SECTION 1

PERFORMANCE IMPROVEMENT AND THE PERFORMANCE IMPROVEMENT/HPT MODEL

"MAYBE I DON'T WANT TO FETCH A PAIL OF WATER."

Overview of Performance Improvement

1

> "America is a nation where creative approaches yield real solutions to our problems. . . . It's clear to me that performance technology is just such an approach."
>
> *President George Bush*[1]

Society, work, and the workplace have changed dramatically. As the Industrial Era emerged from agriculture and craft orientation, people began working in large groups and living in large communities. Gone were the isolation and independence of farming or as craftspersons in small towns supported by and supporting agriculture. Industry brought large-scale machinery operated by large workforces. The industrial workplace emphasized work design and quality.

With the Information Era, the workplace began to focus on information and the people who add value to information. Just as industrial machinery was automated to improve its functionality, much has been done to automate information through software, hardware, and internet innovation. The Information Era brought increasing recognition of the value of people as integrators and users of information. Leaders of progressive organizations successfully envision and promote people and people issues. Although there is considerable emphasis on information, there is an ongoing need for manufacturing, medicine, service, military, government, and many other organizations. There remains more need to coordinate and collaborate because there is great interdependence.

Performance Improvement: Precursors

Performance improvement as a field of study has gradually evolved as the world has evolved. Craftsmanship established standards; work design improved efficiency; quality focused on customer expectations; the ever-widening distribution of information enabled a global economy, and the people became more valuable to their organizations.

Craftsmen and Artisans

Through much of recent history, agriculture provided sufficient productivity to support artisans and craftspeople and to request their services. Architectural masterpieces, such as religious

edifices, jewelry, household goods, and so forth were made according to expectations and often based on scientific standards.

Work Design

Work, work processes, and job design took on great importance as people began working together in factories. Efficiency was the goal. The ability to coordinate and control hundreds of employees in one location led to product dominance and business success. Frederick Taylor was a leader in scientific management, also known as *Taylorism*, based on time and motion studies.[2] For example, many small companies could build automobiles, but only Henry Ford, with his assembly line and upgraded labor pay scale, could create vehicles that were affordable by the common man. Maximizing the capability of a larger workforce was a significant competitive advantage.

Quality

As time went on, the ability to coordinate and control workers was not enough. Competitive advantage now moved to the quality of the product. Value was measured by the ability to provide customers with timely, innovative, defect-free, and cost reasonable merchandise. The quality movement flourished and helped unify work practices globally. An American, W. Edwards Deming, over thirty years, helped Japan improve their product quality, spearheading efforts to produce items with little variation and extraordinary reliability.[3]

Information

Optimizing information became the next competitive edge. Data became readily available for analysis, problem solving, and decision making. Software was written to integrate work, thereby increasing accuracy, reducing time and cost, and extending predictions and planning. For example, Thomas Watson at IBM envisioned the value of computers and helped incorporate them universally in organizations. Bill Gates enabled information to be readily available and usable throughout the world.[4]

Peter Drucker discussed the origin of the information age:

> "Whether this transformation began with the emergence of the first non-Western country, Japan, as a great economic power or with the first computer—that is, with information—is moot. My own candidate would be the GI Bill of Rights, which gave every American soldier returning from World War II the money to attend a university, something that would have made absolutely no sense only thirty years earlier at the end of World War I. The GI Bill of Rights and the enthusiastic response to it on the part of America's veterans signaled the shift to a knowledge society."[5]

People

Over the years, truly great organizations have realized the value of people and worked to maximize their potential.[6] All the efficient machinery operation, quality control, and information access in the world does not make an organization outstanding. People, with their skills, knowledge, motivation, values, and dreams, make organizations thrive and prosper. For instance, Jack

Welsh, CEO of GE, harnessed the value of people to make a world renowned, competitive, innovative, energized organization.[7]

Just as work design, quality, and information require continuous commitment to achieving maximum competitiveness, people-related performance issues need unwavering attention as well. Thomas Gilbert, the founder of performance technology,[8] described people's behavior in terms of "worthy" or worthwhile performance. In his Behavior Engineering Model, which focused on environmental support and employees' repertory of behavior,[9] he established the framework for performance improvement outcomes and performance technology.

Performance Improvement: Definition and Scope

Performance improvement (PI), also known as performance technology (PT), human performance technology (HPT), or human performance improvement (HPI), is the science and art of improving people, process, performance, organizations, and ultimately society. Sanders and Ruggles[10] use the analogy of alphabet soup and make the case that there are not too many letters in the performance improvement soup. Each letter, expert contributor, or discipline adds flavor or nutritional value to the performance improvement soup pot. (See Tables 1.1, 1.2, and 1.3 later in this chapter.)

PI, PT, HPT, and HPI are different in nuance; however, they are often used interchangeably. *Human* performance technology (HPT) and *human* performance improvement (HPI) imply a focus on improving people/worker performance; performance *technology* (PT) implies a focus on using a set of methods and procedures to improve the work, worker, workplace, and/or world. However, no matter what it is called, performance improvement is a systemic process that links organizational and business goals and strategies with the workforce responsible for achieving the goals.

Performance improvement is a science and an art. It is a science because analytical processes and methods are the bases for selecting and implementing solutions, known as performance improvement interventions. It is also an art because it requires intuition and creativity due to the interconnectedness and complexity or performance challenges, including issues of people with all of their values, emotions, idiosyncrasies, and variability.

PI, HPI, PT, and HPT practitioners use a common methodology to understand, inspire, and improve people; they systematically analyze performance problems and their underlying causes and describe exemplary performance and success indicators. Practitioners also select, design, develop, implement, and maintain performance improvement interventions to alleviate problems or take advantage of opportunities.

Human performance technology by any name has two major drivers: evaluation and change:

> "Largely, HPT is evaluation—and change-driven. At each stage of the performance improvement process, activities and outputs are evaluated and focus on the ultimate target of organizational results. Solving problems, improving organizations, and actualizing opportunities by their very nature mean change."[11]

PI, PT, HPI, and HPT all use widely accepted, common practices, including quantitative and qualitative analytical methods for evaluation and decision making.[12] Practitioners should evaluate inputs, processes, and outputs throughout the performance improvement cycle and remain focused on change management throughout the life of the intervention. (See the Performance Improvement/HPT Model in Chapter 2.)

Performance Improvement: Key Terms

The most important performance improvement terms are those used to accomplish performance improvement and successful outcomes. Rosenberg[13] suggests three key terms: performance improvement, performance consulting, and performance technology. We have added a fourth term—*performance improvement interventions*.

Performance Improvement

Performance improvement or human performance improvement is both the process of making performance better and the actual positive result of the performance improvement process. Performance improvement is the outcome. Performance improvement is measured by success indicators and comparison of current or baseline situations to desired outcomes looking for the gap or movement toward the desired or ideal situation as a result of the effort.

Performance Consultant

The performance consultant is the practitioner who actually leads and conducts the improvement effort. Performance consultants apply the principles, processes, tools, and techniques of performance improvement. In this book, the words performance improvement or performance technology practitioner or performance consultant will be used interchangeably.

Performance Technology

Performance technology or human performance technology is the process, tools, and techniques used to accomplish the improvement. The Performance Improvement/HPT Model illustrates the phases and steps in the improvement process. Professionals with substantial experience often refer to this as "HPT." HPT may be used in this book as a synonym for performance improvement.

Performance Improvement Interventions

Performance improvement interventions are the processes, methods, and/or plans selected, designed, developed, and implemented to improve performance, after performance analysis is completed. Interventions are also known as solutions. Because every workplace or situation is unique, the range of possible interventions that can be used for performance improvement is infinite. This book discusses more than one hundred potential interventions and contains an intervention selection tool, but there are many more. Just as society, organizations, and workplaces are ever changing, so new interventions are developed and used to optimize the changed dynamics.

Performance Improvement: Key Concepts

There are also important concepts or beliefs associated with improvement efforts and improvement principles. Performance improvement is eclectic and comprehensive; it draws from many related fields, such as organization development, business, psychology, communications, industrial engineering, analysis, evaluation, problem solving, engineering, and many more. The following pages discuss some of the key concepts that have been influenced by other fields.

People-Oriented

Performance improvement or human performance technology is *people-oriented* and, as a result, practitioners typically share a set of common beliefs:

- People are important;
- Appropriate performance improvement solutions are beneficial for the present situation and are also future-oriented;
- Approaches to analysis, design and development, implementation and maintenance, and evaluation need to be multidimensional; and
- Performance improvement professionals work in a manner that is team-oriented and interdependent.

Performance improvement professionals are committed to people—their capabilities and their potential. People are part of the core energy of organizations. Equipment and financial reserves are important, but people are the heart and soul of organizations. People purchase, operate, and maintain the equipment; budget, account for, and report the financial status; plan, engineer, design, and implement. People are behind everything that happens.

Clearly, the trend toward valuing people and knowledge requires a paradigm shift. PI provides such a methodology. PI can be sustained because people and their knowledge truly are the organization's most valuable resources. While performance improvement also involves work, workplace, and world, interventions are selected, planned, developed, implemented, and maintained by people and people drive the change that makes performance improvement happen.

Positive and Future-Oriented

Performance improvement professionals have a positive outlook and are oriented to the future. They believe it is possible to improve situations and design solutions that are beneficial for people, no matter how complex the problem, how great the hurdle to overcome, or how discouraging the current situation is. They believe the solutions should be sustainable over time.

Multidimensional Approaches

Performance improvement professionals are committed to adopting comprehensive interventions or solutions that include or alleviate many of the major factors identified in cause analysis. Rather than rushing in with interventions based on gap analysis or the difference between what

is desired and what is currently present, practitioners first consider causes. Reducing performance gaps prior to determining causes often provides only temporary relief, but eliminating causes can fix real problems. Performance resolutions without considering causes are like band aids. Fixing problems based on causes are like curing the disease.

Commitment

Equally important to solving problems is gaining commitment from senior management and other stakeholders or champions to support and sustain the interventions. Performance improvement practitioners help gain commitment by conducting feasibility studies, establishing sustainable frameworks so that the improvements are lasting, and developing business cases that provide a strong rationale for improvement. Through partnering, networking, communication, and alliance building, performance improvement practitioners systematically implement effective and value added interventions based on strategic planning and results-oriented feedback.

Team-Oriented

Performance improvement professionals accomplish performance improvement and change through groups or teams. Sustaining improvement requires senior management to articulate organizational needs, support analysis, and sponsor interventions and follow-up evaluation. Comprehensive intervention designs usually contain many specialized factors, such as work environment, motivation, and skill development. Specialists in areas such as production processes, client services, staff selection, or job design need to work together with human performance technologists to craft communication plans, intervention timelines, and follow-up strategies so that desired changes are accomplished and sustained.

Sports Analogy. The sports arena provides an appropriate analogy to performance improvement. Most sports teams have a long tradition of strategically selecting players and planning competitive plays. Football players, for example, study the strengths and weaknesses of opponents and practice their assignments accordingly. Coaches motivate players to win by giving feedback and encouraging team playing. As Casey Stengel, the legendary manager of baseball's New York Yankees, often remarked, "Finding good players is easy; getting them to play together is the hardest part."[14]

Business Analogy. Businesses and other organizations, like sports teams, need to recognize the strengths, weaknesses, and interdependencies of their workforce to ensure that workers "play together" effectively in support of business objectives. Today's knowledge era organizations are creating team cultures that are dependent on contributions by all team members. Fisher and Fisher predict that most future work will be mental and team based.[15] Individuals will bring their specialized knowledge and skills to teams. Teams will often be virtual, and their membership will be constantly shifting as team members accomplish their tasks and move on to another assignment. Team members may never physically meet their co-workers.

In this knowledge era, organizations need to value and reward the sharing of information. Intensely competitive or territorial organizations, in which personnel tend to hoard all information, will achieve less success than those companies in which top management encourages an open, cooperative workplace.[16] Organizations need to encourage information exchange and ensure that employees do not lose power when they share knowledge.

Not Just a Bandwagon

People are the most important resource for the knowledge era; people are the fundamental determinants of economic growth and productivity.[17] But performance improvement is a relatively new and dynamic approach for putting this concept into practice. Human resources and training and development survey results indicate that more and more senior managers are committed to people as their most important resource.[18]

However, there is skepticism regarding people issues in the business sector. Frequently, people-oriented initiatives are viewed as passing bandwagons. They are colorfully and convincingly presented to workers and enthusiastically supported by senior management. Then they are hastily replaced by a different bandwagon initiative when workplace improvements are not quickly achieved. Performance improvement is a systemic, comprehensive, systematic, and analytical approach. It links many factors together to generate solutions and is well-suited for the people-oriented, team-based, knowledge era. Will PI become a passing bandwagon, like the bandwagons that came to town and left with the circus? Can PI maintain its enthusiastic supporters? Does PI stand up to application in the workplace?

Performance Improvement: Foundations

Performance improvement is a comprehensive approach. It assimilates and integrates ideas and theories from many disciplines. Table 1.1 illustrates the disciplines that are most influential to performance improvement and performance technology.

Performance Improvement: Leading Contributors

Many experts have shaped the field of performance improvement and performance technology. Although each expert focused and refined a particular knowledge area, PI practitioners need to integrate their contributions in order to provide a background to the field. Performance improvement applies the knowledge and models of many experts by fitting their ideas, as subsets, into the Performance Improvement /HPT Model. Although Table 1.2 is extensive, it is only a selected list of the contributions of experts.

Table 1.1 and Table 1.2 illustrate the origins of performance improvement by describing the complexity and comprehensiveness of the theory base and the major contributors. In addition to the individuals mentioned in this chapter, many, many other men and women have made significant contributions to our field of performance improvement. While it is not possible to list them

TABLE 1.1. Theoretical Foundations of Performance Improvement

Discipline	*Focus*	*Contribution*
Behaviorism	Predicting behavior	Small steps of instruction and feedback
		Learn to manipulate and control the environment by the individual's responses to it
Diagnostic and Analytical Systems	Data as basis for understanding behavior	Practitioners use comprehensive analytical tools
		Diagnosis is based on gap (difference between desired and actual situation)
		Causes of situation are defined before intervention is selected and implemented
Instructional Systems Design and Organizational Learning	ADDIE (analysis, design, development, implementation, and evaluation) model, forerunner of the Performance Improvement/HPT Model	Developed in 1940s and 1950s, responding to need to train thousands of military personnel during World War II
		Various instructional methods were found to be valuable, such as role play, video, case study, and lecture
Organization Design (OD) and Change Management	Changing performance at organizational and individual levels	OD interventions improve culture, group dynamics, and structure of organization
		Change management helps individuals and groups adapt to change through timely information, appropriate resources, and strategies to minimize resistance and turmoil that accompanies change
		Theoretical basis includes systems dynamics, human motivation, group and team dynamics, competency modeling, organizational learning systems, and feedback systems
Evaluation	Determining value and impact of interventions	Produces credibility that practitioners need
		Real costs against real savings attained by organization, return on investment (ROI)
Management Sciences	Dividing "thinkers" and "doers" and analyzing and describing jobs and tasks	Theories led to standardized production system, such as Henry Ford's assembly line
		Emphasis evolved to physical and psychological issues, such as motivation, job satisfaction, professional growth, and empowerment

Source: Adapted from Sanders and Ruggles, 2000, pp, 27–36. Used with permission.

here, the reader is encouraged to check the authors who appear in editions 1 through 3 of the *Handbook of Human Performance Technology*[19] as well as the authors who appear in Volumes 1 through 3 of the *Handbook of Improving Performance in the Workplace*.[20] The stellar work of those people has collectively advanced our field and forever changed our performance landscape.

Performance Improvement: Prominent Early Leaders

Current efforts in performance improvement were built upon the work of those who have paved the way and gone before us. They have raised the questions, done the research, applied their

TABLE 1.2. Leading Contributors to Performance Improvement and Performance Technology

Leader	*Field*	*Focus*	*Contribution*
Chris Argyris	Action Science	Reflection and inquiry on the reasoning that underlies people's actions	Developed concepts of learning organization, double loop learning, and feedback systems "Coined the term *skilled incompetence* to explain how defensive behavior and the fear of collective inquiry by management may protect us from threat or embarrassment but also may block learning" (p. 31) Pioneered team building with upper management
Benjamin Bloom	Educational Technology	Hierarchical taxonomy of intellectual or cognitive objectives based on what learners are supposed to do	Vary instruction according to learning requirements and difficulty of cognitive domain level Revealed that instructional efforts were largely aimed at the bottom levels of the cognitive hierarchy
W. Edwards Deming	Total Quality Management (TQM)	Emphasized quality rather than production targets	"14 points" model of quality Statistician who helped turn around Japanese economy after World War II
Peter Drucker	Management Sciences	Businesses are human centers as well as economic centers; work must have social meaning Coined phrase "Self-governing plant community," proposing that many managerial responsibilities should be undertaken by individual employees or work teams	Developed concepts of decentralized large organizations, management by objectives, and role of the knowledge worker
Robert Gagne'	Instructional Systems Design	Task analysis and sequencing tasks	Created Information Processing Model and Nine Events of Instruction "Learners need to receive feedback on individualized tasks in order to correct isolated problems" (p. 32) HPT needs to deal with multiple rather than serial objectives Five types of learning: (1) Psychomotor skills; (2) Verbal information; (3) Intellectual skills; (4) Cognitive strategies; and (5) Attitudes
Thomas Gilbert	Behavioral Engineering	Founded the field of Human Performance Technology	Behavioral Engineering Model focuses on changing work environment aspects such as information resources, incentives, knowledge, capacity, and motives to improve performance "Absence of performance support (not skills and knowledge) is the greatest block to exemplary work performance" (p. 32)
Joe Harless	Front End Analysis	Diagnose problems early because problem cause often dictates solution	Coined phrase "front end analysis" to describe the rigorous diagnostic framework applied prior to addressing solutions HPI tools can reduce training expense considerably (p. 33)

(*Continued*)

TABLE 1.2. (Continued)

Leader	*Field*	*Focus*	*Contribution*
Roger Kaufman	Strategic Planning	Addresses mega (societal), macro (organizational), and micro (individual) levels	Emphasized that performance improvement work impacts society and should impact society and that performance improvement should be planned astutely.
Donald Kirkpatrick	Evaluation	Four levels of evaluation criteria (reaction, learning, behavior, and results)	Clarified role of evaluation relative to performance improvement and training
Malcolm Knowles	Andragogy	Adult learning needs to be lifelong and ideally should involve learning contracts	Adults need to (1) Self-direct their own learning; (2) Know the purpose of what they are learning; (3) Apply their relevant experiences to learning; and (4) Apply a problem-solving approach
Kurt Lewin	Force Field Analysis	Force field assesses human behavior in terms of opposing forces (driving and restraining) that motivate action	Performance improvement occurs when restraining forces are reduced Participative management linked Taylor's scientific thinking with democratic values Three-stage organizational change: (1) Unfreezing old behavior; (2) Moving to new level of behavior; (3) Refreezing new behavior
Robert Mager	Instructional Objectives	Instructional objectives should describe what learners will be able to do and represent improved performance	Described objectives to accomplish desired instructional results using a branching format of programmed instruction. Created performance analysis flowchart with Peter Pipe
Douglas McGregor	Theory X and Theory Y	X management style is repressive, authoritarian, fearful Y management style is optimistic, creative, and interdependent	Metaphors for master and servant polarity Pioneered industrial relations
Susan Markle	Programmed Instruction	Developed concept of programmed instruction following experiments with Skinner's teaching machine	Three types of learning necessary for programmed instruction: discriminations, generalizations, and chains Programmed Learning Model combines operant conditioning, cognitive learning, with information gathering (developed with Phillip Tiemann)
Geary Rummler	Three Levels of Organizational Performance	Organizational, Process, and Individual Job or Performer	Emphasized the importance of improved organizational processes, which he called the "white space"
Peter Senge	Learning Organization	Five critical practices for creating a learning organization: (1) Personal Mastery; (2) Mental Models; (3) Shared Vision; (4) Team Learning; and (5) Systems Thinking	Pioneered systems oriented approach to achieving high performance
B.F. Skinner	Behaviorism	Small step instruction, followed by extensive feedback, enhances learning	Behavioral theories fundamental to performance improvement and instructional design. Invented linear programming methodology
Frederick Taylor	Scientific Management	Integration of methods, policies, planning, and people	Scientific management principles include: authority based on knowledge instead of position; the first wage incentive system; breaking down tasks into smaller components; creation of a productivity expert Laid the foundation for the modern assembly line

TABLE 1.2. (Continued)

Leader	*Field*	*Focus*	*Contribution*
Sivasaliam (Thiagi) Thiagarajan	Games and Playfulness	Integrated playfulness, person-to-person interaction, and experiential learning	Elevated serious play, games, and fun as performance interventions
Donald Tosti	Feedback	Critical characteristics of feedback are tied to who gives it, the content, where and when it is given	Specialized in applying human performance technology and performance improvement to organizational change culture
Marvin Weisbord	Six Boxes	Organizational diagnostic framework composed of six critical areas: purpose, structure, leadership, relationships, rewards, helpful mechanisms	Widely used in organization development

Source: Adapted from Sanders and Ruggles, 2000, pp. 27–36. Used with permission.

knowledge, evaluated, and revised their thinking again and again. They have challenged each other, learned from each other, and taught our field their lessons learned.[21] Today, our great thinkers and our many practitioners are refining their thinking and applying their concepts in new ways.

The basis of the field of performance improvement started in early days of the National Society for Programmed Instruction (NSPI), now the International Society for Performance Improvement (ISPI). The first NSPI conference was in San Antonio, Texas, in 1962. Robert Mager provided the first banquet speech. Some of the first to be involved were Gabriel Ofiesh, Robert Mager, Lloyd Homme, Susan Markle, Thomas Gilbert, Don Tosti, Roger Kaufman, Dale Brethower, Jim Evens, Geary Rummler, George Geis, and others.[22] In a personal communication Mager[23] wrote:

> "Many of us joined because of our interest in understanding and implementing this new format of instruction. Over the years the focus shifted away from instructional improvement, to several other areas, and the performance improvement field now has many techniques allowing it to create instruction *only* when it will, in fact, solve the performance problem at hand; and in those relatively rare instances when instruction *is* indicated, to guarantee that the instruction developed will lead students to competence."

Four of the leading early performance improvement experts are highlighted below and in Table 1.3 to provide perspective regarding the science and the art of performance improvement. The experts and their contributions provide examples of the foundations and evolution of performance improvement and human performance technology.

Thomas Gilbert

Gilbert[24] established much of the conceptual framework for performance improvement. He studied behavioral psychology under B.F. Skinner for one year at Harvard University and, as a result, much of Gilbert's work is detailed, creative, and behavioristic.[25]

TABLE 1.3. Early Leaders

Early Leader	*Performance Improvement Aspect*
Thomas Gilbert	Worthy Performance
Geary Rummler	Components of Performance
Roger Kaufman	Societal and Organizational Effectiveness
Robert Mager	Objectives and Analysis

TABLE 1.4. Thomas Gilbert's Behavior Engineering Model

	Information	*Instrumentation*	*Motivation*
Environmental Support	Data	Instruments	Incentives
Repertory of Behavior	Knowledge	Capacity	Motives

Source: Adapted from Gilbert, 1978. Used with permission.

Gilbert identified *worthy performance* as behavior valued for its accomplishment. Worth is determined by dividing value by cost (W = V/C). This was the first conceptualization of return on investment. Gilbert believed it unwise to define change in terms of desired behavior; rather change should be described in terms of performance outcomes or results.

Gilbert created one of the earliest models for performance improvement. "The Behavior Engineering Model (BEM), developed by Gilbert and presented in his landmark book, *Human Competence: Engineering Worthy Performance*,[26] provides us with a way to systematically and systemically identify barriers to individual and organizational performance."[27] According to Gilbert, "The behavioral engineering model serves one purpose only: It helps us to observe behavior in an orderly fashion and to ask the 'obvious' questions (the ones we so often forget to ask) toward the single end of improving human competence."[28] Gilbert describes individual characteristics as repertory of behaviors, meaning the entire stock of individual behaviors resulting from knowledge, motivation, and abilities. (See Table 1.4.)

Gilbert's Behavior Engineering Model (BEM) consists of six basic aspects of human behavior that impact performance improvement: three are related to the environment and three are related to the individual:

- Environmental Supports—data such as production standards, instruments, or equipment—and incentives or rewards provided by the environment; and
- A Person's Repertory of Behavior—knowledge or the know how to perform, capacity or physical and intellectual ability, and motives or willingness to work for the incentives collected and stored by the individual.

Gilbert further identified two attributes of the six basic aspects of the BEM model: cost and impact.

Gilbert asserted that data or information has the highest impact and the lowest cost, and resources have the next highest impact and the next lowest cost. Knowledge has the highest cost with the lowest impact. To assess cost versus impact, begin at the left top and go across the top set of cells to the right and then drop to the lower set of cells and go from right to left. Many are surprised to realize that training and acquiring knowledge can be the most costly solution and the one with the least impact.

The BEM has been applied as a cause analysis model, helping to identify what causes the gap or problem or a description of what needs to be improved[29] and represents cause analysis in the Performance Improvement/HPT Model. Chapter 8 has more information on Gilbert's Behavior Engineering Model.

Geary Rummler

It is difficult to overestimate the impact of Rummler's work on performance improvement. "[Rummler's] work fundamentally changed our work, our way of thinking, and the way we behave as professionals."[30]

Rummler[31] defined the five components of performance systems. His work helped performance improvement practitioners view the components of individual performance as much more than behavior and outcomes. Rummler stressed the interrelationship of employees, the organization, and many other factors, believing an organization is only as good as its processes. He stated that performance systems have five components:

1. *Job situation*—the occasion of the performance
2. *Performer*—the worker
3. *Response*—the action or decision that occurs
4. *Consequence*—a reward, punishment, or non-existent consequences
5. *Feedback*—information about whether the response was adequate or inadequate

Later, Rummler and Brache[32] described the accumulative, collective impact of performance variables based on *Level:* Organization, Process, or Job/Performer and *Performance Needs:* Goals, Design, and Management. They emphasized the importance of managing the interrelationships between departments and processes; what they called the *white space on the organizational chart*. They stressed that it is critical to create harmony and reduce tension in order to create departments that are "centers of excellence."[33]

The white space is often the area of greatest potential for improvement or the greatest area for problems because it is the area between functions and it is a challenge to determine responsibility. That is why cross-functional teams have potential for resolving organizational challenges.[34]

Rummler also made a major contribution when he described the relationships between aspects of performance[35] Figure 1.1 illustrates the impacts and interconnections between performance variables associated with individuals, processes, organizations, and societies. The three acronyms

TABLE 1.5. Rummler's Nine Performance Variables Matrix

	Goals and Measures	*Organizational Design and Implementation*	*Organizational Management*
Organizational Level	Organizational goals and measures of organizational success	Organizational design and implementation	Organizational management
Process Level	Process goals and measures of process success	Process design and implementation	Process management
Activity or Performance Level	Activity goals and measures of activity success	Activity design and implementation	Activity management

Source: Rummler and Brache, 1995. Used with permission.

in the model apply to critical issues that impact every performance improvement project: critical business issues (CBI), critical process issues (CPI), and critical job issues (CJI).

Roger Kaufman

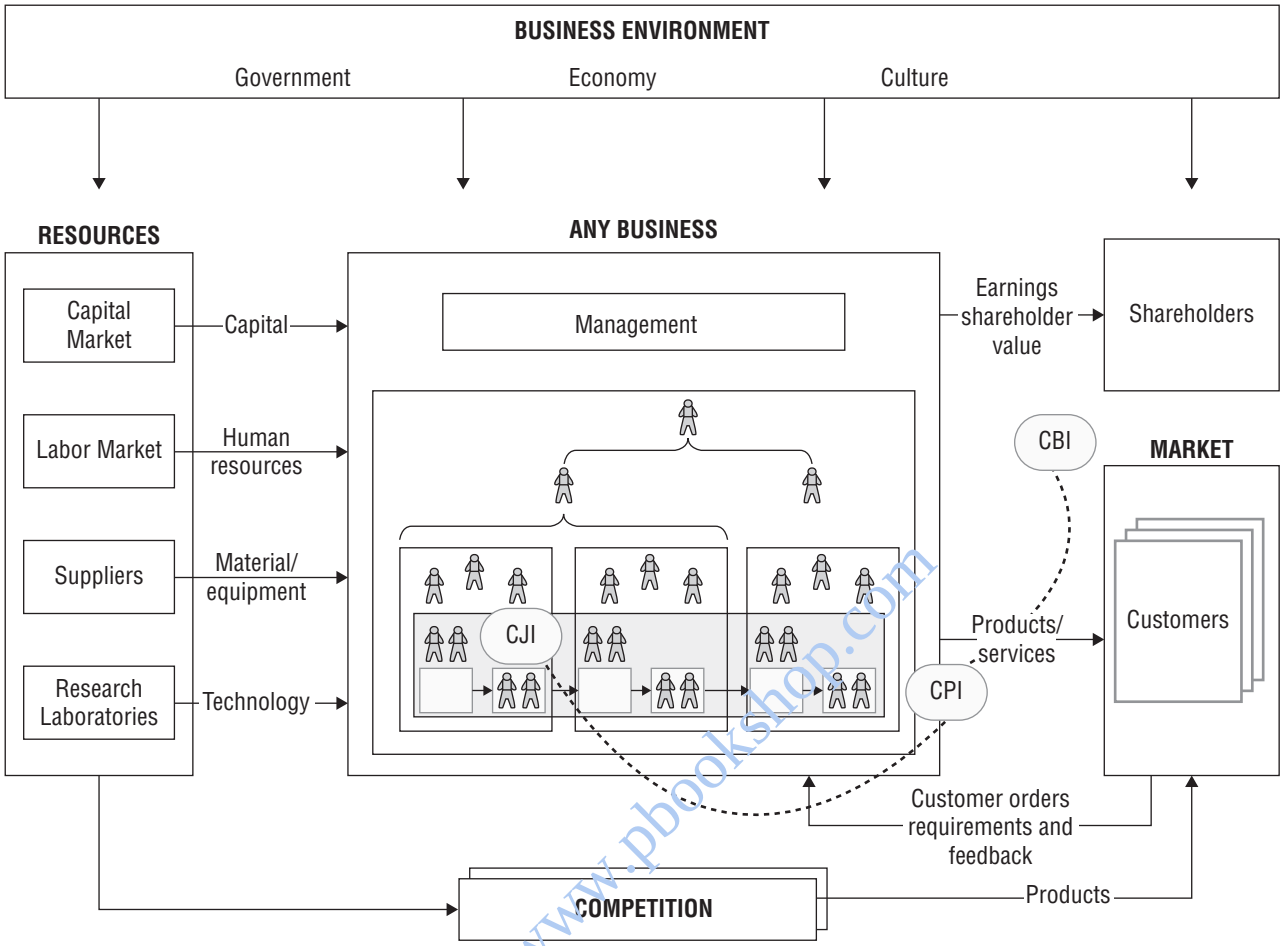
Roger Kaufman sounded a clarion call for a very long time, urging performance improvement practitioners to also impact society. It is not sufficient to improve the worker, the workplace, and the organization. We must also improve society; it is our ethical social responsibility.[36] As those around Roger have heard for many years, "If we are not contributing to society, we are taking away from it." At this point, his message of "mega' has been accepted by many; it connects, particularly with those committed to earth's sustainability and eliminating the world's challenges.[37]

Kaufman developed the Organizational Elements Model (OEM) to provide a practical framework for planning, assessing needs, and evaluating. The model enables performance improvement practitioners to think through how their improvement projects impact society as well as the more traditional impacts on the organization, processes, products, and inputs.[38] (Too often, a proposed project will resolve an immediate dilemma, but it will actually be harmful in the long run.)

For example, a manager may come to a training department asking for a listening course because employees are just not "getting it" when he tells them what to do. Actually, the manager may need coaching and feedback in supervision and management. If we agree to provide training in listening, we are using people and monetary resources for the training, even though we may suspect that very little will be accomplished. In fact, a negative consequence may be that the manager says "bad things" about the training department's inability to meet expectations. Kaufman's OEM (Table 1.6) illustrates that, when we focus on processes and inputs, we are conducting "quasi needs assessments." When we focus on products, outputs, and outcomes, we are looking at the value adds.

Kaufman is also committed to a high level of expectations and attainment for mega thinking and planning. He developed a table listing examples of planning elements and type of result for each level. (See Table 1.7.)

FIGURE 1.1. Anatomy of Performance



Source: Brethower, 2009, p. 21. Used with permission.

TABLE 1.6. The Organizational Elements, Related Results, and Definitions

Element	*Level of Planning and Focus*	*Brief Description*
Outcomes	Mega	Results and their consequences for external client and society
Outputs	Macro	The results an organization can or does deliver outside of itself
Products	Micro	The building-block results that are produced within the organization
Processes	Process	The ways, means, activities, procedures, and methods used internally.
Inputs	Input	The human, physical, and financial resources an organization can and does use

Source: Moore, Ellsworth, and Kaufman, 2011, 15–24. Used with permission.

TABLE 1.7. Examples for Each of the Organizational Elements

Element	*Example*
Mega	All persons are self-sufficient and self-reliant—not under the care, custody, or control of another person, agency, or substance
	Organizations (including clients and customers) are successful over time
	Eliminated disabling illness due to environmental pollution
	Eliminated disabling fatalities
	Positive quality of life
	No welfare recipients (and thus their consumption is less than their production)
	Zero disabling crime
	Continued profit over time (five years and beyond)
	Created jobs that add value over time
	Clients' success over time (five years and beyond)
	School completer is self-sufficient and self-reliant
Macro	Assembled automobiles
	Goods and /or services sold
	System delivered
	Patient discharged
	High school graduate
Micro	Tire
	Fender
	Production quota met
	Completed carpet production batch
	Completed training manuals
	Competent worker
	Course completed
	Operation completed
	Test or course passed
Processes	Organization development
	Management techniques
	Operating production line
	360-degree feedback
	Training
	Six Sigma
	Curriculum
	Examining a patient
	Strategic (or tactical or operational) planning
	Assessing needs
	Course development

TABLE 1.7. (Continued)

Element	*Example*
Inputs	Money
	People
	Equipment
	Facilities
	Existing goals
	Existing policies
	Time
	Resources
	Individual values
	Laws
	Current economic conditions
	Regulations
	History
	Organizational culture
	Current problems
	Existing materials
	Current staff and their skills, knowledge, attitudes, and abilities
	Characteristics of current and potential clients
	Predicted client desires and requirements

Source: Adapted from Kaufman, 2011, pp. 24–25. Used with permission.

Robert Mager

Robert Mager played an important role in the methods for the instruction and performance improvement. He provided the concept of objectives as a consistent framework for describing desired outcomes. Objectives are statements that are precise and clear descriptions of *performance* or what the learner or worker is to be able to do; *conditions* or important circumstances under which the performance is expected to occur; and *criterion* or the quality or level of performance that will be considered acceptable. Mager helped human performance technologists define desired performance using common terminology. For example:

> "Given a DC motor of ten horsepower or less that contains a single malfunction, and given a kit of tools and references, be able to repair the motor. The motor must be repaired within forty-five minutes and must operate to within 5 percent of factory specifications."[39]

Mager wrote *Preparing Instructional Objectives* in the branching format of programmed instruction, invented and developed by Norman Crowder. The book explains the importance of clarifying

intended outcomes before attempting to design instruction that can be guaranteed to accomplish those outcomes.

In *Analyzing Performance Problems*, Mager covers the steps in solving a problem, from identifying the gap to selecting and implementing a solution. The reader often discovers why training and education of any sort may not be relevant to solving the problem. This revelation alone has been worth many thousands of dollars in savings to its users.[40]

Mager and Pipe developed a flow diagram (Figure 1.2) designed to take the "mystery" out of performance problems. Their system was designed to:

- "Identify the causes of the problems.
- Decide which problems are worth solving
- Describe solutions which will help you solve the problems, and
- Decide which solutions will be both practical and economically feasible."[41]

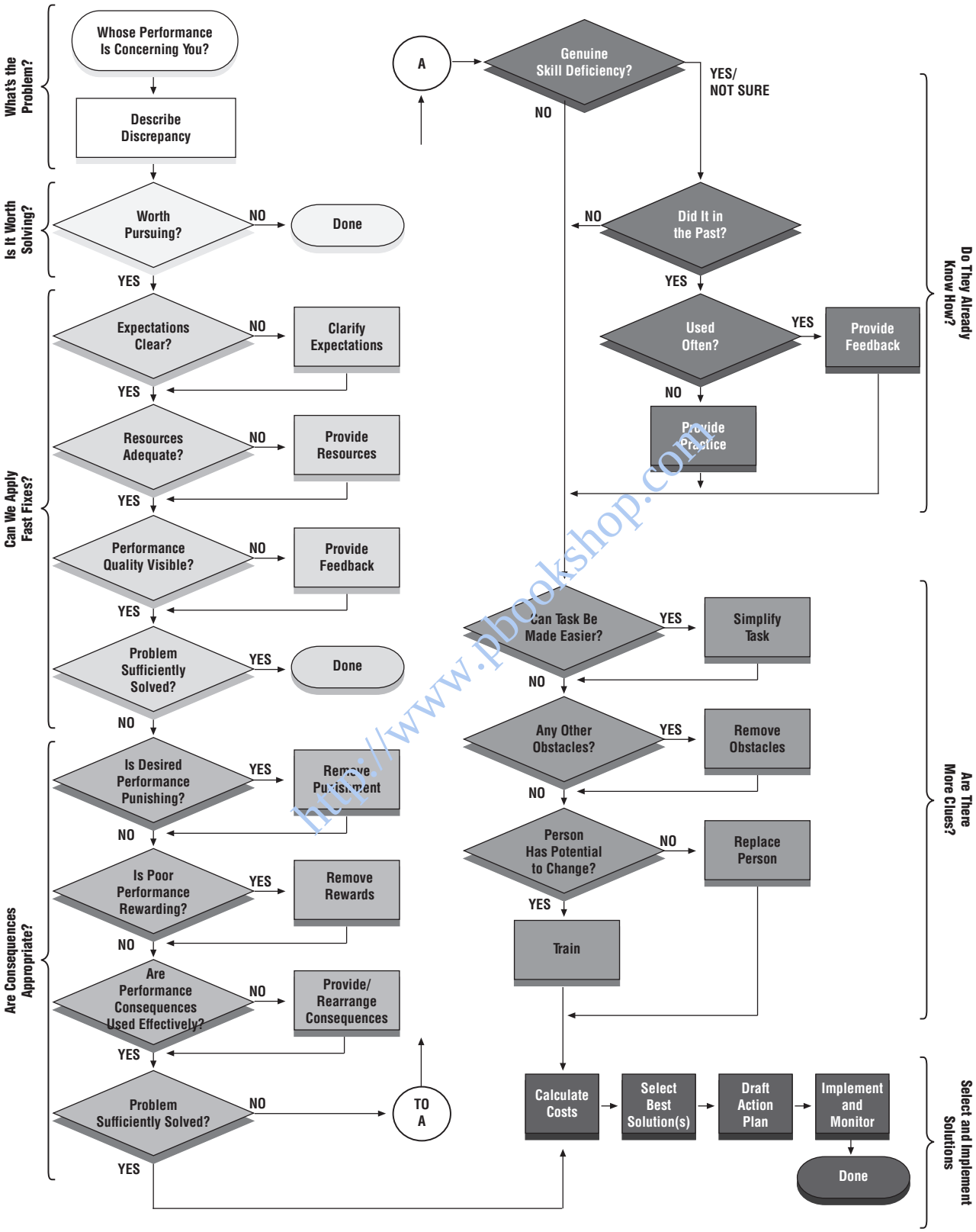
An important aspect of Mager and Pipe's thinking was the consideration of practicality and feasibility. All too often, interventions make sense for the immediate situation but are not designed to be sustainable in the future.

Multidisciplinary Collaboration

Performance improvement is clearly a complex and comprehensive field based on combining the ideas and research of many fields as needed to resolve particular problems or opportunities. Performance improvement practitioners draw from many models and theories as appropriate to accomplish the desired change and the anticipated outcomes.

Mariano Bernardez mapped the scope and depth of the field, illustrating the multiple human performance technology and non–human performance technology frameworks used in performance improvement based on the fishbone diagram format seen in Figure 1.3. The diagram is based on external (strategic), internal (tactical/operational), and conceptual (foundations) and reflects the disciplines contributing to transforming performance into measurable value added to customers, employees, shareholders, communities, and environment. Performance improvement impacts and adds value at many levels, including micro or job task, macro or organizational, and mega or society and external clients. Bernardez (2011) includes *theories* based on scientific method, systems theory, and experimental psychology; *external strategic considerations* such as cultural models strategic performance models business and economic models; and *internal tactical/operational considerations*, such as individual performance models, learning and technology models, process and organizational performance models, and management and organizational models. "In the real world, most performance problems have multilevel causes and consequences and require the collaboration of multiple specialists as multidisciplinary teams" (p. 42).

FIGURE 1.2. Mager's Performance Analysis Flowchart



Source: Adapted from Mager and Pipe, 1997. Used with permission.

FIGURE 1.2. (Continued)

Quick Reference Guide

Use the following guide as a way to help others see why they "really oughta wanna" re-evaluate solutions they have already decided upon.

I. Describe the problem

1. *What is the performance discrepancy?*
   - a. *Whose performance is at issue?*
   - b. *Why is there said to be a problem?*
   - c. *What is the actual performance at issue?*
   - d. *What is the desired performance?*

2. *Is is worth pursuing?*
   - a. *What would happen if I let it alone?*
   - b. *Are our expectations reasonable?*
   - c. *What are the consequences caused by the discrepancy?*
   - d. *Is that cost enough to justify going on?*

II. Explore Fast Fixes

3. *Can we apply fast fixes?*
   - a. *Do those concerned know what is expected of them?*
   - b. *Can those concerned describe desired performance? Expected accomplishments?*
   - c. *Are there obvious obstacles to performance?*
   - d. *Do these people get feedback on how they are doing?*

III. Check Consequences

4. *Is desired performance punishing?*
   - a. *What are the consequences of performing as desired?*
   - b. *Is it actually punishing or perceived as punishing?*

5. *Is undesired performance rewarding?*
   - a. *What rewards, prestige, status, or comfort support the present way of doing things?*
   - b. *Does misbehaving get more attention than doing it right?*

6. *Are there any consequences at all?*
   - a. *Does desired performance lead to consequences that the performer sees as favorable?*

IV. Enhance Competence

7. *Is it a skill deficiency?*
   - a. *Could they do it if their lives depended on it, i.e., could they do it if they really had to?*
   - b. *Could they once perform the task but have forgotten how?*
   - c. *Is the skill used often?*

V. Remove Other Obstacles

8. *Can the task be simplified?*
   - a. *Particularly for "hurry up" demands, can I reduce the standards by which performance is judged?*
   - b. *Can I provide some sort of performance aid?*
   - c. *Can I redesign the workplace or provide other physical help?*
   - d. *Can I parcel off part of the job to someone else or arrange a job swap?*

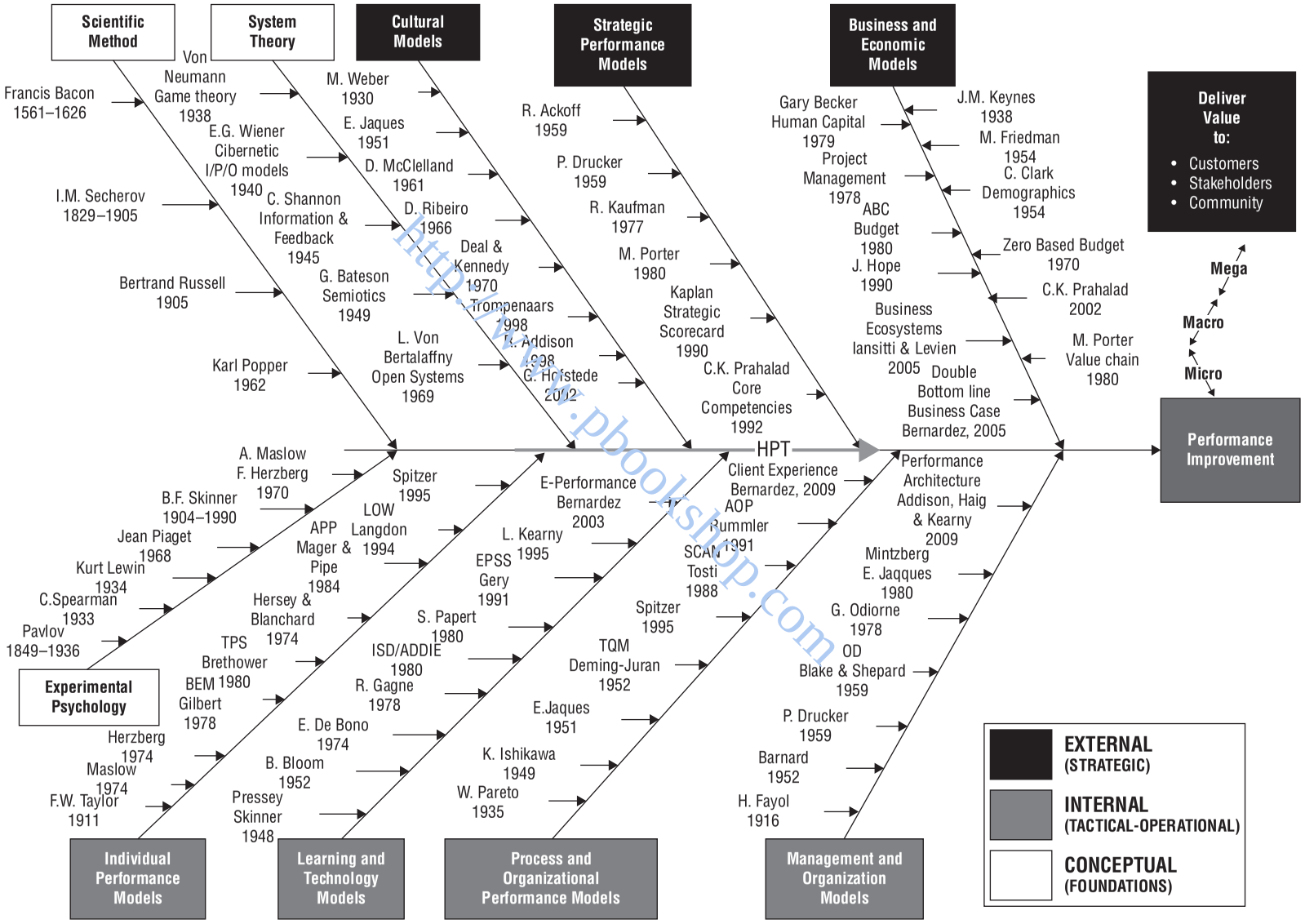
9. *Does something get in the way of doing it right?*
   - a. *Lack of knowledge about what's expected?*
   - b. *Conflicting demands?*
   - c. *Restrictive policies?*

10. *Is it likely that this person could learn to do the job?*
    - a. *Does this person lack the physical or mental potential to perform as desired?*
    - b. *Is this person over-qualified for this job?*

VI. Develop Solutions

11. *Which solution is best?*
    - a. *Have all potential solutions been identified?*
    - b. *Does each address one or more parts of the problem(s)?*
    - c. *Have estimates of any intangible costs of the problem(s) been included?*
    - d. *What is the cost of each potential solution?*
    - e. *Which solution(s) are most practical, feasible, and economical?*
    - f. *Which yields most value, solving the largest part of the problem(s) for least effort?*

FIGURE 1.3. Beyond HPT: Factors and Contributors to Performance Improvement and Value Creation



Source: Bernardez, 2011, p. 42. Used with permission.

Performance Improvement: Emerging Trends

Three emerging trends are highlighted here: sustainability, appreciative inquiry, and positive psychology, plus the emergence of performance improvement processes in primary and secondary education. These trends are not here today and gone tomorrow; they are in themselves sustainable.

Sustainability Trend

Sustainability will be an important trend for performance improvement because the opportunities are great, the solutions are innovative, and the consequences of not focusing on sustainability are becoming more apparent. Sustainability is already increasing and will continue to increase in importance. One of the principal benefits of sustainability is improved company or brand image; followed by "cost savings; competitive advantage; employee satisfaction, morale, or retention; product, service, or market innovation; new sources of revenue or cash flow; effective risk management; and enhanced stakeholder relations."[42]

EXHIBIT 1.1. THE PRACTITIONER'S VOICE: SUSTAINABILITY

"In my humble opinion, sustainability is the single biggest advancement in thinking in the performance improvement field that I have seen. Our job is not to design, develop, and implement correct interventions. . . . It is to create lasting organizational improvement. Learning how to build sustainable change is at least as important as the process of *what* to change!"

Jeff McElyea, M.A., M.S., Lucid Business Strategies

www.lucidbusiness.com, Michigan, USA

Definition. The most widely respected early definition of sustainability is part of the United Nations World Commission on Environment and Development's report, Our Common Future in 1987. The definition asserts that sustainability "refers to forms of progress that meet the needs of the present without compromising the ability of future generations to meet their needs." While presenting the commission's report to the United Nations in Kenya, G.H. Brundtland stated that sustainability "requires fair access to knowledge and resources and a more equitable distribution within and among nations. It requires broad participation in decision-making."[43]

Key Challenges. The report covered common challenges: population and human resources; food security: sustaining the potential; species and ecosystems: resources for development; energy: choices for environment and development; industry: producing more with less; and the urban challenge.[44] The key challenges covered here are population increases, global economics, and communications.

Population Increases. From the beginning of human existence on the Earth, there have been gradual adaptations due to lifestyle change from hunters and gatherers to agricultural cultures. Famines, wars, catastrophes, and epidemics kept population growth in check. However,

beginning in the late 1700s, human population began to increase due to agricultural improvements. By the end of the 1800s, improvements in medicine and sanitation began to swell the number of people.[45] Medical advances and agricultural productivity have led to extraordinary population growth.[46]

Population growth requires increases in food. Agricultural research resulted in a "Green Revolution" relying on genetically engineered foods enhanced by petroleum-based fertilizers and pesticides and reliable sources of water. Globally, people are going to need employability skills and an economic system that fosters their well-being. Performance improvement professionals are needed to assist underdeveloped countries establish and sustain economic, civic, and educational structures to advance their citizens' lifestyles. Developed countries will need to adapt to the rapid changes throughout the world.

Global Economics. Our world economic situation will be adapting due to changes in economic, military, and political realities. Military organizations are becoming nation builders as well as armed forces. Political situations are becoming more inclusive and broad. Economies are developing new social mechanisms, such as micro-banks and free markets, to distribute goods and services more broadly and provide employment more widely.

"The world's economic balance of power is rapidly shifting and world trade is being transformed. Developing countries in Asia and Latin America will join traditional Western powers as the world's largest economies. Rapid labor force growth, high rates of investment, and the continued absorption of technology in emerging markets will make this growth possible."[47] As a result, there will need to be a greater global understanding of finance, economics, and politics.

These changes will provide opportunities for greater social responsibility. Ethics and accountability will increase due to expectations of increased transparency and common good. Greater interdependence will lead to increased respect for intellectual property rights.[48] International banking and monetary policies will adapt, as they were established in the 1940s and need updating.[49] Performance improvement professionals will support development of social institutions as well as the development of skills, knowledge, and abilities throughout the world.

Communication. Improvements in communication have changed the expectations of people throughout the world. Instant news coverage leads to immediate knowledge of events and builds an expectation that change makes an important difference. Newscasts include segments from social media investigating what is behind the major stories, providing a more balanced insight. Distance education brings information, knowledge, job skills, and so forth, enabling people in remote locations to understand the significance of issues. Communication has improved health by educating regarding human immunodeficiency virus (HIV), malaria, tuberculosis, and other common diseases resulting in healthier and energetic individuals. People are aware of possibilities and potential for themselves, their environment, their government, and their life style, plus they have increased desire to accomplish and sustain a better life.[50]

Eco-Efficiency. One of the early pioneers in eco-efficiency or doing more with less was Henry Ford, the automobile industrialist and founder of Ford Motor Company. Ford was committed to lean and clean policies, saving money by recycling and reusing materials, reducing the use of

natural resources, and established the time-saving assembly line. Ford stated: "You must get the most out of the power, out of the materials, and out of the time."[51]

Ford Motor Company continues the tradition of sustainability under the leadership of Henry's great-grandson, William Clay Ford, Jr. In 2002, Ford Motor Company adopted the Ford Business Principles as part of the way forward relative to accountability, community, environment, safety, products and customers, financial health, and quality of relationships.[52] An example of Ford's commitment to sustainable design in collaboration with McDonough and Braungart was the stunning transformation of the Ford Dearborn Model T plant on the Rouge River into a modern truck plant that is a model of eco-efficiency. The plant site was littered with industrial waste, mounds of debris, and abandoned buildings from the early 1900s. The new manufacturing plant has roofs made of plants to absorb and filter rain water and porous parking lots to capture storm run-off, taking three days for storm water to seep to the river. This new approach transformed a dark, unpleasant factory into an enjoyable, people-friendly, sky lit workplace.[53]

Business Issues. Sustainability is a timely consideration because, at this point, "A small number of companies . . . are acting aggressively on sustainability—and reap substantial rewards. Once companies begin to pursue sustainability initiatives in earnest, they tend to unearth opportunities to reduce costs, create new revenue streams, and develop more innovative business models. The early movers' approaches have several key characteristics in common: they incorporate a comprehensive set of data into a robust business case, which they then integrate throughout all relevant aspects of their operations to deliver measurable financial results."[54] Embedded sustainability means the incorporation of environmental, health, and social value into core business activities with no tradeoff in price or quality.[55]

Elkington, an early leader in corporate sustainability and corporate social responsibility, coined the term "triple bottom line," which refers to people, planet, and profit. He focuses on the three aspects of sustainability: environmental, social, and economic, in relation to seven revolutions: markets, values, transparency, life-cycle technology, partnership, time, and corporate governance. People refers to fair and beneficial consequences for people, such as working conditions, agricultural practices, or community enrichment. Planet pertains to environmental practices, such as energy, renewable products, waste, and conservation issues. Profit means real economic value not short term corporate impact.[56]

Complex Issues. Sustainability is a complex concept because so many entities need to be considered. Insurers consider the potential for lawsuits from environmental impact. Lenders and investors think about the need for expensive solutions, such as scrubbers for exhaust released into the atmosphere. Governments validate that environmental laws are complied with. Customers are interested that labor laws and fair practices are adhered to. Media look for good stories about sustainable success. Other important issues are resource depletion and climate change.

For example, in the late 19th century, a Yorkshire, England, textile company began making products with asbestos. They began experiencing lawsuits filed by former workers and others affected by the asbestos. In the late 20th century, Federal Mogul Corporation, a Detroit, Michigan-based auto supplier, having done careful due diligence, purchased the Yorkshire company. Their lawyers

determined that the asbestos litigation would be an acceptable liability. A few years later, Federal Mogul filed for bankruptcy protection and went through very tough times financially because they underestimated the impact of asbestos litigation.[57] With many other harmful ecological situations worldwide, it is likely that there will be increasing liability issues.

Establishing successful business synergies is challenging. "There are many reasons why companies have difficulty tackling sustainability more decisively. First, companies often lack the right information upon which to base decisions. Second, companies struggle to define the business case for value creation. Third, when companies do act, their execution is often flawed."[58]

Opportunity and Challenge. Sustainability provides an increasing opportunity and challenge for performance improvement professionals. Performance improvement and performance technology concepts and practices are critical for effective, feasible, and sustainable change. Our field is diverse and very interdependent. As a result, performance improvement approaches are extraordinarily inclusive and comprehensive involving many fields such as engineering, psychology, communications, quality, education, and others.

Appreciative Inquiry/Positive Psychology Trend

Another emerging trend for performance improvement is appreciative inquiry and positive psychology.[60] Workplaces improve through positive thinking. People are most productive when they are encouraged to contribute through their strengths. World famous and highly respected Peter Drucker observed that "only strength produces results" while "only weaknesses produce headaches". Drucker said about executives, "In every area of effectiveness within an organization, *one feeds the opportunities and starves the problems*. Nowhere is this more important than in respect to people."[61]

EXHIBIT 1.2. SUSTAINABILITY IN ACTION

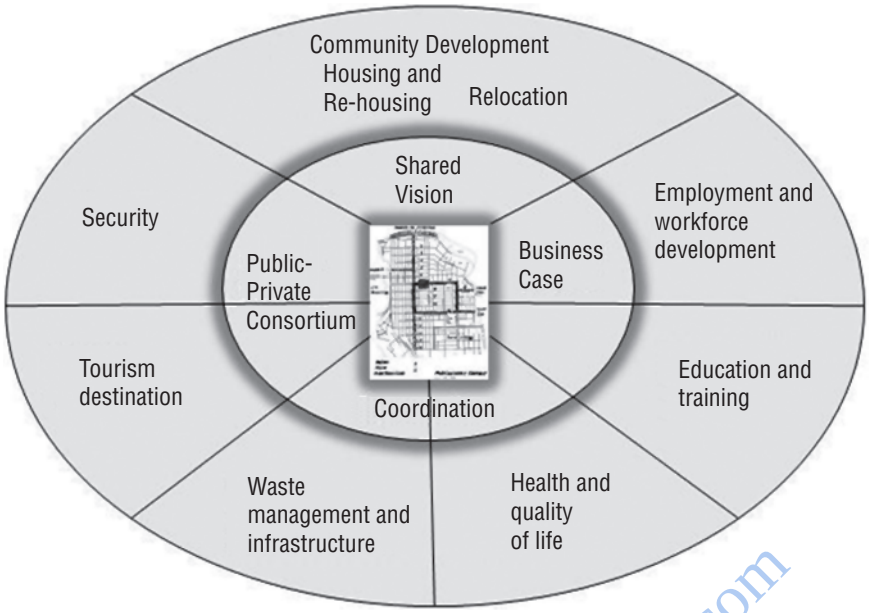
Using the principles of performance improvement and mega planning, Mariano Bernardez, Roger Kaufman, Adam Krivatsy, and Carmen Arias created a plan to transform Colon City, Panama, from a deteriorating city to a thriving city. Deteriorating cities experience "crime and insecurity, pollution, traffic jams, sanitary and waste management problems, air and water damage, and loss of property, property value, broken schools, ailing infrastructure, high taxes for poor quality services and quality of life in a seemingly endless sequence of calamities."[59]

Following performance improvement principles and processes as illustrated in Figure 1.4, Bernardez and Kaufman's team intends to make a very big difference through the following outcomes:

1. Increased security
2. Job creation and employment
3. Recovery of real estate values
4. Improved health and sanitation

Details are available in M. L. Bernardez, C.M. Arias, A. Krivatsy, and R. Kaufman. (2012). City doctors: A systemic approach to transform Colon City, Panama. *Performance Improvement Quarterly, 24*(4), 43–62.

FIGURE 1.4. Framework for Colon Panama's Transformation



Source: M. L. Bernardez, C.M. Arias, A. Krivatsy, and R. Kaufman. (2012). City doctors: A systemic approach to transform Colon City, Panama. *Performance Improvement Quarterly, 24*(4), 43–62. Used with permission.

Definitions. Positive psychology and appreciative inquiry are emerging concepts that have enormous potential for change management and the entire performance improvement practice. The University of Pennsylvania's Martin Seligman is the leader of the positive psychology approach, while David Cooperrider of Case Western Reserve University is the founder of appreciative inquiry.

Positive psychology focuses on health and opportunities of individuals and organizations, rather than problems and hindrances.[62] Currently, psychology predominantly focused on diseases, such as depression, bipolarism, and autism in clinical psychology; biases, illusions, or foibles in social psychology; or considered selfishness in economic psychology; and many more. Positive psychology, on the other hand, is committed to human potential, motives, and capacities.[63] "Positive psychology is the scientific study of optimal human functioning. It aims to discover and promote the factors that allow individuals and communities to thrive. The positive psychology movement represents a new commitment on the part of research psychologists to focus attention upon the sources of psychological health, thereby going beyond prior emphasis on disease and disorder."[64]

> "Appreciative Inquiry is about the coevolutionary search for the best in people, their organizations, and the relevant world around them. In its broadest focus, it involves systematic discovery of what gives 'life' to a living system when it is most alive, most effective, and most constructively capable in economic, ecological, and human terms. AI involves, in a central way, the art and practice of asking questions that strengthen a system's capacity to apprehend, anticipate, and heighten positive potential. It centrally involves the mobilization of inquiry through the crafting of the 'unconditional positive question' often involving hundreds or sometimes thousands of people."[65]

Leaders in the Discipline. Any discipline builds on the shoulders of previous thinkers; positive psychology began in earnest with Carl Jung's work regarding searching for the meaning of life. After World War II, the Veterans Administration encouraged psychology to focus on mental illness. Gradually, humanistic psychologists, such as Abraham Maslow and Carl Rogers, changed people's thinking about potential and buffers against mental illness, such as courage, future mindedness, optimism, interpersonal skills, faith, work ethic, hope, honesty, perseverance, and insight. At the present time, Martin Seligman at The University of Pennsylvania is the leader in positive psychology.[66]

Appreciative inquiry, recognized as positive change management, had a very definite beginning. The development of appreciative inquiry was straightforward and part of dissertation research. David Cooperrider conducted his dissertation research titled "Appreciative Inquiry: Toward a Methodology for Understanding and Enhancing Organizational Innovation" at Case Western Reserve University under the guidance of his dissertation advisor, Suresh Srivastva. The study focused totally on the factors contributing to the high functioning of an organization and totally ignored everything else.[67]

Performance Improvement and Appreciative Inquiry. Concepts and practices of performance improvement can be aligned with appreciative inquiry and provide an alternative approach to organizational change. Performance improvement is often based on needs or problems and opportunities. Frequently, practitioners focus on solving problems based on defining and resolving gaps. Appreciative inquiry is committed to enhancing the good of the individual or in the organization or culture.[68] This does not mean using an approach that glosses over problems. It means finding what is good in an individual or organization and then strengthening the "goodness." Appreciative inquiry "is gaining ground as a relevant force in organizational, community, and even national transformation."[69]

Focusing on what is good captures a natural way we think. Consider a teen trying to decide the best sport to play in high school or post-secondary school. The teen is quite good at track, moderate at soccer, and particularly challenged with baseball. The choice probably seems obvious, participate in track. In other words, the student could struggle and gradually get better in baseball or work hard to be a second-rate soccer player, or be on the primary or varsity team in track. People often naturally gravitate to choices that will enhance their strengths.

However, in organizations, we often focus on our greatest challenges or biggest problem areas. Through positive approaches, while we are enhancing what is going well, we can resolve our problem areas as a result. We can ask our customers who continue to use our products and services why they remain loyal or ask our former customers why they left. It is easier to retain a customer than to secure a new one, so we should consider what is important to our current customers and enhance that experience. As we strengthen our best features, we will automatically eliminate factors that do not enhance our products or services.

The challenge to overcome problems and sustain changes may be limited by resistance of employees or suppliers. Resistance saps energy from the effort. Appreciative inquiry envisions what might be and then determines what could and should be. In the end, is the glass half full or half empty? Is the situation half full or an opportunity that could be enhanced or is the situation half deficient and requires the problems to be resolved?[70]

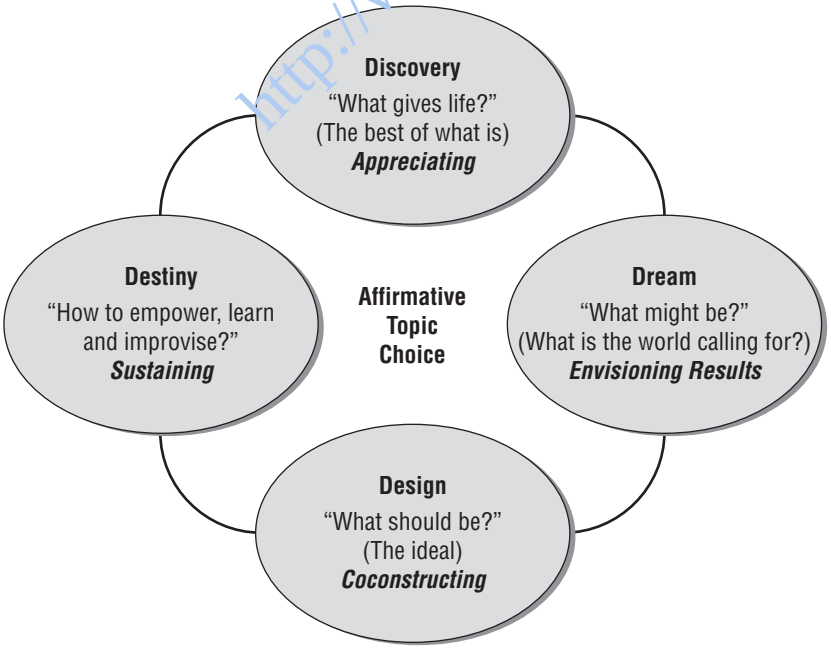
Appreciative Inquiry Four-D Cycle. The process used for appreciative inquiry involves extensive group involvement. The first stage is based on including everyone or extensive interviewing of others using positive provocative questions to determine what is going well in an organization and exploring optimum ways to enhance positive situations for organizational and business advantage. There are four steps: discovery, dream, design, and destiny, shown in Figure 1.5.

Discovery means posing positive questions to determine effective processes and results, factors that have proven successful and do not promote defeat and resistance. The dream phase enables organizations to determine what would be needed for the future that would draw from past successes. Design determines how to bring successes forward to shape new products, services, organizational structures, and so forth. Destiny emphasizes successful practices that will be carried forward and stresses the need for research in order to accomplish desired new outcomes.[71]

Appreciative inquiry is based on the following beliefs and assumptions:[72] Within every society, organization, or group something works well. What is focused on becomes reality. There are multiple realities. The act of asking questions changes the situation or group in some way. People are more confident carrying the successes of the past into the future. What is brought forward into the future should be the best of the past. It is important to value differences. The language used creates reality. Performance Support Tool 1.1 provides guidelines for discussing assumptions about appreciative inquiry. The items may be adapted to guide a discussion of assumptions related to other topics as well.

School Improvement Trends. The final emerging trend in performance improvement is primary and secondary school improvement.[73] An important global performance improvement

FIGURE 1.5. The Four-D Model



Source: Cooperrider and Whitney, 2005. Used with permission.

challenge is schooling and educating. Education is a critical aspect of economic wellbeing both individually and for society. The highly respected Organisation for Economic Co-operation and Development, based in Paris, France, is a leader in tracking factors that impact economies. OECD Deputy Secretary-General Aart de Geus presented the following *Education at a Glance 2007* indicators, confirming the positive value of education:

- "The estimated long-term effect of one additional year of education equals between 3 and 6 percent of the Gross Domestic Product (GDP) in OECD countries.
- Employment rates rise with educational attainment in most Organisation for Economic Cooperation and Development (OECD) countries.
- The employment rate for graduates of tertiary education [colleges and universities] is significantly higher than those of upper secondary graduates [high schools]; at the same time, unemployment rates fall with higher educational attainment.
- On the personal level, those who have attained upper secondary, post secondary or tertiary education face substantial earnings advantages."[74]

Education is an asset and should be targeted for performance optimization for the greatest impact. Performance improvement philosophy, processes, procedures, and certifications enhance school improvement efforts because they are systematic, add value, and focus on outcomes or results.

Behavioral-Oriented Learning Improvements. Early educational efforts in the performance improvement field were associated with applied behavioral analysis; the science of controlling and predicting behavior, in this case, leading to efficient and effective learning, particularly through programmed instruction. Beginning in the 1960s, colleagues of B.F. Skinner, such as Susan Markle, Dale Brethower, Lloyd Homme, Lt. Col. Gabriel Ofiesh, and Thomas Gilbert studied how to provide reinforcements and motivation, as well as how to analyze and present information using an auto instructional approach, also known as programmed instruction.[75] Joe Harless, Claude Lineberry, Don Tosti, Geary Rummler, Robert Mager, and Roger Kaufman were also engaged in analysis. For instance, in 1962, Robert Mager convinced educators that educational objectives were essential, publishing *Preparing Instructional Objectives* and *Analyzing Performance Problems* with Peter Pipe in 1970. Educational objectives impact most educational efforts even today.

Joe Harless remains active in improving education; he published two books on primary and secondary education (preschool to high school): *The Eden Conspiracy* in 1998 and *Turning Kids On and Off* with Claude Lineberry in 1971.[76] While this work was exciting and had substantial impact, particularly Mager's work, school improvement also involves many other factors, such as curriculum and instruction, teacher preparation and ongoing education, appropriate resources (such as textbooks and supplies), incentives, societal expectations, and many more that combined to foster school performance improvement.

Ogden Lindsley developed precision teaching based on B.F. Skinner's operant conditioning and Carl Binder continues to work on direct instruction and precision teaching.[77] Educators, learning scientists, and instructional designers advance behavioral analysis in the United States,

PERFORMANCE SUPPORT TOOL 1.1. APPRECIATIVE INQUIRY DISCUSSION GUIDE

Directions: Concepts and assumptions apply whether oriented to problem solving or a positive approach. As a group, read each assumption associated with appreciative inquiry and its description. Discuss each concept, looking for a consensus opinion. Briefly write down consensus opinions.

Assumption 1: Finding What Works. Even the most troubled organizations have people, processes, or practices that work. Identifying and uncovering these assets offers insight and a foundation for progress.

Assumption 2: Choosing the Right Focus. What we focus on grows. Appreciative inquiry therefore suggests that framing our challenges and opportunities using an affirmative view of the situation we face is critical.

Assumption 3: Creating Reality. Reality is a function of the world we live in as well as the insights and experiences we bring to it. Reality is unique for each of us, and many realities can coexist.

Assumption 4: Asking the Right Questions. If we believe that what we focus on grows, then the questions we ask become the starting point for our future. As David Cooperrider says, "Change starts with the first question."

Assumption 5: Carrying the Past Forward. The journey of change becomes less threatening when we bring with us the comfort of ideas and practices we know and trust.

Assumption 6: Carrying the Best of the Past. Following the affirmative thread, if we're going to retain parts of the past as we journey into the future, it makes sense to keep those that represent our greatest strengths.

Assumption 7: Valuing Differences. Our differences, represented by our unique realities, offer innovation and many possibilities for building the future we most desire.

Assumption 8: Using Positive Language. Language drives our thoughts and action. It is therefore important to consider the words we choose, particularly the framing of the questions we ask.

Adapted from Hammond, 1996. Used with permission.

South Africa, and other parts of the world.[78] Precision teaching and behavioral analysis proponents consider that (1) quality schooling should help students learn more rapidly than they would on their own; (2) what students learn should benefit the individual learner and society; and (3) learning should employ positive rather than coercive or punitive methods.

Education for All. Lack of education is closely associated with poverty, poor health, and the inability to compete economically. "As global citizens of the world it is our responsibility to critically think about these issues and attempt to come up with solutions to the problems plaguing education."[79] "In 2007, there were approximately 775 million illiterate people in the world, of whom two-thirds lived in the Asia-Pacific region, and more than 60 percent were women.[80] That means one-fifth of adults above age fifteen and a quarter of adult women above age fifteen lack minimum literacy skills. To receive an education is a human right and an opportunity to improve one's life. Literacy is at the heart of basic education for all, and essential for eradicating poverty."[81]

Education for All is a global movement of the United Nations Educational, Scientific and Cultural Organization (UNESCO) focused on learning needs of children, youth, and adults designed to eliminate illiteracy.[82] The movement officially began in Jomtien, Thailand, in 1990 at the World Conference on Education for All, stressing education as a fundamental universal human right. Ten years later, the World Education Forum in Dakar, Senegal, established six measurable goals:

1. Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;
2. Ensuring that by 2015 all children, particularly girls, children in difficult circumstances, and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality;
3. Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programs;
4. Achieving a 50 percent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;
5. Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls full and equal access to and achievement in basic education of good quality;
6. Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy, and essential life skills.[83]

Clearly, there are many opportunities for performance improvement in schools, using performance improvement methods discussed in this book and improvements methods associated with the standards. In addition, many performance improvement professionals, particularly Carl Binder with Precision Teaching, has vast experience with curriculum and course development.

Certified School Improvement Specialist. The ultimate role of education is to prepare citizens to lead productive and meaningful lives and enhance society.[84] Universal education is a relatively

new concept, beginning with the 20th century and the Industrial Revolution. Schools are adapting to meet the needs of so many, such as increasing use of technology, benchmarking, and increasingly sophisticated techniques for accountability.[85] The future role of the educator will include many new aspects, such as individualized and customizing learning, virtual and physical learning, nonlinear and collaborative, problem-based learning, discovery learning that engages the whole mind, and more emphasis on multimedia and technology.[86] Establishing and maintaining quality education is optimized by substantial understanding of performance improvement.

Recently, Deb Page and Judy Hale researched successful schools in the state of Georgia in the United States. They focused on school improvement specialists who had sustained improvements for at least three years to determine what factors led to good schools.[87] The goal was to create a proficiency-based certification unique to school improvement. It was necessary to document competencies required to successfully improve schools and to maintain high quality education for the 21st century.[88] The resulting school improvement competency domains are

1. Analyze and apply critical judgment.
2. Facilitate meaning and engagement.
3. Focus on systemic factors.
4. Plan and record.
5. Organize and manage efforts and resources.
6. Guide and focus collaborative improvement.
7. Monitor accountability and adoption.
8. Demonstrate organizational sensitivity.
9. Build capacity.
10. Implement for sustainability.

This school improvement certification is available through the International Society for Performance Improvement and can be found at ISPI.org, under the tab "Certification." The certification indicates that the school specialist has accomplished sustained school improvement and is a recognized school leader. (See Appendix B.)

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