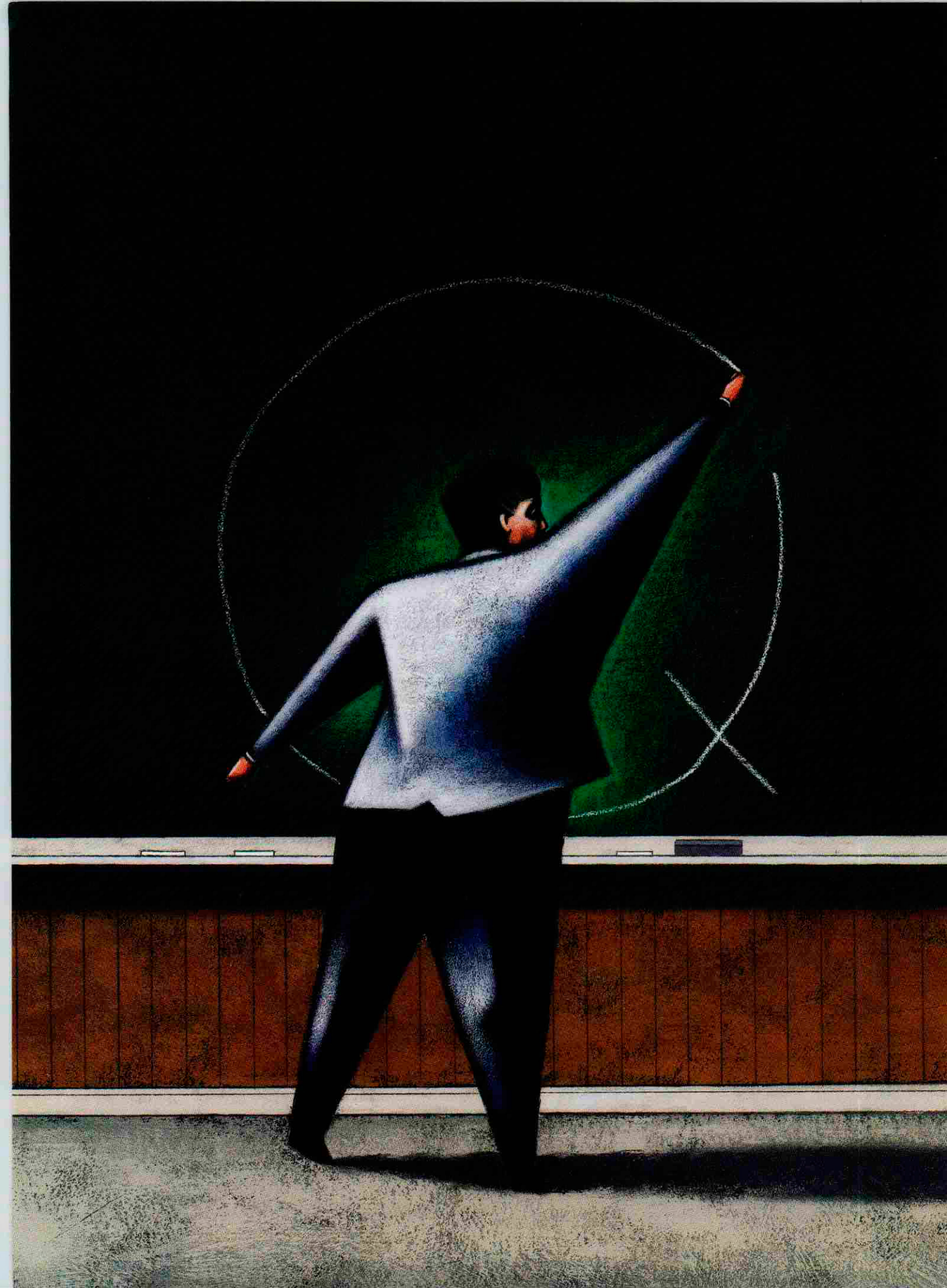


IN THIS ARTICLE
Total Quality Management, Strategic Planning for HRD

THE EXPERTS SAY QUALITY BEGINS AND ENDS WITH EDUCATION. BUT FOR MANY COMPANIES, THAT'S EASIER SAID THAN IMPLEMENTED. HERE'S A SIX-STEP QUALITY STRATEGY THAT INTEGRATES TRAINING FROM START TO FINISH.

Training With Quality

By Ted Cocheu

As the challenge of improving product quality and customer service looms ever larger for all organizations, so does the challenge to the training and development profession—to give people the knowledge and skills they need, when they need them, to improve quality.

Tom Peters insists that "workforce training must become a corporate (and indeed a national) obsession.... It is on this variable that the outcome of the overall competitive struggle may most strongly depend."

Anyone who doesn't believe Peters should listen closely to the executives of some of the companies that have won the Malcolm Baldrige National Quality Award.

"Over three or four years, we spent about $125 million on quality training," says David Kearns, former CEO of Xerox. "The top 25 people in the company pounded out the initial decision to go after quality...and training was the absolute underpinning of it."

Motorola's Bill Wiggenhorn reflects, "In 1983, we thought three days of training on quality would be enough. Today we have 28 days of material."

Perhaps Japanese quality expert Kaoru Ishikawa summed it up best when he said that quality control "begins with education and ends with education."

But just *knowing* that training is important isn't enough. Training must also be effective. Multitudes of people across the country have attended seminars on quality-related subjects, but there's a growing concern that companies may not be getting all the bang they had bargained for from their training buck.

Illustration by Scott Roberts

A recent *New York Times* article quoted Hay Management Consulting's Bruce N. Pfau as saying that "only 25 percent of employees say quality has improved in their companies over the last two years."

The experience of VLSI Technology, of San Jose, California, is a case in point. In 1986, the company began a quality program, with training for quality circles. In 1987, the training focus shifted to communication skills. In 1988, the training priority was statistics.

In 1989, a key VLSI manager finally came to a realization: "We didn't have the right infrastructure to support the type of change we started and wanted to make."

Understanding this all-too-common experience requires us to look at the limitations of the three most common types of quality training:

- quality awareness training
- employee involvement training
- statistical process control, or SPC, training.

A typical quality awareness training program is conducted as a one- to three-day seminar. During the training, consultants and senior managers extol the virtues of quality, emphasize the reasons for its importance, and implore everyone to make it a top priority.

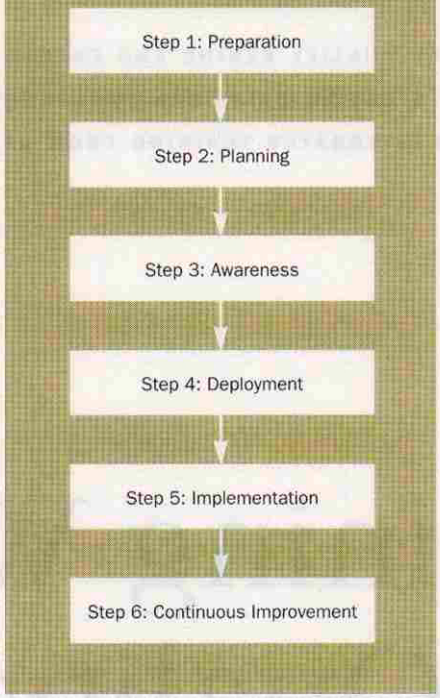
Employee involvement training, most popularly in the form of "quality circles," gives people skills in meeting management, problem solving, data analysis, and group decision making.

The SPC approach teaches the use of various charting techniques to eliminate sources of variation and bring work processes into a state of statistical control.

All three types of training are essential to the overall quality education process. The problem is that they are often seen as solutions in and of themselves, rather than as parts of an overall training system to support an organization's quality improvement strategy.

"The key thing about training is that it should integrate," says Kearns. "The strategy of the company, the direction of the company, the vision of the company, and the skills and behavior that people need to get the job done should all be combined and integrated into the training. This is the key thrust I'd like to see."

FIGURE 1
Six-Step Improvement Strategy



That simple truth—strategy must precede training—is often overlooked in the frenzy to make up for lost time in the "life-or-death" quality race.

Quality strategy provides the direction and structure people need for focusing their collective efforts toward improving customer satisfaction. It's the road map people can follow. It defines the choices the company has made about the improvement process. Training can effectively communicate that strategy to people throughout the organization, help overcome their resistance to change, and provide the knowledge and skills they will need in order to proceed.

Organizations can use the six-step improvement strategy shown in Figure 1 as a guide to the improvement effort. To be effective, such a strategy must be supported by six different phases of training, listed in Figure 2.

A six-step improvement strategy

"Only transformation of the American style of management...can halt the decline and give American industry a chance to lead the world again," warns the quality guru W. Edwards Deming. "The required transformation of the Western style of management requires that managers be leaders."

So the improvement process must begin with top management itself.

The first step in the improvement strategy is preparation. It requires top managers to do their homework before getting the rest of the organization involved. They must understand quality as a means of satisfying customers and gaining competitive advantage; they must organize themselves to pursue quality. Preparation involves four related activities:

- conducting a marketplace assessment of customers and competitors
- conducting Phase 1 training for executives (training in understanding and commitment, see Figure 2)
- organizing a corporate improvement steering council
- developing a vision statement.

The second step of the strategy involves planning for improvement. Top management must determine what has to be done to keep the company competitive, and how to proceed. The planning step, which top managers should complete before they get the rest of the organization involved, includes three related activities:

- developing broad goals for improving quality and service
- selecting a quality management system
- developing an improvement plan.

The third step addresses awareness of quality principles, approaches, and processes. At this stage, everything that executives have done in the first two steps gets communicated to the organization. For the first time, everyone becomes intimately familiar with the philosophy, direction, and approach the executive team has developed.

This is management's opportunity to capture the hearts and minds of the people—to have them embrace the improvement vision as their own and really believe that pursuing total quality is in their best interests. Embarking on this step means that management is committed to a strategy of continuous improvement and cannot turn back. Awareness has three related activities:

- communicating the vision, goals, and strategy to all employees and suppliers
- conducting Phase 1 training (understanding and commitment) for all employees
- conducting Phase 2 training (quality management systems) for all employees.

When Paul Allaire, president of Xerox, was asked how the company had reversed its slide in the marketplace, he responded, "There is no magic formula. We are doing it by involving all of our people—union and nonunion alike—in problem solving and quality improvement."

Step 4 is the deployment step. It's in this step that a company develops a team infrastructure and sense of individual responsibility. Step 4 mobilizes people and turns a paper strategy into a reality. It also addresses the difficult question of how to deploy the improvement process throughout the organization and in the company's supplier base.

Deployment involves five related activities:

- organizing improvement teams at all levels
- conducting Phase 3 training (improvement teams)
- holding individuals responsible for improvement
- conducting Phase 4 training (customer service)
- driving improvement into the supplier base.

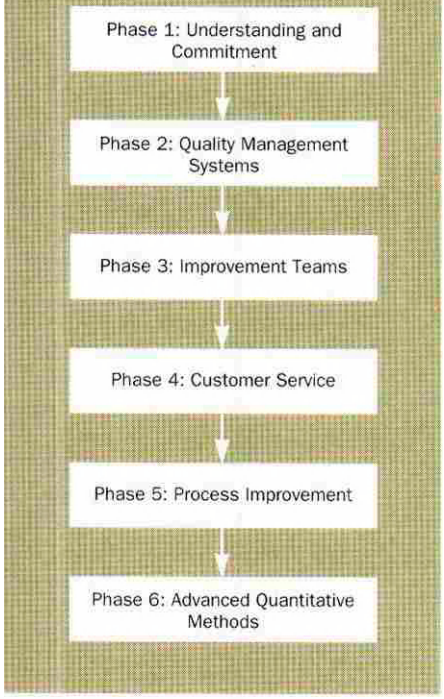
The fifth step of the improvement strategy is implementation. This is the point at which process and product improvements actually take place. Implementation is possible because the four preceding steps have prepared the firm to define, control, and improve work processes.

Implementation involves three related activities:

- conducting Phase 5 training (process improvement) for team members
- improving work processes
- conducting Phase 6 training (advanced quantitative methods), as required.

The sixth and final step in the strategy is continuous improvement. The major lesson to learn when pursuing quality is that improvement is an ongoing, never-ending process.

FIGURE 2
Six-Phase Training Approach



Bill Almon, president of Conner Peripherals, likens the U.S. approach to improvement and international competition to Americans' fascination with football.

"We want to think about global competition as if it's the Super Bowl," he says. "We want to play hard for the season, win the big game, and sit around during the off-season and gloat about how great we are. But the competitors we face in business today don't want to wait until next year for a rematch—they want to play again next week and every week until they finally win. It's tough for us to accept that we don't control the rules of the game anymore. We've got to be ready to battle formidable competitors everyday, forever, and without a break."

A sense of urgency must be permanently instilled in everyone in the organization. Step 6 in the organization's strategy ensures that improvement is a closed-loop, never-ending process. It involves three activities:

- assessing and rewarding progress
- re-setting improvement goals
- conducting ongoing training.

The six training phases, listed in Figure 2, support the improvement strategy described above and are important parts of implementing it. All of the training should be highly interactive, giving participants frequent opportunities to apply the concepts and skills to job-related situations. What follows is a rundown of the six training phases.

Phase 1—understanding and commitment

Phase 1 training covers understanding and commitment. It provides everyone in the organization with an overview of the firm's six-step improvement strategy and of the training to be covered in the other five phases.

Phase 1 training has several important objectives. First, it gives people throughout the organization an understanding of what quality is, why it's important, and how the company intends to achieve it. It establishes the roles and responsibilities of executives, managers, and individual contributors. It establishes credibility for the improvement effort and helps gain people's commitment to pursuing it.

Phase 1 training has to deliver a consistent message to everyone, while also addressing the divergent needs of people at different levels of the organization. Executives, managers, and individual contributors play very different roles in the improvement process. So the content, sequence, and delivery of the training must be customized for each group, to prepare people for their particular responsibilities.

For example, the first challenge for executives is completing the preparation and planning steps of the improvement strategy. For this group of people, Phase 1 training is not a single seminar but a series of "learning by doing" experiences.

In Phase 1 training, executives conduct a marketplace assessment, organize themselves as an improvement steering council, develop an improvement philosophy, create a quality vision, define corporate improvement goals, select a quality management system, apply the six-step improvement strategy, and develop a top-level implementation plan.

After completing these steps,

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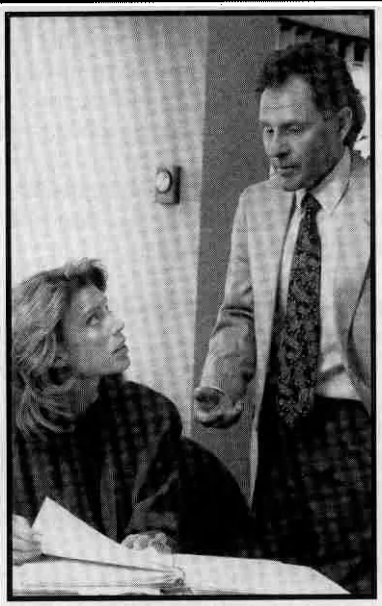

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executives should turn their attention to communicating all this to everyone else, pulling the improvement process through the organization, and creating an environment conducive to quality. So executive training in the first phase must familiarize top managers with what's required to implement the six steps of the improvement strategy.

The topics for executive training, which also summarize executives' leadership responsibilities, include the following:

- defining quality and its strategic importance to the business
- articulating a quality philosophy
- developing a shared vision and an improvement strategy
- developing an improvement team infrastructure
- developing supplier partnerships
- making improvement continuous.

The next people whose training needs must be addressed are managers. Their primary functions in the process are personalizing the company's quality message and tailoring the general approach to their units' specific requirements.

Like executives, managers must organize their own quality councils, develop improvement plans, and serve as role models to others—consistently thinking and acting in terms of quality and the relentless pursuit of improvement.

The most effective format for managerial training is typically a three- to five-day off-site seminar, preferably one that requires managers to stay overnight. It should allow managers time to get away from the constant crises of work and provide an opportunity to reflect on the "big picture." The subjects for Phase 1 training for managers are essentially the same as for executives, but with a different emphasis.

Executives are directly involved in the development of the company's overall improvement vision, philosophy, strategy, quality management system, and goals. Most managers are not. This important role difference significantly influences the Phase 1 training for each group. For managers, it is a process not so much of strategic exploration but of understanding top management's direction and learning how to bring

that direction into reality throughout the organization.

Individual contributors must learn to apply improvement thinking and techniques to their jobs. All employees are responsible for seeking new and better ways of doing things. They are expected to bring to management's attention any cases in which they believe quality may be compromised. They should identify opportunities for improvement in processes, products, and services, and should seek help when they see that changes are needed in areas they cannot independently influence.

Employees are expected to participate as effective members of improvement teams and continuously to seek to increase their own knowledge and skills in a process of lifelong learning.

Phase 1 training for individual contributors should be organized to minimize the disruption that classroom time can have on work schedules and productivity. In-house trainers should deliver the training on site. The content is similar to the content of training for managers but can be compressed into six modules of two to four hours each:

- what quality is and why it's important
- the company's quality philosophy, vision, and goals
- the company's quality strategy, system, and training
- teamwork as the foundation for improvement
- improving processes to make quality happen
- how to start making improvement continuous.

Phase 2—quality management systems

Phase 2 training covers quality management systems. The objective of this phase is to provide people with the knowledge they need to implement the quality management system, or QMS, that the organization has selected.

Various systems are available:

- Malcolm Baldrige National Quality Award criteria
- ISO 9000
- Deming Prize
- NASA Award for Productivity and Quality
- President's Award for Quality and Productivity
- composite systems.

I'll use ISO 9000 as an example here, to demonstrate how to train to support a particular system. See the sidebar, "The ISO 9000 Series," for more details on what ISO 9000 involves.

As in Phase 1, different groups in the organization have different training needs.

General training topics in this phase cover knowledge that is necessary for everyone in the organization. This kind of training provides important background information on what a quality management system is and why it's important. For example, it would cover the benefits of ISO 9000 registration, as well as the implementation process, responsibilities and teamwork, and third-party and self-assessment audits. Other topics include alignment of QMS documentation and system maintenance.

As in Phase 1, training needs vary among people at different levels in the organization.

Managers, for example, receive Phase 2 training in the requirements of the global marketplace, in ISO 9000 as the foundation for a total quality management approach, in registration process requirements, in leadership, and in interorganizational cooperation.

For project teams, Phase 2 training topics include an introduction to quality system auditing, in-depth understanding of ISO requirements,

The ISO 9000 Series

The most widely accepted quality standard internationally is the ISO 9000 series.

ISO 9000 was developed in 1987 by the International Standards Organization, of Geneva, Switzerland. It was originally adopted by British companies (as British Standard 5750) as a tool to establish whether suppliers' quality systems are adequate to ensure their abilities to meet their customers' product and service requirements. It is also known in the United States as the ANSI/ ASQC Q90 series.

In order to be certified as an ISO 9000 supplier, a company must pass an audit against the appropriate ISO 9000 standard by a registered auditing organization. Starting this year, ISO 9000 certification is a requirement for companies that do business in Europe. Consequently, many large U.S. companies are pursuing certification and are requiring their suppliers to do the same.

ISO 9000 is not a standard intended for end-user service organizations to comply with, but they can use it to ensure the adequacy of their suppliers' quality systems.

The five parts of the ISO 9000 series consist of three standards or models (9001, 9002, 9003) and two guides (9000 and 9004). The standard that a company selects depends on the "functional or organizational capacity" required of a supplier by the purchaser. It is helpful for people to understand that there are different standards for different applications, and the reasons behind an organization's choice to pursue a particular one.

ISO 9000 is a guide to the selection and the use of total quality management and quality assurance standards.

ISO 9001 is a standard for quality assurance in design and development, production, installation, and servicing of products. This is clearly the most comprehensive standard.

ISO 9002 and 9003 are subsets to ensure the quality of more limited functions or capacities. All three are used for external quality assurance purposes in contractual situations. ISO 9002 is a standard for quality assurance in production and installation activities. ISO 9003 is a standard, with very limited application, for quality assurance in the final inspection and test activities.

ISO 9004 is a general guide to quality management and quality system elements for internal management purposes.

quality terminology, auditing principles and techniques, alignment of quality system documentation, third-party and self-assessment audits, and system maintenance for ongoing third-party surveillance.

Phase 3—improvement teams

Training in Phase 3 focuses on improvement teams. After gaining a good understanding of management's philosophy, commitment, and approach to quality, people throughout the organization will need the knowledge and skills required to participate effectively as members of improvement teams. Again, the topics for managers, team leaders, and team members vary according to their roles in the improvement process.

Management training topics in Phase 3:

- developing a participative environment at work
- learning why employee involvement is necessary for improvement
- leading versus managing
- trusting and delegating
- sponsoring and coaching teams
- monitoring team performance and maintaining control
- recognizing and rewarding team accomplishments.

Team members' Phase 3 training should cover various aspects of team participation and their new roles as team members. Here are some examples of training topics:

- self-empowerment (believing they can and must make a difference)
- meeting management, including group process and roles
- team organization, including different types of teams and techniques for setting up teams
- problem solving and decision making techniques
- seven quality tools (brainstorming, cause and effect diagrams, check sheets, histograms, Pareto charts, other charts, and scattergrams).

Phase 3 training for team leaders focuses on forming and leading teams. Team leaders should receive training in the same topics as other team participants. But they should also receive training in several other aspects of improvement teams, including the following:

- the role of a team leader
- the principles of effective team leadership
- project planning techniques
- attributes of effective teams
- gaining support and commitment
- facilitation and conflict resolution techniques
- training team members
- communicating effectively with management.

Phase 4—customer service

People who work in customer contact positions, such as salespeople and service representatives, need specific training in how to work effectively with customers. Each person who interacts with a customer is a representative of the entire organization. Each interaction is an opportunity to demonstrate the company's dedication to improvement and customer satisfaction.

The empowerment training from Phase 3 is a prerequisite to training in customer service skills. People must believe they have the responsibility and ability to take the necessary actions to satisfy customers' needs. Phase 4 training focuses on the interpersonal skills needed to interact effectively with customers in a variety of situations. These skills include the following:

- listening actively and demonstrating courtesy, respect, and concern
- soliciting customers' expectations
- responding nondefensively and empathetically
- helping customers maintain their self-esteem
- negotiating winning solutions
- taking the initiative to satisfy customers
- following up to ensure customer satisfaction.

Phase 5—process control and improvement

Improvement teams may be functioning well and may be able to collect, display, and analyze data. But they still need two additional tools to improve the work processes that affect the quality of a company's products and services. Guided by corporate and division improvement objectives, teams can proceed with the difficult task of figuring out how to improve both manufacturing and business processes continuously.

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Integrating Training With Quality: A Reading List

- Paul A. Allaire and Norman E. Rickard, "Quality and Participation at Xerox," *Journal for Quality and Participation*, Volume 12.1.
- W. Edwards Deming, *Out of Crisis*. Massachusetts Institute of Technology Center for Advanced Engineering Study, 1988.
- Nina Fishman, "Our Customers Want Seamless Excellence in Their Training," *Journal for Quality and Participation*, December 1990.
- Patricia A. Galagan, "David T. Kearns: A CEO's View of Training," *Training & Development Journal*, May 1990.
- Patricia A. Galagan, "How Wallace Changed Its Mind," *Training & Development* (formerly *Training & Development Journal*), June 1991.
- H. James Harrington, *Business Process Improvement*. McGraw-Hill, New York, 1991.
- Kaoru Ishikawa, *What is Total Quality Control?* (translated by David Lu). Prentice-Hall, Englewood Cliffs, New Jersey, 1985.
- Tom Peters, *Thriving on Chaos*. Alfred Knopf, New York, 1988.
- Phillip J. Ross, *Taguchi Techniques for Quality Engineering*. McGraw-Hill, 1988.

The two tools team members still need are statistical process control and process improvement. Process control involves identifying and eliminating special causes of variation and bringing processes into a state of statistical control. This is most frequently accomplished through the use of the now-familiar control chart. Process improvement involves identifying and minimizing common causes of variation as well as eliminating waste and reducing cycle time.

SPC has been most often applied in manufacturing environments; process improvement can be used anywhere in the organization.

General topics for Phase 5 training in statistical process control include variation and data distribution, run

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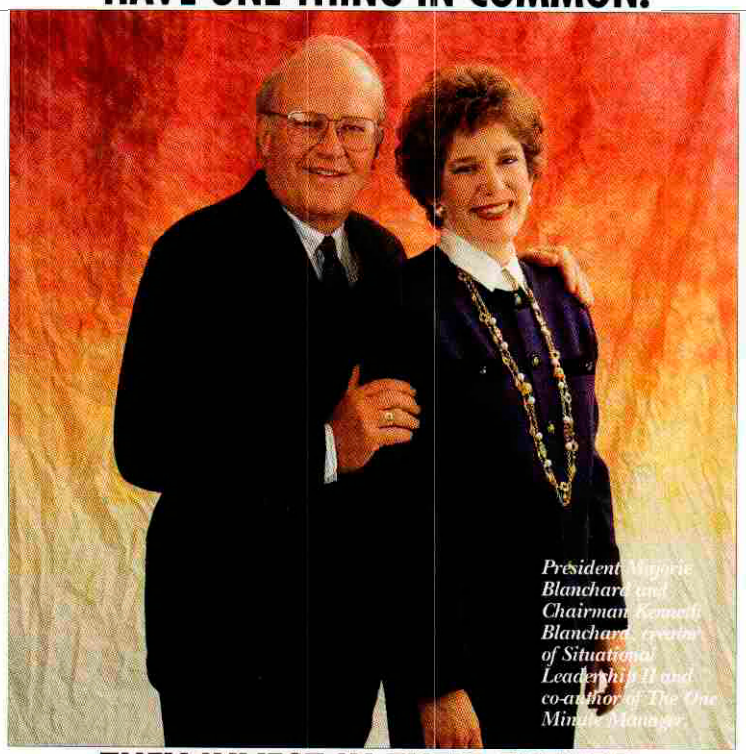

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charts and control charts, special versus common cause variation, critical parameters, identification of out-of-control limits, and corrective action.

For training in business process improvement, topics include organizing for improvement (organizing an improvement team, selecting a process of improvement, and selecting process owners); understanding the process (block diagramming, defining process boundaries, flowcharting, and interviewing); streamlining the process; and effecting continuous improvement.

Phase 6—quantitative methods

Quantitative methods for product design, development, and production include such activities as statistical design of experiments, sampling methodology, process capability, reliability engineering, and the techniques developed by Genichi Taguchi.

Quantitative methods are normally used only by the engineering and quality assurance functions. If internal expertise isn't available, external experts can teach these methods. The statistics involved are challenging, but in many cases, the greater challenge is providing a work environment conducive to their systematic use.

Developing such an environment requires getting management at all levels to understand the benefits derived from these methods. This understanding is difficult to achieve. Few managers have the time and inclination to learn statistics.

Luckily, each quantitative method is based on key concepts that are understandable even to those who have not mastered the techniques themselves. Learning the underlying concepts can help managers achieve a more profound understanding of quality and can make them more supportive of the people who are applying the techniques. Here a few examples to help make the point.

Taguchi techniques. One of the major contributions made by the noted Japanese statistician, Genichi Taguchi, is his conceptualization of the "quality loss function."

The traditional quality control approach says a product or service is acceptable if it falls somewhere within specified tolerances. The quality loss function demonstrates how any variation from the ideal or nominal value, even within acceptable tolerances, constitutes some degree of loss. And loss can be equated with additional, unnecessary cost.

The quality loss function helps managers clearly visualize why traditional "conformance to specifications" thinking is no longer acceptable and why it must be replaced with a philosophy of constantly minimizing variation—otherwise known as continuous improvement. It takes the concept of continuous improvement from the realm of philosophy and provides a statistical model that busy managers can readily understand.

Sampling methodology. One of the most commonly used acceptance sampling methods is Acceptable

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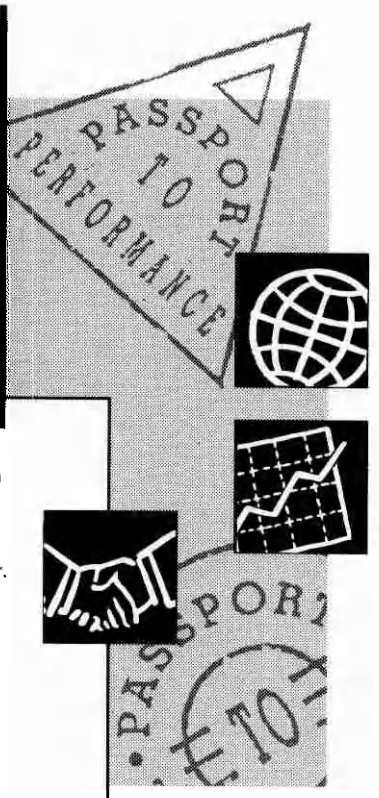

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Quality Level, or AQL. This approach is based on a previously determined maximum level of defects. The basic premise is that when products or materials are sampled and do not yield a greater number of defects than the agreed-upon level, the entire lot is deemed good and is accepted by the consumer.

Underlying the AQL approach are the concepts of producer and consumer risks. The producer faces the risk of the consumer rejecting materials that are actually good. The consumer faces the risk of accepting materials as good when they are actually bad.

Managers are often surprised to find out that the AQL acceptance sampling method actually balances the risk scale in favor of the producer—the opposite of what they would have logically expected. That realization quickly leads otherwise complacent managers to question the benefit of continuing to use the AQL approach, and to seek a more effective alternative.

Process capability. It's always important to understand the capability of a work process to produce a result that's within designed tolerance levels. Variation is inevitable, so it's necessary to specify a nominal or ideal value—plus or minus some degree of variation. When we compare the allowable tolerance range of a part with the normal variation of the process used to produce it, we can determine a "process capability index."

But design tolerances are determined by product engineering, and process variation is determined by manufacturing. So the practical implication of the concept for managers is the necessity for what is called "concurrent engineering"—product engineering and process engineering collaborating to ensure a high-quality product.

Organizations have talked for years about the need for a more collaborative relationship between those traditional adversaries. A conceptual understanding of the process capability equations makes that conclusion unavoidable.

Once again, subjective judgment or philosophy is replaced by statistical reality.

Aligning training resources

Organizations that have undertaken training for quality awareness employee involvement, or statistical process control in isolation have frequently been disappointed with their results.

Training must be preceded by a well-articulated quality strategy and must be designed to facilitate its implementation. Each phase of the quality training curriculum should build on the preceding phase of the training, to give people at every level of the organization the knowledge and skills they will need, when they will need them. And the training design must take into consideration the differences in roles between executives, managers, and individual contributors.

Of course, most companies are already conducting training that is not directly linked to their quality initiatives. Those training programs—for example, management and supervisory development, product and technology training, and computer application skills training programs—should also be seen as supporting the organization's overall improvement effort.

The skills of delegating, goal setting, and giving performance feedback, long taught in management development classes, attain greater significance when they are applied in the context of leading an improvement process. The same is true of the skills that are taught in most basic sales training courses, such as developing rapport and trust, soliciting needs, negotiating, and resolving conflict.

We should break down the traditional walls between training specialties and focus our combined efforts on the common goal of improvement. The best opportunity for success comes from aligning our training resources to support the organization's improvement strategy. ■

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