State Employee Training

A Best Practices Review

April 199

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Preface

In the business world, the hallmarks of success nowadays are leadership, customer service, continuous improvement, and employee training. These elements, it is said, contribute to organizational quality and, ultimately, add to the bottom line.

Recently, many government organizations have applied these principles of organizational quality to their own operations. In Minnesota, many state agencies have tried to identify and adopt practices that show promise of adding measurably to productivity, goal attainment, and citizen satisfaction. Several agencies have emphasized employee training because they think that it is the key to the other principles of organizational quality.

This report examines state employee training activities in 21 major state departments in Minnesota, but it is not a traditional audit or evaluation. It does not point out failures of performance or deficiencies in program operations. Rather, it identifies the principles of effective training and highlights promising training practices which illustrate these principles. Its purpose is to "show what works," and to recommend that, wherever possible, demonstrably successful practices should be considered for adoption throughout state government.

The "best practices" identified in this report were developed with help from the Department of Employee Relations, Business Dynamics, Inc., and many employees, managers, and training coordinators. The report was written by Jo Vos, with assistance from Susan Von Mosch.

Saint Paul, Minnesota
April 17, 1995

State Employee Training

A Best Practices Review

Executive Summary

This report is a "best practices" review. It identifies the best, most effective techniques for planning, organizing, implementing, and evaluating employee training in state agencies. We did this review in two stages. In the first stage, we developed a model of effective training principles based on expert advice, training literature, and the comments of state agency training coordinators. In the second stage, we sought out specific, concrete examples of actual practices that illustrate the principles of effective training and that have a successful track record in state government or in the private sector.

A best practices review is valuable insofar as its ideas prove useful to a broad range of practitioners. We hope that the examples presented here give state managers and training coordinators new ideas that they may adopt cost-effectively in their own agencies.

While a best practices review collects and highlights evidence of success in the design and delivery of services, it is not a full-fledged evaluation. It does not, for example, identify deficiencies in program design or implementation. Rather than focusing on the weaknesses in agencies' training activities, our best practices review of state employee training identifies the characteristics of effective training and presents concrete examples of training practices currently being used that are likely to contribute to an effective workforce.

This review identifies the best practices for organizing and delivering training for state employees

Minnesota
Office of the
Legislative Auditor

April 17, 1995

Specifically, this review has two main objectives:

- **To identify the training-related processes and procedures that are necessary for maintaining a skilled workforce; and**

- **To identify training-related practices that state agencies and the private sector are using that are likely to be effective.**

We focused our research on 21 state agencies. Using focus groups, in-depth interviews with agency representatives, and surveys of state employees and agency training coordinators, we gathered information about ideal training methods as well as actual practices.

BACKGROUND

For the purposes of this review, we defined employee training as follows:

> **Employee training is the process of identifying, assuring, and developing, through planned activities, the knowledge, skills, and abilities that employees need to help them perform their current and future job responsibilities in state agencies to the greatest extent possible.**

This definition recognizes that training is more than a single learning event and focuses on activities that are directly related to agencies' goals and objectives. It also suggests that training may include a variety of activities, such as formal classes, professional conferences, and structured self study, that may be sponsored or provided by agencies in-house, other state agencies, and other public and private vendors.

In Minnesota, training for state employees is provided largely by individual agencies. Although the Department of Employee Relations is responsible for developing and coordinating consistent training policy across state agencies, each appointing authority is primarily responsible for planning, budgeting, conducting, and evaluating training programs. In reviewing how agencies ensure that their employees keep their skills up-to-date, we found that:

- **State employee training is decentralized--most often to the division or work unit level within state agencies.**

Consequently, there is no statewide information on employee training costs or activities. We asked training coordinators in 21 agencies how much money their agency as a whole spent on training their employees during fiscal year 1994. Of the 19 training coordinators who returned our survey, 12 could give us complete spending data. Their responses, which represent about 65 percent of the state employees in our sample, indicate that:

- **On average, state agencies spent less than 1 percent of their payroll on employee training in fiscal year 1994.**

We estimate that some agencies spent around 0.3 percent of their payroll on employee training in fiscal year 1994 while another spent approximately 1.6 percent. Agency spending was from $34 to $582 per employee. We estimate that an average of $287 (or a median of $331) was spent per employee.

The amount of training that employees receive that is paid for or provided by an agency and the helpfulness of that training are also valuable indicators of agencies' commitment to training. We asked a representative sample of state employees in 21 agencies how many hours of training they completed during fiscal year 1994 that was paid for or provided by their agencies. We found that:

- **Eighty-six percent of the surveyed state employees reported that they had participated in some amount of training during fiscal year 1994.**

This is considerably more than estimates for most workers in general. According to the American Society for Training and Development, only 1 in 14 American workers--7 percent--has had any formal training from an employer.

Also, we found that:

- **Overall, state employees participated in about the same number of hours of training annually as employees in some major private corporations.**

Survey respondents reported that they took an average of 33 hours of training during fiscal year 1994, with a median response of 26 hours. This is similar to training figures reported by some private businesses. According to the American Society for Training and Development's survey of 19 major U.S. corporations, most companies reported providing between 16 and 56 hours of training per employee per year, with a typical value of 27 hours. However, it is less training than employees in some corporations who are past winners of the prestigious Malcolm Baldrige Award for Quality receive.

Most of the state employees who said that they had taken some training during fiscal year 1994 reported that the training they received was helpful to performing their current job responsibilities. Moreover, most agreed that their training helped their agency achieve its overall goals and objectives.

PRINCIPLES OF EFFECTIVE TRAINING

Training is a dynamic process made up of four major components: planning and support, needs assessment, methods and activities, and evaluation and feedback. Training experts, including many within state agencies, suggest that agencies should continuously plan for and support training that is linked to their mission, goals and objectives; assess current and future training needs of all employees; ensure that appropriate training activities are provided; and evaluate and utilize the results. Our model of training principles emphasizes these four elements, which we discuss below.

Planning and Support

First, we think that state agencies should use their training resources to support their mission, goals, and objectives. This requires agencies to have a clear vision of their roles and responsibilities and the human resources necessary to attain them. Although training is only one of many tools available to management, its link to agency performance should be clearly delineated, communicated, and supported at all levels within an organization. Seven principles, which are summarized below, demonstrate management support for training and help lay the necessary foundation for its success.

Planning and Support

1. Develop policies communicating the significance of training.
2. Develop training plans.
3. Set minimum training requirements for all employees.
4. Develop procedures to implement training policies.
5. Communicate training information to all employees.
6. Support training with funds and staff.
7. Ensure employees responsible for training have skills.

A Department of Corrections' practice illustrates how one agency has implemented various principles relating to planning and support. One of the department's seven core values states: "We value staff as our most valuable resource in accomplishing our mission, and we are committed to the personal welfare and professional development of each employee." The department demonstrates its commitment to this core value by requiring that all of its 2,900 employees participate in a minimum amount of training each year.

The Department of Natural Resources' Clerical Training Board also illustrates some principles related to planning and support. The board consists of 11 clerical staff (one from each region of the state and five from the central office) who serve two-year terms. The department solicits nominations and the department's training director makes the final selection of board members. The board is responsible for identifying, planning for, and designing training for nearly 500 support staff throughout the department. Each year, it prepares and submits a training plan for the commissioner's approval that establishes goals for the year and the strategy and tasks necessary to achieve them. At the same time, it maintains a prioritized, statewide list of clerical training needs in the department. During fiscal year 1994, the board had an operating budget of $10,000.

Needs Assessment

Second, our model of training principles suggests that training efforts should be targeted toward agencies' core skill requirements so that they can achieve their mission, goals, and objectives. To help ensure this, agencies should routinely identify deficiencies by comparing the competencies that they have identified as necessary to achieve their mission, goals, and objectives with employees' knowledge, skills, and abilities. In addition, performance should be routinely monitored to identify problems that may be amenable to training. The figure below summarizes the seven principles related to needs assessment.

Needs Assessment

8. Identify agency's core competencies.
9. Identify competency gaps.
10. Monitor agency performance.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
13. Identify training opportunities.
14. Set training priorities.

The Minnesota Department of Transportation's succession planning project, which is a staffing and development system, illustrates many of these principles. The project aims to create a pool of talented employees who should be capable of moving into key management positions in the department by identifying and developing key competencies early. It compares the knowledge, skills, and abilities of current employees with the core competencies required for 54 key positions and provides opportunities for employees to acquire the competencies that they may be lacking.

In a similar fashion, the Department of Natural Resources' supervisory feedback project compares the core competencies of selected supervisory positions with supervisors' current knowledge, skills, and abilities by obtaining feedback from employees who are being supervised. The primary goal of this project, however, is to improve current performance rather than develop employees for future positions.

Methods and Activities

Third, according to our model, agencies should identify and provide access to training activities that narrow skill gaps and address performance problems identified in needs assessment. The four training principles summarized below encourage agencies to use diverse and efficient methods to provide training activities that are linked to their mission, goals, and objectives. This includes collaborating with other public agencies and the private sector to provide training as efficiently as possible.

Methods and Activities

15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.

For example, the Bemidji Intergovernmental Training Exchange is a coalition of city, county, and state governments working together to expand training opportunities in the Bemidji area. Through meetings and needs assessment surveys, the exchange identifies common training needs and provides for joint activities to address those needs. The exchange makes more training activities geographically accessible to its members and reduces travel expenses related to training.

The Department of Human Services ensures that training is geographically accessible by using telecommunications to provide training to its nearly 7,000 employees, most of whom work in the department's regional treatment centers located throughout the state. According to the department, alternative technology, such as videoconferencing and satellites, permits it to provide quality training at low cost to a widely-dispersed audience, saving the department both time and money.

Evaluation and Feedback

Finally, to help ensure the wise expenditure of public funds, we think that agencies should try to determine training's results by conducting systematic evaluations of training activities. Not only should evaluation measure participant reactions to individual training sessions, but it should also try to measure changes in learning, job behavior, and organizational performance whenever possible. Five principles related to evaluation and feedback are summarized in the figure below.

Evaluation and Feedback

19. Maintain agency-wide training records.
20. Link training to employee performance appraisals.
21. Evaluate the effectiveness of training.
22. Use evaluation results to modify training methods and activities.
23. Use evaluation results to monitor agency's plans and goals.

The Pollution Control Agency's hazardous waste inspector training program illustrates principles related to evaluation and feedback. The agency evaluates training results in three ways. It examines participant *reactions* by requiring trainees to answer a short questionnaire after completing the required reading modules that are a part of its training program. It measures participant *learning* by administering competency tests at the end of many of the modules that trainees must pass with a minimum score of 90 percent. Finally, it measures subsequent participant *behavior* by requiring participants to successfully complete a number of on-the-job activities.

Another example that illustrates evaluation and feedback principles is the learner-centered learning program in the Department of Revenue. This program, which provides technical staff with the knowledge, skills, and abilities to be trainers, involves two types of formal evaluations. First, participants complete an evaluation form after completing the training to gauge satisfaction. Then program staff measure changes in on-the-job behavior by resurveying participants one month later to see how well the class prepared them for working as a trainer and to determine if they were able to use what they learned on the job. In addition, staff informally measure learning by providing participants with opportunities to practice what they are being taught during the training.

SUMMARY

This best practices review of state employee training has identified the processes that we think agencies should use to identify what training activities are needed, how those opportunities should be provided, and how results should be evaluated. Because we did not evaluate state agency training overall, we do not know how many state agencies may be using techniques consistent with our model.

Also, while we tried to present innovative examples of practices that are consistent with principles from our model, there are undoubtedly other practices occurring throughout state agencies that we did not review. We invite agencies to measure their own training efforts against our model and submit additional examples of best practices to us. If appropriate, we will update this report in the future.

Introduction

Within the last ten years, "best practices" reviews have become increasingly popular in both the public and private sector as a way to increase efficiency and service quality. This technique involves comparing specific management or service delivery practices across multiple jurisdictions to identify the most efficient or effective methods. Once identified, these best practices are described in detail and communicated to all jurisdictions with the expectation that they will be adopted if appropriate.

> ***A best practices review looks at service delivery techniques across agencies to identify the most efficient or effective methods.***

In June 1994, the Legislative Audit Commission asked the Program Evaluation Division to review state employee training using a best practices approach. While a traditional program evaluation focuses on organizational and performance deficiencies, a best practices review collects and highlights evidence of success in the design and delivery of services. Rather than focusing on the weaknesses in agencies' training activities, our best practices review of state employee training identifies the characteristics of effective training and presents concrete examples of training practices currently being used that are likely to contribute to an effective workforce.

We were asked to look at employee training for three reasons. First, employee training has come under increased pressure to help organizations respond to a rapidly changing workforce, technology advances, and shrinking budgets. Many well-regarded American companies such as Xerox, Motorola, Ford, and Saturn have recognized how much their overall business success depends upon developing a broadly skilled workforce. Second, employee training is an important government function that cuts across all state agencies and is amenable to a best practices review. Third, because there is little systematic information on how state agencies provide training and at what cost, there is interest in ensuring that training dollars are spent wisely. A best practices review may help identify some effective practices that may be transferable to other agencies.

Specifically, this review has two main objectives:

- **To identify the training-related processes and procedures that are necessary for maintaining a skilled workforce; and**

- **To identify training-related practices that state agencies and the private sector are using that are likely to be effective.**

To respond to these objectives, we talked with training experts in both the public and private sectors and examined the literature on training. We focused our research on 21 state agencies. We conducted focus groups and asked agency representatives for their input on the characteristics of best training practices and examples of such practices in their agencies. We also surveyed these 21 agencies to determine their training policies, costs, participants, and the number of hours that employees participated in training. Finally, we surveyed a representative sample of state employees in these 21 agencies to find out what they thought of their training opportunities and experiences.

As a first step in our review, we developed a model of "ideal" training principles that provides a general guide to desirable training policies, procedures, and methods. This model reflects the opinions of training experts, state agency staff, and the advice contained in the current body of literature on training.

We developed a model of ideal training principles.

We then identified several examples of employee training practices that illustrate our model. Each example is a program, policy, or set of procedures utilized by a state agency or private business that highlights different aspects of our training model. In deciding which examples to present, we tried to focus on practices that were process- rather than content-related, transferable to other agencies or job classes, and producing satisfactory results.

Our review identifies the processes that agencies should use to identify what training activities are needed, how those opportunities should be provided, and how results should be evaluated. We did not analyze how effectively particular state agencies, or the state in general, address employee training, nor did we evaluate the extent to which state agencies are engaging in activities that are consistent with our model. Consequently, this report is not an evaluation of state agency training.

Also, despite our efforts, this review does not constitute an exhaustive list of all exemplary agency training practices. While we tried to present innovative examples of practices that are consistent with model principles, there are undoubtedly other practices occurring throughout state agencies that we did not discover. We invite agencies to measure their own training efforts against our model and submit additional examples of best practices to us. Agencies may wish to use the form attached to the end of this report to send us other examples. If appropriate, we will update this report in the future.

This report has four chapters. In Chapter 1, we define training and present general background information on how training is organized in state agencies and its costs and employee participation rates. We make some comparisons with the private sector and present data from state employees regarding their perceptions of training opportunities and adequacy. In Chapter 2, we present our model of best training principles that lists the essential characteristics of effective training. In Chapter 3, we highlight some examples of training practices in various state agencies that illustrate the principles contained in the model. Finally, in Chapter 4, we discuss how six successful private companies have integrated employee training into their overall business operations.

Background

CHAPTER 1

Employee training is an important management function. By maintaining a skilled and up-to-date workforce, agencies are better able to address current and future workplace challenges effectively and efficiently. This chapter discusses how employee training is organized and delivered in state agencies. Specifically, our research focused on the following questions:

- **How much money do state agencies spend on employee training and how does this compare with private sector expenditures?**
- **How much training do state employees receive and how does this compare with private sector employees?**
- **What do state employees think of their training opportunities and experiences?**

To answer these questions, we surveyed training coordinators in 21 state agencies about their training policies and procedures. These agencies, listed in Figure 1.1, account for about 90 percent of the state's workforce.[1] Nineteen agencies responded to our survey.[2] We also sent questionnaires to a representative sample of 601 full-time state employees who had been employed in these agencies for at least one year to learn more about their training experiences and perceptions. Approximately 71 percent (426) of the 601 employees surveyed responded to our questionnaire.

Employee training helps agencies meet current and future challenges effectively and efficiently.

DEFINITION OF EMPLOYEE TRAINING

Employee training can be defined in many ways. Various definitions may include learning activities that are related to job skills development, career development, or personal enrichment. For the purposes of this review, we have defined employee training as follows:

> **Employee training is the process of identifying, assuring, and developing, through planned activities, the knowledge, skills, and abilities that employees need to help them perform their current and future job responsibilities in state agencies to the greatest extent possible.**

We used this definition of employee training for three reasons. First, it recognizes that training is more than a simple learning event and includes all of the work that should occur prior to and after a learning session itself. Thus, the planning, needs assessment, and evaluation phases of the training cycle are included in our definition.

1 For the purposes of this review, the state's workforce includes all executive branch employees, except those employed in the higher education systems.

2 See Appendix A for a description of our methodology and response rates.

Second, this definition focuses on activities that are directly related to agencies' current responsibilities as well as their future goals and objectives. Thus, it includes activities related to jobs that may be needed by agencies in the future. However, the definition excludes activities that are related exclusively to employees' personal goals that they may be pursuing on their own.

Finally, this definition suggests that training may be provided in a variety of ways, including formal classes, workshops, seminars, and professional conferences; one-on-one sessions; and structured self-study. Also, the actual training sessions or learning experiences may be sponsored or provided by agencies in-house, the Department of Employee Relations, other state agencies, and other public and private vendors.

Figure 1.1: Agencies Reviewed

Administration
Agriculture
Commerce
Corrections
Economic Security
Education
Employee Relations
Finance
Health
Human Rights
Human Services
Labor and Industry
Military Affairs
Natural Resources
Pollution Control
Public Safety
Public Service
Revenue
Trade and Economic Development
Transportation
Veterans Affairs

ORGANIZATION OF EMPLOYEE TRAINING

Training for state employees is provided largely by individual agencies. Although the Department of Employee Relations is responsible for developing and coordinating consistent training policy across state agencies, each appointing authority is primarily responsible for planning, budgeting, conducting, and evaluating training programs.[3] In reviewing how agencies ensure that their employees can keep their skills up-to-date, we found that:

- **State employee training is decentralized--most often to the division or work unit level within state agencies.**

With the exception of training for first-time managers and supervisors, the state does not require that state employees receive a specific type or amount of training. Minnesota statutes direct the Department of Employee Relations to design and implement a management development program for state managers and supervisors.[4] In response, the department created an 80-hour management development core for first-time public managers and a 48-hour supervisory core for first-time supervisors. In addition, the department offers a general set of classes to all state employees that are meant to supplement the more technical training that employees receive in their individual agencies.

Within the last few years, the Department of Employee Relations has focused more attention on coordinating training activities statewide. In response to a 1993 report by the Commission on Reform and Efficiency, the department has focused on serving as a clearinghouse and coordinator of training services rather than a provider of direct services.[5] For example, the department is trying to develop a network to encourage the sharing of training resources not only among state agencies, but among other levels of government. It has negotiated a few master contracts with preferred service providers that

3 *Minn. Stat.* §43A.21, subd. 1, 2.

4 *Minn. Stat.* §43A.21, subd. 3.

5 Commission on Reform and Efficiency, *Human Resources Management in Minnesota State Government*, (St. Paul, February 1993).

could allow state agencies to contract for training-related services more efficiently and effectively.

There is virtually no systematic statewide information on employee training activities, participants, or expenditures. Until recently, Department of Employee Relations' administrative procedures required that state agencies have a training plan that identified training needs, a training budget, and an action plan for improving each full-time employee. They further required that agencies report to the department all training activities designed, conducted, or sponsored by agencies.[6] However, the department did not monitor or enforce compliance with these procedures. Partly because these procedures were over 10 years old and did not reflect current thinking or practice, the Department of Employee Relations adopted new administrative procedures regarding employee training in January 1995. The new procedures require that agencies have a training budget and develop training plans at three levels (agency, work unit, and individual employee).[7] Agencies are not required to report activities to the Department of Employee Relations.

There is no statewide information system on employee training.

Within state agencies, individual divisions or work units usually determine who gets training, how much, and at what cost. When we surveyed state agencies about their training policies and procedures, only one agency indicated that it had an overall training requirement for all employees. As we discuss in Chapter 3, the Department of Corrections requires that all full-time employees, including administrative, professional, and support staff, participate in 40 hours of training annually and all full-time clerical employees participate in 16 hours annually.

We found that it is not uncommon for agency divisions or work units to have their own training requirements. While most state employee contracts do not require that employees participate in a minimum number of hours of training annually, most professional licenses and certification boards stipulate continuing education requirements. These can help drive training requirements at the work unit level. For example, the Department of Labor and Industry's occupational safety and health enforcement division requires employees to participate in 30 hours of training each year. Likewise, the Department of Natural Resources' enforcement division requires employees to participate in 50 hours of training a year.

There is considerable variation in how agencies have organized their training function. Some large agencies like the Departments of Transportation, Corrections, and Human Services have central office training coordinators and staff with additional training staff on site in their regional offices and facilities. In other smaller agencies, like the Departments of Agriculture and Education, training is one of the many responsibilities of the department's personnel director.

TRAINING EXPENDITURES

Agencies use a variety of methods to budget and pay for employee training. Most agencies budget training activities from their general fund allocation; only a few list training as a separate line item expense. The Commission on Reform and Efficiency found that 14 percent of state agencies base training amounts on previous years' levels and 6 percent base them on needs. Moreover, 9 percent finance training from their travel budgets while only 6 percent have separate training budgets.[8]

We asked training coordinators how much money their agency as a whole spent on employee training activities during fiscal year 1994, including training sponsored or provided by their agency in-house, the

6 Department of Employee Relations, *Administrative Procedures 21A, A*, effective December 6, 1982.

7 Department of Employee Relations, *Administrative Procedures 21, A*, effective January 19, 1995.

8 Commission on Reform and Efficiency, *Human Resources Management*, 89.

Department of Employee Relations, other state agencies, and other public and private vendors. We also asked them to include all other administrative costs related to training.[9] Partly because employee training is decentralized within agencies, we found that most did not have internal systems that permitted them to easily monitor and track training expenditures for the agency as a whole. Consequently, most of the 19 agencies responding to our survey had a very difficult time compiling expenditure figures for us, and 7 simply could not provide any data or could only provide very incomplete data. Some training coordinators told us that the current accounting system and fear of budget cuts have discouraged budgeting and tracking training expenditures on an agency-wide basis.

Some agencies did not know how much they spent on training.

Based on the responses of 12 agency coordinators, which represent about 65 percent of the state employees in our sample, we estimate that:

- **On average, state agencies spent less than 1 percent of their payroll on employee training in fiscal year 1994.**

Using data from the 12 agencies that could compile expenditure data for us, we estimate that some agencies spent around 0.3 percent of their payroll on employee training during fiscal year 1994 while another spent around 1.6 percent, with an average value of 0.8 percent and a median value of 0.9 percent. Agency spending was from $34 to $582 per employee, with average and median values of $287 and $331 respectively.[10]

In fiscal year 1994, the state's payroll totaled $1.2 billion for about 32,000 employees.[11] If most state agencies spent what agencies in our sample spent, we estimate that the state would have spent about $10 million on employee training during fiscal year 1994, or about $312 per employee.

Our estimate of what state agencies spent is low compared with what the private sector spends. According to the American Society for Training and Development, U. S. companies spend an average of 1.4 percent of payroll on employee training.[12] It recommends that organizations spend 1.5 percent of their payroll on employee training. In 1992, President Clinton endorsed the idea of having companies with more than 100 employees spend an amount equal to 1.5 percent of their payrolls on employee training. Also, one of the Department of Employee Relations' performance goals is that the State of Minnesota spend 1.5 percent of its payroll on training by fiscal year 1996 and 2.0 percent by fiscal year 1997.[13] If state agencies had spent 1.5 percent of their payroll on training in fiscal 1994, expenditures would have been about $19 million, or about $585 per employee.

Some organizations believe that government should invest even more in employee training. The National Commission on the State and Local Public Service recommends that states and localities should aim for a stable training budget of at least 3 percent of total personnel costs.[14] If this recommendation had been followed in fiscal year 1994, state expenditures would have been around $37 million, or about $1,171 per employee.

9 Training expenditures do not include salaries and benefits or travel and living expenses for employees while at training.

10 This assumes that all employees would have participated equally in training. As we show later in this chapter, participation in training varies by occupational group.

11 This includes all employees in executive branch agencies, except the higher education systems.

12 Patricia M. Fernberg, "Learn to Compete: Training's Vital Role in Business Survival," *Managing Office Technology*, September 1993, 16.

13 Department of Employee Relations, *1994 Annual Performance Report*, (St. Paul, September 1994), 21.

14 National Commission on the State and Local Public Service, *Hard Truths/Tough Choices*, (Albany, NY: Nelson A. Rockefeller Institute of Government, 1993), 42.

Office of the Legislative Auditor staff photo.

While average expenditures of less than 1 percent of payroll are lower than what the private sector spends in general, it is considerably less than what some efficient and successful American companies and the international competition spend. A survey of 19 major U.S. companies, including IBM, Hewlett Packard, Motorola, and AT&T, found that these companies spent between 1.5 to 5 percent of payroll on training in 1991, with a typical value of 3.2 percent. It reported that many Japanese firms approach the 6 percent mark.[15]

We asked state agencies whether they allocated a set amount of money per employee for training purposes. We found that almost no state agency does. As we discuss later in Chapter 2, the Department of Economic Security is considering adopting a training policy that has, as one of its goals, that divisions set aside a certain percentage of their payroll for employee development, training, and education. In addition, some divisions within agencies have similar policies. For example, during fiscal year 1994, the Department of Natural Resources' forestry division targeted 4 percent of the division's budget for training purposes, the human resources division set aside $200 per year per employee, and the metropolitan administration division allocated $75 per staff.

EMPLOYEE PARTICIPATION IN TRAINING

Simply calculating total training expenditures is not necessarily the best measure of agencies' commitment to training. The amount of training that employees receive that is paid for or provided by an agency and the helpfulness of that training are also valuable indicators of agencies' commitment to training.

Most state agencies were unable to tell us how many hours of training their employees participated in during in fiscal year 1994. However, we asked a representative sample of state employees in 21 agencies how many hours of training they completed during fiscal year 1994 that was paid for or provided by their agencies.[16] We found that:

- **Eighty-six percent of the surveyed employees reported that they had participated in some amount of training in fiscal year 1994.**

This is considerably more than estimates for most workers in general. According to the American Society for Training and Development, only 1 in 14 American workers--7 percent--has had any formal training from an employer.[17] As discussed earlier, we estimated that state agencies generally spent less

15 Scott A. Liddell, "Putting the Future on the High (Skills) Road," *State Legislatures*, (Denver, May 1993), 22.

16 See Appendix B for a summary of results from our survey of state employees.

17 Scott A. Liddell, "Putting the Future on the High (Skills) Road," 22.

than the private sector on employee training. However, data from our survey of state employees suggest that state agencies may be training considerably more employees with what they spend.

Based on responses to our state employee survey, we found that:

- **Overall, state employees participated in about the same number of hours of training annually as employees in some major private corporations.**

Survey respondents reported that they took an average of 33 hours of training during fiscal year 1994, with a median response of 26 hours. This is similar to training figures reported by some private businesses. According to the American Society for Training and Development's survey of 19 major U.S. corporations, most companies reported providing between 16 and 56 hours of training per employee per year, with a typical value of 27 hours.[18] However, it is less training than employees in some corporations who are past winners of the prestigious Malcolm Baldrige Award for Quality receive. Some of these companies indicated that their employees take 28 to 84 hours of training per year, with a median value just under 40 hours.

When making comparisons about training among employees and between the public and private sectors, one should keep in mind that different types of work situations demand different types and levels of training. For example, a leading-edge technology company may need its employees to instantly update their technical skills, whereas a human services or education agency has relatively fewer technological training needs. On the other hand, these agencies may require more training regarding changes in state and federal laws and regulations.

When we analyzed state employee survey results by occupation, we found that:

- **Participation in training programs by state employees varied by occupational group, with clerical and service/maintenance employees reporting that they completed less training than other types of staff in fiscal year 1994.**

Survey respondents who identified themselves as clerical or service/maintenance employees indicated that they participated in fewer hours of training compared with other occupational groups. When we examined the average number of training hours completed, clerical and service/maintenance staff said that they received less than one-half the training that managers/supervisors reported receiving and slightly more than one-half the training that professional/technical employees reported receiving. These data are shown in Table 1.1.

Table 1.1: Number of Hours of Training that State Employees Received in Fiscal Year 1994

Occupational Group	Average Number of Hours	Median Number of Hours
Managerial/Supervisory	45	40
Technical/Professional	35	32
Clerical/Office Support	19	8
Service/Maintenance/ Operations	19	16
Total	33	26

N = 425

Source: Office of the Legislative Auditor, Employee Training Questionnaire, 1994.

Furthermore, at least 27 percent of the clerical and service/maintenance employees surveyed indicated that they did not complete any training that was paid for or provided by their agency during fiscal year 1994. In contrast, only 6 percent of managers/supervisors and 11 percent of professional/technical staff surveyed said that they did not complete any training. Clerical and service/maintenance employees made up about one-fourth of our survey respondents, but they accounted for nearly one-half of those who did not receive any training.

18 George Kimmerling, "Gathering Best Practices," *Training and Development*, September 1993, 32.

We also asked employees to indicate the types of training that they took during fiscal year 1994. As shown in Table1.2, slightly more than one-half said that they participated in professional/technical training. Over one-third reported that they took training in policies and procedures, human relations/personnel growth, and computer skills, and about one-fifth reported taking communication skills and customer service training.

Table 1.2: Types of Training that State Employees Received in Fiscal Year 1994

Types of Training	Number of Employees	Percent of Employees	Percent of Employees Who Rated Training Helpful
Management-supervisory skills	82	19%	79%
Professional-technical skills	222	52	79
Policies/procedures	175	41	58
Human relations/personal growth	146	34	68
Communication skills	87	20	77
Computer skills	152	36	71
Customer service	74	17	65

N = 426

Source: Office of the Legislative Auditor, Employee Training Questionnaire, 1994.

Most of the state employees who said that they completed training responded favorably when asked to rate how helpful their training was to performing their current job responsibilities. Over 75 percent rated training in management-supervisory skills, professional-technical skills, and communication skills "very" or "fairly" helpful, between 65 and 71 percent rated training in customer service, human relations/personal growth, and computer skills very or fairly helpful, and 58 percent rated training in policies/procedures very or fairly helpful. Moreover, 70 percent of the state employees who completed training agreed or strongly agreed that the training they received helped their agency achieve its overall goals and objectives.

To determine how employees feel about their agency's training practices, we asked them about the overall availability and adequacy of the training opportunities in their agencies. Most of the survey respondents said that they were aware of available training opportunities. However, we also found that:

- **Less than one-half of the employees surveyed reported that their training needs were being adequately identified or that they received enough training to keep their job skills current.**

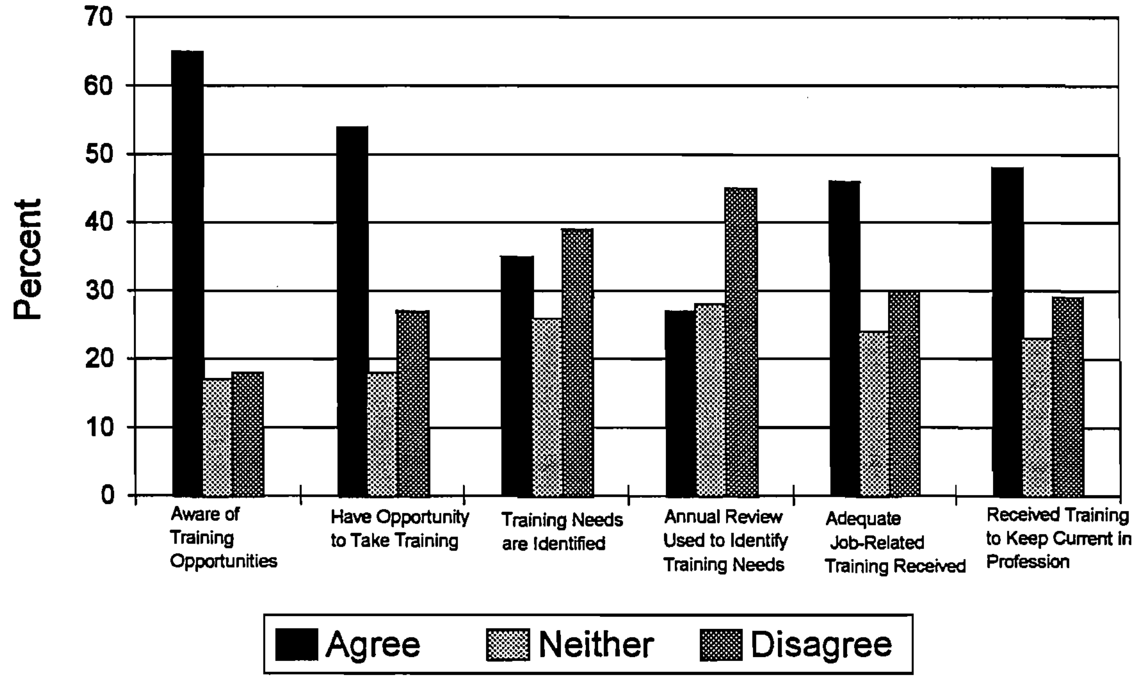
As shown in Figure 1.2, 65 percent of the employees surveyed agreed that they were aware of available training opportunities. However, fewer employees agreed that they had the opportunity to participate (54 percent), received enough training to keep current in their profession (48 percent), or received enough job-related training (46 percent).

Considerably fewer employees rated their agency's training practices related to needs assessment and performance appraisal highly. Only 35 percent of the respondents agreed that their agencies adequately identified their training needs; most (39 percent) indicated that their training needs were not adequately identified.[19] Finally, a much smaller proportion of employees (26 percent) agreed that their annual performance appraisal was useful in identifying their training needs while 45 percent disagreed.[20] Some employees told us that they seldom received an annual performance appraisal.

19 Twenty-six percent of the survey respondents neither agreed nor disagreed.

20 Twenty-nine percent of the survey respondents neither agreed nor disagreed.

Figure 1.2: Rating of Agency Training Practices



Note: Agree represents a combination of "agree" and "strongly agree"; disagree represents a combination of "disagree" and "strongly disagree."

Source: Office of the Legislative Auditor, Employee Training Questionnaire, 1994.

When we examined survey responses by the amount of training completed, we found that employees who had not completed any training rated agency training practices less positively than employees who had. In general, survey respondents who reported that they did not complete any training in fiscal year 1994 also indicated that they did not have their training needs adequately identified (57 percent), did not have the opportunity to take training (52 percent), did not receive enough training to keep current in their profession (51 percent), and were not aware of available training opportunities (38 percent).

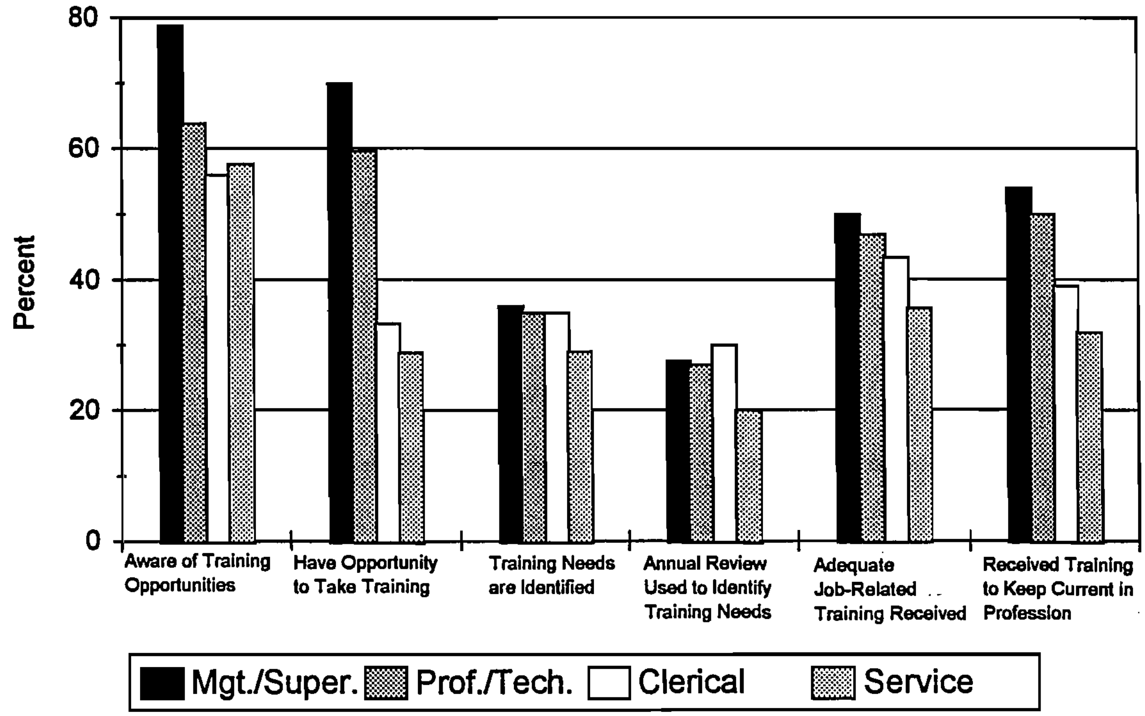
We examined how employees rated their agency's training practices by occupational group and found that:

- **Clerical and service/maintenance staff reported that they were less aware of training opportunities and less able to participate in training than employees in other occupational groups.**

As shown in Figure 1.3, fewer clerical and service/maintenance employees reported that they were aware of training opportunities, had the opportunity to attend training, and had received the training necessary to keep current in their jobs and professions than employees in other occupational groups. While the percentage differences vary by question, more managers/supervisors and professional/technical staff who responded to our survey indicated that they were aware of and could participate in training opportunities and had received the training necessary to keep current in their jobs and professions.

These occupational differences disappeared when we asked employees about identification of their training needs. We found that most survey respondents, regardless of occupational group, reported that their agency was not adequately identifying

Figure 1.3: Agency Training Practices, Percent Agreement by Occupational Group



Source: Office of the Legislative Auditor, Employee Training Questionnaire, 1994.

their training needs or using their annual performance appraisal to identify training needs.

SUMMARY

In summary, we found that, despite a very decentralized system with little comprehensive data, state employees have higher participation rates in training than private sector employees in general, even though state training expenditures as a percentage of payroll are lower. Also, our data suggest that state employees are generally receiving about the same amount of training as some private sector employees. However, it is less training than employees in some corporations who are past winners of the Malcolm Baldrige Award for Quality receive.

The following chapter presents a model of training principles that, if followed, should help state agencies ensure their training is provided as effectively as possible, whatever the investment of time and money.

Principles of Effective Training

CHAPTER 2

Maintaining a highly-skilled workforce is strategically important to all organizations. Although state agencies vary considerably in how they approach employee training, their ultimate goal should be to help employees perform their current and future job responsibilities at the highest level possible. Because training can be costly and time consuming, decisions to invest in it--no matter how large or small the amount--should be made thoughtfully and carefully. Simply assuming that all training is good--or that more is better--can be both foolish and wasteful.

This chapter presents a training model that should provide state agencies with some necessary tools to help ensure that employee training is as effective as possible. It identifies 23 specific "principles" of good employee training that agencies should be able to apply regardless of their size or mission. These principles represent the current concensus among experts about how an organization should organize and implement training. Figure 2.1 is an abbreviated version of the 23 principles which we discuss in greater detail in the following sections.

Because the Legislative Audit Commission asked us to do a best practices review of state employee training rather than an evaluation, we did not do a comprehensive analysis of whether or how state agencies have implemented our 23 principles of effective training. Some agencies are practicing many of these principles already. In Chapter 3, we present examples of practices in some state agencies that illustrate various best training principles. In Chapter 4, we focus on organizations as a whole rather than individual practices and discuss how six successful private companies have integrated various training principles into their overall business operations.

> ***Effective training incorporates planning and support, needs assessment, methods and activities, and evaluation and feedback.***

In general, we think that agencies should view employee training as a dynamic process made up of four major components: planning and support, needs assessment, methods and activities, and evaluation and feedback. To maximize the benefits of employee training, agencies should be continuously planning for and supporting training that is linked with their mission, goals, and objectives, assessing current and future training needs of their employees, ensuring that appropriate training activities are provided, and evaluating the results. Agencies should then use what they learn throughout this process to update their plans, processes, and activities.

PLANNING AND SUPPORT

We think that state agencies' training resources should be used to support their mission, goals, and objectives. To help ensure that training resources are used as wisely as possible, agencies need to have a clear vision of their mission, goals, and objectives and the human resources that are necessary to attain them.

Figure 2.1: Principles of Effective Training

Planning and Support

1. Develop policies communicating the significance of training.
2. Develop training plans.
3. Set minimum training requirements for all employees.
4. Develop procedures to implement training policies.
5. Communicate training information to all employees.
6. Support training with funds and staff.
7. Ensure employees responsible for training have skills.

Needs Assessment

8. Identify agency's core competencies.
9. Identify competency gaps.
10. Monitor agency performance.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
13. Identify training opportunities.
14. Set training priorities.

Methods and Activities

15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.

Evaluation and Feedback

19. Maintain agency-wide training records.
20. Link training to employee performance appraisals.
21. Evaluate the effectiveness of training.
22. Use evaluation results to modify training methods and activities.
23. Use evaluation results to monitor agency's plans and goals.

Successful organizations view employee training as a serious business endeavor and try to integrate it into their overall business strategy. They recognize that training should be as proactive as possible so that performance problems and opportunities can be anticipated in advance. As part of this process, successful organizations translate organizational goals and objectives into training goals and objectives and then try to evaluate training's results accordingly.

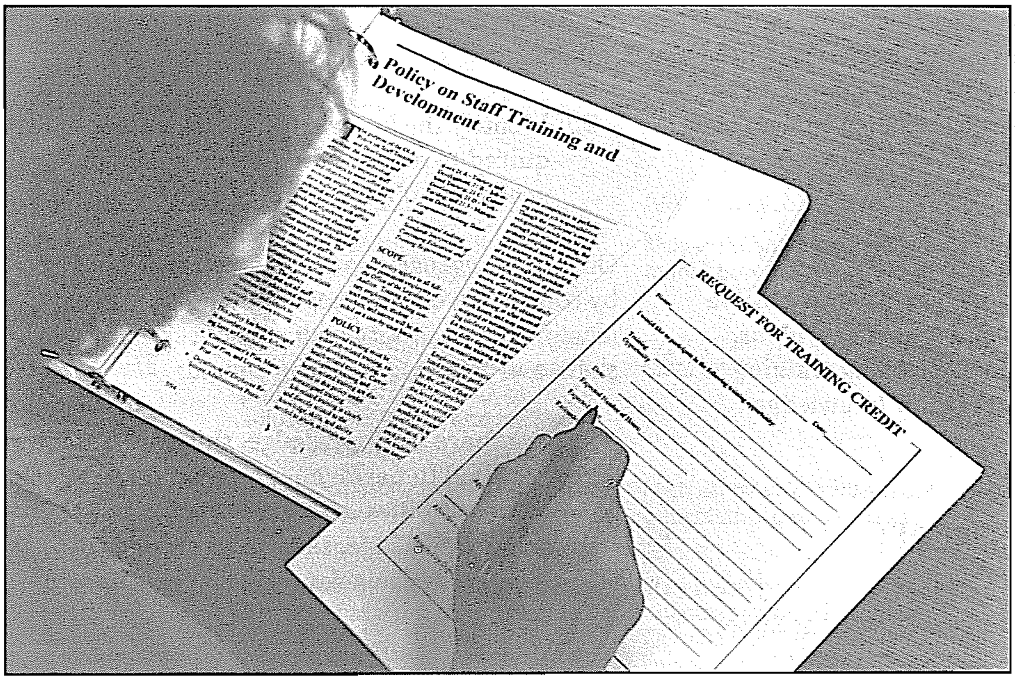
Although training is only one of many tools available to management, its link to agency performance should be clearly delineated and supported at all levels within an organization. At a minimum, management support is manifest in organizations' developing policies, plans, and procedures that clearly communicate training's significance in helping agencies achieve their mission, goals, and objectives. While formal training policies and procedures do not guarantee training's effectiveness, they help lay the foundation for successful training efforts.

In 1993, the American Society for Training and Development surveyed 19 major American corporations about their training activities.[1] The survey revealed that the training function within these companies enjoyed top-management recognition and support. For example, companies reported an average of only three reporting levels in the organizational chart between the chairperson or chief operating officer and the top training official. Most companies had written corporate commitments to training, mission statements and strategic plans for training, or strategic plans that included training. Likewise, most reported having annual training plans or training requirements for employees and individual employee development plans.

To help lay the necessary foundation for successful training efforts and to indicate management support for training, we think that state agencies should:

1. **Develop policies that communicate the significance of employee training in helping the**

1 George Kimmerling, "Gathering Best Practices," *Training and Development*, September 1993, 29-36.



Office of the Legislative Auditor staff photo.

agency achieve its mission, goals, and objectives.

2. **Develop training plans at the agency, work unit, and employee level that outline training priorities, objectives, and anticipated outcomes.**

3. **Develop policies that specify minimum training requirements for all employees, taking into consideration licensing, credentialing, or other professional standards when appropriate.**

4. **Develop procedures that delineate how training policies, plans, and priorities are to be implemented and by whom.**

5. **Communicate information about agency training policies, plans, priorities, procedures, and opportunities to all employees.**

Organizations often use training expenditures and training hours per employee as some concrete measures of an organization's commitment to training. As discussed in Chapter 1, we found that state employees were more likely to participate in training than workers in general. Also, we found that state agency spending and training hours per employee were not significantly out of line with private sector rates. However, they were less than what is found in the most successful American companies and the international competition. Nevertheless, we think that state agencies should:

6. **Support employee training by providing stable funding and staffing levels sufficient to address agency priorities.**

As discussed in Chapter 1, training is often decentralized in agencies. Work units are expected to identify their training needs and provide for them. Also, agency staff are often used to provide technical training, especially to less senior employees.

To help ensure that line managers, supervisors, and staff who are called upon to assume greater responsibilities for training have the necessary skills, we think that they should receive some assistance in how to proceed. Two different types of specific training activities appear to be needed. First, agencies must ensure that their line managers and supervisors who are responsible for developing work unit and individual employee training plans and for evaluating results possess basic needs assessment and evaluation skills. Furthermore, training must be supported and encouraged at the work unit level so that employees can transfer to the worksite whatever skills that they may have learned in training.

Second, line staff called upon to provide technical training to other employees need knowledge and skills beyond the technical knowledge of the subject matter. Effective trainers should be aware of different learning theories and styles so that they can establish an environment conducive to learning. Also, they should be able to write lesson plans with clear objectives and measurable outcomes, possess presentation skills, and use appropriate instructional tools.

Thus, we think that agencies should:

7. **Ensure that employees who are responsible for implementing training policies, plans, and procedures or for delivering training activities have the necessary knowledge, skills, and abilities.**

NEEDS ASSESSMENT

Training efforts should be targeted toward agencies' core skill requirements so that they can achieve their mission, goals, and objectives. To help ensure this, agencies should routinely identify deficiencies by comparing the competencies that it has identified as necessary to achieve their mission, goals, and objectives to employees' knowledge, skills, and abilities. The results of this comparison should help agencies identify performance issues.

Training should be targeted toward core skill requirements.

Needs assessment has long been considered an important part of the training process. A thorough needs assessment should help agencies identify whether employees have the necessary knowledge, skills, and abilities that their jobs require, both now and in the future. It can help identify appropriate training methods and tools and also form the basis for evaluating training. Needs assessment should occur at the agency, work unit, and employee levels.

As indicated earlier, training should help agencies achieve their overall mission, goals, and objectives. This suggests that agencies should know what specific knowledge, skills, and abilities employees need to do their jobs, both now and in the future. We think that agencies need to:

8. **Identify the knowledge, skills, and abilities required to achieve the agency's mission, goals, and objectives.**

Once done, agencies can look for staff deficiencies by contrasting the core competencies that it has identified as necessary with employees' knowledge, skills, and abilities. Agencies should:

9. **Compare the knowledge, skills, and abilities required to perform current and future job responsibilities with employees' current levels of knowledge, skills, and abilities to identify deficiencies.**

In addition to identifying the core competencies that agency jobs require, performance issues should be identified by routinely monitoring whether the agency is having difficulty meeting its mission, goals, and objectives and determining whether such problems are amenable to training. When performance problems are not due to factors that can be addressed through training, other solutions may be necessary, such as changing organizational policies, job performance standards, the recruitment and selection process, the tools staff have access to, or the allocation of resources. In any case, agencies need to:

10. **Monitor how well the agency is meeting its mission, goals, and objectives and determine whether training needs exist.**

To be effective, research indicates that needs assessment should be done early in the process, involve employees, and yield as much objective data as possible. Figure 2.2 describes a variety of methods organizations use to identify training needs, each of which is useful under certain circumstances. Common methods include advisory groups, group discussions, employee interviews, and attitude surveys. We think that agencies should:

11. **Involve employees in identifying their training needs and appropriate opportunities.**

Figure 2.2: Advantages and Disadvantages of Common Needs Assessment Methods

Needs Assessment Method	Description	Advantages	Disadvantages
Advisory Committees	On-going committees that identify and prioritize training needs and recommend appropriate solutions.	Moderate employee involvement. Low cost.	Yields little quantifiable data. Moderate investment of time.
Group Discussions	Sporadic meetings of employees from designated work units where problems are discussed, possible solutions analyzed, and training areas suggested.	High employee involvement. Quantifiable data possible.	Moderate investment of time and money.
Employee Interviews	Structured interviews of employees to obtain their perceptions of problems and training needs.	High employee involvement; quantifiable data possible.	High investment of time and money.
Exit Interviews	Structured interviews with employees who have resigned or left employment to identify problem areas.	May identify problem areas for agencies with high turnover. Quantifiable data possible. Low investment of time and money.	Low employee involvement.
Management Requests	Solicited or unsolicited suggestions from higher management about training needs.	Presents the organizational perspective; low investment of time and money.	Little employee involvement. Little quantifiable data possible.
Behavior Observations	Direct observations of job behavior either on-the-job or in simulated exercises.	Focuses primarily on job-related behavior. Eliminates need for meaningless training if skills already acquired. Yields quantifiable data about the relative need for training. Moderate employee involvement.	High investment of time and money.
Performance Appraisals	Records that include, among other things, a description of employee job needs and how they have been satisfied. Permits comparison of present and desired performance levels.	Moderate employee involvement; low investment of time and money if appraisal system in place. Quantifiable data possible.	
Questionnaires	Usually lists employee/ supervisory behaviors and asks respondents to evaluate their needs in these areas on a rating scale.	High employee involvement; yields quantifiable data about job behavior.	Moderate investment of time and money.
Attitude Surveys	Opinion polls asking employees their perceptions on a range of organizational and work-related issues.	Moderate employee involvement; data useful for indicating general satisfaction levels.	Does not yield specific data on training needs; moderate investment of time and money.
Performance Documents	Agency reports on productivity, efficiency, effectiveness, accidents, customer satisfaction, and other performance indicators.	Low investment of time and money if reports are already available. Quantifiable data possible.	Low employee involvement. May point out problems that are not amenable to training.

Sources: John W. Newstrom and John M. Lilyquist, "Selecting Needs Analysis," *American Society for Training and Development's Trainer's Toolkit: Needs Assessment*, (Alexandria, VA: American Society for Training and Development, 1990), 234-237; and Barry Smith, Brian Delahaye, and Peter Gates, "Some Observations on TNA," *American Society for Training and Development's Trainer's Toolkit: Needs Assessment*, 238-243.

12. Assess the training needs of all employees and develop individual training plans.

13. Identify the training opportunities that employees need to perform their current or future job responsibilities to help the agency meet its mission, goals, and objectives.

14. Set training priorities by examining skill deficiencies, budget constraints, and the agency's ability to meet its mission, goals and objectives.

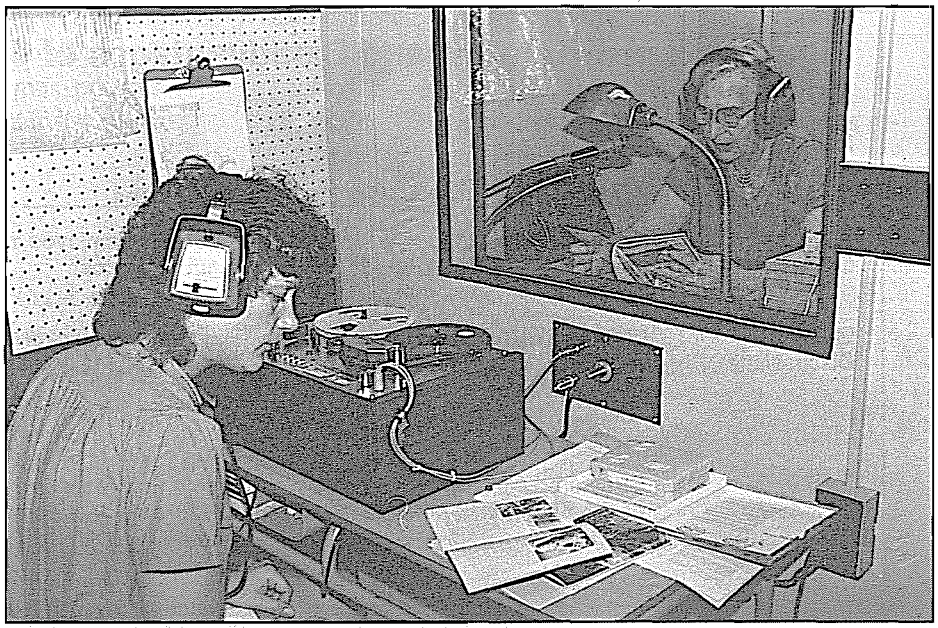


Photo courtesy of Minnesota Department of Natural Resources.

METHODS AND ACTIVITIES

Agencies should identify and provide access to training activities that narrow skill gaps and improve their ability to meet their mission, goals, and objectives. To help ensure this, agencies should write clear objectives for each training activity that are tied to both the agency's and work unit's objectives. Each training activity should be well thought out, with objectives that are realistic and measurable and that assign accountability and responsibility. Agencies should:

15. Ensure that training activities are relevant to agency mission, goals, and objectives.

Once training has been identified as the solution to a performance problem, appropriate training methods should be utilized. Over the last few years, private businesses have come to use a wide variety of methods and strategies, increasingly relying on advanced technology. According to a 1994 survey of U. S. businesses, videotapes have replaced the traditional lecture as the most widespread instructional medium used today.[2]

Table 2.1 shows a variety of training methods and the percent of businesses and state agencies that report using them. As these data show, similar percentages of state agencies reported using many of the same training techniques as private companies, such as videotapes and slides, lectures, and one-on-one instruction. However, state agencies reported using more teleconferencing (50 percent of state agencies surveyed versus 13 percent of private companies surveyed), more audio tapes (56 percent of state agencies versus 44 percent of private companies), more computer-based instruction (56 percent of state agencies versus 46 percent of private companies), and less noncomputerized self-study/self assessment programs (22 percent of state agencies versus 34 percent of private companies). In our view, agencies should:

16. Use a variety of training methods, including those that take into account differences in learning styles.

To help ensure that training activities are provided efficiently, agencies should collaborate with other public agencies and the private sector whenever possible. They also need to carefully determine how

2 "Who's Learning What?" *Training*, October 1994, 47.

Table 2.1: Instructional Methods Used for Employee Training

Instructional Method	Percent of Private Businesses	Percent of State Agencies
Video tapes/slides/films	92%	89%
Audio tapes	44	56
Lectures	87	83
One-on-one	76	78
Role playing	61	56
Case studies	49	56
Computer-based instruction	46	56
CD-ROM	8	11
Non-computerized self-study/self assessment	34	22
Interactive video	20	22
Computer/video/teleconferencing	13	50

Sources: Office of the Legislative Auditor, Training Coordinator Questionnaire, and "Who's Learning What?" *Training*, October 1994, 47.

training should be provided, that is, whether it is provided in-house or through vendors such as the Department of Employee Relations, private contractors, or other state agencies. Given the ever-tight money situation agencies face, they should collaborate with others whenever possible if it would be more efficient without any loss in effectiveness. Thus, we think that state agencies should:

17. **Provide training in the most efficient manner possible, avoiding unnecessary duplication and working cooperatively with others.**

18. **Make training geographically and physically accessible to employees.**

EVALUATION AND FEEDBACK

Failing to evaluate the benefits of training makes it particularly susceptible to budget cuts and other cost-savings measures. As budget pressures increase, agencies must be able to substantively demonstrate training's value if it is to be considered a legitimate organizational tool for management.

Over the last few years, private companies have put more emphasis on demonstrating training's cost-effectiveness and measuring its results and contribution to the bottom line. In a survey of 12 major corporations conducted by the American Society for Training and Development, researchers found that 66 percent of managers indicated that they had been under increasing pressure to financially justify training programs.[3] Most indicated that line management increasingly controlled their company's investment in training programs. Training activities that cannot demonstrate some return on investment or contribution toward achieving the company's goals and objectives are candidates for elimination.

Agencies must be able to demonstrate training's value.

Also, the prevalence, expense, and strategic importance of employee training suggest that these activities should be monitored on an ongoing basis. Yet, training decisions may, at times, be made without the benefit of systematic evaluation efforts. Little effort may be put into collecting the kinds of information that are needed to make wise and informed decisions. To answer questions about return on investment, successful organizations should have basic information about training participants, costs, and results. Therefore, we think that agencies should:

19. **Have an agency-wide system of recording information on training activities, including expenditures, employee participation, and**

3 Anthony P. Carnevale and Eric R. Schultz, "Evaluation Practices," *Training and Development Journal*, July 1990, v. 44, 23-30.

outcomes, to help ensure that training funds are being used cost-effectively.

To help ensure the wise expenditure of public funds, we think that agencies should try to determine training's results by conducting systematic evaluations of training activities at the employee, work unit, and agency level. The evaluation framework that most practitioners use is shown in Figure 2.3. According to this framework, training can be evaluated on four levels with each level more difficult to measure than the former, but yielding more valuable outcome information.

Figure 2.3: Levels of Training Evaluation

Level 1	Reactions:	Measures whether participants liked the design, content, and presentation of the training activity.
Level 2	Learning:	Measures whether participants actually learned the principles, facts, or techniques taught.
Level 3	Behavior:	Measures changes in participants' job behavior or performance.
Level 4	Results:	Measures the tangible outcomes of training in terms of organizational benefits.

On the first and most basic level (level 1), agencies can simply tabulate participants' reactions to specific training activities. This is often referred to as the "smile test" where participants are asked how much they liked the training. Usually, reaction information is obtained by simply administering a participant questionnaire at the end of a training program. Because reaction information does not indicate whether learning occurred or if it will be used on the job, it is not a useful measure of return on investment. However, participants' favorable reactions are critical to the success of any training program because people learn better when they accept training willingly and react positively to it. Also, such information is useful to trainers and instructors as they modify their training programs.

On the second level (level 2), agencies can measure whether participants actually learned anything. Usually, tests are administered, either during a training session or after it is over, to measure the knowledge, skills, and abilities that participants acquired during training. While it is important to know if learning occurred, evaluation at this level does not indicate whether the learning will actually be used on the job.

The third level of evaluation (level 3) measures changes in job behavior and performance over time. It assesses whether participants remember what they were supposed to have learned in training and whether they can and do apply it on the job.

Finally, the ultimate measure of training's value relates results to organizational goals and objectives. Evaluation on this level (level 4) usually looks for organizational changes in terms of improved quality or quantity of work. Because it may be difficult to isolate training's effects on the organization, partly because training is just one of many operating systems in any organization, training should be viewed as a system in support of others. In other words, training should contribute to the goals and objectives of the other subsystems and ultimately the organization that it serves if it is to be a meaningful part of the organization.

Most private sector companies evaluate training beyond the first level. In a 1990 survey of 12 major corporations conducted by the American Society for Training and Development, most companies reported that they use a variety of practical techniques specific to each organization to evaluate their training programs.[4] The majority of respondents said that they evaluated reactions (level 1), 25 percent evaluated learning (level 2), and 10 percent evaluated behavior changes (level 3). Employee training

4 *Ibid.*

was evaluated on the organizational level (level 4) about 25 percent of the time.

More companies are evaluating training's business effects.

Lately, more companies are evaluating training in terms of behavioral and organizational changes. According to a 1994 survey by *Training*, almost two-thirds of the organizations surveyed said that they evaluate behavior changes (level 3) for about one-half of the courses that they offer.[5] Furthermore, nearly one-half said that they look for business changes (level 4) as a result of training in about one-half of their courses. We think that agencies should:

20. **Incorporate a training component into the employee performance appraisal process that evaluates past training activities and identifies future training needs that are related to the agency's mission, goals, and objectives.**

21. **Evaluate the effectiveness of employee training activities and document the measurable results achieved over time, including changes in learning, job behavior, and organizational results, whenever possible.**

Evaluation results should be used to continually modify or improve agency training methods and activities. In addition, agencies should use evaluation results to examine their planning and needs assessment processes, the results of which should be fed into agencies' overall planning processes. Agencies should know about the effects of their training efforts and should be able to produce data to indicate whether training has been effective from an organizational perspective.

22. **Use evaluation results to modify or improve specific training methods and activities.**

23. **Use evaluation results to monitor or improve the agency's planning and needs assessment processes and to determine whether training helped the agency achieve its mission, goals, and objectives.**

SUMMARY

This chapter has presented a model of 23 training principles that, if utilized by state agencies, would help ensure that training for their employees is as effective as possible. This model views employee training as a dynamic process made up of four major components: planning and support, needs assessment, methods and activities, and evaluation and feedback. To maximize the benefits of employee training, agencies should be continuously planning for and supporting training that is linked with their mission, goals, and objectives, assessing current and future training needs of their employees, ensuring that appropriate training activities are provided, and evaluating the results.

Our review of employee training did not evaluate the extent to which state agency training for their employees is consistent with these 23 principles. However, in the following chapter, we present some examples of state agency practices that illustrate different principles from our model.

5 "Who's Learning What?" *Training*, 54.

Best Training Practices in State Agencies

CHAPTER 3

This chapter presents 15 examples of state agency training practices that highlight different principles from our training model that we discussed in Chapter 2. In deciding which examples to describe, we tried to focus on those that were:

- **Illustrative of best training principles;**
- **Process- rather than content-related;**
- **Transferable to other agencies or job classes; and**
- **Producing satisfactory results.**

It is important to note that the practices that we discuss are not the only examples of agency training practices that are consistent with our best training principles. Agency training coordinators recommended most of these to us in the focus groups that we held with them. Once identified, we met with agency staff to learn more about each practice to ensure that it illustrated various principles of effective training. There are undoubtedly many more examples that did not come to our attention.

In this chapter, we describe 15 training practices of state agencies that illustrate various training principles.

In addition, we focused on the practices of individual agencies and not those that the Department of Employee Relations has undertaken in its role as statewide coordinator of training, which we discussed in Chapter 1. Because one of the purposes of a best practices review is to present information about what discrete entities are doing in a certain area, we excluded the Department of Employee Relations' activities that are intended to have a statewide impact from this chapter.

Each best practice illustrates at least one of the 23 model principles described in Chapter 2. Because our focus was on individual agency practices rather than the agency as a whole, no single practice that we describe illustrates all of our 23 model principles. Appendix C contains a complete list of the practices described in this chapter, cross-referenced to our 23 best training principles and Appendix D lists state agency contact persons for each practice.

CLERICAL TRAINING BOARD

The Clerical Training Board in the Department of Natural Resources represents many principles from our best training model. Most importantly, the board provides an effective mechanism for employees themselves to identify, plan for, and design their own training on a statewide basis.

This practice illustrates the following best training principles:

2. Develop training plans.
6. Support training with funds and staff.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
13. Identify training opportunities.
14. Set training priorities.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods
18. Make training accessible.
20. Link training to employee performance appraisals.
22. Use evaluation results to modify training methods and activities.

Involving Employees in Identifying Training Needs

The Department of Natural Resources established its first Clerical Training Board in 1985 to help provide a unified training program for professional support staff. The board focuses on identifying and meeting the training needs of about 500 support staff in the department. It consists of 11 clerical staff (one from each region of the state and five from the central office). The department solicits nominations and the department's training director makes the final selection of board members for two-year terms. It meets for one day each quarter throughout the year.

The Clerical Training Board develops an annual training plan.

The board studies issues related to clerical training and development, assesses training needs by surveying employees and supervisors, reviews and advises on departmental training policy, prepares special training requests, and provides training activities. Each year, it prepares and submits a training plan for the commissioner's approval. This plan establishes goals for the year and the strategy and tasks necessary to achieve them. Also, the board maintains a prioritized list of departmental clerical training needs.

The Clerical Training Board has accomplished much since its inception, as shown in Figure 3.1. Most notably, the board has developed a Clerical Employee Development Plan that is completed at the time of performance review to help identify and lay out individual training needs. It has written a *Clerical Reference Manual* to help train new staff on office policies and procedures and a *Progression Manual* that sets forth the board's by-laws, purpose, goals, objectives, accomplishments, and membership. Also, the board has developed a training evaluation questionnaire to rate specific training activities, which gives a short description of the program, number attending, cost, program accomplishments, and a recommendation regarding future use. The board keeps these on file to help it decide whether to reuse a specific provider or to repeat a particular training session.

Using Diverse Methods and Activities

The Clerical Training Board ensures that a wide variety of training opportunities are available to support staff regardless of their geographic location. During fiscal years 1993 and 1994, it sponsored 42 training sessions throughout the state. In April 1994, the Clerical Training Board held its first Statewide Support Conference that about 50 percent of the department's support staff attended. In addition to traditional classroom training, the board sponsors field trips that help educate support staff about the roles and responsibilities of different divisions, bureaus, and regions within the department. For example, clerical staff toured William O'Brien State Park with the park naturalist and learned about a day in the life of a conservation officer from staff in the enforcement division.

The Clerical Training Board enjoys significant support from Department of Natural Resources' management. During fiscal year 1994, the board had an operating budget of $10,000. According to the Deputy Commissioner of Natural Resources, "The personal growth and the effective teamwork that result

Figure 3.1: Major Accomplishments of the Clerical Training Board

1985	Developed board by-laws and policies.
1986	Developed and distributed *Clerical Manual* to 125 staff. Established annual Secretary's Day seminar.
1987	Condensed and incorporated *Word Processing Manual* into the *Clerical Manual.*
1988	Developed a display booth for the central office. Organized and implemented a clerical skills development and enrichment resource in the department library.
FY 1990	Developed a training budget. Developed a Clerical Employee Development form. Revised board brochure. Assisted the Department of Employee Relations in providing a statewide Administrative Support Conference.
FY 1991	Developed telephone guidelines for all department staff. Purchased five training videos for clerical staff.
FY 1992	Revised *Clerical Manual*, *Reference Guide*, and *Progression Manual.* Development training evaluation questionnaire.
FY 1993	Developed FY 1994 annual workplan and budget. Developed prioritized, statewide list of training needs on technical and communications skills building. Revised *Progression Manual.*
FY 1994	Held first Statewide Support Conferende for department staff. Revised brochure, *Reference Manual*, and *Progression Manual.* Developed FY 1995 annual workplan and budget.

Source: Clerical Training Board, Department of Natural Resources, *Progression Manual* (St. Paul, 1994), 5-6.

from the opportunities provided by the Clerical Training Board contribute to the success of the Department of Natural Resources throughout Minnesota."[1]

SUCCESSION PLANNING

In 1993, the Minnesota Department of Transportation initiated its succession planning project. While this practice illustrates several training principles, it is an especially good example of how one agency has tried to ensure that its employees have the time and opportunity to acquire the core competencies associated with certain job positions that may be open in the future.

This practice illustrates the following best training principles:

2. Develop training plans.
8. Identify agency's core competencies.
9. Identify competency gaps.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
13. Identify training opportunities.
20. Link training to employee performance appraisals.

1 Clerical Training Board, Department of Natural Resources, *Clerical Training Board FY 94 Annual Training Plan*, (St. Paul, undated), 1.

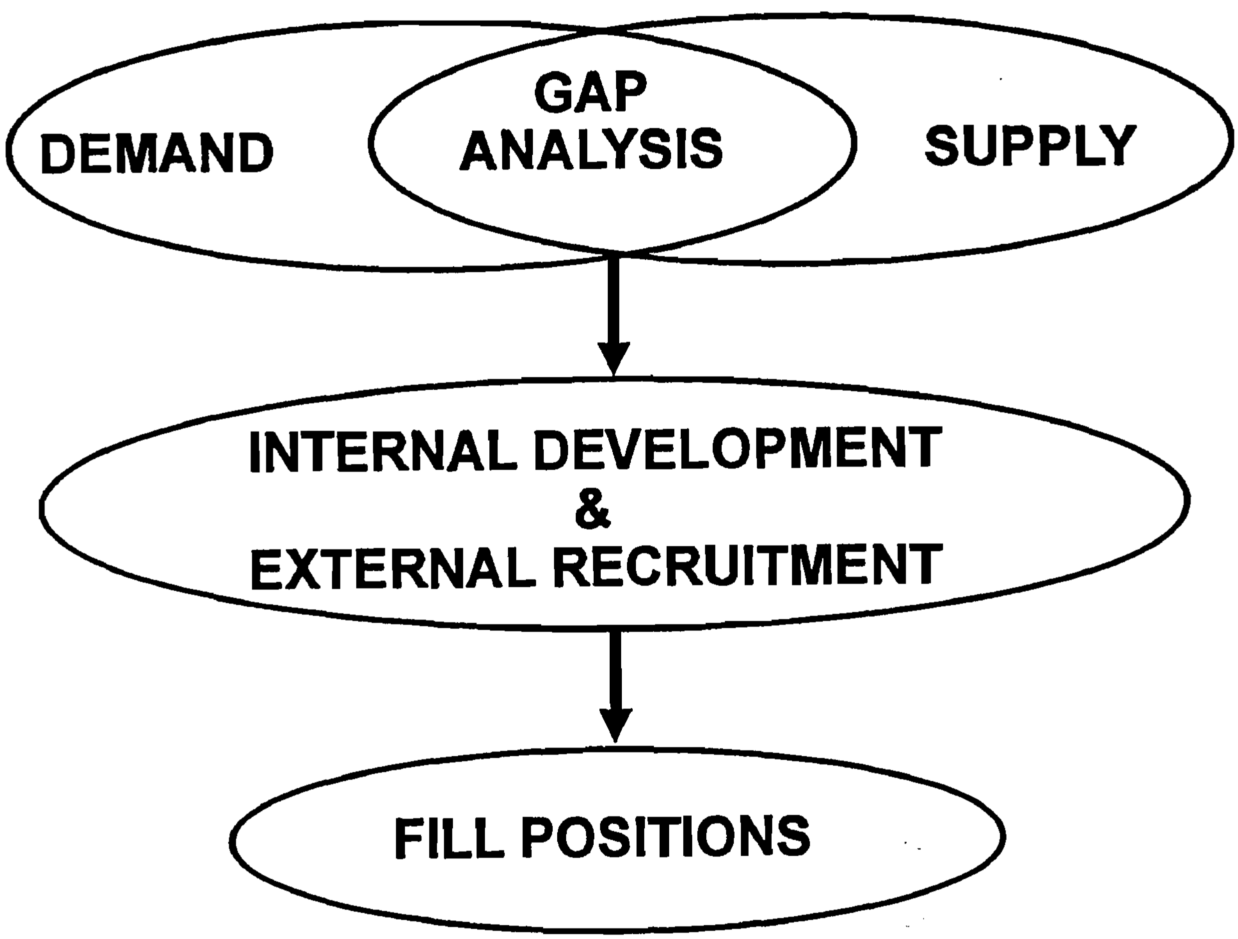
Identifying Core Competencies and Future Skill Needs

Succession planning is a staffing and development system that compares the knowledge, skills, and abilities of current employees with the department's future staffing needs, as shown in Figure 3.2. The project creates a pool of talented employees who should be capable of moving into key management positions in the department by identifying and developing key competencies early.

The succession planning project has five major objectives: (a) to systematically identify key management and technical positions and the associated performance requirements of each before staffing needs arise; (b) to determine whether positions should be filled internally or externally; (c) to develop a "talent pool" of well-trained employees who could move into these positions; (d) to integrate succession planning into existing strategic planning efforts and human resource programs; and (e) to increase participation of protected class members.

The department began by identifying the knowledge, skills, and abilities associated with 54 management-level positions in the department. It identified the core competencies that these positions required in seven common areas: leadership, strategic and systems thinking and learning, organizational knowledge, quality management, technical

Figure 3.2: Succession Planning



Source: Minnesota Department of Transportation.

knowledge, people management, and personal characteristics.

In late 1994, it surveyed all department managers to see how many people were interested in any of these positions over the next three years. Of the 140 managers surveyed, 68 said that they were interested in one or more positions. Interested staff and their division supervisors each completed an assessment instrument that indicated employees' strengths and weaknesses in each key competency. These instruments were then used to develop individual employee profiles. Currently, bureau-level staff are reviewing the 68 employee profiles. The department expects that, by April 1995, management staff at the agency level will have reviewed the profiles and selected a subset of employees to participate in the project. At that point, management and the selected employees will write individual development plans that will identify the relevant training employees need to move into key management positions in the future.

According to the Minnesota Department of Transportation, the succession planning process will have an 18-24 month cycle. Employees who are not chosen in the first cycle will have the opportunity to be reconsidered every 18-24 months. Because the project is a three-tiered process that moves from the division through the bureau to the agency level, it requires significant management support and input. In the future, the department hopes to include more key positions in the project, including lower-level managerial and nonmanagerial technical positions that the department deems critical to its overall operations.

The department is encouraging its regional district offices as well as its central office to implement a similar process on a smaller scale. Transportation departments and other public agencies in other states have contacted the department for information and technical assistance in establishing their own succession planning projects.

SUPERVISORY FEEDBACK

In 1992, the Department of Natural Resources initiated a supervisory feedback project as a developmental tool for supervisory staff. As with the previous practice, succession planning, supervisory feedback illustrates how one agency has compared the core competencies of selected positions with employees' current knowledge, skills, and abilities. However, the goal of supervisory feedback is to improve current performance rather than develop employees for positions in the future.

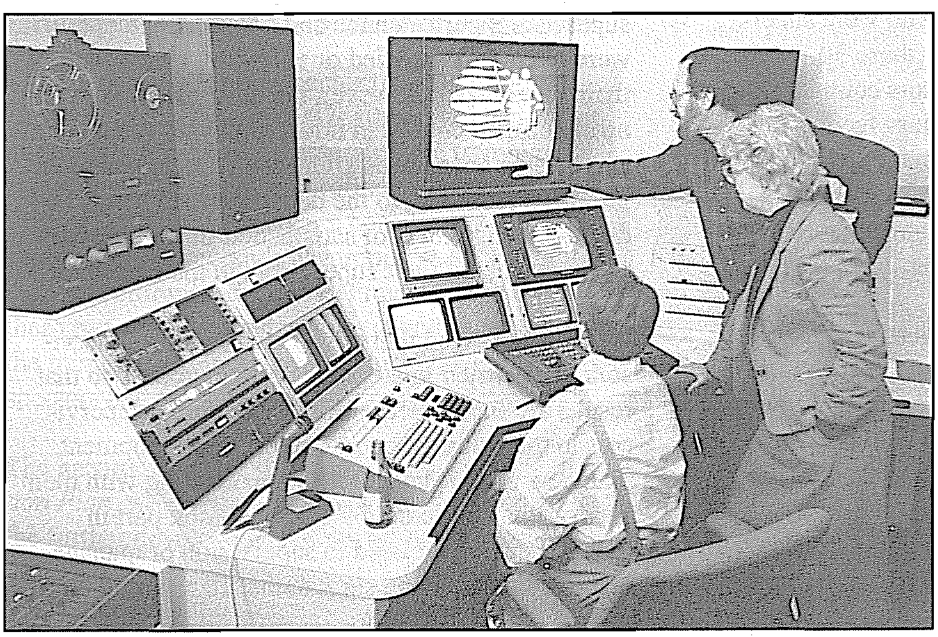


Photo courtesy of the Minnesota Department of Natural Resources.

Previously, department supervisors received feedback on their performance from their own supervisors, but not from those whom they supervised. Research has shown that subordinate feedback can provide managers and supervisors with unique information about their management style and can help identify areas for improvement. This project gives employees the formal opportunity to comment on generic aspects of their supervisors' work.

This practice illustrates the following best training principles:

1. Develop policies communicating the significance of training.
7. Ensure employees responsible for training have skills.
8. Identify agency's core competencies.
9. Identify competency gaps.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
13. Identify training opportunities.
15. Ensure that training activities are relevant to agency goals.
21. Evaluate the effectiveness of training.

Identifying Core Competencies

The department began its pilot project by identifying the core competencies that all supervisors should have in seven areas: planning and managing the work unit; planning and managing the individual employee's work; human relations and interpersonal communications; employee encouragement, development, and support; empowerment; leadership; and team building. In February 1993, the department randomly selected a group of 50 supervisors and divided them into a study and a control group. Over 450 employees who were supervised by these 50 supervisors completed a supervisory feedback questionnaire where they rated their supervisors' performance in the seven key areas.

Supervisory feedback asks employees about their supervisors' skills.

Department staff aggregated data on each dimension for each supervisor and held workshops for those supervisors in the study group to learn how to interpret the data gathered from their employees. The department also held other workshops for the supervisors' immediate supervisors to learn how to "coach" their employees better. In addition, the department asked supervisors in the study group to meet with their own supervisors to discuss feedback results and to complete a development plan for supervisors that addressed problem areas. Supervisors and their immediate supervisors were asked to meet again three months later to review progress in achieving stated objectives.[2]

Evaluating Training on Two Levels

The department has evaluated the supervisory feedback project on two of the four evaluation levels that we discussed in Chapter 2 and illustrated in Figure 2.3. First, the department measured participant reactions (level 1) by asking study group participants to complete a survey related to their experiences with the project. Second, to measure behavior (level 3), the department surveyed subordinates about their supervisor's performance six months later to see whether there were any changes in job behavior or performance.

Project results indicated that 96 percent of the supervisors in the study group found supervisory feedback to be very or somewhat helpful, and 78 percent said that they would recommend it to others. Approximately 70 percent of the employees surveyed were satisfied or very satisfied with their supervisor's performance and about 16 percent were overall dissatisfied or very dissatisfied with their supervisor. However, the department found no significant change in how employees rated their supervisors six months after they participated in the project. According to the department, this may be due to the high level of satisfaction that employees expressed about their supervisors in the first place.

It should be noted that not all study group supervisors participated in all phases of the process so that results are incomplete. Only 11 of the 23 supervisors in the study group completed a development plan, and only 7 had a follow-up meeting with their supervisor. While only 7 of the 23 took part in training sessions related to supervision or management in the following six months, 16 reported that

2 After the department completed its evaluation of the project, supervisors in the control group were given the opportunity to participate in the training that the study group received.

they engaged in other activities to improve their supervisory or managerial skills, for example, reading management-oriented literature or having discussions with employees.

The department has been very pleased with the results of supervisory feedback and will be administering it to regional administrators and division directors during fiscal year 1995. Ultimately, the department would like all supervisors and managers to participate in supervisory feedback. The department estimates that it costs between $25-50 for each supervisor and between $15-25 for each of their superiors, plus travel, to participate in the supervisory feedback project.

This practice illustrates the following best training principles:

2. Develop training plans.
8. Identify agency's core competencies.
9. Identify competency gaps.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
13. Identify training opportunities.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
20. Link training to employee performance appraisals.
21. Evaluate the effectiveness of training.
22. Use evaluation results to modify training methods and activities.

HAZARDOUS WASTE INSPECTOR TRAINING

The Minnesota Pollution Control Agency has developed a competency-based training and evaluation program for its hazardous waste inspectors that incorporates many elements of our best training model. The agency has identified the key competencies required of its inspectors and has provided a wide variety of activities to ensure that employees actually acquire them.

Linking Training to Goals and Objectives

The hazardous waste inspector training program has been in place since 1987, although the agency has been continuously reassessing the training needs of its inspectors and refining the program. It was initiated partly to ensure consistency among inspectors in the agency's hazardous waste compliance and enforcement units. Previous to 1987, these two units worked as one. Another reason was the tremendous amount of technical material that inspectors had to learn in a short period of time.

The hazardous waste division's *State Training Action Plan*, which was written in 1989, helped guide the further development of the training program. The plan, developed in response to federal grant money, laid out the status of hazardous waste inspectors' training in Minnesota, defined the elements of quality training, outlined the state's certification program, and set forth a five-year work plan along with staff and funding requirements.

Identifying Core Competencies

The hazardous waste inspector training program was developed and written largely by the inspectors themselves. Meeting with other inspectors, supervisors, and managers, they began by identifying the core competencies that hazardous waste inspectors needed to be successful in their jobs. They then set about designing a training program that ensured that trainees would be exposed to activities where they could develop these skills.

The training program is a two-tier certification program, with a third level of certification currently being developed. The Pollution Control Agency requires that all hazardous waste inspectors successfully complete the first level of training (inspector certification) by their six-month anniversary with the agency. This level consists of 13 separate modules that focus on fundamental job responsibilities. Trainees proceed through these reading assignments at their own pace. Each module also has a number of structured activities and exercises that trainees must complete. Included in many modules is a competency test that trainees must pass with a minimum score of 90 percent.

Certified inspectors are not required to complete the second level of training (compliance officer certification), although it is highly recommended. The second level is made up of ten self-study modules. As with level-one certification, level-two certification requires that trainees successfully complete various activities and pass a competency test for many of the modules. Compliance officer certification takes at least three years to obtain. Because there is a broad range of activities that may meet various certification criteria, the hazardous waste division of the Pollution Control Agency created a five-person Professional Development Board to review and grant certification requests.

The hazardous waste inspector training program uses a variety of training methods and activities, as shown in Figure 3.3. In addition to the self-study materials, trainees attend and participate in forums, observe and ultimately lead inspections, prepare reports, make presentations, and help negotiate stipulation agreements. In addition, trainees are each assigned a mentor who helps them understand program requirements, oversee their participation in inspections, review training materials and test results, answer questions, and suggest ways for trainees to meet different program requirements.

Figure 3.3: Sample of Minimum Standards for Hazardous Waste Inspector Training

INSPECTOR CERTIFICATION

- Attend 20 forums--participate in 5 and lead 4.
- Accompany staff on a minimum of 12 inspections.
- Observe a minimum of 2 negotiation meetings.
- Conduct a certification inspection.
- Write enforcement documents and letters under mentor's supervision.
- Complete modules 1-13.

COMPLIANCE OFFICER CERTIFICATION

- Work 36 months as a certified inspector.
- Manage 100 cases.
- Make 10 presentations--2 must be formal.
- Manage 5 multi-media cases.
- Play a significant role in negotiating 3 Stipulation Agreements.
- Draft and lead 2 board items presented to either the Commissioner's Office, MPCA Hazardous Waste Committee, or the MPCA Citizens Board.
- Actively participate in a minimum of one compliance assistance project.
- Complete modules 14-23.
- Execute various enforcement documents.

Source: Inspector Training Program, Minnesota Pollution Control Agency, 1993.

Evaluating Training on Three Levels

The agency evaluates its training program on three of the evaluation levels that we discussed in Chapter 2. First, to measure participant reactions (level 1), trainees must fill out a short questionnaire after completing all of the required modules. Participants are asked about problem areas and are encouraged to suggest ways to improve the training. To measure learning (level 2), the agency administers competency tests for many of the modules that trainees must pass with a minimum score of 90 percent. To measure behavior (level 3), trainees must successfully complete a number of on-the-job activities. For example, inspector trainees must perform in a lead capacity on four hazardous waste inspections and conduct a certification inspection. Compliance officer trainees must assist in at least three permitted facility inspections and lead two others. Other inspectors "shadow" or follow the trainees as they conduct these inspections after which they meet to discuss any problems. In addition, there are various on-the-job activities that each trainee must complete satisfactorily, such as writing enforcement documents, making presentations, and executing penalty orders.

Although the agency has not examined the program's impact on the organization as a whole, anecdotal evidence suggests positive effects. For example, managers told us that the program's first graduates were at least 12 months ahead of inspectors who did not complete certification training when they passed their probationary period. Also, since 1987, only a handful of the more than 500 administrative penalty orders written have gone to court and none have been thrown out due to problems with the inspection. Finally, the department points to reduced job turnover and increased job satisfaction among hazardous waste inspectors as indicators of effectiveness. Furthermore, managers told us that the program develops well-rounded employees who are able to assume greater responsibilities within the agency when needed.

TECHNICAL CERTIFICATION

The technical certification program in the Minnesota Department of Transportation (MnDOT) is designed for highway construction staff. This training program incorporates three levels of evaluation to help ensure that learning occurs and can be applied on the job.

This practice illustrates the following best training principles:

2. Develop training plans.
4. Develop procedures to implement training policies.
7. Ensure employees responsible for training have skills.
8. Identify agency's core competencies.
9. Identify competency gaps.
11. Involve employees in identifying training needs.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.
21. Evaluate the effectiveness of training.
22. Use evaluation results to modify training methods and activities.

Linking Training to Goals and Objectives

The Minnesota Department of Transportation created its technical certification program in 1989 in response to concerns about its bituminous quality management program. The department was having significant problems completing daily tests of bituminous specifications in a timely fashion because daily pavement production was so high. The paver was often miles down the road before critical tests could be performed and adjustments made to the mix if problems were detected. Consequently, some pavements were showing serious flaws after having been in place only a year or two, a problem directly attributable to faulty mix. At the same time, the department was questioning the appropriateness of placing all responsibility for quality control in the hands of the buyer (MnDOT) rather than the supplier.

Consequently, the department revised its procedures to test materials and began to turn over asphalt mix design and quality control testing to private contractors. To be sure that they were properly trained, the department spent a year and a half structuring a two-level certification and training program for bituminous testers and inspectors. To identify core competencies and training needs, the department set up individual task groups composed of staff from the transportation department and local government, private consultants, and industry members. It developed a program that emphasized both classroom training and competence testing. To aid in its implementation, the department developed procedures to identify employees and prioritize course registration. The department formed district groups to ensure that employees who had the greatest need for training attended.

Since 1989, the department's certification program has been expanded and revised. For example, in 1993, the department sent needs assessment surveys to approximately 3,000 certified individuals; about one-half were completed and returned. The department has used the results to identify new course offerings and revise its certification programs.

Currently, the department offers a two-level certification program in ten different areas. As we discuss later, all areas evaluate training results at the participant reaction and learning levels, and some areas evaluate job behavior. For example, the first level of certification requires completing 16 to 52 hours of classroom training, passing a written test, and, in some cases, successfully completing a hands-on performance review.

Certification may be required for MnDOT employees as well as city and county employees, engineering consultants, testing firms, and private contractors. All contractors and department employees who work on construction projects that use state funds are required to provide certified employees. Certification lasts for five years after which they must apply for recertification. The department is presently setting up recertification courses and, as more of them become available, inspectors will be required to attend a minimum number of courses and other related training to be recertified. The department permits workers to test out of most of the courses by taking the written examination and providing proof of experience in the related area.

Employees who work on construction projects that use state funds must be certified.

Partly because certification is required for many employees, the department has kept extensive certification and course records over the last five years. It routinely sends training updates to staff who enforce contract specifications. In 1995, the department created a new software program to help it keep track of certification activities that, according to the department, should greatly increase its efficiency in this area.

A Technical Advisory Certification Committee makes all program decisions. It is composed of representatives who are active in the area of highway construction and includes representatives from the Department of Transportation, cities, counties, technical colleges, and private industry. The group meets two to three times a year to evaluate participant reaction questionnaires that are administered at the end of each training season. Twice a year, the committee meets with all instructors to assess how well goals have been met. To communicate certification requirements to all employees, the group publishes a handbook that lists all requirements for certification and a yearly calendar of course offerings and their locations throughout the state. Also, department staff spent considerable time speaking to agency and industry groups to keep them up to date on course updates and opportunities.

Using Diverse Methods

The technical certification program incorporates a variety of training methods. In addition to lectures, classroom instructors use slides, overheads, and videos. Also, they provide hands-on experiences as much as possible. For example, some recent classes have involved using heavy equipment in order to provide a real-life construction setting.

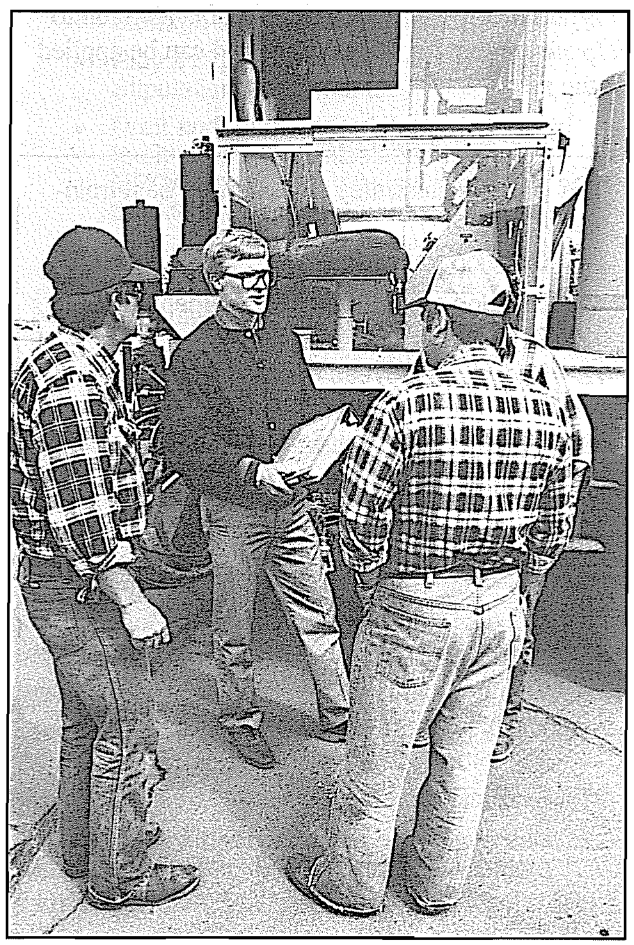


Photo courtesy of Minnesota Department of Transportation.

Because many classroom instructors are technical experts rather than formal trainers, the department has held a number of train-the-trainer sessions to help ensure that instructors have the necessary knowledge, skills, and abilities to teach. According to the department, while technical expertise is very important in choosing instructors, motivation, willingness to teach, and the ability to translate technical skills to practical applications are even more important.

Evaluating Training on Three Levels

The department evaluates the technical certification program on three of the evaluation levels, as shown earlier in Figure 2.3. First, as indicated previously, the department administers questionnaires to training participants to measure their reactions (level 1). Second, the department measures whether learning occurred (level 2) by requiring participants to pass written examinations. For some technical areas, the department measures job behavior (level 3) by requiring participants to pass a hands-on performance evaluation. For example, to obtain Level I Bituminous QM Tester certification, participants must not only pass two written examinations with minimum scores of 70, but they must also successfully perform various tests on bituminous samples in the laboratories where they work while being observed by the department's laboratory chiefs or their assistants. Also, the department periodically audits certification classes to ensure compliance with agency goals.

Providing Training Efficiently

The Minnesota Department of Transportation, educational institutions, and private industry all share in the responsibility of course delivery and spots are reserved in most classes for all government agencies and private entities. According to the department, such collaboration has proven beneficial. Since opening their training to others, the department has noted more networking and camaraderie as technicians from various agencies, consultants, and contractors become students in the same classroom. In addition, all students are taught the same materials, thus ensuring consistency across jurisdictions.

To date, approximately 2,500 individuals have been certified. To ensure consistent training statewide, employees from other government offices and the private sector are invited to attend. The department believes that its extensive partnering arrangements with the private sector have helped keep costs down. For example, the department uses industry and local government sites in addition to its own sites whenever possible.

According to the department, costs for Minnesota's program are lower than similar programs elsewhere. In the bituminous testing area, course costs average about $200 per week of class time. Similar customized training courses offered across the country are said to cost from $500 to $1,000 per week of class time.

The Minnesota Department of Transportation's technical certification program in the bituminous area has received much publicity across the country. Delegations of transportation and industry officials have visited from Arizona, Colorado, Iowa, Kansas, Nebraska, North Carolina, North and South Dakota, Missouri, and Texas to study the program and ask for technical assistance in setting up their own programs. Also, technicians from North Dakota, South Dakota, and Wisconsin routinely attend the training program.

PROACTIVE TRAINING

The Pollution Control Agency is developing an agency training plan that incorporates many of the principles contained in our best training model. The plan is especially useful in providing a framework for identifying the core competencies that employees need for their jobs and then assigning responsibility so that employees have access to opportunities for developing these skills.

Linking Training to Goals and Objectives

The agency hired a training director in January 1994 and charged that person with developing a comprehensive approach to training activities that would ensure that employee actions and behavior were aligned with the agency's mission and goals.

This practice illustrates the following best training principles:

1. Develop policies communicating the significance of training.
2. Develop training plans.
8. Identify agency's core competencies.
9. Identify competency gaps.
10. Monitor agency performance.
11. Involve employees in identifying training needs.
13. Identify training opportunities.
14. Set training priorities.
15. Ensure that training activities are relevant to agency goals.

As a first step, the training director developed an agency training plan for fiscal years 1994 and 1995 that clearly identifies training priorities, tasks, outputs, and staffing requirements.

To ensure that employee training addresses the goals and objectives of the agency as efficiently as possible, the proposed plan lays out three types of training, as shown in Figure 3.4. Core training, the first type, is designed to meet the needs of all or most agency staff and is the responsibility of the agency's central human resources staff. Using employee surveys and focus groups, the agency recently identified the key competencies and training needs associated with four areas that indirectly affect all agency work: new employee orientation, safety, computer skills, and management/supervisory skills. Thus far, the agency is in the final stages of developing a new employee orientation program for all new staff and a safety training program for all employees.

A second type of training is division specific. It is designed to meet the technical training needs within each division. Division supervisors are responsible for identifying and addressing these needs.

While many agencies leave technical training to the division or work unit, the Pollution Control Agency has added a third type of training that is designed to meet the needs of employees with similar types of jobs, but from different divisions. For example, supervisors, inspectors, managers, and clerical staff each have some common competencies and training needs regardless of the division in which they work. The agency puts together specialized teams to identify mutual needs and provide access to appropriate training. It is hoped that this will reduce unnecessary duplication, help ensure consistency, and reduce costs.

Currently, the agency has set up a team to identify the common competencies and training needs of its inspectors, regardless of their division. Another team is being developed to identify the common competencies and training needs of all of its supervisory and middle-management employees.

Finally, to further help ensure that all training is aligned with agency goals, all training requests, regardless of the level where they originate, must have clear and measurable goals, rationale, and tasks before being approved by the training director.

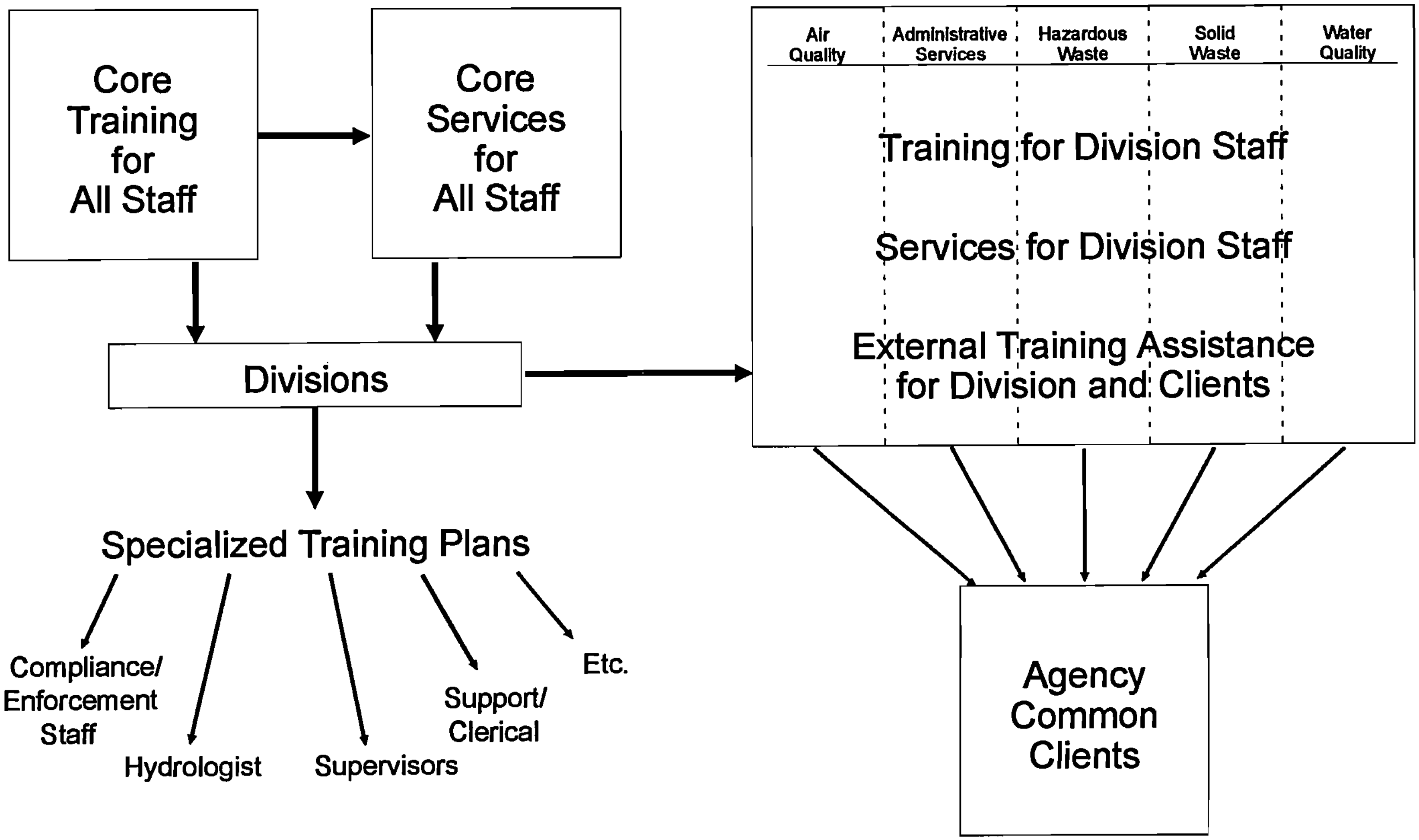
TRAINING AND DEVELOPMENT PLANNING CYCLE

The Department of Employee Relations has implemented a pilot project that identifies and coordinates training needs on three levels--agency, work unit, and employee. While this practice illustrates several best training principles, it is a good example of building vertical planning and support for training while developing workplans.

This practice illustrates the following best training principles:

2. Develop training plans.
6. Support training with funds and staff.
10. Monitor agency performance.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
14. Set training priorities.
15. Ensure that training activities are relevant to agency goals.
17. Provide training as efficiently as possible.

Figure 3.4: Proactive Training



Source: Minnesota Pollution Control Agency.

Linking Training to Goals and Objectives

As shown in Figure 3.5, the planning cycle begins at the agency level. Agency-wide needs are assessed and a preliminary training budget is developed. This is sent down to the work unit where more specific, technical needs are identified and budgeted for. Finally, the plan moves down to the employee level, where staff, along with their supervisors, write individual development plans.

Supervisors then aggregate individual plans and look for work unit trends. Each work unit completes a training plan and a draft budget that are then sent back up to agency management. It in turn identifies any additional agency-wide training needs that have surfaced from the process. Management then prioritizes training needs and completes the training budget.

Presently, the department has completed Step 1, and Steps 2 and 3 are in progress. Current and future agency-wide training needs that have been identified thus far include training related to performance management, the statewide systems project, and management and supervisory development. The department expects Steps 2 and 3 to be completed within the next two months.

Ultimately, the cycle should yield an agency training plan that lists goals and priorities for the next two years and budgets for their accomplishment. The department also expects that this process will yield an on-going list of training needs within the department.

MINIMUM TRAINING REQUIREMENT FOR ALL STAFF

The Department of Corrections requires all of its 2,900 staff to participate in a minimum amount of training each year. It subscribes to the American Correctional Association's staff training standards that its correctional facilities must meet to be accredited. Department policy requires that all full-time employees, including administrative, managerial, professional and support staff, receive at least 40 hours of training annually after the first year of employment and all full-time clerical employees receive at least 16 hours.[3] Training requirements for part-time staff are prorated according to the number of hours that they work, but part-time clerical staff must take at least 8 hours of training annually, while all other part-time staff must take at least 20 hours.

This practice illustrates the following best training principles:

1. Develop policies communicating the significance of training.
3. Set minimum training requirements for all employees.
5. Communicate training information to all employees.

Management Commitment to Training

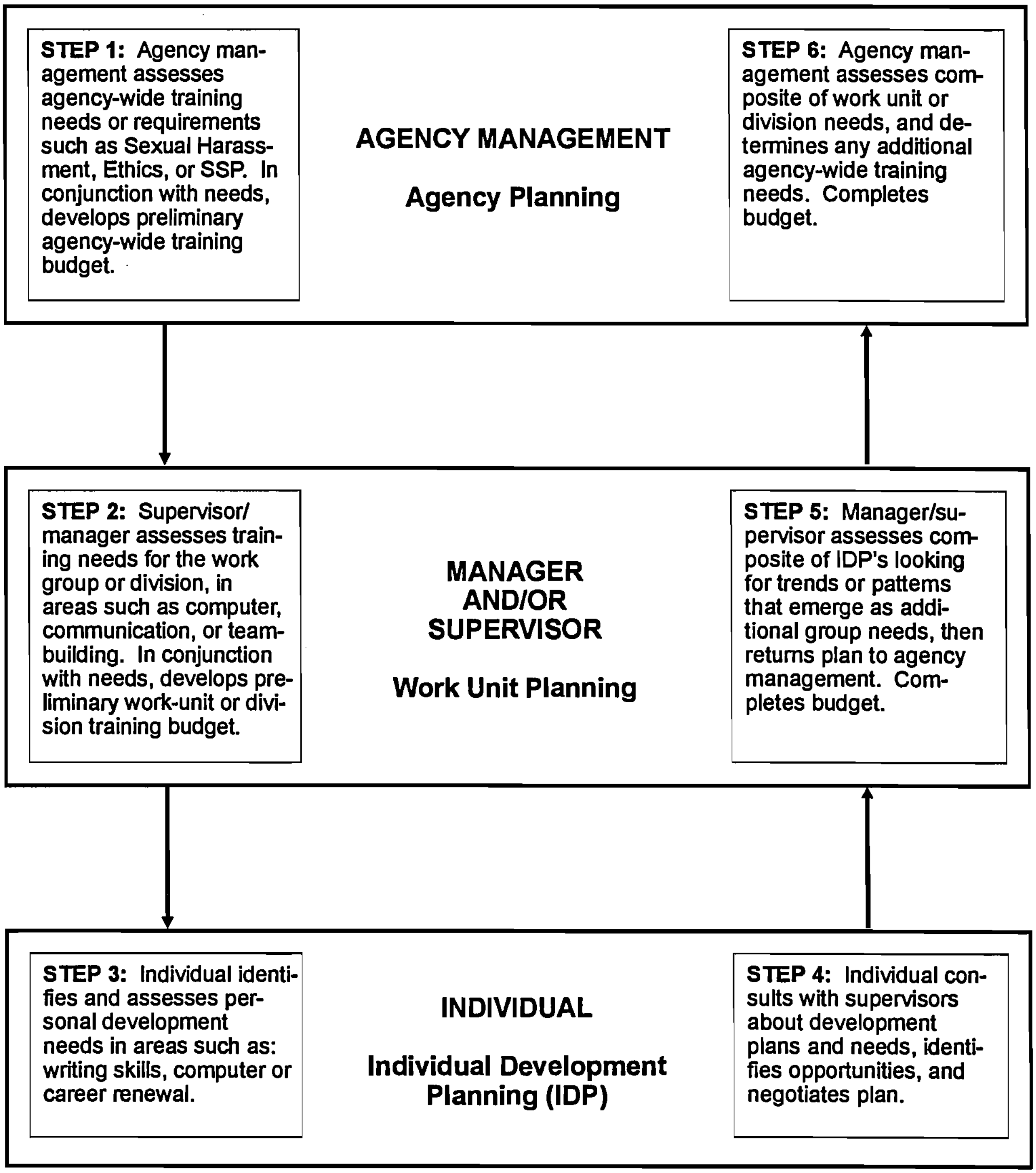
Although the department's training policy stems partially from accreditation requirements, there is considerable support for employee training at the department's highest management levels. One of the Department of Corrections' seven core values states: "We value staff as our most valuable resource in accomplishing our mission, and we are committed to the personal welfare and professional development of each employee." All staff, regardless of location or position, must complete the prescribed hours of training.

Agency management practices its support for training. The department recently determined that there was a need for a training program for its managers and supervisors and purchased a 24-unit leadership training program. Thus far, over 300 staff, including the commissioner, deputy commissioner, assistant commissioners, and wardens have completed the first 6 units of training, each of which is about 3.5 hours long.

Department staff appear to be aware of the department's training policy. When we surveyed a representative sample of state employees, we found that

3 Department of Corrections, *Staff Training (2-300.0)*, (St. Paul, 1989), 4.

Figure 3.5: Training and Development Planning Cycle



Source: Minnesota Department of Employee Relations.

most employees from the Department of Corrections reported their training requirement correctly and that they had received such training.

LEARNER-CENTERED LEARNING

Learner-centered learning, which provides technical staff with the knowledge, skills, and abilities to be trainers, illustrates an often overlooked principle of our best training model. This principle suggests that employees who are responsible for implementing training policies, plans, and procedures or for delivering training activities should have the necessary knowledge, skills, and abilities.

The Department of Revenue developed its first train-the-trainer program in 1987, partly because it was using more of its technical staff to train others. Because these employees were not full-time trainers, they were usually unfamiliar with different learning theories and instructional methods and techniques. The department's train-the-trainer program was designed to fill this gap. Five years later, the program evolved into what is known today as learner-centered learning.

This practice illustrates the following best training principles:

7. Ensure employees responsible for training have skills.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
21. Evaluate the effectiveness of training.
22. Use evaluation results to modify training methods and activities.

Ensuring Trainers Have Necessary Skills

Four staff from the Department of Revenue and one from the Department of Human Services alternately lead the five-day workshop. Each workshop accepts a maximum of 16 people. While it is open to all state employees, the training has also been provided to other units of government and some private businesses.

The training itself incorporates many diverse methods and activities, including lecture, case studies, role playing, and multimedia. To help ensure that learning actually occurs, the workshop provides practice opportunities. Not only do participants develop their own learning plans, they must also create a training session for other participants.

Evaluating Training on Two Levels

Program staff conduct formal evaluations of learner-centered learning on two of the evaluation levels that we discussed in Chapter 2. First, staff measure reactions (level 1) by asking participants to fill out an evaluation form after completing the training to gauge satisfaction. They measure on-the-job behavior (level 3) by resurveying participants one month later to see how well the class prepared them for work as a trainer and if they were able to apply to their job site what they learned in class. As discussed earlier, staff also provide many opportunities during the training for participants to actually practice the skills that they are being taught.

The response rates to the department's evaluations are variable. From February 1993 through July 1994, the class was given 17 times and 166 participants completed it. While 96 percent of participants completed the level 1 evaluation form, only 20 percent responded to the one-month follow-up. The department hopes to improve the latter response rate by putting the follow-up survey on electronic mail. Nevertheless, comments from participants who did respond are quite positive about being able to apply what they have learned. Anecdotal data from one unit in the Department of Human Services suggest that participant evaluations of the training that they do in their own unit have become more positive since its trainers attended this training.

While the learner-centered learning program developed by the Department of Revenue provides the "instructional how-to" to staff who are not necessarily trainers, the Department of Human Services has instituted a trainers' exchange to provide continued support services to its more than 100 employees who have training responsibilities. An advisory group of trainers organize bi-monthly meetings that focus on topics of mutual interest. For example, in November 1994, the trainers' exchange held meetings in both St. Paul and Brainerd that dealt with designing and delivering training. While these meetings are primarily intended for employees of Department of Human Services, staff from other state agencies and local government can attend.

PERFORMANCE DEVELOPMENT COMMUNICATION

As part of its efforts to become a "total quality organization," the Department of Economic Security has redesigned its employee appraisal system to address issues related to customer and employee satisfaction. This process, referred to as performance development communication, recognizes each employee's contribution toward achieving the agency's mission, goals, and objectives. It emphasizes that employee training is an essential element of performance and is expected of all staff.

This practice illustrates the following best training principles:

1. Develop policies communicating the significance of training.
4. Develop procedures to implement training policies.
6. Support training with funds and staff.
7. Ensure employees responsible for training have skills.
10. Monitor agency performance.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
20. Link training to employee performance appraisals.

Involving Employees in Identifying Training Needs

In October 1993, the department established a labor-management team to help redesign its annual employee performance appraisal system. According to the department, traditional performance appraisals tended to be negative and worked against the quality goals of achieving customer and employee satisfaction. The department is developing a system that calls for continuous performance communication and coaching between employees and supervisors.

Under the performance development communication, employees have increased responsibility to define and achieve expected performance levels that are consistent with the department's goals and objectives. To help make this transition, the department has provided quality training to approximately 70 percent of its more than 2,000 employees thus far and expects to have all employees trained by Fall 1995. This training has introduced employees to quality concepts and the resources and tools that will be available to help them achieve the desired levels of performance.

To help implement performance development communication, the department's draft training policy currently under review would require all staff to have an individual development plan that is developed jointly by the employee and their supervisor. These plans would assess employees' current levels of knowledge, skills, and abilities against those required by their current positions. Furthermore, they would identify the skills that may be needed by employees for future development in the agency.

Management Support for Training

There is considerable top management support for employee training. One of the department's 1995 strategic priorities indicates that the department will invest significant time and resources in professional development and mentoring for its employees. According to its newly drafted training policy, the Department of Economic Security will pay for training activities agreed to in employees' individual development plans. To help finance this, the department's draft training policy has, as one of its goals, that all divisions set aside a certain percentage of their payroll for staff training and development opportunities.

MENTORS

Mentoring programs illustrate a nontraditional way of providing employee training. These programs have three basic roles. First, as a coach, the mentor counsels employees on how to develop their career. Second, as a social support, the mentor serves as a confidant and friend. Finally, as a role model, the employee learns appropriate job behavior by simply observing the mentor's conduct.

Research indicates that both the employee and the organization benefit from such arrangements. Organizational benefits include increased productivity and cost effectiveness, improved staff recruitment, relations, and retention, and enhanced services, client satisfaction, and organizational communication.

Mentors have a positive impact on employees' job satisfaction and career advancement. In one study, staff members who had mentors said that they felt more in tune with the organization's way of thinking and doing things, more nurtured and supported during the promotion process, and more aware of internal politics.[4] A number of state agencies have formal mentoring programs, including the Department of Corrections, Department of Human Services, and the Minnesota Pollution Control Agency.

> This practice illustrates the following best training principles:
>
> 1. Develop policies communicating the significance of training.
> 11. Involve employees in identifying training needs.
> 16. Use a variety of training methods.
> 21. Evaluate the effectiveness of training.

Using Mentors to Decrease Employee Turnover

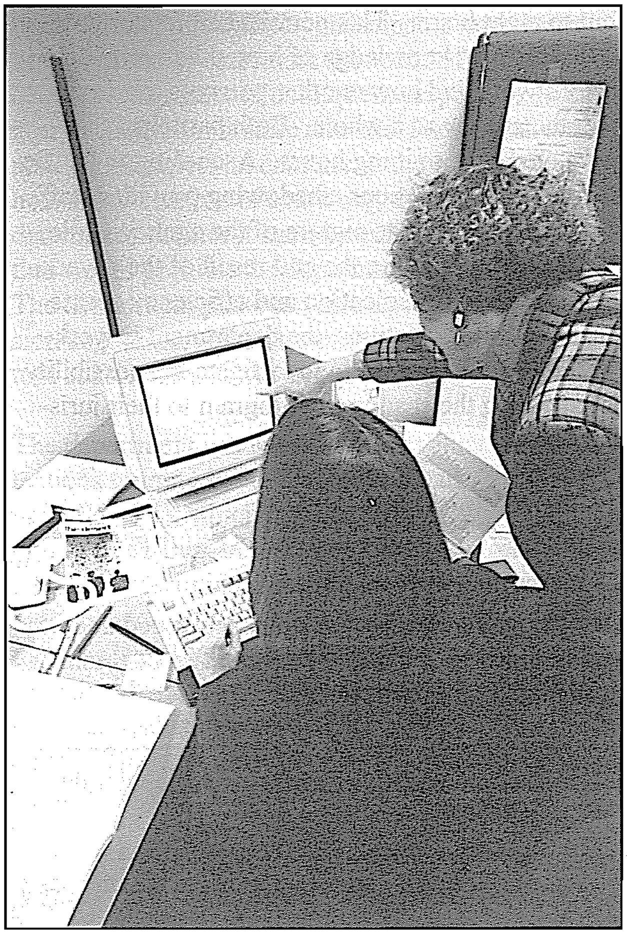
Begun originally as a tool to decrease turnover among new correctional officers, the Department of Corrections requires that all correctional institutions assign mentors to help orient new employees. Mentoring terms last at least six months--the typical probation period for new employees.

In the Department of Corrections, the mentor is responsible for assisting new employees in their orientation and adjustment to the work environment. Individual institutions are free to set up their mentoring programs as they please. Because their role is largely one of assistance and advice, mentors are not usually the direct supervisor of the employee. Some institutions use a peer-to-peer matching system while others may match new employees with a supervisor other than their own. Mentors schedule frequent meetings with their assigned employees and their supervisors. For example, mentors at Lino Lakes are expected to meet with their assigned employee at least once a week and with that employee's supervisor at least every two weeks. According to the Department of Corrections, mentoring programs have helped to improve staff productivity and morale while reducing turnover.

Mentors help new employees adjust to the work environment.

The Department of Human Services is also operating a small mentoring project on a pilot basis called BOOST (Building Organizational Opportunity through Success Teams) as part of its new employee orientation and diversity initiatives. Both of these activities are part of the department's efforts to build a strong infrastructure. The program matches experienced employees with interested new employees to help them become familiar with the workplace. Mentors provide information on department procedures, behavior, and career development opportunities. The program features a comprehensive screening, matching, training, and monitoring process for both the mentor and the new employee and an evaluation component.

4 American Women's Society of Certified Public Accountants, *Mentoring: The Key to Career Success,* (Chicago, October 1992), 10.



Office of the Legislative Auditor staff photo.

The department implemented the BOOST program in September 1994 by recruiting interested new and current employees. New employee target groups included protected class members and employees hired through the department's employment and training program for recipients of Aid to Families with Dependent Children. Department staff interviewed interested employees and also surveyed new employees in terms of their interests and preferences. In October 1994, the department made its first 12 matches involving 24 employees. These matches were based on the experiences of the mentor, the needs and interests of the new employee, and any shared interests or concerns.

The department does not require a set number of meetings between mentors and the new employees but does encourage them to meet at least monthly, either during lunch or on breaks. The department requires participants to file monthly reports concerning the times that they met, the issues discussed, and the contacts and referrals made.

Evaluating Training on Two Levels

Unlike the Department of Corrections' mentoring program, the BOOST program contains a six-month evaluation component. In March 1995, the Department of Human Services plans to administer a questionnaire to program participants and to hold focus groups with them to learn more about their experiences with the program. As discussed earlier in Chapter 2, measuring participants' reactions represents the first level of evaluation. To measure behavior changes (level 3), the department also plans to survey and hold focus group meetings with new employees' supervisors. The department hopes to have an evaluation report on the BOOST program available in May 1995.

Linking Training to Goals and Objectives

The Department of Economic Security has just begun to develop a mentoring program. The department has made a formal commitment to employee development by adopting professional development and mentoring as one of its five strategic priorities for 1995: "We will invest significant time and resources in professional development and mentoring for all staff."[5]

Using Mentors to Evaluate Training

The Minnesota Pollution Control Agency has a formal mentor requirement in its hazardous waste inspector training program. All inspectors enrolled in the training program are assigned mentors to help them understand the purpose of the hazardous waste program, what it means to be an employee of the Minnesota Pollution Control Agency, and how the agency functions. In addition, mentors help to ensure that employees receive diverse training by suggesting activities and materials. They oversee trainees' participation in inspections, make sure that they are aware of certification requirements, and review training modules and evaluation exercises

5 Minnesota Department of Economic Security, *1995 Statement of Strategic Priorities*, (St. Paul, November 1994), 3.

with them to help ensure that they understand the materials.

SHADOWING

At least two state agencies use employee shadowing as a nontraditional form of training. Shadowing is just what the name implies--one employee follows and observes another employee while that person goes about her or his daily job responsibilities.

> This practice illustrates the following best training principles:
>
> 11. Involve employees in identifying training needs.
> 16. Use a variety of training methods.
> 21. Evaluate the effectiveness of training.

Using Shadows to Evaluate Training

The Pollution Control Agency uses shadows to help evaluate whether the learning that occurred in training sessions is actually used on the job. As discussed earlier in Chapter 2, measuring behavior changes represents the third level of evaluation. As part of the hazardous waste inspector training program, staff who are assigned shadowing responsibilities follow trainees during inspections to see whether they are transferring what they have learned in training to the job itself.[6] Staff acting as shadows then formally comment on how the inspection proceeded.

Using Shadows to Increase Job Satisfaction

Job shadowing in the Department of Corrections has a different emphasis. Unlike the Pollution Control Agency's program which uses shadowing as an evaluation tool, the Department of Corrections' program is designed to give employees a broader appreciation of the diverse roles and responsibilities of the department.

Employees in the Department of Corrections request to follow other employees on the job from four to eight hours. This permits employees to have hands-on knowledge of how other units or divisions work and how another person's job fits in with the agency as a whole. Both participants receive credit for training hours. According to the Department of Corrections, shadowing provides staff with a more complete picture of the agency while permitting them to see the end result of their work. To improve communication and efficiency across correctional jurisdictions, the department is working with some counties to investigate the possibility of extending the shadowing program to their jurisdictions.

COLLECTIONS CORE

The Department of Revenue has developed unique instructional techniques to help train its beginning and advanced tax collectors.

> This practice illustrates the following best training principles:
>
> 8. Identify agency's core competencies.
> 16. Use a variety of training methods.

Diverse Methods and Activities

The Department of Revenue's collections core workshop uses a variety of creative and innovative training methods for participants to learn subject matter that emphasizes hands-on instruction. As part of its basic three-day training for tax collection employees who have been on the job for 6 to 12 months, the department makes extensive use of case studies, role playing, and simulation. For example, the department has created an entire city that serves as a case study for participants. Trainees learn, by doing, how to collect unpaid taxes, obtain warrants, and revoke licenses. Because there is considerable role playing and simulation, participants receive immediate feedback on learning and performance.

The department also uses considerable hands-on learning experiences in its more advanced collec-

6 We have discussed the hazardous waste inspector training program in greater detail earlier in this chapter.

tions class. For example, participants must learn how to identify, determine the value of, and possibly seize the assets of delinquent taxpayers. In addition to classroom lecture and exercises, participants actually complete an exercise at the county courthouse that consists of searching a property title to determine whether it has any encumbrances on it that would prohibit the department from seizing it. The department plans to videotape a courthouse session so that tax collectors can use it as a reference tool at their own convenience.

The department has not formally evaluated the collections training beyond obtaining participant reactions (level 1), which have been favorable. As indicated earlier, the department uses a variety of instructional techniques during the sessions that provide trainees with the opportunity to practice what they are learning. According to the department, the only drawback to this training is the time involved to create realistic case studies for its beginning core class.[7] The department is able to use actual cases in its more advanced course.

TELECOMMUNICATIONS

The Department of Human Services has been a leading agency in using alternative telecommunications to provide training to its nearly 7,000 employees, most of whom work in the department's regional treatment centers located throughout the state. According to the department, alternative technology, such as videoconferencing and satellites, permits it to provide quality training at low cost to a widely-dispersed audience, saving the department both time and money.

> This practice illustrates the following best training principles:
>
> 16. Use a variety of training methods.
> 17. Provide training as efficiently as possible.
> 18. Make training accessible.

Emphasizing Efficiency and Accessibility

The department has used videoconferencing, which provides for both audio and visual communication, to provide needed training to regional facility staff. Such training usually averages 60 participants over 5 sites. The department has found this to be an especially good medium for topics that can be arranged on short notice for small- to medium-sized audiences. Videoconferencing training sessions are usually taped and made available to an even greater number of staff throughout the state. Also, it has been used for department-wide manager meetings, thereby allowing between 80 and 100 managers to meet at the same time.

The department also makes extensive use of satellite communications whenever full two-way audio and visual communication is not needed. Using a grant from InterTech, the department purchased a satellite dish in the late 1980s that provides access to training from national sources. According to the department, this capability to downlink or receive programs from other sources has greatly expanded the amount and type of high-quality programming available to its staff. For example, staff have received training from leading persons in such areas as quality, diversity, management, and child abuse. Although the department's satellite links are not fully interactive (video and audio transmission is only one-way), participants can telephone or fax in questions and comments while the training is occurring.

During 1994, the Department of Human Services downlinked or received 55 different satellite programs at a cost of about $12,850. According to the department, these training sessions attracted 732 participants, for an average cost of $17.55 per participant.

Depending upon the specific licensing agreement involved, the department tapes many of these sessions for future use, which reduces participant costs even more. At the same time, the department has routinely invited other agencies to attend the programs that it brings in over its satellite for little or

7 Privacy considerations prevent the department from using actual cases in some of its training activities.

Photo courtesy of Minnesota Department of Natural Resources.

no cost--often receiving valuable training from them in return.

The department uses a different satellite hook-up to uplink or broadcast its own training sessions to large audiences of 250 to 1,200 people in as many as 75 locations at a time. Using MnSAT (Minnesota Satellite and Technology), the department can deliver its own programs to a widely-dispersed audience.[8] For the most part, the department uses this medium to provide training to service providers and local government staff. Although these programs provide only one-way video and audio communication, participants can telephone or fax in questions and comments. The department routinely tapes these sessions for wider distribution.

BEMIDJI INTERGOVERNMENTAL TRAINING EXCHANGE

The Bemidji Intergovernmental Training Exchange (BITE) is a good example of our best training principles related to geographic accessibility and cooperation. It is a coalition of city, county, and state governments working to expand local training opportunities in the Bemidji area. Members include the Minnesota Departments of Transportation, Natural Resources, Corrections, and Economic Security, Beltrami County, Bemidji Area Schools, City of Bemidji, Northwest Technical College, and Bemidji State University.

Emphasizing Efficiency and Accessibility

The Bemidji Intergovernmental Training Exchange was the brainchild of the local office of the Minnesota Department of Transportation. Formed in the fall of 1992, the exchange was initiated to encourage local partnerships. Its first task was to identify the common training needs of the various government offices in the area. Through a series of meetings and a needs assessment survey of members, the exchange established a goal of providing two training sessions each quarter.

> This practice illustrates the following best training principles:
>
> 9. Identify competency gaps.
> 17. Provide training as efficiently as possible.
> 18. Make training accessible.

To identify what training sessions will be offered, the exchange surveys member agencies regarding topics of interest every fall. After the results are tabulated, the exchange looks at its internal staff resources to see who best could provide what is needed. For the most part, the exchange uses staff, facilities, and instructional tools from its member agencies as much as possible. Over the past two years, BITE has sponsored a number of local training opportunities such as Continuous Self Improve-

8 MnSAT is a joint venture of the World Trade Center, Minnesota Technical College Board, and St. Paul Technical College.

ment, How to Handle Conflict and Manage Anger, and Growing with Diversity.

Although the exchange was set up to provide common training across area government agencies, the networking that has resulted has also increased access to training opportunities that individual members provide primarily for their own staff. For example, when Beltrami County had 10 openings in its self-defense course that it provides to county employees, exchange members were able to take the class at no cost.

The exchange does not receive any direct appropriations nor does it have an annual budget. For the most part, the exchange operates on a "break-even" philosophy in that it is primarily interested in simply covering its costs for providing training. The Department of Natural Resources established a revolving account that it can bill other agencies for training sessions and pay session-related costs.

By pooling resources, BITE can provide efficient training opportunities to approximately 3,500 government workers employed in the area. According to BITE, participants can save over $180,000 by training 600 employees a year who would otherwise spend $300 in travel and expenses alone per trip to St. Paul.

Although the exchange was originally initiated to encourage cooperation among area government offices, it has now somewhat expanded its focus to impact the entire community. One of its goals for 1995 and 1996 is to provide a community-wide diversity and race relations seminar. To help fund this endeavor, the exchange brought in a private training organization to conduct training on negativity and another on self-directed work teams. By pooling its resources, the exchange was able to charge participants $39 per session--$62 less than what it cost to register for the same sessions in the Twin Cities area. Even with this low registration fee, the exchange made money. About 150 people attended each session and the exchange realized a $3,400 profit which it is using to help plan and organize its diversity and race relations seminar sometime in the future.

Evaluating Training on One Level

For the first two years of its existence, the exchange was primarily concerned with providing access to training. It has evaluated training by simply distributing questionnaires at the end of each session that measured participants' reactions. As discussed earlier in Chapter 2, this represents the first level of evaluation. Recently, the exchange has been giving more serious consideration to providing training sessions that have a long-term impact on job behavior. Although not yet implemented, exchange members are discussing how best to organize, deliver, and evaluate such training.

The Bemidji Intergovernmental Training Exchange has been so popular that the Department of Employee Relations is exploring the feasibility of setting up exchanges like BITE in other areas of the state. For example, a group was formed in Rochester and has conducted a joint needs assessment with various governmental offices, including the Departments of Transportation and Natural Resources. This group has chosen to focus its efforts upon developing an accreditation program for supervisors. Also, contact people have been identified in St. Cloud and Mankato to explore the feasibility of establishing regional exchanges there.

SUMMARY

In this chapter, we have presented examples of how various state agency practices reflect different principles of effective training that we discussed in Chapter 2. As indicated earlier, this is not a complete list of agency practices that illustrate model principles. We hope that, by presenting concrete examples of practices that incorporate model training principles, state agencies may be able to learn from each other and perhaps adapt practices to fit their own needs whenever possible.

While this chapter has focused on state agency practices, the following chapter focuses on the private sector. In Chapter 4, we discuss how six successful companies have tried to incorporate employee training into their overall business operations.

Private Sector Best Training Practices

CHAPTER 4

During the 1980s, the private sector began to focus less on employee career development and more on training as a method to increase productivity. During the 1990s, training is expected to focus even more on helping businesses compete more effectively and efficiently. This places additional pressure on training departments to incorporate evaluation methods that measure and demonstrate whether employees' skills and productivity improve as a result of training.[1]

Unlike the previous chapter, this chapter does not focus on individual practices, but rather looks at training from an organizational perspective. It discusses the training policies and practices of six private companies that reflect principles from our best training model.[2] We chose to examine the training practices of private companies in addition to state agencies in order to provide further illustrations of the principles of effective training. We hope that state managers and training coordinators may learn some things of value from these examples, as well as those in Chapter 3, that they may apply in their own agencies.

The companies that we studied, which emphasize results- or goal-oriented training, are:

Private companies look at training from a business point of view.

- Corning,
- Motorola,
- Hewlett-Packard,
- National Cash Register,
- Saturn, and
- BellSouth.

We describe the training policies and practices of each company in relation to the 23 principles of effective training presented in Chapter 2. Also, Appendix E contains a list of the companies discussed in this chapter, cross-referenced to the 23 principles.

CORNING

Corning believes that there is a close link between implementing work reforms and education and training. From 1984, when Corning began to place a heavy emphasis on training, to 1989, Corning's return on equity jumped from 9.3 to 15.9 percent. Corning credits this to its focus on achieving total quality through training.[3]

Linking Training to Goals and Objectives

In 1983, Corning introduced a "quality management system" that formalized many of the activities already being implemented to meet its definition of quality. The quality management

1 Carolyn Wiley, "Training for the '90s: How Leading Companies Focus on Quality Improvement, Technological Change, and Customer Service," *Employment Relations Today*, Spring 1993, 79-96.

2 This portion of the report was researched by Business Dynamics, Inc. in December 1994 for the Office of the Legislative Auditor.

3 "Sharpening Minds for a Competitive Edge," *Business Week*, December 17, 1990, 73.

This company illustrates the following best training principles:

1. Develop policies communicating the significance of training.
2. Develop training plans.
3. Set minimum training requirements for all employees.
5. Communicate training information to all employees.
6. Support training with funds and staff.
10. Monitor agency performance.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
18. Make training accessible.
19. Maintain agency-wide training records.
20. Link training to employee performance appraisals.
21. Evaluate the effectiveness of training.

system set the performance goal of meeting the customer's requirements 100 percent of the time and established several other quality principles to guide work activities.[4]

Corning identified 10 activities necessary to achieve total quality. One of these was employee education and training. Realizing that training was crucial to the start-up and maintenance of the quality process, it established a "Quality Institute" at the corporate level and staffed it with six instructors borrowed for a two-year stint from various divisions in the company. Initially, this institute created a two-day "quality awareness and process" program that was taught to 28,000 employees, in six languages, around the world.[5]

During the two-day quality awareness program, employees identified their specific training needs. As a result of this needs assessment, additional courses in problem solving, communications and group dynamics, and statistical skills were developed and taught to all employees.

Corning's corporate goal is that 5 percent of an employee's time should be spent in training and education. Managers of each business unit track compliance with this requirement. In 1992, each Corning employee received an average of 92 hours, or nearly two and one-half work-weeks, of training.[6]

Corning's goal is to have employees spend 5 percent of their time in training.

Involving Employees in Designing Their Own Training

In meeting its quality goals, an important issue that Corning faced was how to deploy a quality management process into a technical group of staff, such as its research, development and engineering division, also known as the technology group. This group is highly diverse, consisting of about 26 percent scientists at the Ph.D. level, 28 percent technical and administrative support, 26 percent engineers, and 20 percent unionized hourly workers. A number of other companies have exempted research and development units from the quality management process because it is difficult to introduce quality concepts into new product development, but Corning decided to include its technology group in its quality program.

Corning found that departments needed to have the flexibility to tailor each action step in its quality program to make it meaningful to the specific needs of the group. The scientists and engineers in the technology group attended the two-day quality awareness program, but expressed concerns that the additional courses the company had developed

4 Eve Seward, "Quality in R&D: It All Began with a Customer's Request," *Research, Technology Management*, September-October 1992, 28.

5 *Ibid.*

6 "Companies that Train Best," *Fortune*, March 22, 1993, 64.

were unlikely to help them improve their ability to develop new products and processes.

The technology group decided to form its own "education corrective action teams" (EDUCATS), and the teams have assumed responsibility for the group's own training and development. The EDUCATS have put together their own courses aimed at sharing their technical and business expertise within the group. They have taught each other everything from the operation of a scanning electron microscope, patent preparation, and report writing to marketing, CPR, and first aid. The EDUCATS designed the courses, sometimes bringing in outside experts to augment internal expertise. Many different formats have been used, from all-day formal sessions to brown bag lunches.

Corning's technology group modified its training policy to ensure that individuals' training needs were met. The group mandated that training plans be developed for each employee as part of his or her performance objectives. In addition, supervisors have specific performance objectives to make sure that their employees receive the training included in their plans. Each employee's training plan is reviewed during his or her annual performance review.

All employees in the technology group have training plans in place. These procedures ensure that all employees' future training needs are identified and that all employees, from vice presidents to maintenance workers, are aware of training opportunities. The group has consistently exceeded the corporate goal of 5 percent of employees' time spent in training.

Using Innovative Methods

Corning has also explored innovative ways of learning and incorporated them into its training programs. For example, Corning offers training to teach teams how to apply "action learning." Action-learning is based on the assumption that a person learns by doing; hence, real-work challenges should be incorporated into training efforts. At Corning, employees wishing to get into an action-learning training group must come from a work team that is trying to solve a business problem, such as how to improve employee relations. The group brings its own real problem to the training program and they learn the process by applying it to its own problem.

Evaluating Training

To evaluate the effectiveness of training, Corning sends its trainers on the road to ensure that all employees receive consistent, quality training. In addition, it uses control groups to evaluate the effectiveness of its training programs. It monitors progress in meeting its corporate training goal as well as individual employees' training goals.

Corning uses control groups to evaluate training.

Corning also provides anecdotal evidence that training makes a difference in employee productivity and performance. For example, in 1990, one of its ceramics plants eliminated 21 separate job classifications and replaced them with one. Then workers were grouped into teams and given new authority to schedule and perform the work. The results were negative: productivity suffered and there were many interpersonal conflicts.

A year later, the plant replaced its informal training efforts with a clearly defined set of competencies and a formal training program to meet them. The training department began certifying each employee as a specialist, a process that typically takes two years. During that time, the employee spends the equivalent of one day per week in training and must pass a series of tests to demonstrate proficiency. The training is a mixture of on-the-job and classroom activities, and the teachers are specially trained workers.

By all of the measures employed, employees were doing a better job following participation in the formal training and certification program. In 1993, productivity was up, waste had been reduced, and product defects had declined by 38 percent.[7]

7 *Ibid*, 63-64.

MOTOROLA

Motorola won a Malcolm Baldrige Award for Quality in 1988, the first year of this prestigious award program. Although quality has been important to Motorola for years, it was one of the first companies to establish quality as a dominant, strategic issue. Management set out to achieve its quality goals by educating all employees in every aspect of the business in quality management. Education was the largest investment that Motorola made in transforming its business.[8]

This company illustrates the following best training principles:

1. Develop policies communicating the significance of training.
2. Develop training plans.
3. Set minimum training requirements for all employees.
6. Support training with funds and staff.
7. Ensure employees responsible for training have skills.
8. Identify agency's core competencies.
9. Identify competency gaps.
10. Monitor agency performance.
14. Set training priorities.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.
21. Evaluate the effectiveness of training.
23. Use evaluation results to monitor agency's plans and goals.

Management Commitment to Training

Motorola's commitment to life-long learning is symbolized by "Motorola University," with its headquarters in Schaumburg, Illinois, which was created in 1981 with three people. Twelve years later, Motorola University employed 200 full-time educators, with another 400 on contract, and had established 14 branches or regional campuses.[9] In 1992, Motorola University delivered 102,000 days of training to employees, suppliers, and customers. That same year, Motorola spent about $120 million on employee education, which represented 3.6 percent of its payroll.[10] In 1993, its financial commitment to training increased to 4.0 percent of payroll, or an estimated $200 million.[11]

Employees are expected to participate in a minimum of 40 hours of training each year, and Motorola hopes to quadruple that by the year 2000.[12] It ensures accessible education to all employees by offering training programs on-site, off-site, and at Motorola University.

Linking Training to Goals and Future Skill Needs

At Motorola, training is used to communicate business strategy and the company tries to make educational programs relevant to the corporation, job, and individual. Classes offered range from basic math skills to English as a second language to post-doctorate physics.

A number of examples show how Motorola directly links training to specific business objectives. For instance, the company set a goal of reducing product-development cycle time and then created a course on how to do it. In 1992, the company set a target of improving its software. Motorola University organized a three-day seminar for 30 vice presidents where they mapped out a plan to achieve their

8 David R. Vincent, "How Eight Firms Transformed–With Technology," *Financial Executive*, March/April 1993, 52-53.

9 "Special Report," *Electronic Business*, April 1993, 52.

10 "Companies that Train Best," *Fortune*, 62.

11 "Motorola's Secret Weapon," *Electronic Business*, April 1992, 51; "Motorola: Training for the Millennium," *Business Week*, March 28, 1994, 159.

12 *Ibid.*, 158.

goals. The training also taught the vice presidents how to form project teams and techniques for motivating change among software engineers.

Diverse Training Methods and Customized Training Design

Motorola's training programs are delivered through manuals, lectures, hands-on training, mentoring, and video-enhanced training. Instructors are usually recruited from retiring Motorola employees, although some are recruited from other companies' lists of retirees.

Motorola requires that each potential instructor undergo four 40-hour phases of certification. Phase 1 is procedural and teaches instructors' skills, such as flip chart use and classroom management skills. Phase 2 ensures that each instructor understands the Motorola philosophy and incorporates this philosophy into his or her teaching methods. Instructors learn how to solicit student opinions and encourage teamwork in the classroom. Phase 3 focuses on course subject matter and, in Phase 4, instructors co-teach with others who critique them and refine their teaching styles.

Motorola develops an annual training plan.

Motorola develops a master training plan annually that identifies new training needs and allows the company to budget for them. This plan takes into consideration long-range and strategic plans, business objectives, and specific plans and strategies for individual products. The master training plan is used to determine what video tapes will be produced.[13] The company makes extensive use of videos tapes to teach courses on product, company, and marketing information, and sales techniques.

Once subject matter has been determined, internal committees must reach a consensus on the content of each video which helps to ensure employee support. The tapes are developed based on specific learning objectives that correct deficiencies that have been identified through needs assessments.

Motorola has found video-based training to be extremely efficient because, once a video course has been produced, up to 1,000 employees can simultaneously take and complete the course. This saves on both lost work and travel time. According to Motorola, 75 percent of employees using video-enhanced training complete a course within 3 months, while more traditional methods would not have achieved 50 percent completion within the same amount of time.[14]

The Positive Effects of Training

Motorola concedes that much of its belief about training is based on bottom-line numbers that could easily be affected by uncontrolled factors. However, since the company made the commitment to training, sales per employee have doubled and company profits have increased by 46 percent.[15] Voluntary employee turnover has been reduced from 10 percent in 1986 to 5 percent in 1992.[16] Motorola credits much of this improvement to training and employee education. Audits conducted by three independent firms show a $30 to $33 payback for every dollar invested in training.

One example of the success of Motorola's training program can be seen in its new Austin chip plant. Motorola's plant opened in 18 months as opposed to the average of three to four years. Motorola used "away teams"--120 employees sent around the world to become expert on the equipment that would fill the plant. These operators and technicians worked hands-on with the equipment and then wrote training documents for the Austin plant,

13. Earl D. Honeycutt, Jr., Tom McCarty, and Vince Howe, "Sales Technology Applications: Self-Paced Video Enhanced Training, A Case Study," *Journal of Personal Selling and Sales Management*, Vol. XIII, No. 1 (Winter 1993), 73-77.

14 *Ibid.*

15 "Companies that Train Best," *Fortune*, 62.

16 "Special Report," *Electronic Business*, 52.

which set a company record for yield of new products without defects.[17]

HEWLETT-PACKARD

From its inception, Hewlett-Packard (HP) has been known for its people-oriented practices and values, embodied in a set of values called "The HP Way." It is based on the belief that people want to do a good, creative job, and will do so in the proper environment and with the right support from the company.

This company illustrates the following best training principles:

1. Develop policies communicating the significance of training.
5. Communicate training information to all employees.
6. Support training with funds and staff.
8. Identify agency's core competencies.
9. Identify competency gaps.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
14. Set training priorities.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.
19. Maintain agency-wide training records.
20. Link training to employee performance appraisals.

Training Reflects Corporate Values

Hewlett-Packard has committed itself to continuously educate, train, and retrain its employees in effective and cost-efficient ways. The company continuously reassesses its core competencies to determine where to invest its training resources.

Recently, Hewlett-Packard redesigned certain support functions, including its human resources department, to improve their contributions to business strategy. In so doing, the company consolidated duplicative or redundant personnel operations while keeping activities that require local attention at the site level. Hewlett-Packard uses on-site personnel professionals, called "management support teams," to assist with training and other personnel-related issues. For example, one site may need custom training that must be designed especially for them. The management support teams meet to determine exactly what is needed and to develop a customized solution to meet those needs.

Integrating Training Information

Hewlett-Packard has invested heavily in an umbrella human resource information system that streamlines all human resource functions, including training. This system allows the company to keep track of training courses employees are taking and to create a profile of each employee, including possible career paths and future training needs. In addition, a newly created performance rating system has been implemented that identifies those employees who need to take action to improve their performance. This information is also kept in its human resources data base and can be integrated into the training program.[18]

Identifying Core Competencies

Hewlett-Packard's managers are predominately from a technical background, with less than 40 percent having had any formal business education. In providing for the development of its managers, the company believes that every manager should follow a self-development strategy that incorporates formal training, personnel experience, and one-on-one coaching.

Managerial training includes personnel experience and one-on-one coaching.

17 "Motorola: Training for the Millennium," *Business Week*, 160-161.

18 Jennifer J. Laabs, "Hewlett-Packard's Core Values Drive HR Strategy," *Personnel Journal*, December 1993, 38-48.

To determine the content of its formal managerial training program, the company conducted a two-year study that compared "superstar" managers to other managers to find out why some were more inspiring, better able to build team spirit, and more commanding of respect than others. The study involved 170 of the company's managers from around the world.

The study found that more effective managers established a purpose and direction for what was needed, were willing to challenge the traditional way of doing things, and believed that things could be done better. The more effective leaders kept everyone focused on accomplishing critical priorities and, in so doing, protected staff from unnecessary interference. The study also noted that the best managers led by example, that is, by demonstrating the behavior they expected from others, and they tended to review results with staff. They solicited feedback and evaluated themselves to improve their effectiveness.[19] Study results have been incorporated in the "Process of Management" training programs for managers.

Many of Hewlett Packard's training needs are initially identified by managers and the emphasis on management ownership and commitment is strong. The company incorporates employee opinions into strategic planning by using employee surveys. For example, when senior managers identified a need for more diversity within the company, their first step was to develop commitment among executives by sending them to seminars on the subject. After gaining top management's commitment, the company developed a variety of classes for all employees.

Using Diverse Methods

One of the responsibilities of the company's education department is to ensure that the company's software engineers remain current in a field that changes very quickly. The department determined that it could not rely on traditional classroom training activities that took engineers away from their jobs and were costly and difficult to keep current. So the department invested in a video-conferencing system for training its engineers.

By using a three-way linking system that joins a computer, a videocassette player, and the satellite feed from a video-conferencing company, engineers can record classes as they are being telecast and watch them later. Also, they can freeze the screen and use a computer-notes function to add their own comments to what is on the screen. After the broadcast is finished, the participants can print out their own personally annotated version of the program content.[20]

Using this system, Hewlett Packard can organize and broadcast programs quickly on a variety of subjects. It also allows employees to learn at their own pace and convenience, and decreases the time and expense involved in traveling to training sessions. In addition, the videos are easy to update and are cheaper than instructors. The company now does 65 percent of its training outside the classroom.

NATIONAL CASH REGISTER

Although computers and software have replaced the old-style cash registers as National Cash Register's (NCR) main products, its business philosophy has remained unchanged. Decisions, including those related to training, are made largely on the basis of whether they are good for business.

Linking Training to Goals and Objectives

National Cash Register does not sponsor training that does not contribute directly to the company.[21] Given this emphasis on bottom line results, considerable time and effort are spent on developing and evaluating training programs.

19 D. Keith Denton and Barry L. Wisdom, "The Learning Organization Involves the Entire Work Force," *Quality Progress*, December 1991, 69-72.

20 Beverly Geber, "Re-Engineering the Training Department," *Training*, May 1994, 27-34.

21 Bob Filipczak, "The Business of Training at NCR," *Training*, February 1992, 56.

This company illustrates the following best training principles:

1. Develop policies communicating the significance of training.
2. Develop training plans.
4. Develop procedures to implement training policies.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.
19. Maintain agency-wide training records.
21. Evaluate the effectiveness of training.
22. Use evaluation results to modify training methods and activities.
23. Use evaluation results to monitor agency's plans and goals.

The company thinks that all training initiatives should be focused and targeted. In 1989, it developed a five-year plan to redirect its training to ensure alignment with its business goals. Prior to that time, training was a piecemeal effort, with some divisions providing training that was integrated with business goals and others not. The plan gives centralized direction to all the training that goes on in individual business units. While separate divisions still remain responsible for most of the training, the corporate education department reviews and approves all requests to develop, deliver, and evaluate training programs.

Training proposals at NCR must specifically spell out why the training is needed, who the training is for, what the return on investment will be, and how the training fits into the company's overall business strategy. The company has developed procedures that delineate how training programs should be designed, implemented, and maintained. According to NCR, these procedures help ensure that its training programs are effective and have a positive effect on corporate profitability.

Ensuring that Training is Cost Effective

These procedures also help ensure that the training needs identified are being met efficiently and effectively. For example, the corporate education department keeps track of which courses are horizontal (applicable to all) and which are vertical (department-specific). In this way, courses applicable to more than one division are not duplicated and employees are made aware of courses offered by other divisions that may be useful to them. Finally, the corporate education department keeps a list of approved, outside education courses.

Evaluating Training on Four Levels

One of the key features of NCR's training program is its extensive evaluation process. In 1989, it expanded its evaluation process by doing level 4 evaluations on selected courses, in addition to evaluating them on levels 1, 2, and 3, as described earlier in Chapter 2. That is, the education department attempts to evaluate not only whether the course is well-designed and conducted (level 1); how much participants learned (level 2); and whether they were using the learned skills back on the job (level 3); but also, for a selected few courses, what effect the employees' new behavior has on the company's financial performance or return on investment in training (level 4).[22]

NCR evaluates training's effect on the company's performance.

Although this final level of evaluation is not often used for such soft-skills training programs as leadership or drug-awareness, NCR has evidence that indicates a concrete financial pay-off for some of its courses. The company uses an experimental group and a control group to test the effectiveness of its courses. For example, it may deliver a new sales training course to one of two matched groups of salespeople. If, in the end, there is a quantifiable difference between the performance of the two groups, NCR will credit that difference to the train-

22 Wiley, "Training for the '90s," *Employment Relations Today*, 89.

ing course. If there is no noticeable difference, NCR will cut the program.

In one instance, a sales course evaluated using this procedure showed a 200 percent increase in sales, with no significant difference in the number of calls made by the trained group versus the control group. Another course, which taught new technical procedures to field engineers who repair NCR computers at customers' sites, found that following the training the average length of each visit was .82 hours for engineers who completed the course. This compared to an average visit of 1.6 hours for the group of control engineers who did not take the course. Meanwhile, the company cut another sales training course that participants liked and where they used the skills in the field following the program because there was no noticeable difference in sales results.[23]

SATURN

Saturn Corporation, which is a wholly owned subsidiary of General Motors, set out to offer a "different kind of car" from a "different kind of company." To achieve its goals, the new company defined five key values that it wanted to embody: 1) a commitment to customer enthusiasm, 2) a commitment to excel, 3) teamwork, 4) trust and respect for the individual, and 5) continuous improvement.

This company illustrates the following best training principles:

1. Develop policies communicating the significance of training.
2. Develop training plans.
3. Set minimum training requirements.
6. Support training with funds and staff.
7. Ensure employees responsible for training have skills.
8. Identify agency's core competencies.
10. Monitor agency performance.
12. Develop individual training plans.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
19. Maintain agency-wide training records.
21. Evaluate the effectiveness of training.
23. Use evaluation results to monitor agency's plans and goals.

Ensuring that Training Remains a High Priority

At its plant site in Spring Hill, Tennessee, Saturn has both centralized and decentralized training. A core training staff is responsible for designing and administering general training programs, tracking employee training on a central system, and preparing individual training plans (ITPs). These plans, which are created for each employee during her or his first few weeks on the job, include both general and technical, job-specific training.

In addition to the core staff, each of the five Spring Hill plants has a training coordinator who conducts needs analyses and keep the main training and development team appraised of changes in equipment and production techniques. Each work team within the plant also has a "training champion" who keeps an eye on the training needs of each team member and makes training recommendations when necessary. Team members also engage in cross-training--those who are experts train other members of the team--and members informally pass on knowledge gained during training sessions.

Incentives to Meet Training Goals

New employees at Saturn go through a week of orientation training before they actually begin work. During the first two or three months, employees work only part time and split their remaining time between classroom and on-the-job training. One-half of production workers' training time is spent learning "soft skills," such as conflict resolution, problem solving, presentation skills, and communication.

23 Filipczak, "The Business of Training at NCR," *Training*, 58.

Each employee in the Saturn plant is expected to spend at least 5 percent of his or her time in training. During the first quarter of 1992, employees spent almost double that amount of time in training. Saturn uses a "risk and reward" compensation system to emphasize the importance of training to its employees. Only 95 percent of the employees' salary is guaranteed. If all employees do not meet the 5 percent training goal, no one receives the remaining salary.[24]

Saturn wants employees to spend 5 percent of their time in training.

Focusing Training on Learning Objectives

Saturn developed an overall plan for all of its retail and wholesale operations training known as the Saturn Training and Education Partnership (STEP). Its objectives include achieving maximum results for time and dollars invested in training and providing verifiable evidence of the job skills developed through training.[25]

When creating training programs, Saturn identified specific learning objectives that were based on achieving a set of retail performance standards that reflected Saturn's mission and values. These objectives are the basis for testing and evaluating training as well as the focus for the teaching methods used. Saturn retailers were asked for input into the course designs and were included in the final decisions on training. Managers and sales consultants helped design the testing system.

The STEP program includes a variety of training materials, such as video and interactive exercises. Focus groups were conducted with customers about how they wanted to be treated by car sales people and what they did not like about buying cars. The sessions were videotaped and included as part of the self-study training modules. These self-study modules easily fit into employees' work schedules as they take approximately 11 hours to complete. Evaluation and feedback systems were also included in each course.

Evaluating Training on Three Levels

Saturn evaluates the success of its training programs in three steps which correspond to evaluation principles discussed in Chapter 2. For each course, trainees provide a written evaluation of the effectiveness of the training materials, methods, and instructors (level 1). Then, at the end of the course, participants take a test on the information covered; some courses have performance mastery tests as well as written ones (level 2). To pass, a trainee must score at least 80 percent. Finally, a 60-day performance check is done by the trainee's manager to ensure that trainees have developed the skills required for their jobs (level 3).[26]

In a relatively short time, Saturn has earned high customer satisfaction marks. According to surveys by J. D. Powers and Associates, Saturn placed sixth among all automobile makes in the degree of satisfaction buyers had with their sales and delivery experience. An owners' survey by *Popular Mechanics* found that 83 percent of Saturn owners would buy another Saturn. Statistics compiled by Saturn show that those Saturn retailers who do the most training earn the highest marks on the company's Customer Satisfaction indexes.[27]

BELLSOUTH

To compete effectively in the highly competitive telecommunications industry, BellSouth decided that it must invest substantially in its people.

Identifying Core Competencies

Specifically, the company identified 100 jobs that were critical to its future success. BellSouth identi-

24 Beverly Geber, "Saturn's Grand Experiment," *Training*, June 1992, 27-35.

25 Dorothy Cottrell, et al., "Sales Training and the Saturn Difference," *Training and Development*, December 1992, 38-43.

26 *Ibid.*, 43.

27 Geber, "Saturn's Grand Experiment," *Training*, 28.

This company illustrates the following best training principles:

8. Identify agency's core competencies.
9. Identify competency gaps.
11. Involve employees in identifying training needs.
14. Set training priorities.
15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.

fied the key challenges and critical success factors that incumbents in the target jobs had to deliver to be successful relative to the competition.

The company then conducted focus groups with the jobs' current incumbents to help develop future-oriented skill or competency models for their jobs.

In identifying these skill models, BellSouth focused on three broad skill areas. First, it looked at the general skills that successful employees needed, including knowledge of the customer and industry in general. Second, it examined the specialized, more technical skills that incumbents had to master to be successful in their jobs. Third, it identified the transferable skills that successful employees needed. These included leadership and communication skills that could easily transfer across jobs and even organizations.

BellSouth validated the skill models developed in the focus groups through a detailed review process. The officers or function heads critically reviewed the models, as did a cross-section of other employees. Input received as part of the review process was incorporated into the skill models.

The company used these models to conduct group assessments of skill gaps. These assessments enabled BellSouth to prioritize the relative importance of the skills and assess current performance of job incumbents as a group.

These assessments serve as the basis for curriculum design and training. Also, several department heads use the skills information for recruitment. For example, one department used the skill models to recruit 5,000 temporary workers. Several groups are using the skills information as part of their performance management process. BellSouth is in the process of redesigning several of its human resource systems to take into account the skills information.

Using Cost-Effective Training Methods

Like a number of other companies, BellSouth has incorporated interactive video technology into its training programs. In 1990, BellSouth began a pilot program to train new sales employees at a centralized training facility using customized interactive videodisc hardware and software. Following the pilot, BellSouth introduced the system in field locations as a refresher course for its experienced sales people.

BellSouth uses interactive video technology in training.

The video training system uses a videodisc player that feeds preprogrammed images of a customer to the trainee through a computer monitor. The trainee completes practice sales calls with the customer and the system automatically videotapes both sides of the call. The system permits multiple role-play practices--up to 15 to 20 times--far more than in a standard classroom setting.

BellSouth claims that the interactive video training course cuts training costs significantly because it eliminates travel expenses. Also, the interactive video training course takes only eight hours, compared with a week-long course with an instructor, and the retention rate is 40 percent higher.[28]

28 Kate Bertrand, "Lights, Camera, Training!" *Business Marketing*, December 1990, 18.

SUMMARY

This chapter has described how six successful companies have implemented training policies and practices that are results- or goal-oriented. As such, they are especially illustrative of how training can not only be linked to companies' goals and objectives, but how it can be evaluated in those terms.

We think that this type of philosophy should be the driving force behind state agency training efforts. We hope that, by presenting some concrete examples of how this is being done elsewhere, agencies that are not currently linking training to their overall mission, goals, and objectives may be able to adapt some practices to their own situations.

Appendix A: Methodology

We focused our research on the 21 state agencies identified in Figure A.1. We collected information using two surveys: one for agency personnel directors or training coordinators and another for state employees.[1] We also conducted focus groups with agency representatives to obtain their input on our principles of effective training and to obtain examples of practices in their agencies that illustrate these principles.

Figure A.1: Agency Responses to Various Data Collection Techniques

Agency	Completed Agency Training Survey	Participated in Focus Groups	Represented in Employee Survey
Administration	•	•	•
Agriculture	•	•	•
Commerce	•	•	•
Corrections	•	•	•
Economic Security	•	•	•
Education	•	•	•
Employee Relations	•	•	•
Finance	•		
Health	•		•
Human Rights		•	•
Human Services	•	•	•
Labor and Industry	•	•	•
Military Affairs	•	•	•
Natural Resources	•	•	•
Pollution Control	•	•	•
Public Safety	•	•	•
Public Service			•
Revenue	•	•	•
Trade and Economic Development	•	•	•
Transportation	•	•	•
Veterans Affairs	•	•	

AGENCY TRAINING QUESTIONNAIRE

In October 1994, personnel directors or training coordinators from the 21 agencies studied were asked to complete an agency training questionnaire. We asked for information on agency training policies, how much money each agency spent on training activities, who received training, and the number of hours that employees participated in training. Of the 19 agencies who returned our survey, 12 could provide us with complete financial data.

FOCUS GROUPS

In November 1994, personnel directors or training coordinators from 18 of the 21 state agencies studied attended one of two focus group meetings. Each meeting lasted between four and five hours. Participants reviewed and commented on a preliminary draft of our 23 principles of effective training, discussed what made training successful, and identified practices in their own agencies that they felt illustrated effective training principles.

1 Some agencies do not have training coordinators. In those agencies without training coordinators, the personnel directors were asked to complete the training survey and participate in the focus groups.

EMPLOYEE TRAINING QUESTIONNAIRE

In October 1994, we conducted a survey of state employees from the 21 agencies reviewed to find out what they thought of their training opportunities and experiences. We drew a stratified random sample of state employees from the October 1994 quarterly payroll file. We selected only full-time, regular employees from the 21 state agencies. Further, we selected employees who had worked for the state at least one year as of July 1, 1994. The sample was stratified by agency. Using these conditions, our stratified random sample was drawn from a population of over 21,000 employees.

We sent the survey contained in Appendix B to our random sample of state employees. In November 1994, we sent a follow-up letter to employees who did not respond to our first letter. Of the 601 employees surveyed, 426 responded for a response rate of nearly 71 percent. Based on sex, age, and tenure as a state employee, the random sample was representative of the population and survey respondents were representative of the random sample.

Appendix B: Employee Training Questionnaire

PART 1: Individual Information. The questions below ask for some background information about you. Please fill in the blank or circle the number that corresponds with your response. **All information collected will be confidential.**

1. Your present age: __________ years

Average	45 years
Median	45 years

2. Your sex. (Circle number of your answer)

Male		Female		No Response
252	59%	172	41%	2

3. In what agency of the State of Minnesota do you currently work? (Circle number)

15	3.5%	Administration	8	1.9%	Labor and Industry
6	1.4	Agriculture	6	1.4	Military Affairs
4	0.9	Commerce	44	10.4	Natural Resources
48	11.3	Corrections	15	3.5	Pollution Control Agency
34	8.0	Economic Security	29	6.8	Public Safety
11	2.6	Education	4	0.9	Public Service
3	0.7	Employee Relations	17	4.0	Revenue
0	0.0	Finance	3	0.7	Trade & Economic Development
19	4.5	Health	88	20.7	Transportation
2	0.5	Human Rights	0	0.0	Veterans Affairs
69	16.2	Human Services	1		No Response

4. How long have you worked for the State of Minnesota?

__________ years and __________ months

Average	15 years
Median	14 years

5. How long have you worked for your current agency?

__________ years and __________ months

Average	14 years
Median	12 years

6. Where is your primary work site? (Circle number)

159	37.4%	St. Paul
96	22.6	Within the seven-county metropolitan area, but outside of St. Paul
170	40.0	Outside of the seven-county metropolitan area
1		No response

7. What occupational group best describes your position? (Circle number)

83	19.5%	Managerial/Supervisory
236	55.4	Technical/Professional
46	10.8	Clerical/Office Support
60	14.1	Service/Maintenance/Operations
1	0.2	Other, specify:____________________

PART 2: Participation in Training. The following questions ask for information on the amount and type of job-related and/or career development training you completed during fiscal year 1994 (from July 1, 1993 to June 30, 1994). Please limit your responses to training that was paid for or provided by your agency.

Training may be provided any number of ways, including attendance at formal classes, workshops, seminars and professional conferences; agency-sponsored in-house training; one-on-one training; and structured self-study courses.

8. Do your current job responsibilities as a state employee require annual training or continuing education to maintain licensing requirements or professional certification? (Circle number)

Yes		No		No Response
121	29%	301	71%	4

If yes, how many hours are required? __________ hours every __________ years

9. Does your agency require you to complete a specific amount of job-related training? (Circle number)

Yes		No		No Response
150	36%	271	64%	5

If yes, how many hours are required? __________ hours every __________ years

10. How many hours of training that was paid for or provided by your agency did you complete during fiscal year 1994 (from July 1, 1993 to June 30, 1994)?

__________ hours

Average	33 hours
Median	26 hours

0 hours	55	14.1%
1 to 20 hours	117	30.1
21 to 40 hours	109	28.0
41 to 60 hours	48	12.3
61 and over	60	15.4
No response	37	

11. Did you supplement the training available to you through your agency with job-related training you paid for yourself and/or took on your own time? (Circle number)

Yes		No		No Response
116	28%	305	72%	5

12. Of the different types of training listed below, CHECK the one(s) that you completed that were paid for or provided by your agency during fiscal year 1994 (from July 1, 1993 to June 30, 1994). Then, CIRCLE the number that best indicates how helpful the training was to you in performing your current job responsibilities. 1 for Very Helpful; 2 for Fairly Helpful; 3 for Mixed; 4 for Not Too Helpful; 5 for Not at all Helpful. (If you did not complete any training in fiscal year 1994, go to Question #13.)

	Types of Training:	Number/Percent Completed		Very Helpful		Fairly Helpful		Mixed		Not too Helpful		Not at all Helpful		No Response
a.	Management-supervisory skills	82	19.2%	23	29.1%	39	49.4%	10	12.7%	5	6.3%	2	2.5%	3
b.	Professional-technical skills	222	52.1	84	38.5	88	40.4	36	16.5	8	3.7	2	0.9	4
c.	Policies/procedures	175	41.1	37	21.5	63	36.6	52	30.2	16	9.3	4	2.3	3
d.	Human relations/ personal growth	146	34.2	46	32.4	50	35.2	30	21.1	9	6.3	7	4.9	4
e.	Communication skills	87	20.4	29	34.5	36	42.9	14	16.7	5	6.0	0	0.0	3
f.	Computer skills	152	35.7	62	41.3	44	29.3	28	18.7	11	7.3	5	3.3	2
g.	Customer service	74	17.4	24	33.8	22	31.0	10	14.1	10	14.1	5	7.0	3
h.	Other, specify below:	17	4.0	8	53.3	4	26.7	1	6.6	1	6.6	1	6.6	2

____

PART 3: Information on Training Practices. The following series of questions ask your opinion about the availability and adequacy of training opportunities paid for or provided by your agency. Read through the questions and CIRCLE the most appropriate response: 1 for Strongly Agree; 2 for Agree; 3 for Neither Agree Nor Disagree; 4 for Disagree; and 5 for Strongly Disagree.

	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree		No Response
13. I am sufficiently aware of the training opportunities that are available to me as a state employee. (N = 425)	77	18.8%	201	47.3%	71	16.7%	55	12.9%	21	4.9%	1
14. I have the opportunity to take advantage of the available training programs to increase my skills and job-related knowledge. (N = 423)	69	16.3	161	38.1	78	18.4	84	19.9	31	7.3	3

Part 3 Continued. Read through the questions and circle the most appropriate response: 1 for Strongly Agree; 2 for Agree; 3 for Neither Agree Nor Disagree; 4 for Disagree; and 5 for Strongly Disagree.

	Strongly Agree		Agree		Neither Agree Nor Disagree		Disagree		Strongly Disagree		No Response
15. My training needs are adequately identified by my agency. (N = 424)	26	6.1%	123	29.0%	110	25.9%	121	28.5%	44	10.4%	2
16. My annual performance appraisal is useful in identifying what training would help me improve my knowledge, skills and abilities needed to do my job. (N = 419)	16	3.8	97	23.2	118	28.2	117	27.9	71	16.9	7
17. I receive adequate training related to the knowledge, skills and abilities necessary to perform my job. (N = 423)	30	7.1	165	39.0	102	24.1	98	23.2	28	6.6	3
18. I receive enough training to keep current in my profession. (N = 423)	33	7.8	170	40.2	97	22.9	92	21.7	31	7.3	3
(If you did not complete any training in fiscal year 1994, skip Question #19.)											
19. The training that I have received helps my agency achieve its overall goals and objectives. (N = 341)	66	19.3%	174	51.0%	71	20.8%	20	5.9%	10	2.9%	21

Appendix C: State Agency Training Practices that Illustrate Various Best Training Principles

Best Training Principles	Clerical Training Board	Succession Planning	Supervisory Feedback	Hazardous Waste Inspector Training	Technical Certification Program	Proactive Training	Training and Development Planning Cycle	Minimum Training Requirement	Learner-Centered Learning	Performance Development Communication	Mentors	Shadowing	Collections Core	Telecommuni-cations	BITE
PLANNING AND SUPPORT															
1. Develop policies			●			●		●		●	●				
2. Develop plans	●	●		●	●	●	●								
3. Set minimum requirements								●							
4. Develop procedures					●					●					
5. Communicate information								●							
6. Fund and staff	●						●			●					
7. Ensure training skills			●		●				●	●					
NEEDS ASSESSMENT															
8. Identify core competencies		●	●	●	●	●							●		
9. Identify competency gaps		●	●	●	●	●									●
10. Monitor agency performance						●	●			●					
11. Involve employees	●	●	●	●	●	●	●			●	●	●			
12. Develop individual training plans	●	●	●	●			●			●					
13. Identify opportunities	●	●	●	●		●									
14. Set priorities	●					●	●								
METHODS AND ACTIVITIES															
15. Ensure relevance	●		●	●	●	●	●								
16. Use various methods	●			●	●				●		●	●	●	●	
17. Provide training efficiently					●		●		●					●	●
18. Make accessible	●				●									●	●
EVALUATION AND FEEDBACK															
19. Maintain agency-wide records															
20. Link to performance appraisal	●	●		●						●					
21. Evaluate effectiveness			●	●	●				●		●	●			
22. Modify methods and activities	●			●	●				●						
23. Monitor plans and goals															

Appendix D: Contacts for State Agency Practices

If you would like more information about a specific state agency practice, please contact one of the following individuals:

1.	Clerical Training Board	Department of Natural Resources	Kathy Drennon (612) 297-7248
2.	Succession Planning	Department of Transportation	Wayne Brede (612) 297-1895
3.	Supervisory Feedback	Department of Natural Resources	Nancy Branton (612) 296-6408
4.	Hazardous Waste Inspector Training	Pollution Control Agency	Roger Bjork (612) 297-8512
5.	Technical Certification Program	Department of Transportation	Sandra Servatius (612) 296-3214 William Servatius (612) 297-7195
6.	Proactive Training	Pollution Control Agency	Roger Kam (612) 297-8478
7.	Training and Development Planning Cycle	Department of Employee Relations	Lori Richman (612) 297-4153
8.	Minimum Training Requirement	Department of Corrections	Susan Allan (612) 642-0346
9.	Learning-Centered Learning	Department of Revenue	Tom McMahon (612) 297-1737
		Department of Human Services	Tina Von Wald (612) 297-5977
10.	Performance Development Communication	Department of Economic Security	Beverly Gleeson (612) 297-3938
11.	Mentors	Department of Corrections	Susan Allan (612) 642-0346
		Department of Human Services	Martha Watson (612) 296-8067
		Pollution Control Agency	Roger Bjork (612) 297-8512

12. Shadowing	Pollution Control Agency	Roger Bjork (612) 297-8512
	Department of Corrections	Susan Allan (612) 642-0346
13. Collections Core	Department of Revenue	Connie Sunderland (612) 297-3183
14. Telecommunications	Department of Human Services	James Beatty (612) 296-2321
15. Bemidji Intergovernmental Training Exchange	Department of Transportation	Chris Johnson (218) 755-3347

Appendix E: Private Companies that Illustrate Various Best Training Principles

	Corning	Motorola	Hewlett Packard	National Cash Register	Saturn	BellSouth
PLANNING AND SUPPORT						
1. Develop policies	●	●	●	●	●	
2. Develop plans	●	●		●	●	
3. Set minimum requirements	●	●			●	
4. Develop procedures				●		
5. Communicate information	●		●			
6. Fund and staff	●	●	●		●	
7. Ensure training skills		●			●	
NEEDS ASSESSMENT						
8. Identify core competencies		●	●		●	●
9. Identify competency gaps		●	●			●
10. Monitor agency performance	●	●			●	
11. Involve employees	●		●			●
12. Develop individual training plans	●		●		●	
13. Identify opportunities						
14. Set priorities		●	●			●
METHODS AND ACTIVITIES						
15. Ensure relevance	●	●		●	●	●
16. Use various methods	●	●	●	●	●	●
17. Provide training efficiently		●	●	●	●	●
18. Make accessible	●	●	●	●		●
EVALUATION AND FEEDBACK						
19. Maintain agency-wide records	●		●	●	●	
20. Link to performance appraisal	●		●			
21. Evaluate effectiveness	●	●		●	●	
22. Modify methods and activities				●		
23. Monitor plans and goals		●		●	●	

Minnesota
Department of
Employee
Relations

Leadership and partnership in human resource management

Memo

DATE: April 3, 1995

TO: James Noble
Legislative Auditor

FROM: Karen Carpenter
Deputy Commissioner

RE: Best Practices Review

Thank you for inviting me to review your draft of the "State Employee Training: Best Practices Review." It was interesting to read about some training success stories in state government and to mirror those against trends in the private sector.

The best practices you have outlined are comprehensive and thorough. You describe a process which follows a training effort from the initial planning of the project, through the evaluation stage, and you have considered some very important principles along the way.

Recently, Linda See, Acting HRD Coordinator, had the opportunity to discuss your draft with some other agency training coordinators. The draft, again, received a favorable review! There were some questions that came out of the discussion, which I would like to pass along to you:

1. The evaluation practices that are reported to work best involve 4 levels: Reaction, Learning, Behavior, and Results. Level 3 can be a difficult one to assess when the training is focused on "soft skills", such as improved communication. Do you have some public or private sector examples where Level 3 has been successfully assessed in these skill areas?

2. You strongly encourage partnerships between agencies -- something we agree allows us to "do more with less". Are there public sector examples or models we could look at to see how other states have formed effective training partnerships?

Again, thank you for sharing the draft of your report. I look forward to receiving a final copy.

200 Centennial Office Building • 658 Cedar St. • St. Paul, MN 55155-1603 • (612) 297-1184 • TDD (612) 297-2003

Principles of Effective Training

Planning and Support

1. Develop policies communicating the significance of training.
2. Develop training plans.
3. Set minimum training requirements for all employees.
4. Develop procedures to implement training policies.
5. Communicate training information to all employees.
6. Support training with funds and staff.
7. Ensure employees responsible for training have skills.

Needs Assessment

8. Identify agency's core competencies.
9. Identify competency gaps.
10. Monitor agency performance.
11. Involve employees in identifying training needs.
12. Develop individual training plans.
13. Identify training opportunities.
14. Set training priorities.

Methods and Activities

15. Ensure that training activities are relevant to agency goals.
16. Use a variety of training methods.
17. Provide training as efficiently as possible.
18. Make training accessible.

Evaluation and Feedback

19. Maintain agency-wide training records.
20. Link training to employee performance appraisals.
21. Evaluate the effectiveness of training.
22. Use evaluation results to modify training methods and activities.
23. Use evaluation results to monitor agency's plans and goals.

STATE EMPLOYEE TRAINING: A BEST PRACTICES REVIEW

We invite state agencies to measure their own training efforts against the training principles summarized on the left and submit additional examples of best training practices to the Office of the Legislative Auditor.

Description of the best training practice:

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____

____

____

____

____

Principle(s) demonstrated:

____

____

____

____

Contact person:

____

(Name)

____

(Agency) (Telephone Number)

Detach and return to:

Office of the Legislative Auditor
Attn: Jo Vos
1st Floor, Centennial Building
658 Cedar Street
St. Paul, MN 55155

612/296-4708 • FAX 612/296-4712

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Property Assessments: A Best Practices Review, forthcoming	

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Evaluation reports and reviews of agency performance reports can be obtained free of charge from the Program Evaluation Division, Centennial Office Building, First Floor South, Saint Paul, Minnesota 55155, 612/296-4708. A complete list of reports issued is available upon request.