's degrees, and one reporting less than a B.A. The majority of support staff (57) had less than a B.A. degree, with 10 having a B.A., and 4 having a master's degree. Most of the administrators (62) had a master's degree, with only 3 listing a B.A., and one filling in the less than B.A. category. Nearly two-thirds of the superintendents (18) had master's degrees, while nine had doctorates, and two had completed their B.A.'s. Of the board members reporting, over half (55) had less than a B.A., while 32 had a B.A., 10 had a master's degree, and six held doctorates. In the *other* group, 37 reported having less than a B.A., while three filled in the master's degree response. It would appear that there is an inverse relationship between the education and income levels of the board members. While the majority of board members did not have a college degree, over half of them reported incomes of more than \$50,000.

*Position with experience* - The results from Table 2 show that the largest number of respondents in every group except *other* had 11-25 years experience in the current or similar job. The second highest level in every group except administrators and other was the 5-10 year category. The remainder of respondents were distributed fairly evenly between the other two categories.

### **Analysis of other demographics**

The ANOVA procedure revealed no significant differences on the quality effectiveness index in income levels, age, or experience. However, differences were found for education levels. Using Scheffe', significant differences were found between those with less than a B.A. and those with a B.A. degree. No other significant differences were found between the other education levels.

Although the *t* test indicated a significant difference in the quality effectiveness index between males and females, when *t* tests were conducted for gender by position, no significant differences were found in any position level for gender. Thus the difference was only present when all levels were considered as a whole.

### **Reliability Analysis of the Instruments**

The SPSS package was utilized to determine the reliability of the Perceived Quality Assessment Instrument. Analyses were conducted for the current and ideal sections and for the overall scale (total instrument). The alpha reliability coefficients are reported in Table 4. The alpha coefficients ranged from .68 to .85 for the current section of the instrument, with an overall reliability of .96. The alpha coefficients were somewhat different for the ideal section, ranging from .61 to .89, with an overall reliability of .94, indicating a high positive correlation among all items.

The Cronbach alpha reliability coefficient was also calculated for the District Staff Development Questionnaire to determine the internal consistency of the total instrument. Estimates of internal consistency are based on the average correlation among items within a test or instrument. The reliability coefficient for all thirty items was .95, again a high positive correlation.

### **Quality Management Perceptions**

The first research question posed in the first chapter asked, "What are the perceived current and ideal levels of quality management in each district and the ratio (Quality Effectiveness Index) between the two?" Means were first calculated for the responses for each question for each district. The means of all of the current and ideal responses for each district were then figured. Current means ranged from 2.81 (district HH) to 3.92 (district MM). Ideal means ranged from 3.95 (LL) to 4.66 (BB).

Table 4. Reliability analysis of current and ideal sections of the PQAI

Baldrige Dimension	Item Numbers	Reliability			
		Current	N	Ideal	N
Leadership	1-6	.84	454	.82	451
Information and Analysis	7-12	.85	443	.82	430
Strategic Quality Planning	13-18	.84	451	.87	445
H.R. Development & Mgmt.	19-25	.83	451	.61	441
Mgmt. of process Quality	26-31	.79	440	.85	437
Quality & Operational Results	32-37	.68	454	.75	448
Client Focus & Satisfaction	38-45	.85	453	.89	444
Overall	1-45	.96		.94	

Finally, the ratio between the current and ideal means for each district were determined. The quality effectiveness index ranged from .6532 (district HH) to .9506 (district A). Four districts were removed from the study because of their low return (N for districts F and V = 1 survey each; N for districts I and M = 3 surveys each). It was felt that such a small sample from those districts would not give a reliable representation of the perceptions of the entire district. Table 5 shows the distribution of means for current and ideal situations and the ratios for the remaining 40 districts.

#### Staff Development Perceptions

The second research question asked, "What are the perceptions of teachers in each district as to the effectiveness of their district's staff development program?" Means for each question for each district were calculated. Then the mean of all the responses for each district was determined. These means ranged from 1.963 to 3.789 and are shown in Table 6. The same four districts (F, I, M, and V) were removed from the list for comparison

Table 5. Current and ideal means and quality effectiveness index for districts on the Perceived Quality Assessment Instrument

District Code	Rank	Current Situation Mean	Ideal Situation Mean	Quality Effectiveness Index
A	1	3.60	3.79	.9506
AA	23	3.10	4.00	.7747
B	10	3.52	4.18	.8408
BB	33	3.44	4.66	.7371
C	7	3.70	4.32	.8572
CC	31	3.32	4.53	.7412
D	36	3.10	4.36	.7119
DD	15	3.39	4.23	.8005
E	30	3.08	4.15	.7419
EE	32	2.97	4.01	.7399
FF	4	3.66	4.15	.8859
G	21	3.44	4.37	.7865
GG	16	3.30	4.12	.8001
H	14	3.24	4.04	.8020
HH	40	2.81	4.30	.6532
II	28	3.22	4.29	.7500
J	13	3.45	4.26	.8083
JJ	11	3.56	4.31	.8250
K	19	3.33	4.19	.7943
KK	38	2.97	4.30	.6899
L	27	3.26	4.32	.7554
LL	5	3.50	3.95	.8843
MM	6	3.92	4.46	.8784
N	26	3.43	4.50	.7619
NN	22	3.40	4.42	.7703
O	3	3.77	4.23	.8909
OO	2	3.71	4.08	.9107
P	39	2.99	4.56	.6545
PP	8	3.64	4.29	.8501
Q	35	3.20	4.36	.7357
QQ	18	3.58	4.47	.7989
R	29	3.42	4.58	.7483
RR	20	3.56	4.50	.7889
S	25	3.23	4.23	.7628
T	24	3.26	4.25	.7669
U	9	3.46	4.09	.8480
W	34	3.27	4.44	.7369
X	17	3.44	4.31	.7990
Y	37	3.38	4.28	.7097
Z	12	3.65	4.44	.8234

Table 6. District means for the District Staff Development Questionnaire

District Code	Total Mean	Rank
A	3.789	1
AA	2.654	26
B	2.894	16
BB	2.760	22
C	3.113	9
CC	2.167	36
D	2.547	29
DD	2.973	14
E	2.203	35
EE	2.211	34
FF	2.042	38
G	2.150	37
GG	2.678	24
H	2.969	15
HH	1.994	39
II	3.067	10
J	3.427	4
JJ	3.408	5
K	3.567	2
KK	1.963	40
L	3.273	8
LL	3.279	7
MM	2.840	20
N	2.779	21
NN	2.658	25
O	3.033	11
OO	2.987	13
P	2.856	18
PP	3.442	3
Q	3.000	12
QQ	3.278	6
R	2.847	19
RR	2.877	17
S	2.310	32
T	2.527	30
U	2.561	28
W	2.623	27
X	2.408	31
Y	2.250	33
Z	2.700	23

Table 7. Comparison of ranks on the District Staff Development Questionnaire and the Perceived Quality Assessment Instrument

District Code	DSDQ Rank	PQAI Rank	Group
A	1	1	1
K	2	19	1
PP	3	8	1
J	4	13	1
JJ	5	11	1
LL	6	5	1
QQ	7	18	1
L	8	27	1
C	9	7	1
II	10	28	1
O	11	3	2
Q	12	35	2
QQ	13	2	2
DD	14	15	2
H	15	14	2
B	16	10	2
RR	17	20	2
P	18	39	2
R	19	29	2
MM	20	6	2
N	21	26	3
BB	22	33	3
Z	23	12	3
GG	24	16	3
NN	25	22	3
AA	26	23	3
W	27	34	3
U	28	9	3
D	29	36	3
T	30	24	3
X	31	17	4
S	32	25	4
Y	33	37	4
EE	34	32	4
E	35	30	4
CC	36	31	4
G	37	21	4
FF	38	4	4
HH	39	40	4
KK	40	38	4



purposes with the districts on the PQAI.

The forty districts were then divided into four groups for further analysis. They were first placed in order of their rank on the District Staff Development Questionnaire. Ten districts were then placed in each group according to their rank. Table 7 shows those groups. The one-way analysis of variance was used to determine differences in means between the four groups. Significant differences at the .01 level were found between groups. Tables 8 and 9 show the ANOVA data and the means and standard deviations for the four groups. The Scheffe' method was then used to determine which groups differed. It was found that there were significant differences between all groups. Table 10 shows the results of this comparison between means.

### **Results of Hypotheses Tested**

*Hypothesis 1: There is no relationship between the perceived quality of district staff development and the perceived quality management (ratio) of the districts.*

The purpose of Hypothesis 1 was to determine the relationship between the composite district ratings of staff development programs and the quality effectiveness index of each district on the Perceived Quality Assessment Instrument. The Spearman *rho* correlation coefficient was calculated to determine the relationship between the districts' rankings on the two instruments. A moderate positive correlation of .50131 was found between the two instruments which was significant at the .01 level. Thus, the null hypothesis was rejected.

*Hypothesis 2: There are no relationships between ratings of perceived levels of staff development quality and the seven dimensions of district quality (current) in these districts.*

The purpose of this hypothesis was to determine the relationship between the composite district ratings of staff development programs and the current perceptions of district quality on the seven dimensions of the Perceived Quality Assessment Instrument. The means of the current perceptions in each of the seven quality dimensions of the Perceived Quality Assessment Instrument for the ten highest districts on the District Staff Development Questionnaire were computed. The mean of each district on the District Staff Development Questionnaire was compared with the mean of each quality dimension for

Table 8. One-way analysis of variance: Group means on the District Staff Development Questionnaire

Source	df	SS	MS	<i>F</i>	<i>F</i> <sub>cv</sub>
Between groups	3	7.53	2.51	129.53	4.51
Within groups	36	.70	.02		
Total	39	8.22			

$p = < .0001$

Table 9. Group means and standard deviations on the District Staff Development Questionnaire

Group	Count	Mean	Std. Dev.
Group 1	10	3.36	.2129
Group 2	10	2.93	.0720
Group 3	10	2.65	.0859
Group 4	10	2.17	.1399

Table 10. Comparison of group means on the District Staff Development Questionnaire

Comparison	Mean Difference	Scheffe' <i>F</i> test
Group 1 vs. Group 2	.4366	16.40*
Group 1 vs. Group 3	.7155	44.05*
Group 1 vs. Group 4	1.1944	122.76*
Group 2 vs. Group 3	.2789	6.69*
Group 2 vs. Group 4	.7578	49.42*
Group 3 vs. Group 4	.4789	19.74*

\*Significant at .01 level

these districts. Stepwise multiple regression was used to determine the relationship of staff development to the seven quality dimensions. The seven variables were entered one at a time and a significance test was conducted to determine the contribution of each (Hinkle, Wiersma, & Jurs, 1988). The stepwise solution was terminated when the remaining variables did not make a statistically significant contribution to the regression.

It was found that three of the seven dimensions--Client Focus and Satisfaction, Quality and Operational Results, and Management of Process Quality--were good predictors of levels of district staff development. The adjusted R squared was .956 indicating that 96 percent of the variance on the District Staff Development Questionnaire was explained by these three dimensions. The remaining four dimensions--Leadership, Information and Analysis, Strategic Quality Planning, and Human Resource Development and Management--did not predict levels of district staff development. The null hypothesis was rejected.

Correlation matrices were also constructed in order to show the interrelationships between all the subscales on the Perceived Quality Assessment Instrument. Table 11 shows the correlation coefficients for each of the seven subscales. Generally speaking, correlation coefficients between .00 and .30 show little if any correlation; .30 to .50, a

Table 11. Correlation matrix for the seven dimensions of the PQAI

Subscale	Leadership	Information & Analysis	Strategic Planning	H.R. Devel. & Mgt.	Process Quality	Quality Results	Client Focus
Leadership	1.0						
Information	.63	1.0					
Planning	.61	.69	1.0				
H.R. Mgt.	.62	.67	.77	1.0			
Process	.63	.69	.67	.73	1.0		
Results	.52	.62	.62	.67	.71	1.0	
Focus	.60	.64	.64	.69	.72	.74	1.0

low correlation; .50 to .70, a moderate correlation; .70 to .90, a high correlation; and .90 to 1.00, a very high correlation (Hinkle, Wiersma, & Jurs, 1988). Using these guidelines, the matrix shows that the majority of the correlations are moderate positive correlations. None of the relationships are below .50, with the lowest being between Leadership and Quality and Operational Results (.52). Five of the relationships were in the high positive category: Human Resource Development and Management and Strategic Quality Planning (.77), Human Resource Development and Management of Process Quality (.73), Management of Process Quality and Quality and Operational Results (.71), Client Focus and Satisfaction and Management of Process Quality (.72), and Client Focus and Satisfaction and Quality and Operational Results (.74). These relationships show that all seven dimensions are related to each other and measure the same concept--district quality management.

*Hypothesis 3: There is no difference in districts ranked highest and lowest in perceived staff development quality on the perceived quality effectiveness index.*

The purpose of Hypothesis 3 was to determine if the ten districts ranked highest in staff development on the District Staff Development Questionnaire and the ten districts ranked lowest differed in their rankings on the Perceived Quality Assessment Instrument quality effectiveness index. Table 12 shows these highest and lowest districts, their ranks on both instruments and their mean scores for each.

Using the unpaired *t* test on the means of the two groups on both instruments, significant differences were found for the highest and lowest groups on the Perceived Quality Assessment Instrument. The Pearson product-moment correlation coefficient was then calculated for the two groups. A moderate positive correlation (.564) was found for the top ten districts which was significant at the .05 level. The correlation between the bottom ten districts on both instruments (.264) was not significant. However, when district FF was removed which ranked high (number 4) on the Perceived Quality Assessment Instrument, the correlation rose to .710, a high positive correlation. The null hypothesis was rejected.

### Summary of Findings

Of the three null hypotheses that were tested, all three were rejected. The following is a summary of the results:

Table 12. Mean scores and ranks for the highest and lowest ten districts on the District Staff Development Questionnaire and the Perceived Quality Assessment Instrument

District	Rank on DSDQ	Group	DSDQ Mean	PQAI Mean	Rank on PQAI
A	1	1	3.789	.9506	1
K	2	1	3.567	.7943	19
PP	3	1	4.442	.8501	8
J	4	1	3.427	.8083	13
JJ	5	1	3.408	.8250	11
LL	6	1	3.278	.8843	5
QQ	7	1	3.279	.7989	18
L	8	1	3.273	.7554	27
C	9	1	3.113	.8572	7
II	10	1	3.067	.7500	28
X	31	4	2.408	.7990	17
S	32	4	2.310	.7628	25
Y	33	4	2.280	.7097	37
EE	34	4	2.211	.7399	32
E	35	4	2.203	.7419	30
CC	36	4	2.167	.7412	31
G	37	4	2.150	.7865	21
FF	38	4	2.042	.8859	4
HH	39	4	1.994	.6532	40
KK	40	4	1.963	.6899	38

*Hypothesis 1:* A moderately significant positive correlation was found between the ratings of perceived quality of district staff development and the quality effectiveness index of ratings of overall district management. The null hypothesis was rejected.

*Hypothesis 2:* Three of the seven dimensions of district quality were found to be predictive of district staff development: (a) Management of Process Quality, (b) Quality and Operational Results, and (c) Client Focus and Satisfaction. Four of the seven dimensions (Leadership, Information and Analysis, Strategic Quality Planning, and Human Resource Development and Management) were not found to be predictive. Further analysis revealed that there were moderate to high positive correlations between the seven dimensions when compared with each other. The null hypothesis was rejected.

*Hypothesis 3:* Significant differences were found in districts ranked highest and

lowest in perceived staff development quality on the quality effectiveness index. High ranking districts also showed a moderately positive correlation between rankings for district staff development and those for overall quality management. The lowest ten districts showed no correlation between the two rankings. However, when one district was removed, which ranked number 4 in quality management, the correlation rose to a high positive one. The null hypothesis was rejected.

### Evaluation of the Perceived Quality Assessment Instrument

This section describes the methods to determine if the items on the current and ideal scales of the instrument would factor-analyze consistently with the seven a-priori determined dimensions based on the Baldrige criteria. A factor analysis was conducted using a varimax rotation. The results of the analysis revealed three possible factors with Eigenvalues greater than 1.0 on both the current and ideal scales (Tables 13 and 14). The three factors accounted for 42.3% and 43.3% of the total variance on the current and ideal

Table 13. Comparison of the current a-priori Baldrige dimensions with empirical factors

Scale	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
	Eigenvalue	16.28	1.50	1.27	.99	.79	.73	.59	.49
CURRENT									
Leadership	1-6			6					
Information & Analysis	7-12		1		5				
Strategic Quality Planning	13-18	3				5			
H.R. Development & Management	19-25	5				2			
Management of Process Quality	26-31	2	3						1
Quality & Operational Results	32-37		5				1		
Customer Focus & Satisfaction	38-45		3	1			1	3	

Table 14. Comparison of the ideal a-priori Baldrige dimensions with empirical factors

Scale	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Eigenvalue		16.33	1.99	1.17	.89	.68	.56
CURRENT							
Leadership	1-6				6		
Information & Analysis	7-12			1		4	1
Strategic Quality Planning	13-18		6				
H.R. Development & Management	19-25		1			6	
Management of Process Quality	26-31	5	1				
Quality & Operational Results	32-37	5					1
Customer Focus & Satisfaction	38-45	8					

scales respectively. The distribution of the number of items from each Baldrige category among the empirical factors suggested is shown in Tables 13 and 14. For example, the six a-priori items for the Leadership category (current responses ) were all contained in factor 3; however the eight items for the Customer Focus and Satisfaction were distributed among factors 2, 3, 6, and 7.

The results, as shown in Tables 13 and 14, suggest that the seven original a-priori dimensions may be reduced to three factors on both scales. However, the majority of the items in the Information and Analysis dimension load on factor 4 on the current scale and factor 5 on the ideal scale and the majority of items in the Human Resource Development and Management load on factor 4 in the ideal scale, indicating the importance of these additional factors. On the ideal scale, three dimensions (Management of Process Quality, Quality and Operational Results, and Customer Focus and Satisfaction) seem to load on one factor (factor 1) which suggests that respondents were not able to differentiate among these three dimensions as originally conceptualized or that the three were perceived as

measuring the same thing. The factor analysis results show the items grouped differently than on the original instrument showing that the instrument may be measuring different factors than originally conceived and the items may need to be regrouped. However, when combined with the results of the correlation matrix, it appears that, overall, the instrument is measuring one underlying concept on both scales.

### **Summary**

This chapter presented the findings of the study and provided a procedure to answer each of the study's research questions. Demographic characteristics of the respondents on the Perceived Quality Assessment Instrument from forty-four school districts were described by position, home annual income, gender, age, level of education, and years experience in current/similar job.

The results of the hypothesis testing procedures were also presented. Out of the three hypotheses tested, all three were rejected. A significant positive relationship was found between the perceived quality of district staff development and the perceived quality effectiveness index of the districts. Significant relationships were also found between ratings of perceived levels of district staff development and current ratings on three of the seven dimensions of the Perceived Quality Assessment Instrument. Significant differences were also found between the districts ranked highest and lowest in perceived staff development quality on the quality effectiveness index. Finally, the Perceived Quality Assessment Instrument was evaluated utilizing factor-analysis techniques, and results indicated that some items may need to be regrouped.



## CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Educational change is prominently featured in nearly every journal, conference, or discussion about education in our country today. Business leaders, legislators, and educators alike all realize that our ever-changing society, growing international competition, and the knowledge explosion all demand that our schools improve the curriculum and instruction our students are receiving. School improvement or reform involves not just teachers but everyone who comes in contact with the students. All school personnel must continually search for ways to use the resources they have to improve teaching and learning.

Two concepts have been making their mark on school improvement in recent years. The first, staff development, has been growing over the past twenty-five years in its reputation for helping teachers and administrators learn new strategies and behaviors for impacting student achievement. Countless studies have been conducted to determine the effectiveness of staff development programs and the critical elements in those programs that make a difference. Many staff development models have been created and tested and their results reported with recommendations for practice. School districts wishing to train teachers and other school staff in more productive practices now have many more specific guidelines to follow than they did even ten or fifteen years ago.

The second concept, Continuous Quality Improvement (CQI), sometimes called Total Quality Management (TQM), is a much newer phenomenon in education, although it has been impacting business and government in the United States for approximately fifteen years and in Japan for over forty years. This management philosophy, developed largely by recently deceased statistician Dr. W. Edwards Deming, advocates continuous improvement, systems thinking, and management by data. As large and small businesses began to see the benefits of quality improvement strategies, educational leaders also began to take notice and to attempt to translate CQI's ideas into the educational arena.

The Malcolm Baldrige National Quality Award was established in 1989 to recognize those companies who were best integrating quality concepts into their everyday practices. That award, based on seven quality performance dimensions, has recently been regarded by educators as also applicable to school districts. A growing number of educational organizations, including public schools, community colleges, and universities are

investigating ways to use these principles to change the ways schools do business.

The major goal of schools is to help students acquire the needed knowledge, skills, and attitudes to become responsible, productive citizens of our nation and world. If both of these school improvement initiatives are aimed at meeting this goal, might they have some relationship to each other or some effect upon each other? And might the combination of the two make schools even more effective? These questions are worthy of investigation in our country's efforts to offer our students the best education possible.

### **Summary**

This study, conducted during the spring and summer of 1994, was designed to assess the perceptions of district personnel as to the quality of their districts' staff development programs and overall district management, and to compare the two. Two survey instruments were utilized in gathering the data. The first, the School System Perceived Quality Assessment Instrument was based on the seven quality dimensions of the Malcolm Baldrige Award. Respondents were asked to indicate the current and ideal situation for each question. The second, the District Staff Development Questionnaire, was developed by the researcher from recommendations in the staff development literature and those of a panel of reviewers considered knowledgeable in the area of staff development.

In order to appropriately represent perceptions of districts in the state of Iowa, the population in this study consisted of forty-four school districts in Iowa who volunteered to participate. These districts were representative of the state as a whole in size and geographic distribution. Superintendents of the selected districts were contacted by telephone and asked to allow their districts to participate. Both instruments were personally delivered to the superintendents' offices in late February or early March of 1994 with instructions that their board secretaries select the respondents randomly and distribute the surveys. The accompanying directions for filling out both instruments were self-explanatory. Respondents were also instructed to mail the completed surveys directly to Iowa State University using the postal permit printed on the back. Follow-up phone calls were made to participating superintendents in April asking them to encourage nonrespondents to do so.

Those requested to fill out the Perceived Quality Assessment Instrument were the superintendent, all of the board members, two administrators, five teachers, three

support staff, and two high school students. The total possible number of surveys to be returned was 720. A total of 471 questionnaires were returned for a return rate of 65.4%. The District Staff Development Questionnaire was to be completed by six teachers (different from those completing the first survey) in each of the forty-four districts, for a total of 264. Of these, 196 were returned, giving a response rate of 79.55%. All respondents were anonymous to the researcher, however the districts were coded for analysis of the data.

All data were collected by June of 1994. All responses were entered into the Excel spreadsheet program for further analysis. The scoring for negatively stated items on the District Staff Development Questionnaire was reversed before the data were analyzed. Means were computed for each respondent and for each district for current and ideal situations on the Perceived Quality Assessment Instrument. A ratio between the two, the quality effectiveness index, was then computed dividing the current mean by the ideal, resulting in a fractional number. District means were also computed for the District Staff Development Questionnaire. Each district was then ranked from high to low on both instruments. Four districts were removed from the study due to the low number of responses.

Preliminary data analysis included frequency distributions of the population who completed the Perceived Quality Assessment Instrument. The total number of teachers responding was 132 (28.8%). Also responding were 76 support staff (16.6%), 68 administrators (14.8%), 30 superintendents (6.6%), 108 board members (23.6%), and 44 others/students (9.6%). Demographic information collected included position, home annual income, gender, age, level of education, and years of experience in current/similar job. A further breakdown of the data reported the demographic information of respondents by demographic category. Significant differences in response did exist between males and females overall, although the differences were not significant in each of the separate categories for gender. Differences between responses of teachers and administrators and between teachers and board members were also found as well as between respondents with less than a B.A. and those with a B.A. degree. No significant differences were found in income levels, age, or experience. Reliabilities were also calculated for both instruments.

### **School System Perceived Quality Assessment Instrument**

Research question one was posed to determine the perceived current and ideal levels of quality management in each district and the quality effectiveness index for each. The current means ranged from 2.81 to 3.92. The ideal means ranged from 3.79 to 4.66. The quality effectiveness index ranged from .6532 to .9506. Only two districts (5%) had a quality effectiveness index above .90, however, 16 of the 40 (40%) had a ratio above .80. Three (7.5%) of the districts' index was below .70, while the majority (21 districts, 52.5%) had a ratio between .70 and .80. Twenty-eight of the districts (70%) had a quality effectiveness index above .75, suggesting that the majority of the districts perceive that they are currently achieving at least 75% of their quality management ideals or goals.

### **District Staff Development Questionnaire**

The purpose of the second research question was to determine the perceived levels of quality of staff development in each district. District means ranged from 1.963 to 3.789. Twelve districts (30%) had means above 3.0; 26 (65%) fell between 2.0 and 3.0; 2 (5%) were below 2.0. The 40 districts were divided into four groups of ten districts each, according to their rankings, for comparison purposes. It was determined that there were significant differences between all four groups in their ratings of their staff development programs.

These data indicate that teachers in twelve (30%) of the districts feel neutral on the average about their staff development programs, with only two districts (5%) approaching the *frequently happens in our district* response with a mean above 3.50. No districts' means were above 4.0. Teachers in ten of the districts (25%) rated their programs below 2.50 on the average, suggesting that the critical staff development elements *occasionally* or *never* happen in their districts. Two of those ten had means below 2.0, indicating very low perceptions of their staff development programs.

### **The relationship between staff development and district management**

The third research question was proposed to determine whether there was a relationship between the perceived quality of district staff development and the perceived quality management of the districts. A moderate positive correlation was found between

the district rankings on the two instruments suggesting that districts which have higher quality staff development programs also have higher quality overall district management slightly more than 50 percent of the time.

### **Staff development ratings and the seven Baldrige dimensions**

The purpose of research question four was to compare the ratings of perceived levels of staff development for the ten highest districts with the seven dimensions of district quality. Perceptions in three of the seven dimensions--Client Focus and Satisfaction, Quality and Operational Results, and Management of Process Quality--were found to correlate positively and have predictive value with perceptions of staff development quality. The remaining four dimensions--Leadership, Information and Analysis, Strategic Quality Planning, and Human Resource Development and Management--showed little or no correlation or predictive value. Interrelationships between the seven subscales were also found. Correlations ranged from moderate positive to high positive. A correlation of .77 was found for Human Resource Development and Management and Strategic Quality Planning, .74 for Client Focus and Satisfaction and Quality and Operational Results, .73 for Human Resource Development and Management and Management of Process Quality, and .71 for Management of Process Quality and Operational Results.

### **Differences between high and low districts in quality effectiveness**

Research question five dealt with the determination whether there was a significant difference between the ten districts rated highest and lowest in perceived staff development quality on the perceived quality effectiveness index. The top ten districts showed a moderate positive correlation of .564 between the means on the two instruments, indicating that quality staff development and quality management do go hand in hand over 50% of the time. It is interesting to note that the same district (A) ranked number one on both instruments.

The lowest ten districts showed a nonsignificant positive correlation of .264. However, when one district (FF) was removed which ranked fourth on the quality effectiveness index, that correlation rose to .710, which is considered to be a high positive correlation. When looking more closely at the respondents for that district on the

Perceived Quality Assessment Instrument, out of the five people who returned their surveys, one was a teacher, two were administrators, one the superintendent, and one a board member. The majority of the teacher's responses were overall one or two levels below that of the others. Had more teachers responded from FF, the results might have been much different. Four teachers from district FF returned the District Staff Development Questionnaire. These four appeared to be fairly consistent in their responses, suggesting that this ranking is probably indicative of that district's staff development quality.

### **Conclusions**

The results of this study indicate that there is a relationship between the quality of a district's staff development program and its overall quality management although not as high as might be expected. Preliminary analyses of demographic variables indicate some differences in responses between respondent groups on the PQAI. Differences between the perceptions of teachers and administrators are not too surprising since the administrators probably have more responsibility for creating and carrying out district policies and practices whereas the teachers usually are not involved. It could be expected that those more "in charge" would view their efforts more positively, while those seeing only the results might be more negative. It therefore would be necessary to analyze the responses of those two groups and the number of each responding in each district in order to determine whether the individual districts have a major problem with differences in the perceptions of the two groups.

The same reasoning could be used for the differences between teachers and school board members except that board members have an even greater hand in creating the district's policies and, therefore, much more ownership. Board members would naturally see the results of the decisions they had made in a more positive light, while teachers might not understand the rationale behind the decisions or the constructive consequences that result. On the other hand, teachers might be in a better position to judge some of the outcomes since they are involved in the day-to-day activities of the district and can see how they play out in practice. Since board members are essentially part-time volunteers, their knowledge of the effects of their decisions may not be realistic. Again, a thorough analysis of the numbers and individual responses of these two groups in each district

would be needed to speculate on the causes for a particular district's average scores.

It might have been expected that superintendents and teachers would also differ in their perceptions of district quality. This was not the finding of this study. A possible explanation might be that the superintendents agreed to have their districts participate, knowing that their responses would be analyzed and compared. Since there is only one superintendent in each district, anonymity in this group would be impossible unless the superintendent left the position category blank. Had the superintendents rated their districts significantly higher than other respondents, there might be questions about their candidness and desire to make the district look better. Then, too, superintendents may actually be in better touch with the perceptions of the whole district, seeing the "big picture" more easily than administrators and board members who have a more limited view.

One might also expect support staff or students to differ from others in their perceptions. These data did not show that supposition to be true. Since support staff are so intimately involved with teachers and administrators, their opinions might be colored by those around whom their jobs revolve. For instance, a principal's secretary could see things very differently from a first-grade teacher's assistant or a middle-school study hall supervisor. Since this category was not further broken down, it is impossible to say what factors most influenced their responses. The students chosen to respond, for the most part, were probably high achievers and student leaders. Their perceptions, too, might be expected to be more in line with those of their teachers and administrators.

The difference between male and female responses was only significant when all the groups were combined, however, since over two-thirds of the teachers and support staff were female and only one-sixth of the administrators, none of the superintendents, and one-third of the board members, it is surprising that greater differences were not found. While these proportions seem to be very unbalanced, it is reassuring to see that they do not make a great difference in their ratings of quality management.

Looking at the differences in perceptions between those with less than a B.A. degree and those with a B.A., 57 support staff, 55 board members and 37 others/students reporting having less than a B.A. (One teacher and one administrator also filled in that category, presumably by mistake.) That combination of positions would make it difficult to generalize about the reasons for their average perceptions. Ninety-five teachers, 10

support staff, 3 administrators, 2 superintendents, and 32 board members reported having a B.A. degree. Again, combining the teachers and board members as well as the other categories does not lead to a clear picture of these respondents as a group. Only a further analysis of each type of respondent by district would yield satisfactory explanations for the differences. However, since teachers and board members did show differences in their perceptions, some of that difference may have also shown up in the education category.

### **School System Perceived Quality Assessment Instrument**

The quality effectiveness index was calculated by dividing the mean of the current ratings for each district by the mean of the ideal ratings, resulting in a ratio. The smaller the difference between the current and the ideal, the higher the ratio. Additionally, the higher the district was rated in the current situation and the lower the ideal situation was perceived, the higher the ratio. Therefore, a district might not be ranked as high in current practices as others, but could still rank higher on the ratio if it did not perceive the ideal situation to be as high as others. Looking at the rankings of the districts in quality effectiveness, the district ranked highest (A) actually ranked eighth in current situation (3.6) and fortieth in the ideal (3.79), indicating that their district's perceived management was lower than it appeared at first. The ratio was so much higher than the others because respondents in district A did not seem to agree as strongly as the others that the items listed on the survey were important.

The district which ranked sixth in quality effectiveness (MM) actually had the highest perception of its current situation (3.92), but ranked eighth in perceptions of the ideal situation. District BB which ranked number 33 on the quality effectiveness index actually had the highest perceived ideal situation, making it much more difficult to live up to in practice. These data, then, are not necessarily indicative of which districts actually had the highest quality management practices, but which districts actually did the best job of living up to the ideal as they perceived it, or which had the smallest difference between current and ideal scores. Those districts closest to practicing high quality district management as conceived in the survey items would be the districts having a mean closest to 5.0 on the current scale.

The top ten districts in perceived current situation are (1) MM, (2) O, (3) OO,



(4) C, (5) FF, (6) Z, (7) PP, (8) A, (9) QQ, and (10) RR, a very different order than when ranked by the quality effectiveness index. If the items deemed important for district quality management on the instrument actually do measure the seven Baldrige criteria, do schools need to subscribe to all of them in order to be most effective? And if districts disagree about their importance, are they less effective? Are districts whose perceived current practices approximate their perceived ideal practices considered the best quality managers? These are questions for further study by other researchers.

### **District Staff Development Questionnaire**

The district rating itself highest in staff development was again district A, having a mean of all respondents of 3.789. A mean of 4.0 would suggest that the elements considered critical for a quality staff development program *frequently* happened in a district. District A and district K (with a mean of 3.567) were the two closest to 4.0, the other 38 all falling under 3.50. With the average for all districts reaching only 2.753, the data suggest that there is much room for growth in staff development quality in all 40 districts.

The reasons for the lower than desired quality could be numerous. As reported repeatedly in the literature, effective staff development programs take a commitment of resources, time, and district leadership. With numerous other district priorities and diminishing resources, choices must be made. Staff development programs often must suffer as other district needs demand attention. Then, too, teachers may not be aware of the institution of some of these practices in their districts, so may mark them lower. Teachers marking number 3 (*don't know*) often could tend to lower their district's mean.

### **The relationship between staff development and district management**

A positive relationship was shown to exist between the ranking of teachers' perceptions of the quality of their districts' staff development programs and the ranking of districts on the quality effectiveness index. It would stand to reason that districts which take the development of its employees seriously would also take other processes and practices in the district as seriously. In addition, the training of teachers, administrators, and support staff in more effective practices should understandably carry over to all of the district's operations. Well-trained teachers and administrators are often

more eager to be involved in planning and leading the district in quality management processes. Employees who can see that the district cares about their development and performance and that they are making a difference in students' lives are more likely to want to see their district moving forward in all aspects. The two would seem to go hand in hand.

### **Staff development ratings and the seven Baldrige dimensions**

The means of the ten districts ranking highest in perceptions of staff development quality were compared with the means of the current perceptions of those districts on the seven quality dimensions of the Baldrige Award. Three of the dimensions were shown to be predictive of staff development quality. The Client Focus and Satisfaction section consisted of eight questions (numbers 38-45) dealing with procedures for handling inquiries and complaints (#38), parent and student feedback (#39), monitoring satisfaction with graduates (#40), teaching employees skills to interact with clients (#41), student needs tied to curriculum development (#42), gathering information to monitor progress (#43), training of all staff to help clients (#44), and improving client satisfaction (#45). Several of these items are concerned with training staff to meet students' (and others') needs, making the relationship quite obvious.

The Quality and Operational Results dimension was composed of six questions (numbers 32-37) focusing on monitoring trends in key programs and services (#32), increasing the number of purchased services and contracts (#33), tracking and analyzing graduate information (#34), diagnosing the skills of students (#35), improving services such as training, instructional resources, and equipment (#36), and comparing district quality with other schools' performance (#37). All of those items appear to be related to quality staff development, but especially number 35, which is a key element in staff development training.

In the Management of Process Quality category, six items (26-31) asked about such practices as regular validation of program performance and results (#26), curriculum articulation among all grade levels (#27), reduction of student dropout rates (#28), advisory committees for maintenance of program content and processes (#29), sharing performance findings (#30), conducting regular audits of programs and courses (#31). Again, all of these questions have a direct bearing on and are impacted by the

quality of the district's staff development program. They all deal with assessing, disseminating, or utilizing the results of instructional programs in order to improve student performance. These are also the goals of staff development programs.

It might be expected that the Human Resource Development and Management dimension would show a closer relationship with staff development. Upon closer inspection of the items, however, only two of the five (19-23) deal directly with training. Number 19 asks specifically about quality awareness training for all employees on a regular basis. Since quality management concepts are still considered very new in education, this training is still very rare. Number 23 focuses on using individualized professional development plans in staff development and training. This is only one small aspect of an effective staff development program and would not necessarily be present in all quality programs.

The Strategic Quality Planning section (13-18) has little to do with curriculum and instruction and more to do with goal-setting strategies. In the Information and Analysis items (7-12), the collection and analysis of data is emphasized. While the information gathered is applicable to curriculum and instruction, it does not relate as directly to critical elements in staff development. Leadership is an area that has been identified as essential for effective staff development, however the items on this instrument dealing with leadership (1-6) are more concerned with leadership in overall district quality operations rather than instructional issues.

Individual analysis of all items in all seven dimensions shows the causes of higher relationships of three of the dimensions with the staff development perceptions. A further look at the correlation matrix for the seven dimensions reveals that all of the subscales are moderately to strongly related, showing that they all are dealing with similar concepts.

#### **Differences between high and low districts in quality effectiveness**

The means of the ten districts ranking highest and lowest in staff development perceptions were compared with their means on the quality effectiveness index. The top ten districts were shown to be significantly different from the lowest ten in these means. A moderately positive correlation between the highest ten corresponds to the findings of the correlations of all 40 districts on the two instruments. These findings seem to suggest

that although quality staff development is important in the implementation of overall district quality management, it is only one of the players. Other factors apparently act in combination to bring about quality management.

When looking at the lowest ten district in staff development perceptions compared with their quality effectiveness index, the relationship was not significant. Removing district FF from this group resulted in raising the correlation significantly. Further analysis of this district revealed that of the five respondents in this district, only one teacher responded to the perceived quality instrument. Had more teachers returned the survey, one might hypothesize that the district's ranking might be lower. Since the demographic analysis of all districts revealed that teachers differ from administrators and board members in their perceptions of district quality, it could be expected that this trend would continue in district FF. Since the one teacher who did respond rated district quality considerably lower than the others, one might conclude that other teachers would do the same, thus lowering the quality effectiveness index of district FF to be more in line with its staff development rating.

### **Limitations**

The limitations relative to this study follow. The reader must consider these limitations within her/his own context when attempting to find application of these findings to other settings.

1. The sample used in this study represented approximately 11% (44/362) of the districts in Iowa. The respondents were chosen to participate in the study by the board secretary or designee of the superintendent. The perceptions of those chosen may not have been reflective of the total population. The districts chosen may not represent other districts in Iowa.
2. More surveys were returned by some districts than by others, limiting the comparisons that can be made.
3. The quality effectiveness index yielded by the School System Perceived Quality Assessment Instrument may be more indicative of lower ratings for the ideal situation than for actual implementation of the quality practices.
4. The review of the literature did not reveal a consistent set of guidelines which should be followed for quality staff development but rather a variety of recommended practices.

Therefore, the District Staff Development Questionnaire may not reflect all of the elements which comprise effective staff development programs.

5. The absence of demographic data for respondents on the staff development instrument limits the analyses which can be done.
6. The fact that the two instruments were completed by two different groups limited the comparisons that could be made. Having the same teachers fill out both instruments would have been helpful. Perhaps also having administrators, board members, and the superintendent respond would have helped the analysis.

### **Discussion**

A review of the literature revealed that many changes have taken place in staff development over the past twenty to twenty-five years. The findings of this study seem to provide evidence for that contention. Wood (1994) described several advances impacting the quality of staff development over the years including the movement from isolated inservice to a long-term process, the change from district-wide to school-level programs, and the involvement of teachers and principals in planning, delivering, and evaluating staff development programs. The districts surveyed showed the tendency to move toward these recent trends, although continued growth is still needed.

The fact that every district surveyed does have an active, recognized staff development program is definitely progress. However, it is obvious that some have integrated the elements considered to be critical to effective programs more than others. Brandt (1994) found that staff development is becoming an "established professional function," recognizing that good programs are not yet available in all schools. He believes that more and more educators are expecting continuing education from their districts as well as from the universities. Dillon-Peterson (1994) found that most districts of all sizes today provide a budget for professional development and use it to introduce new initiatives. This study revealed that nearly half of the districts surveyed offer a wide variety of staff development opportunities (question #1).

Paul's (1990) finding that despite the broadened scope of staff development teacher behaviors have remained unchanged is shown in many of these districts. Fewer than half of the districts' teachers perceive that their teaching has improved as a result of district staff development (question #23). In addition, Joyce and Calhoun (1994) found

that as district programs have improved, these changes have not produced the desired effects upon instruction. This study corroborates that finding, showing that only a small percentage of teachers feel that student achievement in their classrooms has improved as a result of district staff development (question #27). According to Guskey and Sparks (1991), districts seldom consider change in professional practice or the impact on student learning when assessing the effectiveness of their programs. The overwhelming majority of teachers in this sample perceived that their district evaluated staff development based on student outcomes and achievement (question #30) almost never or occasionally.

Bennett's (1987) and Joyce and Showers' (1982, 1988) findings that the element of coaching is an essential component of training if teachers are to use the new practices in their classrooms may help us understand why the teachers in the districts surveyed did not feel as successful as they could in impacting student learning. All of the districts were rated very low (below 3.0) in allowing teachers time to collaborate with and coach each other on strategies learned in district staff development (question #27).

A number of researchers (Joyce & Bennett, 1987; Sparks & Loucks-Horsley, 1989; Paul, 1990; Wood et al., 1993) found that teacher involvement and participation in planning staff development are keys to the success of the program. Nearly half of the districts participating in this study have district-wide committees of teachers and administrators meeting regularly to plan staff development (question #3). Approximately one third also have building-level committees making decisions about building-level staff development needs (question #4) and one third also give individual teachers the opportunity to determine their own staff development needs and goals (question #5). However, more than three fourths of the districts have mandated staff development frequently or almost always, allowing for no teacher input.

The literature does not give one right answer or best way. Different ways work in different contexts (Guskey, 1994b). Loucks' (1987) review of the literature found many discrepancies existing concerning those practices and procedures producing effective results. This study, too, found districts differing considerably in their staff development practices. The use of teachers as trainers (question #10), employing outside consultants (question #9), offering long-term training options (question #12) and incentives (question #8) are happening in varying degrees in the forty districts. All have room for

improvement. Paul (1990) refers to the difference between "knowing" about staff development theory and actually "integrating" it into district programs. The administrators he surveyed agreed upon the value of these elements but felt it was unrealistic to incorporate all of them, given the other priorities in the districts.

How do staff development and Continuous Quality Improvement fit together? Educational reformers are now saying that innovations in education cannot be viewed as isolated fads but as integrated into the whole reform effort (Guskey, 1994b). Systems thinking and results-driven education are two new ideas now impacting our schools and staff development programs which are also important components of CQI. Staff development has been moving from a separate activity to a partnership with other systems in the schools. Experts in both staff development and CQI understand that changing one part of the system affects all the other parts. It has been predicted that schools will increasingly begin to view staff development as the key to restructuring education and the best hope for improving schools (Joyce & Calhoun, 1994). Guskey (1994b) states that it is now recognized as the main vehicle for change in proposals for restructuring and reforming schools. If the staff development program is strong, systems thinking tells us that it will then affect the other operations of the district. This study bears out that belief.

The Perceived Quality Assessment Instrument attempts to uncover the levels of quality management in each district by adapting the seven dimensions of the Malcolm Baldrige Quality Award to school systems. When looking at the individual items, it is easy to see the parallels with and components of staff development programs. Questions concerning training of employees, gathering information to assess progress, and using that information to continuously improve the district apply as well to staff development. Item 19 asks about the availability of regular quality awareness training for all employees. Nearly half of the districts in this study agreed or strongly agreed that this training was currently taking place.

Item 23 on the PQAI and item 5 on the DSDQ both deal with the use of individualized plans for staff development. Over half of the districts responded positively to this item on the quality management instrument, while approximately one third did so on the staff development instrument, suggesting that teachers may perceive less of this practice happening in their districts than other school personnel. However, Holt (1993a) believes that encouragement of teamwork and collaboration is one reason that CQI works in schools,

so although individual needs are viewed as important for both, working together for success is also valued.

Lezotte (1992) claims that we must change what teachers and administrators know if we are to change the outcomes of education. Every employee must be given opportunities for training, education, and self-improvement if they are to achieve their goals, according to Moen (1991). He believes that people learning will result in improvement in quality. The findings of this study substantiate those beliefs. Districts which were perceived as offering more effective staff development programs also were believed to practice quality management strategies more than 50 percent of the time.

### **Recommendations for Applied Practice**

Based on the findings and conclusions of this study, the following recommendations for practice in school districts are made by the researcher:

1. Using the Perceived Quality Assessment Instrument, determine the perceptions of current and ideal situations in the district. Use the information from these responses to implement needed changes.
2. Provide training for all staff regarding quality awareness and improvement.
3. Survey staff on the District Staff Development Questionnaire. Determine areas of needed improvement.
4. Become familiar with the elements of effective staff development and initiate study teams to develop plans for implementing them in the district's program.
5. Explore ways in which the staff development program and the district management can work together to improve the quality of the district.
6. Study the seven Baldrige dimensions and their applications for education. Determine ways that staff development can be used to improve current practices.
7. Investigate how other successful districts are incorporating quality principles into their district management and staff development programs and examine their applicability for improving the district.

### **Recommendations for Further Research**

Recommendation for researchers wishing to investigate this subject further include the following:



1. Investigate the staff development budget in each district surveyed to determine if there is a relationship between effectiveness and dollar allocations.
2. Study the effect of Phase III on teachers' participation in staff development.
3. Explore the relationship between district staff development offerings and those of the Area Education Agency.
4. Differentiate among the administrators' responsibilities (e.g., principal, business manager, staff development director, assistant superintendent, curriculum director) for a clearer picture of their responses.
5. Survey these districts again in five to ten years to determine change or improvement.
6. Study the differences in perceptions of teachers who participate often in their district's staff development and those who do not.
7. Investigate the differences in perceptions between elementary and secondary teachers as to their district's staff development program.
8. Determine whether teachers have received training in Continuous Quality Improvement to see if their perceptions differ from those with no training.
9. Investigate further the applicability of Continuous Quality Improvement in the school setting and the ways to adapt the Baldrige criteria to school districts.
10. Study districts that are attempting to implement quality improvement and the practices that are working best for them.
11. Survey districts to find out more specifically how their staff development programs are helping to train employees in quality improvement.
12. Develop, implement, and assess the effects of a training program in quality improvement.

Recent research has shown that both staff development and Continuous Quality Improvement can lead to school improvement when the critical elements of each are implemented in school districts. Perceptions of key stakeholders in the Iowa school districts surveyed indicated that many of these essential practices were in place at the time of the study, however there was room for improvement. Districts showing more effective staff development programs do appear to have higher quality district management more than 50 percent of the time.

## REFERENCES

- Abacus Concepts, Inc. (1991). *Statview student*. Berkeley, CA: Author.
- American Association of School Administrators. (1992). *Creating quality schools*. Arlington, VA: Author.
- Altany, D. (1992). Cinderella with a drawl. *Industry Week*, 241(1), 49-51.
- Bates, M., & Stachowski, E. (1991). *Planning comprehensive staff development programs*. San Francisco: Association for Supervision and Curriculum Development.
- Bender, R.H. (1994). Igniting Total Quality Management in public schools. *Quality Progress*, 27(9), 107-109.
- Bennett, B.B. (1988). The effectiveness of staff development training practices: A meta-analysis. (Doctoral dissertation. University of Oregon, 1987). *Dissertation Abstracts*, 48, 2226.
- Blankstein, A. M. (1992). Lessons from enlightened corporations. *Educational Leadership*, 49(3), 71-75.
- Bonstingl, J. J. (1992a). *Schools of quality: An introduction to Total Quality Management in education*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Bonstingl, J. J. (1992b). The total quality classroom. *Educational Leadership*, 49(6), 66-70.
- Bonstingl, J.J. (1992c). The quality revolution in education. *Educational Leadership*, 50(3), 4-9.
- Bonstingl, J. J. (1993). The quality movement: What's it really about? *Educational Leadership*, 51(1), 66.
- Borg, W. R. & Gall, M. D. (1989). *Educational research: An introduction* (5th ed.). New York: Longman
- Bradley, L. H. (1993). *Total Quality Management for schools*, Lancaster, PA: Technomic Publishing Company, Inc.
- Brandt, R.S. (1987). On teachers coaching teachers: A conversation with Bruce Joyce. *Educational Leadership*, 44(5), 12-17.
- Brandt, R.S. (1990). Changing schools--but how? *Educational Leadership*, 47(8), 3.

- Brandt, R. (1994). Reflections on 25 years of staff development: Establishing staff development as a professional function. *Journal of staff development*, 15(4), 2.
- Brown, E.H. (1992). In Brandt, R. (1992). On Deming and school quality: A conversation with Enid Brown. *Educational Leadership*, 50(3), 28-31.
- Byrnes, M. A., Cornesky, R. A., & Byrnes, L. W. (1992). *The quality teacher: Implementing Total Quality Management in the classroom*. Port Orange, FL: Cornesky & Associates.
- Caldwell, S. & Wood, F. (1988). School-based improvement--Are we ready? *Educational Leadership*, 46(2), 50-53.
- Caldwell, S. (Ed.) (1989). *Staff development: A handbook of effective practices*. Oxford, OH: National Staff Development Council.
- Chicago elementary school reform: A mid-term exam by the consortium on Chicago school research. *Education Digest*, 59(3), 4-8.
- Crandall, D.P. (1983). The teacher's role in school improvement. *Educational Leadership*, 41(3), 6-9.
- Cruickshank, D.R., Lorish, C., & Thompson, L. (1979). What we think we know about inservice education. *Journal of Teacher Education*, 30, 27-32.
- Dale, E.L. (1982). What is staff development? *Educational Leadership*, 40(1), 31.
- Deal, T. & Kennedy, A. (1982). *Corporate cultures: The rights and rituals of corporate life*. Reading, MA: Addison-Wesley.
- Deming, W. E. (1986). *Out of the crisis*. Cambridge, MA: MIT Center for Advanced Engineering Study.
- Deming, W. E. (1989). Foundation for management quality in the western world. Paper presented at the Institute of Management Sciences in Osaka, Japan, July 24, 1989, in *An introduction to total quality for schools*, (1991). Arlington, VA: American Association of School Administrators.
- Dillon-Peterson, B. (1994). Twenty-five years of staff development--Reflections from NSDC's 'mom.' *Journal of Staff Development*, 15(4), 2-3.
- Downey, C. (1993). *Quest for quality: A primer*. A seminar presented at Iowa State University, June 2-3, 1993.
- Elam, S., Rose, L., & Gallup, A. (1994). The 26th annual Phi Delta Kappa/Gallup poll of the public's attitudes towards the public schools. *Phi Delta Kappan*, 76(1), 41-64.

- Ellis, S. (1989). Putting it all together: An integrated staff development program. In S. Caldwell (Ed.), *Staff development: A handbook of effective practices* (pp. 58-69). Oxford, OH: National Staff Development Council.
- Elmore, R.F. (1992). Why restructuring alone won't improve teaching. *Educational Leadership*, 49(7), 44-48.
- Feigenbaum, A.V. (1994). Quality education and America's competitiveness. *Quality Progress*, 27(9), 83-84.
- Freeston, K.R. (1992). Getting started with TQM. *Educational Leadership*, 50(3), 10-13.
- Fullan, M. (1991). *The new meaning of educational change*. New York: Teachers College Press.
- Fullan, M.G. (1992). Visions that blind. *Educational Leadership*, 49(5), 19-20.
- Fullan, M. (1994). Staff development: Coming into its own. *Journal of Staff Development*, 15(4), 6.
- Fullan, M.G., Bennett, B., & Rolheiser-Bennett, C. (1990). Linking classroom and school improvement. *Educational Leadership*, 47(8), 13-19.
- Gabor, A. (1991). Deming's quality manifesto. *Best of Business Quarterly*, 12(4), 6-10, reproduced in *An introduction to total quality for schools* (1991). Arlington, VA: American Association of School Administrators.
- Gage, N.L. (1984). What do we know about teaching effectiveness? *Phi Delta Kappan*, 66(2), 87-93.
- Garmston, R.J. (1987). How administrators support peer coaching. *Educational Leadership*, 44(5), 18-26.
- Glasser, W. (1990). *The quality school: Managing students without coercion*. New York: Harper and Row.
- Glatthorn, A. (1987). Cooperative professional development: Peer-centered options for teacher growth. *Educational Leadership*, 45(3), 31-35.
- Glaub, J. (1990). Made in Japan. *Illinois school-based journal*, 58(1), 5-7. Reproduced for *An introduction to total quality schools*, (1990), American Association of School Administrators.
- Glickman, C. (1991). Pretending not to know what we know. *Educational Leadership*, 48(8), 4-10.

- Goals 2000: Educate America Act* (March 1994). Washington, D.C.: U.S. Government Printing Office.
- Goldenberg, C. & Gallimore, R. (1991). Changing teaching takes more than a one-shot workshop. *Educational Leadership*, 49(3), 69-72.
- Goodlad, J. I. (1991). Why we need a complete redesign of teacher education. *Educational Leadership* 49(3), 4-6.
- Griffin, G. A. (1991). Interactive staff development: Using what we know. In A. Lieberman & L. Miller (Eds.), *Staff development for education in the '90's: New Demands, New Realities, New Perceptions, 2nd edition* (pp. 243-258). New York: Teachers College Press.
- Guskey, T.R. (1985). Staff development and teacher change. *Educational Leadership*, 42(7), 57-60.
- Guskey, T.R. (1990). Integrating innovations. *Educational Leadership*, 47(5), 11-15.
- Guskey, T.R. & Sparks, D. (1991). What to consider when evaluating staff development. *Educational Leadership*, 47(3), 73-76.
- Guskey, T.R. (1994a). The most significant advances in the field of staff development over the last twenty-five years. *Journal of Staff Development*, 15(4), 5-6.
- Guskey, T.R. (1994b). Results-oriented professional development: In search of an optimal mix of effective practices. *Journal of Staff Development*, 15(4), 42-50.
- Hendricks, D.F. & Triplett, A. (1989). TQM: Strategy for '90's management. *Personnel Administrator*, 34(12), 42-47.
- Herman, J. (1992). Total Quality Management basics: TQM comes to school. *School Business Affairs*, 20-28.
- Hinkle, D.E., Wiersma, W., & Jurs, S.G. (1988). *Applied statistics for the behavioral sciences*, (2nd ed.). Boston: Houghton Mifflin.
- Hixson, J. & Lovelace, K. (1992). Total quality management's challenge to urban schools. *Educational Leadership*, 50(3), 24-27.
- Holt, M. (1993a). The educational consequences of W. Edwards Deming. *Phi Delta Kappan*, 74(5), 382-388.
- Holt, M. (1993b). Dr. Deming and the improvement of schooling: No instant pudding. *Journal of Curriculum and Supervision*, 9(1), 6-23.

- Holt, M. (1993c). Deming on education: A view from the seminar, *Phi Delta Kappan*, 75 (4), 329-330.
- Holusha, J. (1993, December 21). Quality expert Deming dies. *New York Times*. Reprinted in *The Des Moines Register*, p. 85.
- Hord, S.M., Rutherford, W.L., Huling-Austin, L., & Hall, G.E. (1987). *Taking charge of change*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Horine, J.E., Hailey W. A., & Rubach, L. (1993). Transforming schools. *Quality Progress*, April 1993, 31-38.
- Hunter, M. (1990). Preface: Thoughts on staff development. In B. Joyce (Ed.), *Changing school culture through staff development* (pp. xi-xiv). Alexandria, VA: Association for Supervision and Curriculum Development.
- Isaacson, N. & Bamburg, J. (1992). Can schools become learning organizations? *Educational Leadership*, 50(3), 42-44.
- Johnson, A.W. (1991). A case study of a midwestern high school using Joyce's model to implement a complex school improvement innovation: Authentic assessment. Doctoral dissertation, Iowa State University.
- Joiner, B.L. & Scholtes, P.R. (1985). Total quality leadership vs. management by results. Joiner Associates Inc., in *An introduction to total quality for schools* (1991), Madison, WI: American Association of School Administrators.
- Joyce, B. & Calhoun, E. (1994). Staff development: Advancements in the last 25 years. *Journal of Staff Development*, 15(4), 3-4.
- Joyce, B., & McKibbin, M. (1982). Teacher growth states and school environments. *Educational Leadership*, 40(2), 36-41.
- Joyce, B. & Showers B. (1980). Improving inservice training: The messages of research. *Educational Leadership*, 37(5), 379-385.
- Joyce, B. & Showers B. (1981). Transfer of training: The contribution of coaching. *Journal of Education*, 163(2), 163-172.
- Joyce, B. & Showers B. (1982). The coaching of teaching. *Educational Leadership*, 40(1), 4-10.
- Joyce, B. & Showers, B. (1983). *Power in staff development through research on training*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Joyce, B. Showers B. (1987). The power of schooling. *Phi Delta Kappan*, 68(5), 352-355.
- Joyce, B. & Showers B. (1988). *Student achievement through staff development*. New York: Longman.
- Joyce, B.R., Showers, B. & Rolheiser-Bennett, C. (1987). Staff development and student learning: A synthesis of research on models of teaching. *Educational Leadership*, 45(2), 11-17.
- Joyce, B., & Weil, M. (1986). *Models of teaching*. Englewood Cliffs, NJ: Prentice-Hall.
- Kaufman, R. (1991). Toward total quality "plus." *Training*, 28(12), 50-54.
- Knudsen, B. (1993). *Continuous Improvement Profile*. Minneapolis: Positive Directions, Inc.
- Kohn, A. (1993a). Turning learning into a business: Concerns about total quality. *Educational Leadership*, 51(1), 58-60.
- Kohn, A. (1993b). The trouble with management models. *Educational Leadership*, 51(1), 67.
- Kourzes, J.M. & Posner, B.Z. (1988). *The leadership challenge: How to get extraordinary things done in organizations*. San Francisco: Jossey-Bass Publishers.
- Krone, B. (1990). Total Quality Management: An American odyssey. *The Bureaucrat*, 19(3), 35-38.
- Krone, R.M. & Crawford, C.C. (1985). Total national security: Mobilizing brainpower. *The Bureaucrat*, 14(1), 36-40.
- LeBlanc, P.R. & Zide, M.M. (1987). *Peer coaching in collaborative programs: From theory to practice*. Unpublished report. Boston: Boston University (ERIC Document Reproduction Service No. ED 290 726).
- Leonard, J. F. (1991). Applying Deming's principles to our schools. *South Carolina Business* 1, 82-87, in *An introduction to total quality for schools*. Arlington, VA: American Association of School Administrators.
- Lezotte, L. W. (1992). *Creating the total quality effective school*. Okemos, MI: Effective Schools Products, Ltd.

- Lieberman, A. & Miller, L. (Eds.)(1991). *Staff development for education in the 90's: New demands, new realities, new perspectives*. (2nd ed.). New York: Teachers College, Columbia University.
- Loucks, H.E.H. (1987). Effective staff development practices and procedures: A survey of district level staff development plans (Doctoral dissertation, Saint Louis University, 1987). *Dissertation Abstracts Inc.*, 48, 15079.
- Loucks-Horsley, S. (1994). Significant advances in staff development of the past 25 years. *Journal of Staff Development*, 15(4), 7-8.
- Loucks-Horsley, S.F., Harding, C., Arbuckle, M., Murray, L., Dubea, C., & Williams, M. (1987). *Continuing to learn: A guidebook for teacher development*. Andover, MA: Regional Laboratory for Educational Improvement of the Northeast and Islands and National Staff Development Council.
- Louis, K.S., & Miles, M.B. (1990). *Improving the urban high school: What works and why*. New York: Teacher's College Press.
- Manatt, R.P. (1995). Goals 2000: A primer for school districts and ed colleges. *International Journal of Educational Reform*, January (in press).
- Marzano, R. (1991). *A different kind of classroom: Teaching with Dimensions of Learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Mazzarella, J.A. (1980). Synthesis of research on staff development. *Educational Leadership*, 38(2), 182-185.
- McBride, R., Reed, J. & Dollar, J. (1994). Teacher attitudes toward staff development: A symbolic relationship at best. *Journal of Staff Development*, 15 (2), 36-41.
- McCarthy, B. (1982). Improving staff development through CBAM and 4MAT™. *Educational Leadership*, 40(1). 20-24.
- McLeod, W.B. (1991). Toward a system of Total Quality Management (The Deming way) in *An introduction to total quality for schools*, (1991), Arlington, VA: American Association of School Administrators.
- Meany, D.P. (1991). Quest for Quality. *California Technology Project Quarterly*, 2(2), reproduced for *An introduction to total quality for schools*. Arlington, VA: American Association of School Administrators.
- Melvin, C.A., III. (1990). Translating Deming's 14 points for education. *Educational Leadership*, 48(9), 19-23.



- Melvin, C. A., III. (1991). Restructuring schools by applying Deming's management theories. *Journal of Staff Development*, 12(3), 16-20.
- Microsoft Corporation. (1992). *Microsoft Excel, Version 4.0*. Redmond, WA: Author.
- Moen, R. D. (1991). The Deming philosophy for improving the educational process. Paper presented to the Third Annual International Deming Users' Group Conference in Cincinnati, August 22, 1989. Revised May 25, 1991, in *An introduction to Total Quality for Schools*. Arlington, VA: American Association of School Administrators.
- Mohlman, G.C., Kierstead, J., & Gundlach, M. (1982). A research-based inservice model for secondary teachers. *Educational Leadership*, 40(1), 16-19.
- Munger, L.K. (1990). Analysis of the effect of a professional development paradigm on the implementation of cooperative learning. Doctoral dissertation, Iowa State University.
- National Education Goals Panel (1994). *The national education goals report: Building a nation of learners*. Washington, D.C.: U.S. Government Printing Office.
- National Staff Development Council (1985). *National staff development goals*. Oxford, OH: Author.
- National Staff Development Council (1994). *National staff development council's standards for staff development: Middle level edition*. Oxford, OH: Author.
- Neuroth, J., Plastrik, P., & Cleveland, J. (1992). *Total Quality Management handbook: Applying the Baldrige criteria to schools*. Lansing, MI: On Purpose Associates.
- Odden, A. & Anderson, B. (1986). How successful state education improvement programs work. *Phi Delta Kappan*, 67(8), 582-585.
- Olson, L. (1992). Job one. *Teacher Magazine*, May/June 1992, 27-31.
- Orlich, D.C. (1983). Some consideration for effective inservice education. *The Clearing House*, 56(5), 197-201.
- Paul, D.D. (1991). Critical components of staff development. (Doctoral dissertation, Illinois State University, 1990). *Dissertation Abstracts Inc.*, 51, 1122.
- Poston, W.K. Jr. *Making governance work: TQE for school boards*. Thousand Oaks, CA: Corwin Press, Inc.
- Poston, W. K. Jr. & Bax, R. (1994). *School system perceived quality assessment instrument*. Ames, IA: Iowa State University.

- Raney, P. & Robbins, P. (1989). Professional growth and support through peer coaching. *Educational Leadership*, 46(8), 35-38.
- Rebore, R. (1991). *Personnel administration in education: A management approach* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Rhodes, L. A. (1990). Why quality is within our grasp. . . If we reach. *The School Administrator* (November 1990): 23-26.
- Rhodes, L.A. (1992). On the road to quality. *Educational Leadership*, 49(6), 76-80.
- Robbins, P. (1991). *How to plan and implement a peer coaching program*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Rubach, L. (1994a). Quality Progress' fourth annual quality in education listing. *Quality Progress*, 27(9), 27-72.
- Rubach, L. (1994b). Transforming U.S. education with the quality movement. *Quality Progress*, 27(9), 93-95.
- Schenkat, R. (1993). *Quality connections: Transforming schools through Total Quality Management*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Schenkat, R. (1993). Deming's quality: Our last but best hope. *Educational Leadership*, 51(1), 64-65.
- Schmoker, M. & Wilson, R.B. (1993). Transforming schools through total quality education. *Phi Delta Kappan*, 74 (5), 389-395.
- Scholtes, P.R. and H. Hacquebord. (1988) "Six strategies for beginning the quality transformation, Part II." *Quality Progress*, 44-48, in *Introduction to Total Quality for schools*. Arlington, VA: American Association of School Administrators.
- Schmuck, R. (1994). Blended staff development. *Journal of Staff Development*, 15(4), 6-7.
- Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Sergiovanni, T.J. (1990). Landscapes, mindscapes and reflective practice in supervision. *Journal of Curriculum and Supervision*, 1, 5-17.
- Showers, B. (1985). Teachers coaching teachers. *Educational Leadership*, 42(7), 43-48.

- Showers, B., Joyce, B. & Bennett, B. (1987). Synthesis of research on staff development: A framework for future study and a state-of-the-art analysis. *Educational Leadership*, 45(3), 77-87.
- Sizer, T.R. (1985). Common sense. *Educational Leadership*, 42(6), 21-22.
- Sparks, D. (1984). Staff development and school improvement: An interview with Ernest Boyer. *Journal of Staff Development*, 5, 32-39.
- Sparks, D. (1992). Staff development for Total Quality Management. *The Developer*, October, 246.
- Sparks, D. (1993/1994). Evaluating staff development within systemic improvement efforts: Part 2. *The Developer*, December/January, 2 & 4.
- Sparks, D. (1994a). Claiming our personal power. *The Developer*, March, 2.
- Sparks, D. (1994b). A paradigm shift in staff development. *Journal of Staff Development*, 15(4), 26-29.
- Sparks, D. & Loucks-Horsley, S. (1989). Five models of staff development for teachers. *Journal of Staff Development*, 10(4), 40-57.
- Sparks, D. & Vaughn, S. (1994). What every school board member should know about staff development. *Journal of Staff Development*, 15(2), 20-22.
- Sparks, G.M. (1983). Synthesis of research on staff development for effective teaching. *Educational Leadership*, 41(3), 65-72.
- Sparks, G.M. (1985). The trees or the forest? A response to Ruth Wade. *Educational Leadership*, 42(4), 55-58.
- SPSS, Inc. (1988). *SPSS-X user's guide*, Chicago: Author.
- Stallings, J.A. (1982). Effective strategies for teaching basic skills. In D.G. Wallace (Ed.) *Developing basic skills programs in secondary schools*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Stampen, J. O. (1991). Improving the quality of education: W. Edwards Deming and effective schools. *Contemporary Education Review* 3(3), 423-433, in *An introduction to total quality for schools*. Arlington, VA: American Association of School Administrators.
- Teigland, M.D. (1993). A study of the beliefs for Total Quality Management comparing superintendents, board members, and classroom teachers in Iowa schools. Doctoral dissertation, Iowa State University.

- Templeman, T.P. & Peters, J. (1992). *Teaching research inservice model*. Monmouth, OR: Western Oregon State College. (Workshop handout, November 1992, West Des Moines, IA.)
- Tesh, A.S. (February, 1992). *Evaluation of the effectiveness of alternate questionnaire item response options*. Paper presented at the annual meeting of the North Carolina Association for Research in Education, Chapel Hill, NC.
- TQM theory did not die with Deming. (1993, December 27). *The Des Moines Register*, p.8S.
- Tveite, M. D. (1991). The theory behind the fourteen points: Management focused on improvement instead of on judgement, in *An introduction to total quality for schools*. Arlington, VA: American Association of School Administrators.
- United States General Accounting Office (1993). *Systemwide education reform: Federal leadership district-level efforts. Report to Congressional Requesters*. Washington, D.C.: GAO.
- Vincoli, J. (1991) "Total quality management and the safety and health professional." *Professional Safety* 6, 27-32.
- Wade, R.K. (1985). What makes a difference in inservice teacher education? A meta-analysis of research. *Educational Leadership*, 42(4), 48-54.
- Wagner, T. (1995). What's school really for anyway? And who should decide? *Phi Delta Kappan*, 52(4), 393-398.
- Walton, M. (1986). *The Deming management method*. New York: Putnam.
- Walton, M. (1990). *Deming management at work*. New York: Putnam.
- Willis, S. (1993). Creating 'total quality' schools. *ASCD Update*, 1, 4-5.
- Wood, F. (1994). Twenty-five years of progress and promise. *Journal of Staff Development*, 15(4), 4-5.
- Wood, F., Killian, J., McQuarrie, F. & Thompson, S. (1993). *How to organize a school-based staff development program*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Wood, F.H. & Lease, S.A. (1987). An integrated approach to staff development, supervision, and teacher evaluation. *Journal of Staff Development*, 8(1), 52-55.
- Wood, F.H. & Thompson, S.R. (1993). Assumptions about staff development based on research and best practice. *Journal of Staff Development*, 14(4), 52-57.

- Wood, F.H., Thompson, S.R., & Russell, F. (1982). Designing effective staff development programs. In B. Dillon-Peterson (Ed.). *Staff development/organizational development*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Worth, M.M. (1986). Educator inservice practices as perceived by public school administrators in New Mexico (Doctoral dissertation, New Mexico State University). *Dissertation Abstracts, Inc.*, 47, 26084.
- Yastrow, S. (1994). A history of the National Staff Development Council--25 years of growth and service. *Journal of Staff Development*, 15(4), 12-17.

## ACKNOWLEDGMENTS

I wish to express my sincere appreciation to Dr. Bill Poston, Jr., my major professor, for his continuous support, guidance, and unending belief in my ability to complete this project. His calm demeanor and sense of humor kept me going when times got tough. Dr. Dick Manatt, too, was always there when I needed him to answer a question or give me a pep talk. Special thanks also go to Dr. Richard Dague, Dr. David Owen, and Dr. Shirley Stow, my other committee members for their suggestions, questions, patience, and assistance during this process. Dr. Barbara Licklider also served on my initial committee as well as setting a great example as a teacher in her classes. I owe her a great deal. Dr. Anton Netusil, Dr. Alyce Holland, and Dr. Sanaa Abu-Dagga all helped me to better understand that mysterious world of statistics. For that I will always be grateful.

I could not have made it through this program without the support of my dear friends Lori Alexander, David Anneberg, Celia Burger, and Karen Garvin, and fellow students Lori Alexander and Gordon Dahlby who helped me to believe I could accomplish this goal by giving me their time, expertise, and encouragement. Their faith in me never wavered as we walked this path together. I hope I can be as good a friend to them. My church and choir friends, too numerous to name without leaving someone out, gave me inspiration and hope that I could succeed, as well as needed spiritual nourishment, fun, and laughter. I would also like to thank my friends in the West Des Moines Community School District, especially Dr. Donna Wilkin, Dr. Doug Buchanan, Dr. Arlis Swartzendruber, Tom Downs, and Karin Smith for their understanding and support.

Finally, I need to thank my family for their love and caring all of my life, especially as I pursued this goal. My sister, Shari Baird, has always been my friend and cheerleader. My admiration for her is boundless. My father, Peter Johnson, always gives me unconditional love. His belief in hard work and kindness have set an example for me I always try to live up to. My children, Melissa and Jim, are the lights of my life and have given me so much joy throughout the years, I can never thank them enough. My new daughter Stephanie and grandson Zachary bring added happiness into my heart. It is to these professionals, friends, and family that this project is dedicated. Thank you all for influencing and inspiring me in your special ways.

**APPENDIX A**

**SCHOOL SYSTEM PERCEIVED QUALITY ASSESSMENT INSTRUMENT**

## School System Perceived Quality Assessment Instrument

Department of Professional Studies • Iowa State University

**To the Participant:** This instrument requests information from you and your colleagues about perceptions of the level of quality found in your school system's operations and activities. Please provide the information requested below, and complete the rating section on the next two pages as instructed below. All you need to do when you have completed this instrument is to fold it, tape it closed, and drop it in the U.S. Mail. Thanks for your help and cooperation. Your responses will help in future efforts to improve education.

### Part I: Demographic Information

*Please provide the following information:*

1. Position: ☐ Teacher    ☐ Support Staff    ☐ Administrator    ☐ Superintendent    ☐ Board    ☐ Other
2. Home Annual Income: ☐ Under \$10,000    ☐ \$10,000 - 29,999    ☐ \$30,000 - 49,999    ☐ Over \$50,000
3. Gender: ☐ Male    ☐ Female      4. Age: ☐ Under 18    ☐ 18 - 29    ☐ 30 - 55    ☐ 56 - 70    ☐ Over 70
5. Level of Education: ☐ Less than B.A. degree    ☐ B.A. degree    ☐ Master's degree    ☐ Doctorate degree
6. Years Experience in Current/Similar Job: ☐ Under 5 yrs.    ☐ 5-10 yrs.    ☐ 11-25 yrs.    ☐ 25 yrs. or more

### Part II: Rating of School System Quality Components

**Directions:** Please state your judgment of the current situation and the desired or ideal situation in your school system. Consider the statements on the following two pages carefully, and indicate the degree to which you feel each statement describes your school system. *Note that you are asked to respond to each statement twice: once in the current situation column, and once again in the desired situation column.*

- Definitions:**
1. *Current Situation:* What is the status of your school system now in terms of the statement -- what do you see is the present state of affairs on this item?
  2. *Desired Situation:* What should the status of your school system be in terms of the statement -- what would you like to see or find in your system on this item?

Please respond in both columns (current and desired) on each statement, and mark only one response for each statement in each column.

**RESPONSES ARE STRICTLY CONFIDENTIAL  
AND WILL BE REPORTED ONLY IN SUMMARY FORM BY DISTRICT**

After completing the instrument, please fold and tape it closed, and drop it in the U. S. Mail. Thank you for your assistance and cooperation!

*Please open the instrument, and proceed with the next section.*



Respond to both columns on each item, and mark only one response in each column.

School System Perceived Quality Assessment Instrument		Current Situation					Desired Situation				
Please indicate to what extent you agree or disagree with each item.		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>A. Leadership</b>											
1.	District-level management is committed to improving quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	The school system's policy or statements on quality are clearly communicated to all employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	District-level management is visibly involved in and actively promotes quality within the school system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	District-level management is recognized outside the school district for promoting quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	The school system supports employees and students to promote quality awareness with community, state, national, educational, business, and other organizations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	School system client focus and quality values are integrated into day-to-day leadership of all operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>B. Information and Analysis</b>											
7.	Assessment data are used to improve curriculum, instruction, and operations of the system as a whole.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Information is communicated in a systematic manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Adequate procedures are in place to collect data about organizational performance from a variety of sources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Decisions are made based upon collected data and analysis of results.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Improved quality has been the result of data collection and analysis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	The quality of programs and services is compared with those in other school systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C. Strategic Quality Planning</b>											
13.	The system planning process is integrated into daily operations and involves all administrative, instructional, and support areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Quality tools and techniques are used in the normal planning process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	Each department or unit has a mission, and has identified key processes and client needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	Continuous improvement is emphasized in district strategic planning efforts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	Information from staff and community is used for strategic planning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	Cooperative teams are formed and used in strategic planning involving all levels of employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>D. Human Resource Development and Management</b>											
19.	Quality awareness training is made available to all employees on a regular basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	Employee teams are regularly used to solve district problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	Empowerment, risk taking and innovation are encouraged and supported.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	There are opportunities for individuals and groups to contribute to quality goals and plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	Individualized professional development plans are used in staff development and training.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Respond to both columns on each item and mark only one response in each column.

School System Perceived Quality Assessment Instrument		Current Situation					Ideal Situation				
		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
<input checked="" type="checkbox"/>	Please indicate to what extent you agree or disagree with each item.										
<input checked="" type="checkbox"/>	Respond to both columns on each item and mark only one response in each column.										
24.	Employees are involved in developing their own performance and recognition systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	Employee satisfaction surveys are conducted on a regular basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>E. Management of Process Quality</b>											
26.	Validation of program performance and actual results is done regularly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	Articulation among all grade levels in curriculum planning and delivery is encouraged and implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	Procedures have been established to reduce student dropout rates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	Advisory committees are extensively used to maintain up-to-date program content and processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	Reports and findings about results and performance are shared freely with the board, staff, and the community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.	Quality or performance audits of programs and courses are conducted regularly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>F. Quality and Operational Results</b>											
32.	Major trends of key programs and services are identified and monitored over time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	The number of purchased services and consultant assistance contracts have increased over time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	Graduates are continuously tracked and information about their placement and status is analyzed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.	Strategies are in place to diagnose continuously the skills and ability levels of students in key learning areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.	The quality of support and services (equipment, instructional resources, training etc) provided is improving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.	The quality of the school district is compared regularly with other schools' program results and performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>G. Client Focus and Satisfaction</b>											
38.	Procedures for handling inquiries and complaints are well established and operate smoothly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39.	Surveys are regularly used to obtain student and parent feedback.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40.	Post-secondary institution and employer satisfaction with graduates are monitored on a regular basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.	Clear standards are established and employees are taught skills to effectively interact with parents, students, employers, and citizens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42.	Future student curricular and program needs are identified and tied to curriculum development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43.	Information is gathered frequently to monitor progress and improvement from year to year in all areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44.	Special training in helping clients is provided to all professional and support staff on a regular basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45.	Client satisfaction with this school district's performance is improving over time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**APPENDIX B**

**DISTRICT STAFF DEVELOPMENT QUESTIONNAIRE**

**DISTRICT STAFF DEVELOPMENT QUESTIONNAIRE**  
**Department of Professional Studies • Iowa State University**

Dear Respondent,

Thank you for taking the time to fill out this questionnaire. The purpose of this instrument is to determine your perceptions and those of your colleagues about the staff development activities taking place in your district. Your input will assist us in learning more about how to design, develop, and deliver staff development.

In this survey, **staff development** refers to professional growth opportunities for teachers, administrators, and support staff.

Responding to the 30 questions listed should take you no longer than **ten to fifteen minutes**, and is **strictly optional**. Results of the study will be made available to your district upon request. If you have questions about any of the procedures used, you may contact the researcher at the phone number or address listed at the bottom of this page.

**Directions:** Please fill in the appropriate box for each statement listed. Consider each item in terms of how frequently or regularly it is done in your school district. Skip any item which does not apply to your district. Answer choices are as follows:

- N - Almost **NEVER** happens in our district
- O - **OCCASIONALLY** happens in our district
- D - **DON'T KNOW**
- F - **FREQUENTLY** happens in our district
- A - Almost **ALWAYS** happens in our district

Mark only one answer for each statement.

**RESPONSES ARE STRICTLY CONFIDENTIAL  
 AND WILL BE REPORTED IN SUMMARY FORM BY DISTRICT**

After completing the questionnaire, please fold and tape it closed and **drop it in the U.S. Mail**. Thank you for your assistance and cooperation!

## DISTRICT STAFF DEVELOPMENT QUESTIONNAIRE

**Directions:** Please fill in the appropriate box for each statement. Consider each item in terms of how frequently or regularly it is done in your school district. Skip any item which does not apply to your district. Answer choices are as follows:

N - Almost NEVER happens in our district  
 O - OCCASIONALLY happens in our district  
 D - DON'T KNOW  
 F - FREQUENTLY happens in our district  
 A - Almost ALWAYS happens in our district

- |  |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. This district offers a wide variety of staff development opportunities.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. A needs assessment is conducted periodically to determine staff development needs.  | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. A district-wide committee of K-12 teachers and administrators meets regularly to plan district staff development.             | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Building-level committees of teachers make decisions about building needs for staff development.                              | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. There is opportunity for individual teachers to determine their own staff development needs and goals.                        | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Some staff development topics are mandated by the district.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. District administrators work with building-level committees to provide a comprehensive and ongoing staff development program. | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Staff members are reimbursed for some expenses incurred for staff development.  | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Experts are brought in from outside the district to teach needed skills and concepts.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. District teachers and administrators are encouraged to share their knowledge with colleagues.                                | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. The length of most district staff development sessions is one day or less.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. District staff development offerings meet two or more times each.  | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Our staff development is held during contract hours.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Our district provides staff development opportunities during the summer.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

N - Almost NEVER happens in our district  
 O - OCCASIONALLY happens in our district  
 D - DON'T KNOW  
 F - FREQUENTLY happens in our district  
 A - Almost ALWAYS happens in our district

- |  |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 15. Most teachers understand the rationale for the district's staff development.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. The majority of teachers in our district participate yearly in staff development activities.                             | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. New teachers are provided with additional training by the district during their first year.                              | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Staff development in technology is a high priority in this district.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. This district provides adequate funding and support (equipment, time, space, etc.) for staff development.                | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. The content of our staff development offerings is of high quality.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. Staff development offerings have high credibility with teachers.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. Strategies learned in district staff development have long-term use.   | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. My teaching has improved as a result of district staff development.  | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. District staff development impacts curriculum planning and development.  | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. Improved assessment of student performance results from district staff development.                                      | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. Teachers are given time to collaborate with and to coach each other on strategies learned in district staff development. | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. Student achievement in my classroom has improved as a result of district staff development.                              | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. District staff development includes follow-up activities.  | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. District staff development is part of a continuous effort to improve teaching and learning.                              | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. This district evaluates staff development based on student outcomes and achievement.                                     | N                        | O                        | D                        | F                        | A                        |
|  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**APPENDIX C**  
**VALIDATION PANEL FOR THE PQAI**

**Instrumentation Validation Process**  
**List of Expert Reviewers**  
**Perceived Quality Assessment Instrument**

Salutation	FName	MI	LName	Jobtitle	Institution	Address1	Address2	City	State	Zip
Dr.	Harold	D.	Prior	Superintendent	Algona Community School District	200 North Phillips		Algona	IA	50511
Dr.	Larry	E.	Frase	Professor	San Diego State University	4949 Westminster Terrace		San Diego	CA	92116
Mr.	Harold	A.	Overman	Superintendent	Spirit Lake Community School District	900 20th St.		Spirit Lake	IA	51360
Dr.	Randy	A.	Flack	Superintendent	Knoxville Community School District	1214 W. Jackson		Knoxville	IA	50138
Dr.	Carolyn	A.	Downey	Professor	San Diego State University	Department of Educational Administration	College of Education	San Diego	CA	92182
Dr.	Virginia	C.	Vertiz	Executive Director	National Curriculum Audit Center	1801 N. Moore St.		Arlington	VA	22209
Dr.	Anton	J.	Netusil	Professor	Iowa State University	Department of Professional Studies	N247 Lagomarcino Hall	Ames	IA	50011
Dr.	James	A.	Booth	Professor	Xavier University	Department of Educational Administration	Victory Parkway	Cincinnati	OH	45207
Dr.	Frank	W.	Markus	Professor	Memphis State University	Department of Educational Administration		Memphis	TN	38152
Dr.	Thomas	C.	Valesky	Professor	University of South Florida	Department of Educational Administration	4202 Fowler Avenue	Tampa	FL	33620
Dr.	Jerry	W.	Chase	Professor	Iowa State University	Department of Construction Engineering	478 Town Engineering	Ames	IA	50011
Dr.	Ronald	J.	Santi	Director of Business Affairs	Iowa State University	General Services Building		Ames	IA	50011
Dr.	Jan		Sweeney	Associate Director	Iowa State University	Research Institute for Studies in Education	E001 Lagomarcino Hall	Ames	IA	50011



**Instrument Evaluation**  
*School System Perceived Quality Assessment Instrument*  
**Quality Assessment Project**  
**Department of Professional Studies**  
**Iowa State University**

**Evaluator:** «Salutation» «FName» «MI» «LName»

**Date Completed:**

1. The *School System Perceived Quality Assessment Instrument* appears to accurately reflect the Baldrige Award criteria.

/ Strongly Agree / Agree / Not Sure / Disagree / Strongly Disagree

*Comments:*

**Strongly Agree: 3   Agree: 5   Not Sure: 1   Disagree:   Strongly Disagree**

2. The instrument's statements comprise generally valid indicators of the Baldrige Award criteria for use and application in an educational setting.

/ Strongly Agree / Agree / Not Sure / Disagree / Strongly Disagree

*Comments:*

**Strongly Agree: 1   Agree: 6   Not Sure: 2   Disagree:   Strongly Disagree**

3. The instrument is complete in terms of adequacy of coverage and completeness of the Baldrige Award sections and item criteria.

/ Strongly Agree / Agree / Not Sure / Disagree / Strongly Disagree

*Comments:*

**Strongly Agree: 2   Agree: 4   Not Sure: 2   Disagree: 1   Strongly Disagree**

4. Please note any suggestions for improvement, modification, or change (optional):

Looks good as is  
Instrument very well done  
Internal clients not given enough focus  
No suggestions for improvement  
Add item related to "just in time"  
I like it as is  
No suggestions  
Comments relating to individual items (7 each)  
Consider reducing items to one idea only  
No suggestions

**APPENDIX D**  
**VALIDATION PANEL FOR THE DSDQ**

## VALIDATION PANEL FOR THE DSDQ

<u>Name</u>	<u>Position/Title</u>	<u>Location</u>
1. Dr. Jamie Ferrare	Assistant Executive Director School Administrators of Iowa	West Des Moines, IA
2. Ms. Troyce Fisher	Educational Services Director Northern Trails Area Education Agency	Clear Lake, IA
3. Dr. Kay Forsythe	Staff Development Consultant Northern Trails Area Education Agency	Clear Lake, IA
4. Ms. Bette Frazier	Staff Development Coordinator Mississippi Bend Area Education Agency	Bettendorf, IA
5. Dr. Linda Munger	Educational Consultant	Urbandale, IA
6. Dr. Sue Palmer	Staff Development Consultant Southern Prairie Area Education Agency	Ottumwa, IA
7. Mr. Edward Redalen	Educational Services Director Area Education Agency 7	Cedar Falls, IA
8. Dr. Pam Robbins	Educational Consultant	Napa, CA
9. Dr. Jim Sheib	Staff Development Director Grant Wood Area Education Agency	Cedar Rapids, IA
10. Dr. Kurt Van Gilder	Staff Development Director Heartland Area Education Agency	Johnston, IA

### Comments/suggestions from validation panel

- How do you know if staff development is successful?
- Does district provide summer staff development?
- Ask about incentives/motivation.
- Does staff development link with curriculum and assessment initiatives?
- Use the word "opportunities" rather than classes.
- Add to cover page, "Your input will assist us in learning more about how to design, develop, and deliver staff development opportunities for teachers."
- Define staff development. "In this survey, staff development refers to . . .
- Maybe you need to write a definition at the beginning of what you mean by staff development.
- Ask if staff development courses include follow-up activities.
- #3 - Clarify K-12 teachers.
- #4 - Use "make decisions" instead of "help determine."
- #5 - Add "There is opportunity for..."
- #7 - Add "building-level committees"
- #10 - Specify which district staff members.
- #13 - Change "regular work day" to "during contract hours."
- #17 - Change to "with additional training."
- #26 - Add "on strategies learned in district staff development."
- #28 - What about follow-up sessions after training?
- Ask about making technology staff development a priority.
- Ask how often the training meets high standards of teacher training.
- Ask if they felt they had meaningful input into the staff development priorities for the district; for their school.
- Ask if instructors had credibility with the district.
- Ask if offerings would likely have long term use or be short term "trains coming down the track."
- Ask how often they do things differently in their classroom after SD training.
- "Most teachers understand why we're doing the staff development we're doing" -idea v. we just march in and endure.
- I was pleased to see your question on coaching.

**APPENDIX E**  
**HUMAN SUBJECTS APPROVAL FORM**

Last Name of Principal Investigator Johnson

## Checklist for Attachments and Time Schedule

The following are attached (please check):

12. ☒ Letter or written statement to subjects indicating clearly:

- a) purpose of the research
- b) the use of any identifier codes (names, #'s), how they will be used, and when they will be removed (see Item 17)
- c) an estimate of time needed for participation in the research and the place
- d) if applicable, location of the research activity
- e) how you will ensure confidentiality
- f) in a longitudinal study, note when and how you will contact subjects later
- g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. ☐ Consent form (if applicable)14. ☐ Letter of approval for research from cooperating organizations or institutions (if applicable)15. ☒ Data-gathering instruments

16. Anticipated dates for contact with subjects:

First Contact

Last Contact

Feb 1 1994NA

Month / Day / Year

Month / Day / Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

NA

Month / Day / Year

18. Signature of Departmental Executive Officer

Date

Department or Administrative Unit

*Norman L. Hughes* *1/19/94*

19. Decision of the University Human Subjects Review Committee:

☒ Project Approved☐ Project Not Approved☐ No Action RequiredPatricia M. Keith

Name of Committee Chairperson

2-1-94

Date

*DMIC/ML*

Signature of Committee Chairperson

**APPENDIX F**  
**COVER LETTERS FOR SURVEYS**

# IOWA STATE UNIVERSITY

## OF SCIENCE AND TECHNOLOGY

COLLEGE OF EDUCATION  
Department of Professional Studies  
N225 Lagomarcino Hall  
Ames, Iowa 50011-3190  
(515) 294-4375  
Fax (515) 294-4942

January 31, 1994

Superintendent

Dear :

First, please accept our sincere thanks for your willingness to participate in the Quality Assessment Project being conducted by a team of doctoral students at Iowa State University. Pam Johnson, participant in the research project, has been in touch with you and indicates that you have agreed to be one of the 44 superintendents in Iowa who will help us in our quest to learn more about the implementation of quality principles in school district management.

As you know, any innovation in education merits close scrutiny and evaluation to determine its worth. So it is with the quality movement. We are hopeful that your participation in this significant study will make a substantive contribution to our understanding of quality principles in school administration. Your assistance is crucial to the success of this project.

Shortly after February 18, 1994, you will receive from your liaison (Pam Johnson) a set of questionnaires for distribution to your staff. In the table below is a list of the instruments, an estimate of the time it will take to respond to each, and the people who will need to complete them. Please note that all respondents and school district names will be scrupulously kept anonymous and confidential.

Instrument:	Time Reqd	To be completed by:
<i>Perceived Quality Assessment Instrument</i>	20 min	Board, superintendent, 2 administrators, 5 teachers, 3 support personnel, student body president and vice president
<i>Questionnaire on Superintendent Compensation</i>	10 min	Board and superintendent
<i>School Board Perceptions on Governance</i>	20 min	Board and superintendent
<i>Strategic Planning Assessment</i>	10 min	10 staff members selected at random by Board Secretary
<i>Staff Development Questionnaire</i>	15 min	6 staff members selected at random by Board Secretary
<i>Facilities Rating Scale</i>	10 min	Superintendent and Principals

This is a formidable task, but we feel that the results will be worth the effort. Of course, you will receive a copy of the final results from each of the studies when they are completed. Please plan to receive the instruments in a couple of weeks. If you have any questions, please give me or Pam Johnson a call. Again, many thanks for your assistance and your support of this very important research effort.

Sincerely,



William K. Poston Jr.  
Associate Professor  
Quality Assessment Project

PC: Pam Johnson



Pam Johnson  
1103 Woodland Park Drive  
West Des Moines, Iowa 50266

November 2, 1994

Dear :

Thank you for your help in the distribution of the following survey to **six** of your district's teachers. It would be helpful if these teachers could come from different grade levels, representing elementary, middle level, and senior high. For the sake of anonymity, I would appreciate it if you would ask your Board Secretary to select the respondents.

The purpose of this survey is to explore the relationships between indicators of quality in school districts and the staff development programs offered. Participation is entirely voluntary and will remain strictly confidential. Completion of the survey will be the indication of consent to participate. Identification of individual respondents will not be possible.

Completing the survey should take no longer than 10 to 15 minutes. After completing it, the respondents should fold the booklet in thirds, place it in the enclosed envelope, and drop it in the U.S. Mail. If you have any questions about this research or the instrument itself, please call one of the numbers below.

Thank you for your cooperation and assistance!

Sincerely,

Pam Johnson  
Doctoral Candidate  
(515) 225-2581

William K. Poston, Jr. Ph.D.  
Associate Professor  
(515) 294-5968