

CHAPTER I

INTRODUCTION

This chapter includes an introduction, discussion of the research problem, the specific research questions to be addressed in the study, and the significance of the research topic to the fields of adult learning and training and development.

Introduction

No consensus exists on the amount of money spent on or the incidence of training and development in U.S. organizations. Because surveys often present contradictory information, any numbers must be viewed with caution (Lynch and Black, 1996; Zemsky and Shapiro, 1996). However, figures on dollars being spent and amount of training and development from various sources indicate that employee training and development is big business -- and growing.

According to *Training* magazine's 1997 annual Industry Report (November 1997), U.S. private organizations allocated approximately \$58.6 billion in 1997 for formal training and development. That is over \$6 billion more than reported two years earlier (*Training* magazine staff, 1995) and over \$26 billion more than the \$32 million Carnevale estimated was spent in 1986 on firm-provided training and development (Carnevale, 1990). The amount of money allotted for training and development for Department of Defense civilians and civilian government agencies reportedly was \$1 billion in 1992, the last year OPM collected figures (Telephone interview with OPM staff, 1995). Over half (57 percent) of the 1994 National Center on the Educational Quality of the Workforce National Employer Survey respondents reported an increase in formal training in their organizations over the previous three years (Zemsky and Iannozzi, 1996).

While the amount of money spent and the amount of training and development appear to be increasing, surveys and expert opinion suggest that spending for training and development is disproportionate across organizations and employee positions. Stone (1991) estimates that over half the money invested annually in training is spent by just 15,000 organizations, or merely 0.5 percent of all employers. Lynch and Black (1996) examined survey data and found

the following about training and development opportunities for employees. Eighty-nine percent of U.S. employees had received no training. Small organizations -- those with fewer than 100 employees -- were much less likely to provide formal training than large employers (1000+ employees). Also, organizations using high performance work practices such as Total Quality Management and benchmarking are more likely to offer training to their employees. Better educated workers and managerial and professional employees are more likely to receive employer based training than other employees (Lynch and Black, 1996).

Many analysts of training and development programs contend that much of the money being spent for training and development is not being well spent. Most organizations neither assess their training and development needs adequately nor evaluate the benefit of training to the organization (Brinkerhoff and Gill, 1994; Rothwell, 1994). As Rothwell and Kazanas explain, “. . . Training intended to equip learners for dealing with an uncertain future is based on *past* performance problems; *past* data about organizations, jobs, and individuals; and *past* competencies. In short, the training needs assessment process typically ignores the future” (Rothwell and Kazanas, 1994, p. 307). Brinkerhoff and Gill (1994) contend that most organizations never assess whether the money spent on employee training and development has actually advanced the organization's overall productivity or improved individual performance.

Indicators of Ineffective Training and Development Systems

Concern for the lack of accountability of training and development systems has prompted growing discussion in recent training and development literature centering around what is wrong with training and development systems in U.S. private and public organizations and prescriptions for how the systems can and should be improved. The following is a discussion of the most often cited indicators of ineffective training and development systems.

Lack of top management support for the training and development system. Critics argue that one of the key ingredients of a successful training and development system is often missing: the support by top management of a training and development system that advances

the achievement of the organization's strategic plans (Brinkerhoff and Gill, 1994; Carnevale, 1990; Robinson and Robinson, 1990).

Lack of support manifests itself at the macro level in two ways. First, in times of financial decline, management views the training and development function as expendable (Zimsky and Oedel, 1996), and training budgets are among the first to be cut. Lack of support from the top is also apparent in organizations in which the training component is viewed as isolated or peripheral, instead of being visible and central. In fact, most organizations still treat the training and development function in this way: as an independent entity, separated from its customers (Brinkerhoff, 1997). A training department's status can be determined immediately by looking at the organizational chart. Usually training is far from the main operational functions of the organization and often is subsumed under another personnel function. Also, the training manager is rarely on the same level as other managers with whom he/she competes for resources and staff (Buckley and Caple, 1990).

No clear link between training and organizational goals or plans. Another major problem with organizational training and development systems, some critics contend, is the lack of connection between training and the organization's goals and mission (Brinkerhoff and Gill, 1994; Johnston and McClelland, 1994). In many organizations, training is viewed as a nice-to-have reward for well-behaved employees; or conversely, as a punishment for bad behavior. Instead of being seen as a key ingredient in the organization's ability to achieve its goals, the training function is often relegated to a narrowly defined support role (Olian, Durham, Kristof, Brown, Pierce, and Kunder, In press). When training is relegated to a bottom rung in the organizational hierarchy and its role is narrowly defined, resources for training are a low organizational priority that can easily be viewed as expendable.

No, inadequate, or incorrect accounting of the costs of training. Most organizations do not know how much their training costs, because they either do not calculate costs at all or use accounting models that count per trainee costs and fail to calculate trainees' time off the job or cost per result of training (Brinkerhoff and Gill, 1994; Johnston and McClelland, 1994). Lynch and Black (1996) cite findings that annual training expenditures might be as much as \$148 billion if informal training were included in the accounting. A 1988 American Society for

Training and Development poll of organizations that regularly evaluated their training found that "...only 20 percent evaluated in terms of training's economic effect on the organization." (Carnevale and Schulz, 1990, p. S2).

Limited or inadequate training needs assessment. Most organizations determine training and development needs reactively rather than proactively, usually around perceived immediate job-based deficiencies or short-term predicted knowledge and skill needs (Olian, Durham, Kristof, Brown, Pierce, and Kunder, In press). Often the measure of training success is the number of enrollees in courses, not whether or how well training meets the needs of the organization, the employee, or the customer (Brinkerhoff, 1997).

Lack of support for applying skills and knowledge learned in training on the job. Broad and Newstrom (1992) contend that "...most training investments do not produce full and sustained transfer of new knowledge and skills to the job" (p. 7). Brinkerhoff (1997) cites studies that show that as little as 8 percent to 12 percent of what trainees learn translates into improved job performance.

Lack of support for using skills learned in training can take many different forms: "... a recalcitrant supervisor, hostile co-workers, resistant subordinates, or even company policy" (Hawthorne, 1987, p. 30). Jones (1995) argues that the employee's immediate supervisor has the greatest direct influence on the learner's behavior in applying what was learned in training on the job. If the supervisor ignores, punishes, or discourages skill use, employees are not going to use the skills they have learned. The unsupported employee continues to repeat old behaviors, and managers and employees come to view training as a waste of time (Brinkerhoff, 1997).

Lack of meaningful evaluation of training. Many analysts criticize the lack of meaningful evaluation of training activities (Cascio, 1989; Boverie, Mulcahy, and Zondlo, 1995; Foxon, 1989; Hawthorne, 1987; Johnston and McClelland, 1994). Studying the results of a literature review of training evaluation practices for the period 1969-1986, Foxon concluded that there is "... a widespread under-evaluation of training programs, and that what is being done is of uneven quality. . . . The need for measurement of training effectiveness is often referred to,

but there are few good examples of rigorous evaluation of training programs” (Foxon, 1989, p. 92-93).

In evaluating training activities or events, few organizations go beyond “smile” sheets that measure how well trainees liked a course. Foxon (1989) found that 75% of organizations surveyed do not go further in evaluation efforts, because they do not know what else to do. The problem with this approach is twofold. First, such measures of training “success” fade after trainees have returned to the job. Second, other measures of success, such as the use of the new skills on the job or increased productivity, are ignored (Hawthorne, 1987).

Finally, organizations rarely assess the health of their entire training and development system, to determine how to sustain and continuously improve it. Many practitioners would concur with Bishop (1993) that “. . . a good deal of effort needs to be devoted to studies conducted at the organizational level which examine how training fits into the organization’s overall competitive strategy and affects its profitability” (p. 2).

Indicators of Effective Training and Development

Following is a discussion of some of the elements that training analysts consider indicators of effective training and development systems.

Commitment of top management to training. The commitment of top management to the training and development system is critical to its success (Brinkerhoff and Gill, 1994; Fricker, 1994). As Fricker notes, “Chairmen and chief executives need to recognize the value of learning as the primary force to facilitate and achieve change in their organizations. Their leadership role requires them to match their conviction with consistent, demonstrable commitment. . . . Senior executives must also ensure that line managers share their commitment to learning and insist on quality in all aspects of training and development” (pp. 24-25).

Organizations whose top management view training as a strategic advantage, as a way to meet organizational goals, express their commitment in a number of ways: by making their commitment public; by making sure that executives take an active part in the delivery of training and in the planning of training objectives; and by maintaining a financial commitment to training (Human Technology, Inc., 1993).

Involvement of training managers in organizational planning and goal setting. Brinkerhoff and Gill (1994) contend that of the four major interrelated tasks of training managers, two involve formulating training goals that are linked to organizational needs and planning training strategies that achieve those goals. In order to perform these tasks, the training manager has to be involved in planning and determining organizational goals.

Ensuring that what is learned in training is transferred to the job. In effective training and development systems, techniques are in place to ensure that the knowledge, skills, and attitudes that are learned in training are transferred to the job. Some examples of ways to ensure that employees use new skills they learn in training are the following: trainees and their managers are held accountable for making sure skills learned in training are used on the job, management is integrated into training planning and delivery, and training is integrated with other human resource elements, such as the performance appraisal process (Human Technology, Inc., 1993).

Involvement of multiple constituencies and use of various methods in assessing training needs. A thorough needs assessment is critical in the development of content that meets organizational needs and furthers organizational goals (Human Technology, 1993). Such a comprehensive needs assessment includes organizational analysis; task, knowledge, skills, and attitudes analysis; and individual analysis (Goldstein and Gilliam, 1994). Information comes from a variety of sources, including internal sources such as top managers, direct supervisors, employees, position descriptions; and external sources such as other similar organizations and legislative and economic policies (Human Technology, 1993; Olian, Durham, Kristof, Brown, Pierce, and Kunder, In press; Dalziel, 1994).

Inclusion of activities that sustain training and development as crucial to the organization. Brinkerhoff and Gill (1994) contend that a training and development system cannot be successful in meeting the needs of employees and the organization without mechanisms to collect data and feedback on the system and continuously improve it. They argue that, “continuous improvement of training requires continuous measurement of all aspects of the process of helping employees learn and change” (Brinkerhoff and Gill, 1994, p. 152).

Models of Effective Practice

Various researchers and organizations have combined some or all of the indicators of effective training and development practice described in the above discussion to build frameworks or models of effective training. Among the most comprehensive are Brinkerhoff and Gill's (1994) Highly Effective Training model, Rothwell and Kazanas (1994) Strategic Training model, the International Standards Organization's 9000 Standards (Hale and Westgaard, 1995), and the standards created by the International Board of Standards for Training, Performance, and Instruction (Russo and Russo, 1996). Chapter II of this study describes these models in more complete detail.

Human Technology, Inc. (1993) developed one such model for the Department of Justice. This model is presented in Figure 1.

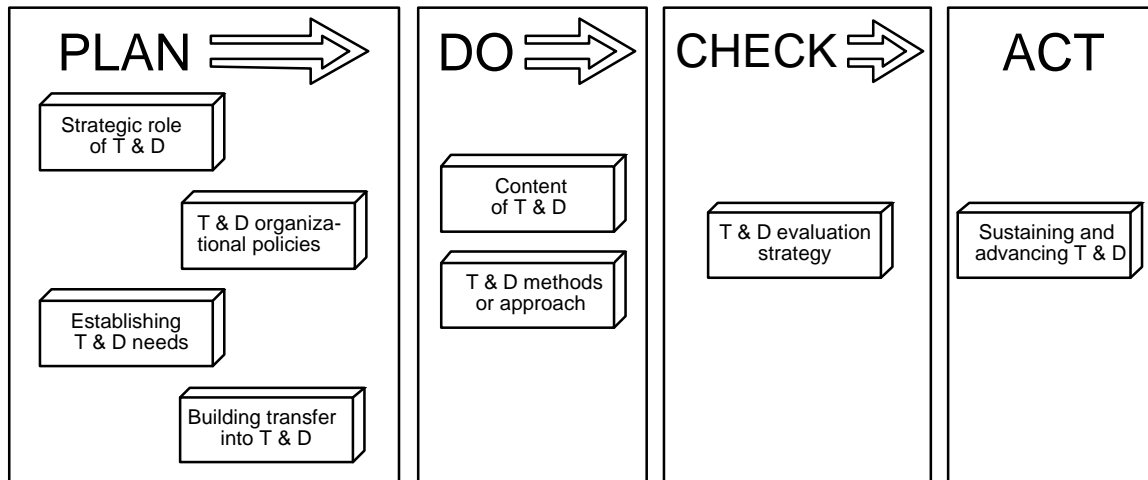


Figure 1. Training and Development Framework: Best Practices

The model is based on information collected through written surveys and telephone interviews with training managers of 26 private sector and 10 public sector organizations whose training and development systems are recognized as exemplary and on research of the training and development literature. As the illustration shows, this model is organized around a Plan, Do, Check, Act (PDCA) cycle, sometimes known as a Shewhart or Deming cycle (Senge, 1994).

The exemplary organizations studied for the creation of this model have several common characteristics that training experts agree are critical to the success of a training and development system. They engage in a significant amount of strategically oriented planning prior to the introduction of training and development activities by setting policy, establishing training needs, and building transfer into the activities. They then implement training and development activities (“do”) and critically evaluate (“check”) the success of training activities. The “act” phase reflects the sustained effort to continuously improve and advance successful training and development activities (Human Technology, 1993).

The elements of effective training and development practice that emerged from this Training and Development Framework: Best Practices model served as a basis for the development of a department-wide survey of over 7000 Department of Justice employees and a database of survey results from over 3800 respondents. The sample for the survey consisted of five employee groups: executives, managers, supervisors; and professional/ administrative and technical/clerical support personnel, all of whom support the core missions (litigation and law enforcement) of the Department of Justice. The survey included a series of items that had been designed to determine employee satisfaction with the training they received and around their perceptions of how well the Department’s training and development system achieved several key indicators around each element of the Training and Development Framework: Best Practices model.

Starting with the existing database, this study first examined the items in the survey to determine if they were measuring what they were purported to be measuring. An exploratory factor analysis revealed three new constructs instead of the original six posited by the survey designers. These new constructs became the basis of the analysis of the survey data.

Statement of the Problem

Organizations currently are focusing increasing attention and resources to enhancing the functioning of all of their processes, practices, and systems, including their training and development system. They are seeking ways to ensure that training and development dollars are well spent, that training and development activities are furthering the organization's goals by making all employees more productive, and that training is "an investment in tomorrow" (Fricker, 1994). In recent years, training analysts and practitioners have provided organizations and their training managers with several models and frameworks for excellent practice, based on research of best practice organizations, study of the training and development literature, and practice in the training and development field.

These models provide a structure to the training and development function, an important achievement, in that, "An effectively organized training function supports more effective training" (Russo and Russo, 1996). However, few if any of these models have been evaluated to determine if the elements of effective practice they describe do in fact make a difference in the quality of a training and development system. This study evaluates the elements of effective practice described in Human Technology's (1993) Training and Development Framework: Best Practices model along one dimension: employees' perceptions of their achievement in the training and development system of one organization.

The importance of the information from the study lies in its potential value to organizations seeking to improve their training and development systems. The study shows that respondents' perceptions of the status and effectiveness of the training and development system have a statistically significant impact on respondents' perceptions of the value of training and development. If organizational decision makers consider employee data important input for evaluating the training and development system, they should consider focusing attention on elevating the status of the training and development system in the organization and assuring its effectiveness in their efforts to improve the training and development systems for greatest impact upon the value which employees place on training and development activities.

Purpose of the Study

This study explores the relationship between employees' overall perceptions of the training and development system in a large government agency. The data for the study came from an existing database from a survey of Department of Justice employees that was built around elements of effective training and development practice described in the Training and Development Framework: Best Practices model (Human Technology, 1993). This study evaluates the relationship between employees' perceptions of how well the training and development system achieves certain key elements of effective training and development practice prescribed by the model and employees' perceptions of the value of the training and development offered by the organization. The study also explores the differences in perceptions about the training and development system among five employee groups and where those differences occur.

The results of the study have several potential applications for training and development evaluation and practice. Clearly, the study provides information to top management and training and development system managers at the Department of Justice to help them gain greater understanding and insight about where to focus greatest attention to improve their training and development system. The study might also be useful to other government agencies who share a similar organizational hierarchy and culture and who are seeking to improve and enhance their training and development systems. Adult education practitioners might also use the results to guide organizations in developing more effective training and development systems. Finally, the study might also lead to revisions, improvements, and modifications to models of effective training and development practice.

Research Questions

Four questions emerged as important areas of concern in the study of the existing database that captured survey responses of Department of Justice employees. They are the following:

1. Is the internal factor structure in the employee survey of perceptions about the training and development system consistent with the survey designers' original constructs? If not, what are the new constructs that might better explain the data?

2. What are the relationships among the elements of the training and development system that emerge from the factor analysis?
3. What are the relative contributions of the elements of effective training and development practice that emerge on respondents' satisfaction with training and development?
4. Do employees in the five employee groups (executive, manager, supervisor, professional/administrative, technical/clerical) included in the survey differ in their perceptions about the elements of the training and development system. If so, where do the differences occur?

Assumptions

The following two assumptions informed this study:

1. Indicators derived from models of effective training and development systems, particularly the Training and Development Framework: Best Practices developed for the Department of Justice, represent practices that are key to a successful, well functioning training and development system.
2. Employees' perceptions of the training and development system are valid and valuable measures of how well a training and development system is functioning.

Limitations

This study has potential limitations. One is that it focuses on the training and development system within one large government organization, the Department of Justice. Thus, any conclusions drawn from the study might not generalize beyond the Department of Justice. On the other hand, the conclusions might extend to government agencies or large nongovernmental organizations that share a similar organization, hierarchy, and culture. The fact that employee survey data is used as the basis for evaluating employees' perceptions about the training and development system is another potential limitation. In addition, the data might be subject to bias by the structure of the questionnaire and the sincerity of respondents' answers.

Definitions

Following are definitions of some of the most commonly used terms in this study.

Best practices. Best practices are those processes and systems that are recognized for being

most effective and efficient. Best practices studies enable organizations to measure their processes and systems against those that are recognized as being exemplary.

Training and development events/activities/programs. Training and development events/activities/programs are discrete training courses or activities that together comprise the content of a training and development system.

Training and development system. The training and development system is the entire body of training and development efforts within an organization, including a description of the role of training, how needs are assessed, contents and methods of training, transfer methods, evaluation methods, and strategies for sustaining and improving the system

Training evaluation. Training evaluation typically describes the practices used to measure the effectiveness of discrete training activities. Evaluation can be done at four levels: participant reaction, participant learning, impact of learning on job performance, impact of learning on organizational performance.

Training needs assessment. Training needs assessment describes the way in which an organization gathers the data it needs to build its body of training and development content. Sources might include potential trainees and their managers/supervisors as well as external and internal customers.

Transfer of training. Transfer of training refers to the degree to which the knowledge and skills learned in training and development programs are transferred to improved job performance.

Organization of the Study

The study is organized into five chapters. They are as follows:

- Chapter I provides an introduction to the study including the background, statement of the problem, the research questions and their significance, definitions, assumptions, and limitations.
- Chapter II reviews the literature on the benefits of well functioning training and development systems, models of effective training and development practice, and elements of training and development systems.

- Chapter III details the design of the study, including information on the subjects, data collection methods, and methods of analysis of each of the research questions.
- Chapter IV reports the findings of the study and provides a limited interpretation.
- Chapter V concludes with a summary of the entire study, implications of the findings, recommendations for practical use of the findings in training and development, and suggestions for future research.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter describes relevant literature that documents the benefits of a well-functioning training and development system both to individual employees and for the organization, models of effective training and development systems, and the elements of effective training and development practice.

Benefits of a Well-Functioning Training and Development System

Although the benefits of training and development are difficult to quantify, training analysts generally agree on the potential long- and short-term benefits of an effectively planned and executed training and development system both for individual employees and for the organization. For individuals, potential short-term benefits of successful training and development activities include being able to perform current tasks well, acquiring new knowledge and skills to use on the job immediately, increasing motivation and stimulation, commanding a higher salary, and enjoying other incentives such as greater promotion opportunities (Buckley and Caple, 1990; Sibthorpe, 1994; Cascio, 1994).

Potential short-term organizational benefits that derive from employees' learning of new skills include improved employee performance, greater productivity, lower turnover, less absenteeism, and greater client satisfaction (Lynch and Black, 1996; Hale and Westgaard, 1995; Buckley and Caple, 1990). Numerous studies document short-term benefits in terms of both productivity and dollars. For example, Lynch and Black (1996) cite two studies showing that employer-provided training increases worker productivity by about 16 percent. Hale and Westgaard (1995) report that Sandia National Laboratories, who carefully documented and evaluated one training course, realized a \$200 return for every dollar spent on their training investment.

Training and development programs have "traditionally been a short term change strategy" (Rothwell and Kazanas, 1994, p. 310). Yet long term benefits are increasingly being viewed as a more important achievement of training and development systems, as organizations ". . . throughout the world. . . are realizing that the development of their human resources is the

key not only to business survival, but also to business success” (Johnston and McClelland, 1994, p. 3). Several long-term organizational benefits can be realized through an effective training and development system. One is the achievement of organizational objectives, which in turn enables the organization to be more competitive. In a world of growing global competition, this benefit is becoming increasingly more important (Hale and Westgaard, 1995).

The organization also benefits when training content moves away from the immediacy of individual skills building and includes training and development activities that enable employees to solve organizational problems (Buckley and Caple, 1990). Training and development with a long-term perspective can “. . . improve the individual’s ability to identify, plan, implement, and/or monitor changes the organization needs to make” (Cascio, 1994, p. 13). According to Rothwell and Kazanas (1994), training and development can also equip individuals with the knowledge, skills, and attitudes they need to think strategically and implement long-term organizational strategy. Another major benefit of effective training and development, they argue, is that it can provide the organization with a pool of talent for future promotion within the organization.

Many training practitioners (Casio, 1994; Buckley and Caple, 1990; Fricker, 1994) view another major long-term benefit to organizations of effective training and development systems as being a vehicle for managing the rapid change that all organizations are facing. Goldstein and Gilliam (1994) describe some of the major changes organizations are facing now and into the future: skill obsolescence, technologically sophisticated systems, shift from manufacturing to service based economy, increased influence from international markets. As Cascio (1994) explains, training and development can be a major component in dealing with these and other changes:

At the organizational level, training becomes the means to achieve change through adaptation instead of revolution. Training provides the organization with a tool to adjust to environmental changes. By training employees to impart the new skills needed in using a new technology, organizations have adapted to environmental change. By teaching employees specific skills related to the process of adaptation, organizations themselves become more adaptable (p. 13).

Buckley and Caple (1990) describe the role of the training and development system as a change agent as twofold. One way is directly, by offering training content that helps people manage innovation and change. The other is more indirect: training can be managed in a way that affects culture. An example is cascade training, in which a group at one level is trained and in turn trains others at lower levels. Such training, Buckley and Caple (1990) contend, can have an impact on individual and ultimately on organizational values and attitudes. Fricker (1994) contends that training can help organizations cope with and manage change by aligning training with organizational objectives and by investing in human resource development so that other business investments can pay off.

According to Buckley and Caple (1990), the most important long-term impact training can have on the organization's culture is the influence on attitudes toward learning itself, by creating a learning organization that is more adaptable to internal and external demands. Learning organizations continually expand their ability to shape their own future (Senge, 1994). In learning organizations, employees learn how to learn so they know how to obtain and continue to develop new skills (Lynch and Black, 1996).

Models of Training and Development Systems

This section of the literature review focuses on the elements leading experts believe describe the elements of well-functioning training and development systems. The training and development literature offers several models (also referred to as standards or frameworks). Table 2.1 summarizes the elements of several important models.

Table 2.1

Summary of Models of Effective Training and Development Practice

Model	Elements/Principles
Training and Development Framework: Best Practices	<ul style="list-style-type: none"> • Plan strategic role of training and development to achieve organizational goals • Develop organizational policies governing the training and development system • Establish training and development needs • Build transfer into training and development • Determine the content of training and development • Determine training and development methods and approaches • Devise training and development evaluation strategy • Sustain and continuously improve the training and development system (Human Technology, Inc., 1993)
Investors in People	<ul style="list-style-type: none"> • Make a public commitment from the top to develop all employees to achieve business objectives • Regularly review the training and development needs of all employees • Take action to train and develop individuals on recruitment and throughout their employment • Evaluate investment in training and development to assess achievement and improve future effectiveness (Johnston and McClelland, 1994)
ISO 9000 Standards, Sections 9001, 9002, 9003, 9004	<ul style="list-style-type: none"> • Identify skill shortages by means of examination or other techniques • Secure the appropriate training resources • Implement the training • Verify training effectiveness by means of examination or other techniques • Conduct post-training monitoring, as appropriate (Hale and Westgaard, 1995)

Table 2.1.

Summary of Models of Effective Training and Development Practice

Model	Elements/Principles
IBSTPI Standards	<ul style="list-style-type: none"> • Operate as a well-run business whose business is learning and performance improvement • Add value through an appropriate range of services depending on the needs of the host organization • Provide quality products and services, on time, and within budget • Support the achievement of its parent organization's mission, objectives, key initiatives, and business strategies • Document its processes so they can be shared, managed, and improved (Hale and Westgaard, 1995).
Highly Effective Training	<ul style="list-style-type: none"> • Link training events and outcomes clearly and explicitly to business needs and strategic goals • Maintain a strong customer focus in the design, development, and implementation of all training activities • Manage training with a systems view of performance in the organization • Measure the training process for the purpose of continuous improvement (Brinkerhoff and Gill, 1994)
Systematic Approach to Training	<ul style="list-style-type: none"> • Investigate training needs • Design training • Conduct training • Assess training effectiveness (Buckley and Caple, 1990)
Strategic Training	<ul style="list-style-type: none"> • Determine purpose of training and training department • Assess past training programs and training department • Assess what conditions inside and outside the organization, jobs, and individuals will affect training needs, programs, and the department • Determine long-term strategies • Evaluate strategies and results (Rothwell and Kazanas, 1994)

The models described in Table 2.1 are derived from a variety of sources. The Training and Development Framework: Best Practices model was developed through a benchmarking study of 26 private sector and 10 public sector organizations recognized for their exemplary training and development systems and from the training and development literature. This model in turn was used to measure the effectiveness of the Department of Justice's training and development system (Human Technology, 1993). Like the Training and Development Framework: Best Practices model, the standards for training and development systems in the British program Investors in People are based on practices of successful organizations (Johnston and McClelland, 1994).

The standards created by the International Standards Organization (ISO) 9000, an international certification program, arose from the quality movement (Hale and Westgaard, 1995). ISO 9000 standards govern quality for a variety of goods and services; standards are also included for the training and development function (Russo and Russo, 1996). The International Board of Standards for Training, Performance, and Instruction (IBSTPI), a joint effort of the American Education Communications Technology and the National Society for Performance and Instruction, has set training standards for the organization as a whole, the training function, and training professionals (Hale and Westgaard, 1995).

The last three models--Highly Effective Training (Brinkerhoff and Gill, 1994) Systematic Approach to Training (Buckley and Caple, 1990), and Strategic Training (Rothwell and Kazanas, 1994)-- are not linked to any particular set of empirical data. Rather, they were developed from the practitioners' rational argument about the elements of a well-functioning training and development system.

The models of training and development systems and their descriptors have several features in common. They all address certain well-documented features of training and development, such as procedures for determining training content and methods. They all stress the criticality of viewing the training and development system as a key component in helping an organization achieve its short- and long-term goals. They share the view that training and development systems must have the commitment and involvement of top management in order to be effective. The models stress the importance of thorough,

comprehensive needs assessment; of evaluation of training events and activities and the training and development system as a whole; and of continuous improvement to sustain the training and development system.

Systems View of Training

The models summarized in Table 1 are built around a systems view of training and development. Training and development practitioners are increasingly advocating a paradigm shift in training and development, moving from a view of training and development as a single, often isolated process or event, separated from the “real” work of an organization, to a view of training as an integral part of a whole system of performance (Brinkerhoff and Gill, 1992; Buckley and Caple, 1990). As Brinkerhoff and Gill (1994) note:

Training is a complex process that is affected by many organizational, small group, and individual interactions. This training process must be analyzed to identify its many components and critical interfaces with other organizational processes (subsystems), with quality criteria, measurement, and feedback specified for each critical juncture. The comprehensive systems analysis of training...necessitates a broad view of the training process--a broader view than is typically taken by training practitioners and their managers (p.124).

Buckley and Caple (1990) likewise argue that training traditionally has been a closed system. To build an effective training and development system, they contend that training managers must adopt a wider view of training as an integral part of the whole organizational system.

Elements of Effective Training and Development Systems

The following discussion summarizes the findings in the training and development literature around the elements of effective practice described by the Training and Development Framework: Best Practices model (Human Technology, 1993). This model is used as the basis of the review because it presents the most comprehensive and concrete view of the elements of effective practice.

The Strategic Role of the Training and Development System

The first element in the Training and Development: Best Practices Framework concerns around the issues of how organizations integrate training and development strategically into their overall short- and long-term strategic plans. According to Rothwell and Kazanas (1994), “The purpose of strategically oriented training is to anticipate performance problems before they occur and build individual competencies required to implement organizational strategy” (p. 308). Carr (1992) contends that strategic training is “smart” training that helps the organization, “. . .develop and maintain its core competence, in every field, at every level” (p. 137). Carr also argues that the primary job of the training manager is making sure that the training and development system is aligned with the organization’s long-term strategy, by analyzing future needs and assuring that the training function can meet those needs.

The linkage between the training and development system and organizational strategy requires a system that:

- Equips key managers to plan strategically, to think strategically, and to understand important strategic issues;
- Involves the training and development function in the strategic planning process; and
- Identifies and implements training and development programs that explicitly support strategic plans (Catalanello and Redding, 1989).

Increasingly, training and development experts are advocating this approach to training that links training outcomes to business strategy (Brinkerhoff and Gill, 1994; Cosgrove and Speed, 1995). Organizations are increasingly realizing that strategically-linked training and development is essential to their success, as they are challenged by increasingly complex missions, scarcer resources, accelerating technological change, and shifting workforce demographics. In fact, several leading organizations, including Motorola, General Electric, and Hewlett-Packard, have credited business success to training and development (Catalanello and Redding, 1989). At Motorola and Corning, according to Carr (1992), training and development are part of the business strategy, publicly recognized and supported from the top.

In a majority of the exemplary organizations surveyed for the Training and Development Framework: Best Practices model, the goals of training and development system are clearly linked to the strategic plans of the organization (Human Technology, 1993). Some of the indicators of the link between the training and development system and the organizations' strategic plans and long-term goals include the following:

- Training objectives that are established annually with input from top management.
- A formal process to integrate training and development managers into strategic planning. In organizations with effective training and development systems, training and development executives also provide input into information about the availability of the necessary talent to meet organizational goals (Casner-Lotto, 1988).
- A view of the training and development system as a resource in helping to create and maintain an organizational culture. This view is often made manifest through the creation of a "university." Approximately 1,200 corporations have universities, which vary widely in concept, from Motorola's complete offerings to internal training departments that call themselves universities (Human Technology, 1993).

Cascio (1994) reports the following similar indicators of training and development effectiveness: top management commitment to training and development; a demonstrated connection between training content and organizational strategy, objectives, and results; a systematic approach to training and development; and commitment to investing resources for training and development. Based on the American Society for Training and Development study of best practices organizations, Kimmerling (1993) reported other indicators of the importance of training and development to the organization. Among these are the number of levels between the top executive officer and the training officer and training and development's place in the organizational hierarchy (e.g., is it under the human resources umbrella?), whether or not training is mentioned in strategic plans, the presence of a training and development mission statement and strategic plans for training and development, and whether individual training and development requirements or individual development plans for employees exist.

Training and Development Organizational Policies

The second element of the Training and Development Framework: Best Practices model addresses the values and policies that govern the training and development system within an organization. Organizations that are serious about training and development that advances the strategic goals of the organization exhibit their commitment through policy statements. Some of these are explicit, formal messages on training and development requirements, such as number of hours of required training and development. Others are more informal, less number-oriented communication of the value of training and development to the organization (Human Technology, 1993).

According to Hale and Westgaard (1995), the mission statement of the training and development system should support the organization's mission and identify training's driving force, its customers, its customers' requirements for products and services, and how the training function will develop and maintain required competencies. The training and development mission or strategy must, according to Johnston and McClelland (1994), include requirements for management education and training, not only because its lack is a crucial problem, but also to send a message that training is important for everyone in the organization.

Policy statements generally address budget allocation for training and development, annual number of hours required for training, or required training and development before or after promotion (Human Technology, 1993). Although not always articulated as a policy, the private sector organizations interviewed by Human Technology for the Training and Development Framework: Best Practices model allotted, on average, over three percent of payroll to employee training and development. The reliability of this figure is reinforced by the reported 3.2 percent investment in training made by the American Society for Training and Development Benchmarking Forum participants in 1991 (Kimmerling, 1993).

Investment in training and development in public sector organizations was lower, with two percent of the payroll allotted to professional and non-professional staff training and development and one percent allotted to supervisory, managerial and executive training and development (Human Technology, 1993). U.S. national averages are lower than both the

private and public sector figures, estimated at no more than 1.4 percent of payroll among private employers (Carnevale, 1990). About 90 percent of U.S. private employers make almost no investments in training and development, compared to training and development investments of three to four percent of payroll in the average German or Japanese company (Bernstein, Brandt, Carlson, and Padley, 1992).

Other policies dictate number of hours of training annually for employees. The Human Technology study (1993) found that in best practice private sector organizations, executives spend an average of almost 45 hours in training, supervisors and managers almost 51 hours, and professional and non-professional staff almost 53 hours. Comparable numbers in the best practice public sector organizations are almost 53 hours for executives, 61 hours for supervisors and managers, and over 67 hours for professional and non-professional staff (Human Technology, 1993). The American Society for Training and Development benchmarking study found that most reporting entities provide between two and seven days of training per employee per year, with a typical value of 3.4 days (Kimmerling, 1993).

Establishing Training and Development Needs

Assessment of training needs provides critical information into the development and evaluation of training programs (Ostroff and Ford, 1989). Determining needs involves “. . . step-by-step procedures for discovering the knowledge, skills, and attitudes that individuals need to help the organization achieve its goals” (Brinkerhoff and Gill, 1994, p. 98). Schneider, Guthrie, and Olian (1994) present three major arguments for conducting training needs assessments: to promote the view of training as a process consisting of assessment, design, and evaluation; to provide a database to support and enhance other human resource functions; and to provide a bottom-line measure for human resource operations.

Two of the most common methods of determining needs are the generic method, first outlined by McGehee and Thayer, and performance analysis, whose major proponents are Gilbert, Rummler, and Mager and Pipe (Rothwell and Kazanas, 1994). In the generic method, which is the oldest, analysts synthesize training needs from the organization, the work, and the individual worker (McGehee and Thayer, 1961). Using this method, analysts:

- Compare what the entire organization is doing to what it should be doing;

- Look at what the job requires compared to what the person can do, identifying any skill deficiencies;
- Look at the person doing the job and ask whether he/she knows what to do, how to do it, and what constitutes the minimal level of acceptable performance.

At the organizational level, inputs are business factors, anticipated regulatory changes, and market factors. At the job level, inputs are skills and knowledge needed to perform a job. At the individual level, inputs are an employee's deficiencies in performance and developmental needs (McGehee and Thayer, 1961).

Recently, training analysts have advocated adding an analysis of the environment as a fourth element in training needs analysis. Environmental analysis helps an organization to stay informed about changing external trends and requirements that affect the content of training and development. For example, Xerox benchmarks other companies and collects information about suppliers to understand economic, cultural, and technological trends (Olian, Durham, Kristof, Brown, Pierce, and Kunder, In press). Dalziel (1994) argues that when assessing training needs, the national and organizational contexts within which organizations are working, such as the effects of legislation and economic policies and the pace of technological change, are important environmental considerations.

Major proponents of performance analysis are Gilbert (1967), Mager and Pipe (1970) and Rummler (1976). Gilbert (1967) identified two types of deficiencies: skill deficiencies, which can be addressed through training; and execution deficiencies, which arise from factors that cannot be addressed through training, such as motivation or inadequate feedback on performance. Mager and Pipe (1970) built on Gilbert's approach by introducing a series of questions about skill deficiency into the analysis. Rummler (1976) focused the performance analysis on five issues: work context, worker, worker behavior, work results, and feedback about results.

Building Transfer into Training and Development

Transfer of training refers to the extent to which what is learned during a training event results in better performance on the job. As Gagne and Medsker (1996) state, "Because the goal of most training is to improve human performance in the workplace, the transfer of

learning from the classroom to the job setting is a matter of crucial importance. Further, because today's worker is called upon to solve novel problems and not just follow routine procedures, helping trainees transfer learned skills to new situations is of growing concern" (p.150).

Despite the importance of transfer of learning to the job, many training and development practitioners argue that such transfer is typically low. Brinkerhoff and Gill (1994) contend that most training does not transfer to the job. Kelly (1982) theorizes that only 10 percent of what is learned in training transfers to the workplace. Broad and Newstrom (1992) report on a study that analyzed HRD professionals' perceptions of the transfer of content from management development programs. The HRD professionals believed that only about 40 percent of the content was transferred to the job immediately, about 25 percent was being used six months later, and 15 percent was being used at the end of a year.

Many barriers can exist to the transfer of training to the job. One is an organizational climate inconsistent with what the training program teaches (Boverie, Mulcahy, and Zondlo, 1995). Others are a view of training and development activities as unimportant or peripheral to the work of the organization and the failure to build transfer into training events (Kelly, 1982). In addition, if employees think that they will not have the resources (equipment, money) to use the skills from training on the job, transfer is less likely to occur (Noe and Schmitt, 1986).

Transfer of training is difficult to pinpoint and measure, because it is inextricably interwoven with factors such as organizational climate and resource availability (Hawthorne, 1987). However, for transfer of training to occur, Brinkerhoff and Gill (1994) maintain that fundamental changes need to be made to the way training is managed and delivered. The content of training must accurately reflect realistic job conditions if learning is to transfer rapidly to job performance (Olian, Durham, Kristof, Brown, Pierce, and Kunder, In press; Gagne and Medsker, 1996).

Another important element to ensure transfer is an organizational climate that welcomes change and reinforces the use of what is learned in training in the workplace itself (Noe and Schmitt, 1986). Noe and Schmitt (1986) maintain that, "a supportive work climate in which

reinforcement and feedback from co-workers are obtained is more likely to result in a transfer of skills from the training environment to the work environment” (p. 498-499).

Certain steps are widely accepted as helping to promote transfer of training. Boverie, Mulcahy, and Zondlo (1995) outline some of these, synthesized from the literature. They include:

- Building a plan for ensuring transfer at the beginning of the design process
- Making sure the work environment provides incentives for using skills learned
- Collecting data and report results that will be helpful to the audience
- Setting targets for performance
- Covering relevant and job related topics
- Using employees’ managers or supervisors to deliver training
- Keeping training events short
- Matching practice in training with actual work situations
- Planning for multiple methods for evaluating transfer
- Not considering training complete until transfer has been evaluated.

The Content of Training and Development

In strategically oriented training, content is selected or designed to provide employees with the knowledge and skills they will need in the future (Rothwell and Kazanas, 1994). Cascio (1994) contends that if the goal of training is to increase adaptability, then training content should center around technical and motor skills and skills that increase adaptability, such as interpersonal, cross-cultural, and problem-solving skills.

Exemplary organizations studied by Human Technology (1993) for the Training and Development Framework: Best Practices model derived the content for training and development from strategic objectives, culture and values, and present and future competency and skill needs. In this study, the most commonly addressed training and development area was leadership training. The respondents in the 1993 American Society for Training and Development benchmarking study indicate that management and supervisory development, quality, executive education, and job skills are the most frequent content of training (Kimmerling, 1993). The Educational Quality of the Workforce National Employer Survey

found that the most frequent content for training of non-managerial employees was training on the safe use of equipment and tools, improving teamwork or problem-solving skills, training in sales and customer service, and training to use computers and other new equipment (Zimsky and Iannozzi, 1996).

Training and Development Methods

Much of the research on training methods centers on trying to determine whether one method is better or more effective than another (Cascio, 1994). According to Gagne and Medsker (1996), a half century of research has yielded few guidelines on which media are most effective in the delivery of training. They conclude that, while media considerations are important, the design of the instruction is more important than the media chosen as the vehicle for delivery, because of learners' adaptability to different media.

Choice of training and delivery methods depends upon many things, including organizational culture and values, training and delivery objectives and content, profiles of trainees and trainers, resource availability, time, location, and political constraints (Human Technology, 1993). The most common method of training remains the classroom with live instructors. According to *Training's* 1997 Industry Report, 81 percent of training still occurs in the classroom (*Training* magazine staff, 1997). The Human Technology study (1993) found similar reliance upon classroom training. Rothwell and Kazanas (1994) contend that in strategic, future-oriented training, learners must be given opportunities, through role plays, case studies, and scenarios that simulate future conditions, to gain experience before they confront real situations.

Organizations are increasingly using technology-aided delivery methods for training and development activities. For example, at IBM during the 1980s, technology was used to deliver no more than five percent of the company's training. By 1990 that figure stood at 30 percent, and by the end of the decade, it is expected to rise to 60 percent of all training and development delivered (Geber, 1990).

Training and Development Evaluation Strategy

A succinct definition of training and development evaluation is provided by Carnevale and Schulz: “Evaluation of training is the main method used to assess whether training is accomplishing desired effects of sufficient value” (p. S-16). Evaluation of discrete training events is an area that has been well researched and documented by Kirkpatrick (1976) and others (Hawthorne, 1987; Goldstein, 1993; Cascio, 1989). Throughout discussion of training evaluation, a common theme occurs: training evaluation is an often neglected element in the training and development process. Hawthorne (1987), while addressing the problems in the evaluation of management training, struck the common chord of the problems with evaluation:

. . . The evaluation of management education remains a pursuit fraught with intellectual, methodological, and practical problems. Lacking substantive conceptual formulations has hindered our ability to relate management education to actual performance or to translate actual performance into corporate benefits. Equally challenging is the need to quantify or otherwise portray outcomes in understandable terms relevant to decision makers’ own needs for the evaluation findings (p. 31).

According to Noe and Schmitt, “. . . positive trainee reactions, learning, behavior change, and improvements in job-related outcomes are expected from well-designed and well-administered training programs” (Noe and Schmitt, 1986, p. 498). Yet, evaluation of training and development to determine if any of those things have actually happened has been done perfunctorily and in ways that are not very useful (Boverie, Mulcahy, and Zondlo, 1995).

Effectiveness of training activities or events is most often evaluated using some combination of the criteria first set out by Kirkpatrick (1976). His model is composed of four steps (now termed levels) of training outcomes:

Level 1: Trainees’ reactions to the content and process (How did they like it?)

Level 2: Knowledge or skill acquisition (What did they learn?)

Level 3: Behavior change (How did it change their performance?)

Level 4: Improvements in tangible organizational outcomes (What is the return on investment to the organization?) (Kirkpatrick, 1979).

The most common type of evaluation occurs at Level 1, which measures participants' reactions to the training event. Kirkpatrick's (1976) guidelines for Level 1 evaluation include: determining what items need to be evaluated and writing the evaluation around those items; designing the evaluation for ease of tabulation and analysis; maintaining anonymity; and encouraging additional comments.

Level 1 evaluation is not without its usefulness. Carnevale and Schulz (1990), who found that from 75 to 100 percent of the organizations in an American Society for Training and Development study evaluated participants' reactions, argue that evaluation of reactions is important to a training program's success, to the receptivity of the participants to the material, and to their using what they have learned on the job. Yet they also contend that this level of evaluation provides little information on the training event's worth.

The subjective information gathered in Level 1 evaluation typically does not provide data that can be analyzed statistically or measured for reliability (Fisher and Weinberg, 1988). Cascio (1994) advises caution in using participant reaction to evaluate training, because the connection between reaction measures and performance is still unclear and thus insufficient to determine if training has improved performance or enhanced organizational competitiveness.

The second level of evaluation is evaluation of participant learning. Kirkpatrick's (1976) guidelines for evaluation of learning include: using quantitative and objective measures, administering pretests and posttests, and when feasible, using a control group subjecting the results to statistical analysis. The limitation of evaluation of learning is that it shows only whether or not the participant has learned the training content, and not whether he/she can or will use the knowledge and skills learned from the content on the job (Carnevale and Schulz, 1990; Jones, 1995).

The third level of evaluation is transfer of learning to the job; that is, do the knowledge and skills that participants learned in training translate to changed performance and/or behavior on the job. Kirkpatrick's (1976) guidelines for Level 3 evaluation include: before and after (three months or more) appraisals; appraisals by multiple appraisees, including the participant, supervisor, subordinates, peers; statistical analysis of the data; use of a control group.

Few examples exist in the training literature of attempts to assess transfer of learning to the job (Hawthorne, 1987; Boverie, Mulcahy, and Zondlo, 1995). Carnevale and Schulz (1990) found in an American Society for Training and Development study, only about 10 percent of the organizations evaluated learning transfer. Yet Level 3 evaluation provides valuable information to training designers for redesigning training programs and designing new programs for the future (Boverie, Mulcahy, and Zondlo, 1995; Hawthorne, 1987). The information from Level 3 evaluations also provides useful information to analysts of the entire training and development system (Hawthorne, 1987).

The fourth level of evaluation is the evaluation of the impact of training on the organization, whether it be in terms of greater productivity, reduced costs, or improved quality. Carnevale and Schulz (1990) report that among organizations in the American Society for Training and Development study, 25 percent evaluate the organizational impact of training. This percentage is fairly small, given the fact that many experts agree with Brown (1997) that “Training professionals have no choice but to demonstrate the effects of their work on corporate profitability in today’s organization” (p. 2).

Much of the difficulty in evaluating the organizational impact of training lies in the difficulty of separating variables to discern how much positive organizational impact is the result of training (Boverie, Mulcahy, and Zondlo, 1995). Yet Lynch and Black (1996) contend that “significant and positive effects on establishment productivity are associated with investments in human capital” (Abstract).

Sustaining and Advancing Training and Development

A training and development system that meets today’s needs will not necessarily meet tomorrow’s needs. The training and development system of any organization must be modified and continuously improved as training managers get feedback on employee needs, the effectiveness of strategies and programs, and the impact of training and development on the organization (Brinkerhoff and Gill, 1994).

The critical success factors for continuous improvement of the training and development system include:

- Management commitment to the training and development system
- A sense of the importance of training and development to the achievement of the organization's goals
- A training and development system that is attuned to the needs of its users
- Training and development activities that readily translate to on-the-job use
- Easy access to training and development activities
- Clear evidence of the value added by training and development (Human Technology, 1993).

To sustain and improve the system, organizations need to measure the effectiveness of the whole training and development system, not just individual activities. As Brinkerhoff and Gill (1994) state, "While a significant contribution to the HRD field, Kirpatrick's model has kept the focus on the event, not the process. We must create ways to measure the entire training process and the effects of its various components"(p. 153). Buckley and Caple (1990) have outlined a procedure for auditing individual training and development activities that is also useful in reviewing the entire training and development system. It consists of the following steps:

1. Reviewing the aims and objectives of all the training and development activities, who the targeted population is, and what has changed.
2. Auditing the client to determine changes in population and procedures.
3. Auditing programs to make sure they are appropriate and current.
4. Auditing the programs' organizers/facilitators, to determine general impressions of the programs' effectiveness and reactions from clients.
5. Auditing the consumer, to determine the relevance of training and development activities.
6. Reporting results and making recommendations for change.

CHAPTER III

METHOD

This chapter describes the subjects and the instrumentation of the study and details procedures and data analyses used to explore the four research questions posed in Chapter I.

Introduction

This study began with an analysis of an existing database from a survey of employee perceptions about the training and development system within a major Federal government agency. The survey was originally designed to investigate respondents' satisfaction with training and development activities, and its relationships to employee perceptions of the achievement of the following key elements of effective practice:

- Integration of the training and development system into organizational strategy
- Policies governing the training and development system
- Procedures for assessing training needs
- Procedures for the transfer of training to the job
- Procedures for evaluating training and development activities
- Measures for continuous improvement of the training and development system.

Each element included several indicators of effective training and development practice to which survey recipients were asked to respond. The indicators were derived from two sources:

- The training and development literature that describes elements of effective training and development practice; and
- The Training and Development Framework: Best Practices, a model of effective training and development practice built from study of best practices organizations (Human Technology, 1993).

Using the existing database that represented over 3,800 Department of Justice employees, this study focused on determining the actual constructs in the survey and studying their relationships. The study used a factor analysis to examine the indicators that comprised the elements of the survey. The goal of the factor analysis was to determine if these indicators did

indeed cluster around the elements described in the Training and Development Framework: Best Practices model or if their structure might be explained in a more robust way.

The factor analysis resulted in a different factor structure for regrouping the indicators and in the development of the following three factors, assessing employees' perceptions of:

- The status of training and development in the organization;
- The effectiveness of the training and development system;
- The value of the training and development they received.

These factors that were derived from the data analysis were then examined for their relationships. The study also examined the demographic variable of employee position (executive, manager, supervisor, technical/clerical, and professional/ administrative) to determine the differences, if any, among employee groups in their perceptions of the training and development system.

Subjects

The subjects of the survey captured in the database used for this study consisted of over 3,800 Department of Justice employees in three management positions (executives, managers, and supervisors) and two support positions (technical/clerical and professional/administrative) from law enforcement, litigation, and other components. The database represents respondents in all of these positions, which support the core law enforcement and litigation missions of the Department in Washington, D.C., and throughout the United States.

Procedures

Human Technology, Inc., the consulting firm contracted by the Department of Justice to conduct a comprehensive study of the Department's training and development system, sent

the survey to a representative sample of the target populations. The survey included general instructions for the completion and return of the survey. No follow-up surveys were sent.

Instrumentation

The database built from the survey of Department of Justice employees' perceptions about the Department's training and development system is the basis for this study (Human Technology, 1994). The survey itself consisted of three sections. Section I of the survey collected demographic data and information about the number of days of training respondents received in the previous year. Section II asked respondents for their perceptions about whether the training and development system in their component organizations achieved several key indicators of training and development excellence. Section III queried respondents in two areas:

- The training and development delivery methods they would like to see being used more widely; and
- The amount of training they had received in content areas identified as key target areas in an early phase of the project, how much practice was included in the training, and whether they perceived the training as useful.

The survey instrument included 68 items requiring 116 responses. Those employees in executive, manager, and supervisor positions completed 62 of the items, and employees occupying professional/administrative or technical/clerical positions completed 59 of the items. Sections II and III included five-point Likert scale measurements. One set of indicators was designed to determine respondents' satisfaction with training. The other questions were built around the elements of effective practice described in the Training and Development Framework: Best Practices model. They were purported to measure employee perceptions of how well the training and development system achieves the following elements of effective training practice as described in the Training and Development Framework: Best Practices model:

- Integration of the training and development system into the organization's strategic goals and mission
- Existence of explicit administrative policies for training and development

- Formal procedures for the assessment of learning needs
- Formal procedures for assuring the transfer of training to the job
- Systematic, multilayered training evaluation
- Built in measures for continuous improvement of the training and development system.

A description of each of these elements of concern that the survey was designed to address follows. The survey instrument is included in Appendix A.

Satisfaction with training. Four items, 30-33, were designed to assess respondents' satisfaction with the training they have received. Questions center around satisfaction with the range of training activities, their worth, and organizational support for training.

Training's role in helping achieve the organization's mission. Five items, 8-13, purportedly assessed respondents' perception of how training fits into and helps achieve the goals and mission of the organization. Respondents assessed top management's commitment to training and development, support for development of new skills, commitment of resources to training, and support for some training activities for all employees (e.g., diversity, ethics).

Administrative policies governing training and development. Items 14 and 15 addressed policies governing requirements for training following hiring or reassignment and role of managers in helping employees meet training and development needs.

Determining learning needs. Items 16-17 addressed the policies and procedures that govern how training and development needs are assessed, such as whether managers are involved in determining the training needs of a component.

Transfer of training. This subscale, consisting of items 18-23, assessed whether employees' and managers' were held accountable for ensuring that what is learned in training activities is used on the job, whether managers' were involved in training activities for their employees, whether skills and knowledge learned in training activities are tied to rewards, and whether training activities provide learning that is practical for the job.

Training evaluation. Items 24-26 assessed how training is evaluated, such as whether participants are asked to share what they learned in training activities, whether subordinates are asked to provide feedback on the effectiveness of their managers' training, and whether managers provide feedback on the effectiveness of the training received by their employees.

Continuous improvement of the training and development system. This subscale, consisting of items 27-29, sought respondents' perceptions of efforts to continuously improve its training and development program, including recognition for training accomplishments and maintaining a broad selection of training opportunities and activities.

Data Processing and Analysis

The Statistical Package for the Social Sciences (SPSS) for Windows (version 8.0) was used for data analysis. Descriptive statistics were used to describe the demographic data and the average amount of training received. As noted above, the survey designers had posited that the survey measuring employee perceptions of how well the training and development system achieved elements of effective practice consisted of six subscales. For the purpose of this analysis, the subscale “administrative policies governing training and development” (Items 14 and 15) was included in the “determining learning needs” (Items 16 and 17) subscale.

As a starting point in the analysis of the data from the survey, Cronbach’s alpha was used to test the internal consistency of each of these subscales, and each exhibited acceptable internal consistency. These subscales, the items from the survey within them, and the internal consistency scores are given in Table 3.1.

Table 3.1

Internal Consistency of Original Subscales

Element	Indicator Survey Numbers	Cronbach’s alpha
Employee satisfaction with training	30-33	.83
Strategic role of training	8-13	.89
Determining training needs	14-17	.83
Transfer of training	18-23	.85
Training evaluation	24-26	.78
Continuous improvement of training	27-29	.80

Although the internal consistency of the subscales was acceptable, the nature of the indicators in the survey indicated a potential for high multicollinearity. The first research question was: Is the internal factor structure in the employee survey of perceptions about the training and development system consistent with the survey designers' original constructs? To address this question, the researcher ran a factor analysis of the survey items. The results of the factor analysis follow.

Factor Analysis Procedures

Exploratory factor analysis is “. . .concerned with the question of how many factors are necessary to explain the relations among a set of indicators and with the estimation of the factor loadings” (Pedhazur and Schmelkin, 1991, p. 67). Factor analysis is useful for studying the correlations among a large number of interrelated quantitative variables and grouping them into a few more meaningful factors. Those few factors then become input variables and become interpretable (Statistical Package for the Social Sciences, 1997). These features of factor analysis are particularly important when no information exists about the internal structure of the measure or when there is a suspicion that the factor structure might be different from that reported by the creator of the measure (Pedhazur and Schmelkin, 1991). Both of these features were true in the case of the survey that formed the basis for this study. The survey had not been subjected to a factor analysis when originally designed, and an initial analysis of the data revealed high multicollinearity among survey items. To uncover a more accurate and descriptive underlying factor structure, a factor analysis was an important first step in the research. Complete data from the factor analysis are included in Appendix B.

The first step in the factor analysis was to prepare a correlation matrix to study the correlations among the items in the survey. The matrix revealed a high degree of multicollinearity among the survey items, which confirmed a different factor structure underlying the data from that originally posited by the survey designers. Three unrestricted factors with eigenvalues greater than one emerged from an analysis of the total variance explained by the data. The indicators in each of the three factors were analyzed, and the factors were renamed as follows:

- The status of the training and development system;

- The effectiveness of the training and development system; and
- The value of training and development.

Table 3.2 shows the percent of variance explained by each of the three factors. Together the three factors accounted for 59.4 percent of the variability among the survey items.

Table 3.2

Percent of Variance Explained by the Status and Effectiveness of the Training and Development System and Value of Training and Development

Factor	Percent of Variance Explained
Status of training and development system	48.4
Effectiveness of training and development system	6.0
Value of training and development	5.0
Total	59.4

New Elements for Analyzing the Perceptions of the Training and Development System

A principal component extraction with varimax rotation revealed the loadings of the indicators in the three renamed factors of status and effectiveness of the training and development system and the value of training and development. Meaningful loadings are those exceeding .4 or .5 (Cline, 1998 and Pedhazur and Schmelkin, 1991). A discussion of the three new elements that were subsequently used to analyze employees' perceptions of the training and development system follows.

Status of the Training and Development System

Table 3.3 shows the indicators and their factor loadings on the status of the training and development system construct. This factor, which explained over 48 percent of the variance among survey items, consisted of 13 of the original 26 indicators. The Cronbach's alpha for this subscale was .94. The original indicators were redistributed into the "status of the training and development system" factor in the following ways.

- All six indicators addressing the integration of the training and development system into the organization's strategic goals and mission
- Both of the two indicators addressing determining training needs
- One indicator addressing administrative policies that govern the training and development system
- Two indicators addressing continuous improvement of the training and development system
- Two indicators addressing satisfaction with the training and development system.

Table 3.3

Status of the Training and Development System

Indicator #	Indicator	Loading
9	Your component's top managers show commitment to T&D by spending time promoting and delivering it	.816
10	Component managers strongly support the development of new skills and knowledge among all levels of employees	.787
11	Even during budget cuts, your component's top managers do all they can to preserve T&D opportunities for their employees	.778
8	Your component's top managers see T&D as an important way of helping the component to achieve its mission	.778
30	In general, I am satisfied with the range of T&D opportunities available	.693
12	The kinds of T&D activities that are encouraged clearly relate to what top managers are trying to accomplish for your component	.690
17	The component provides a program of T&D activities that meets the needs of employees	.672
32	In general, the component supports me in my efforts to continuously improve my knowledge and skills	.642
15	Component managers help employees meet personal T&D goals and needs	.638
16	Your component's top managers are closely involved in determining the direction and goals for the component's T&D activities	.638
29	The component makes available a broad selection of courses and other T&D activities	.625
27	The component continuously updates and improves its T&D programs	.552
13	There are some T&D activities (e.g., diversity, ethics, or computer security training) that everyone in the component participates in, regardless of position	.430

Effectiveness of the Training and Development System

Table 3.4 shows the indicators and their factor loadings on the effectiveness of the training and development system construct. This factor, which explained almost six percent of the variance, consisted of nine of the original indicators. The Cronbach's alpha for this subscale was .88. The original indicators were redistributed into the "effectiveness of the training and development system" factor in the following ways.

- One indicator addressing determining training needs
- Four indicators addressing transfer of training
- All of the indicators addressing evaluation of training
- One of the indicators addressing continuous improvement of training.

Table 3.4

Effectiveness of the Training and Development System

Indicator #	Indicator	Loading
26	Managers are asked to provide feedback on the effectiveness of the T&D received by their subordinates	.751
25	Subordinates are asked to provide feedback on the effectiveness of the T&D received by their managers	.738
20	Managers are held accountable for following up and encouraging their employees to apply what they've learned through their T&D activities	.706
24	After employees receive T&D, they are asked to provide feedback on how much they learned	.636
19	Employees are held accountable for using what they've learned in their T&D activities	.616
28	Individuals are publicly recognized for their T&D accomplishments	.567
22	Component managers personally provide T&D for their employees	.535
18	Structured learning activities are built into the job so that employees are constantly learning	.517
14	Following hiring or selection for a new position, there is a requirement to take T&D targeted to the new job	.498

Value of Training and Development

Table 3.5 shows the indicators and their factor loadings on the value of training and development construct. This factor explained just over five percent of the variance. It consisted of four indicators that addressed respondents' perceptions of the value of training and development. The Cronbach's alpha for this subscale was .81. The original indicators were redistributed into the "value of training and development" factor in the following ways.

- Two indicators addressing transfer of training
- Two indicators addressing satisfaction with training.

Table 3.5

Value of Training and Development

Indicator #	Indicator	Loading
33	The time I spend on T&D is time well spent	.839
31	The T&D activities supported by the component are worth the time and money spent on them	.753
21	T&D activities provide learning that is practical for use on the job	.642
23	T&D gives employees an opportunity to learn the skills and behaviors that will help them to get rewarded and promoted	.512

Data Transformation

Cline (1998) suggested that weighting the factor loadings would reflect the greater importance of those items with the highest loadings and produce a more accurate analysis of the relationships among the factors. According, weights were assigned to the individual indicators as follows: indicators with loadings greater than .7 were multiplied by 3; those with loadings between .6 and .7. were multiplied by 2; and those with loadings less than .6 were multiplied by 1. These transformed values served as the bases for the statistical analysis of the data.

Analysis of the Data

The factor analysis helped to determine the underlying factors or constructs represented by the data. Following is a discussion of how the original research questions were reframed based on the results of the factor analysis and how each of the questions were analyzed.

1. What are the relationships among employees' perceptions of:
 - a. The status of the training and development system in the organization?
 - b. The effectiveness of the training and development system?
 - c. The value of training and development?

Analysis approach: Pearson r correlation was used as a starting point for analysis of the relationships among employee perceptions of the status of the training and development system, training and development system effectiveness, and the value of the training and development system.

2. What are the relative contributions of the perceptions of the status of the training and development system and the effectiveness of the training and development system on respondents' perceptions of the value of training and development?

Analysis approach. Hierarchical multiple regression analysis was used to explore the contributions of the two elements of perceptions of the status and effectiveness of the training and development system to the perceived value of training and development.

3. Do employees in the five employee groups surveyed (executives, managers, supervisors, professional/administrative, technical/clerical) differ in their perceptions of the:
 - Status of the training and development system

- Effectiveness of the training and development system
- Value of training and development.

If so, where do the differences occur?

Analysis approach: A one-way analysis of variance (ANOVA) was used to analyze differences in perceptions about the training and development system by employee position (executive, manager, supervisor, professional/administrative, technical/clerical), amount of training received, and amount and usefulness of training in key target areas. Statistically significant differences were found to exist in the perceptions about the training and development system among the employee groups. As a result, post hoc tests were performed to determine the source of the differences.

Interpretation of Findings

The analysis of the data revealed that employees' perceptions of the value of training and development were affected by their perceptions of the status and effectiveness of the training and development system, and that perceptions differed among employee groups. These findings will be explored in greater detail in the Chapter IV.

CHAPTER IV

RESULTS

This study systematically examined data in an existing database created from a Department of Justice employee survey. The survey was designed to assess employees' perceptions about the Department's training and development system. This chapter presents a discussion of the results of the data analysis.

Response Analysis

Seven thousand questionnaires were mailed to a representative sample of Department of Justice employees in five employee groups: executives, managers, supervisors, professional/administrative staff and technical/clerical staff. Three thousand eight hundred and sixty-seven employees (54%) completed and returned the questionnaire.

Demographic Profile of the Subjects

Demographic data were collected for the following:

- Employee group
- Area of employment
- Location of employment
- Race/national origin
- Gender.

Tables 4.1 summarizes the demographic data about respondents' employee group, component, and location. Table 4.2 summarizes the demographic data about the respondents' race and gender. As Table 4.1 shows, three-fourths of the respondents were in management positions. The largest response came from supervisors (40.5%), followed by managers (28.9%). Almost three-fourths of the respondents (74.0%) were from the law enforcement components within the Department of Justice. Slightly over half of the respondents (53.9%) worked in field offices. Table 4.2 shows that a majority of the respondents were white (76.9%) and male (63%).

Table 4.1

Demographic Profile of Subjects: Employee Group, Component, and Location

Employee Group	N	%
Executives	243	6.4
Managers	1102	28.9
Supervisors	1543	40.5
Professional/Administrative	563	14.8
Technical/Clerical	357	9.4
Area of Employment		
Law Enforcement	2851	74.0
Litigation	743	19.2
Other	258	6.7
Location		
Headquarters (D.C. metropolitan area)	1479	39.2
Headquarters (not D.C. metropolitan area)	262	6.9
Field Office	2032	53.9

Table 4.2

Demographic Profile of Subjects: Race and Gender

Race/National Origin	N	%
American Indian or Alaskan Native	20	.5
Asian or Pacific Islander	58	1.5
Black or African American (not of Hispanic origin)	526	13.8
Hispanic	276	7.3
White (not of Hispanic origin)	2924	76.9
<hr/>		
Gender		
Male	2399	63.0
Female	1406	37.0

Table 4.3 shows the gender of the respondents by employee position. Among this survey population, males are predominate in management positions; females in technical/clerical positions. Seventy-eight percent of the respondents in the executive, manager, and supervisor job categories were male, compared to 45 percent in the professional/ administrative category, and 19 percent in the technical/clerical job category.

Table 4.3

Gender by Employee Position of Respondents

Employee Position	% Male	% Female
Executives	90	10
Managers	80	20
Supervisors	64	36
Professional/Administrative	45	55
Technical/Clerical	19	81

Amount of Training Received

Respondents in the survey were asked to indicate how many days of training they had received in the previous year. As Table 4.4 shows, managers and supervisors had received the most training, followed by executives and professional/administrative staff. Managers had received almost twice as much training as had technical/clerical staff. These findings are consistent with Lynch and Black's (1996) findings on which employees most often receive training: better educated employees, and managers and professionals. It is important to note, however, that within this sample, the amount of training varied widely among population groups, as indicated by standard deviation scores. Figure 4.1 graphically presents the differences in training opportunities among employee positions.

Table 4.4

Number of Days of Training Received by Employee Position

Employee Position	Mean	N	Std. Deviation
Executives	5.92	238	6.65
Managers	9.07	1095	11.74
Supervisors	7.95	1531	9.96
Professional/Administrative	5.54	552	7.96
Technical/Clerical	4.60	354	9.78
Total	7.48	3770	10.18

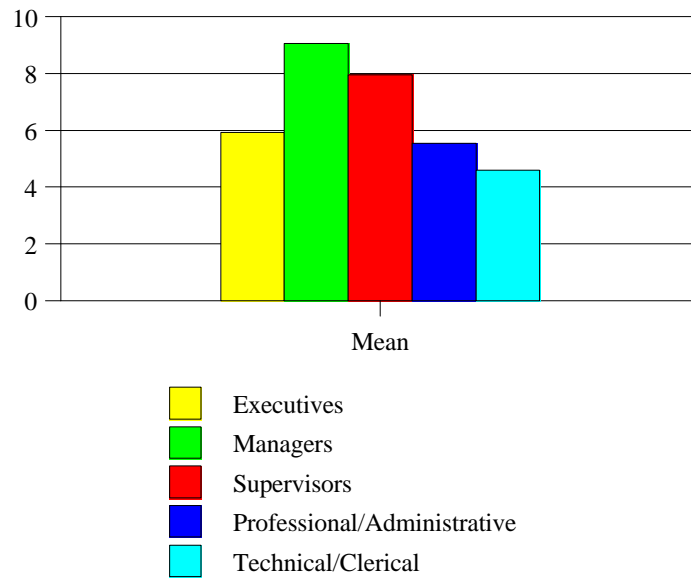


Figure 4.1 Number of Days of Training Received by Employee Group

At least some of the difference in the apparently large differences in the amount of training received in the Department of Justice is explained by differences in training activities among the three major components. As Table 4.5 illustrates, employees in the law enforcement components receive substantially more training than do their litigation and “other” counterparts.¹

Table 4.5

Number of Days of Training Received by Area of Employment

Area of Employment	Mean	N	Std. Deviation
Law Enforcement	7.94	2830	9.71
Litigation	3.13	731	4.40
Other	5.68	253	8.86

This finding supports the findings of Human Technology, Inc. (1993) in their additional study of the Department’s training and development system. Interviews with management staff and training officials in the three components revealed that the availability and scope of training and development varied significantly across employee position and among components, with the law enforcement components providing the most training opportunities. For example, all Bureau of Prison employees are required to take 40 hours of training per year (Human Technology, 1993).

¹The following are the components in each area of employment:

Law enforcement: Federal Prison System, Federal Bureau of Investigation, Immigration and Naturalization Service, Drug Enforcement Administration, U.S. Marshals Service

Litigation: U.S. Attorney’s Office, Antitrust Division, Civil Division, Criminal Division, Civil Right Division, Environment and Natural Resources Division, Tax Division, U.S. Trustee’s Office

Other: Executive Office for Immigration Review, Office of Justice Programs, Office of Inspector General, Justice Management Division, Other.

Employee Perceptions of the Training and Development System

Respondents were asked to respond to 26 statements concerning their perceptions about the training and development system. Respondents used the following Likert scale to respond:

?	1	2	3	4	5
Don't	Definitely	Somewhat	Neither agree	Somewhat	Definitely
know	disagree	disagree	nor disagree	agree	agree

As explained in Chapter III, a factor analysis was performed to answer the question of whether the structure of the survey was consistent with the original constructs of the survey designers. The factor analysis revealed three new factors that explained 59.5 percent of the variability among survey items. The three factors are perceptions of:

- The status of the training and development system;
- The effectiveness of the training and development system; and
- The value of training and development.

These are the elements that served as the basis for data analysis for this study.

Table 4.6 presents descriptive statistics on the three variables under study: status of the training and development system, effectiveness of the training and development system, and value of training and development. The means and standard deviations are presented in unweighted form to better reflect the measures as constructed in the original survey design. The average for respondents' perceptions about the status of the training and development system is 3.15, just slightly positive; for the effectiveness of the training and development system, 2.67, slightly negative; and for the value of training and development, 3.56, the most positive of the variables.

Table 4.6

Perceptions of the Training and Development System

Element	N	Unweighted Mean	Unweighted Std. Deviation
Status of training and development	3861	3.15	1.12
Effectiveness of training and development	3856	2.67	1.03
Value of training and development	3859	3.56	1.08

The Relationship Between Value of Training and Development and the Status and
Effectiveness of the Training and Development System

The first research question posed by this study resulted in the factor analysis described in Chapter III. The second research question sought to explain the relationships among employees' perceptions of the value of training and development and their perceptions of the status and effectiveness of the training and development system.

Pearson's r correlation was used to examine the correlation between the perceptions of the value of training and development and the status and effectiveness of the training and development system. Table 4.7 reports the findings of an initial correlation analysis using the unweighted loadings on the three elements. A statistically significant positive correlation exists between survey respondents' perceptions of the value of training and development and both the status and effectiveness of the training and development system. The correlation between perceptions of the value of training and the status of the training and development system is 0.686. It is statistically significant, with a p value less than 0.01. The correlation between respondents' perceptions of the value of training and the effectiveness of training and development is 0.630; it too is statistically significant at $p < 0.01$. The correlation between the status and effectiveness of the training and development system is also statistically significant (0.766 at $p < 0.01$).

Table 4.7

Relationship Between Value of Training and Development and Status and Effectiveness of Training and Development System (Unweighted Values)

Variable	Value	Status	Effectiveness
Value of training and development	---	0.686*	0.630*
Status of training and development system		---	0.766*
Effectiveness of training and development system			---

* $p < 0.01$

As reported in Chapter III, weights were assigned to the factor loadings in an effort to decrease the correlation between the status and effectiveness of the training and development system and to assign greater importance to those items with the highest factor loadings. Table 4.8 reports the findings of the correlation analysis using the weighted values. A statistically significant positive correlation exists between survey respondents' perceptions of the value of training and development and both the status and effectiveness of the training and development system. The correlation between perceptions of the value of training and the status of the training and development system is 0.639. It is statistically significant, with a p value less than 0.01. The correlation between respondents' perceptions of the value of training and the effectiveness of training and development is 0.562; it too is statistically significant at $p < 0.01$. The correlation between the status and effectiveness of the training and development system is also statistically significant (0.709 at $p < 0.01$); however, the correlation has been reduced by using weighted values. The additional analyses in the study used the weighted values.

Table 4.8

Relationship Between Value of Training and Development and Status and Effectiveness of Training and Development System (Weighted Values)

Variable	Value	Status	Effectiveness
Value of training and development	---	0.639*	0.562*
Status of training and development system		---	0.709*
Effectiveness of training and development system			---

* $p < 0.01$

Contributions of Perceptions of the Status and Effectiveness of the Training and Development System to Perceptions of the Value of Training and Development

The third research question this study addressed was: what are the relative contributions of employees' perceptions of the status and effectiveness of the training and development system to perceptions of the value of training and development. To examine the contribution of perceptions of the status and effectiveness of the training and development system to variance in employee perceptions of the value of training and development, the researcher used hierarchical multiple regression to regress the status of the training and development system and the effectiveness of the training and development system on the value of training and development measure.

The variables were entered individually, first status and then effectiveness, in order to see the magnitude of the contributions of the two variables. Table 4.9 reports the results of this multiple regression. The analysis revealed that the status and effectiveness of the training and development system variables explain almost 43 percent of the variance in employee perceptions of the value of training and development. As the data show, however, status contributes significantly more to the variance in perceptions of training value than does effectiveness.

Table 4.9

Contribution of Perceptions of Status and Effectiveness of Training and Development System to Perceptions of Value of Training and Development

Contribution	R	R ²	Adjusted R ²	Standard Error of the Estimate
Status	0.637	0.405	0.405	7.44
Effectiveness and Status	0.655	0.429	0.428	7.30

Table 4.10 presents additional information about the relative contributions of employee perceptions of the status and effectiveness of the training and development system to perceptions of the value of training and development. While both the status and effectiveness of the training and development system contribute significantly to the variance in the perceptions of the value of training and development, status ($t=27.3$) is the stronger predictor of increases in the variance than is effectiveness ($t=12.2$). For every one unit adjustment in perceptions of the status of the training and development system, perceptions of the value of training and development would change by .484 of a standard deviation; for every one unit adjustment of the perceptions of the effectiveness of the training and development system, perceptions of the value of training and development would change by .216 of a standard deviation.

Table 4.10

Contributions to Value of Training and Development

Predictor	β	t-value
Status of Training and Development System	0.484*	27.270
Effectiveness of Training and Development System	0.216*	12.207

* $p < 0.005$

Effect Size

An additional analysis of effect size was performed to determine the magnitude of the contribution of perceptions of the status and effectiveness of the training and development system to perceptions of the value of training and development. Effect size was calculated by dividing the beta weights of the status and effectiveness of the training and development system by the weighted standard deviation of the value of training and development (Cline, 1998). The value of determining effect size is to be able to decide whether a variable has practical significance (Light and Pillemer, 1984). The effect sizes for both variables were small; however the effect size of the perceptions of the status of the training and development system was more than twice as large as was the effect size of the effectiveness of the training and development system (.05 versus .02).

The Differences in Perceptions about the Training and Development System
Among Employee Groups

The fourth research question was: Do differences exist among employee groups in their perceptions about the status and effectiveness of the training and development system and the value of training and development, and if so, where do those differences occur? One-way ANOVAs were performed on the data to determine if differences existed among employee groups about the status and effectiveness of the training and development system and the value of training and development.

Table 4.11 summarizes the results of the ANOVAs. The results show that differences exist among employee groups' perceptions of the status of the training and development system ($F=63.90$), the effectiveness of the training and development system ($F =81.61$), and the value of training and development($F=19.33$). The differences are statistically significant at $p < 0.05$.

Table 4.11

Differences in Perceptions among Employee Groups about Training and Development System

Variable	Sum of Squares	df	Mean Square	F
Status of training and development system				63.90*
Between groups	235349	4	58837	
Within groups	3403208	3696	921	
Effectiveness of training and development system				81.61*
Between groups	92414	4	23104	
Within Groups	1050551	3711	283	
Value of training and development				19.22*
Between groups	7105	4	1776	
Within groups	344218	3724	92	

*p < 0.05

Table 4.12 shows the means and standard deviations for each employee group for perceptions of the status and effectiveness of the training and development system and the value of training and development. Figure 4.2 presents a graphic representation of the differences in the means among employee groups. Differences in perceptions of the status of the training and development system were most pronounced. In all cases perceptions about the status of the training and development system differed between management and professional/administrative and technical/ clerical staff.

Table 4.12

Perceptions of Employee Groups about the Training and Development System

Employee group	Status		Effectiveness		Value	
	Mean	SD	Mean	SD	Mean	SD
Executive	103.5	30.30	49.44	18.15	35.29	9.25
9						
Manager	95.21	29.99	50.16	16.51	33.31	8.70
Supervisor	87.40	30.07	46.28	16.84	31.60	9.58
Professional/administrative	79.09	30.87	37.32	16.50	30.90	10.15
Technical/clerical	88.19	31.84	36.43	17.27	29.71	11.71

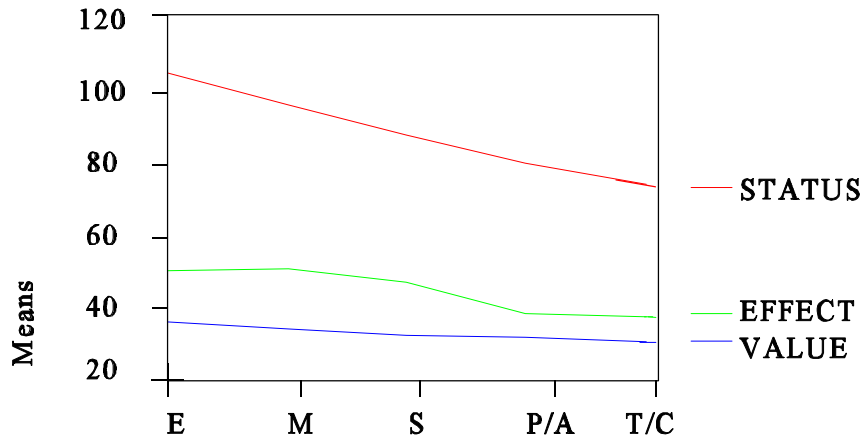


Figure 4.1

Differences in Mean Scores Among Employee Groups

Table 4.13 shows the results of the analysis of the differences in the means of employee groups. All mean differences among employee groups on perceptions of the status of the training and development system were statistically significant, with the largest differences occurring between executives and technical/clerical staff. Mean differences of perceptions of the effectiveness of the training and development system were statistically significant between:

- Executives and professional/administrative and technical/clerical staff;
- Managers and supervisors, professional/administrative, and technical/clerical staff;
- Supervisors and managers, professional/administrative, and technical/clerical staff.

On the value of training and development, executives' and managers' perceptions differed significantly from those of supervisors, professional/administrative and technical/clerical staff; and the perceptions of supervisors differed significantly from those of technical/clerical staff.

Table 4.13

Mean Differences in Perceptions Among Employee Groups about the Training and Development System

Employee Group	Status	Effectiveness	Value
Executives vs.:			
Managers	8.38*	-.72	1.98*
Supervisors	16.20*	3.16	3.69*
Professional/administrative	24.50*	12.12*	4.39*
Technical/Clerical	30.91*	13.01*	5.58*
Managers vs.:			
Executives	-8.38*	.72	-1.98*
Supervisors	7.82*	3.88*	1.70*
Professional/administrative	16.12*	12.84*	2.41*
Technical/clerical	22.53*	13.73*	3.60*
Supervisors vs.:			
Executives	-16.20*	-3.16	-3.69*
Managers	-7.82*	-3.88*	-1.70*
Professional/administrative	8.30*	8.96*	.70
Technical/clerical	14.71*	9.85*	1.90*

* p < 0.05

Table 4.13

Mean Differences in Perceptions Among Employee Groups about the Training and Development System (continued)

Employee Group	Status	Effectiveness	Value
Professional/administrative vs.:			
Executives	-24.50*	-12.12*	-4.39*
Managers	-16.12*	-12.84*	-2.41*
Supervisors	-8.30*	-8.96*	-.70
Technical/clerical	-6.41*	.89	1.19
Technical/clerical vs.:			
Executives	-30.91*	-.13.01*	-5.58*
Managers	22.53*	-13.73*	-3.60*
Supervisors	14.71*	-9.85 *	-1.90*
Professional/administrative	-6.41*	-.89	-1.19

* p < 0.05

Summary

The findings of this chapter indicated that respondents' perceptions of the status of the training and development system and the value of training and development were only slightly favorable, while their perceptions of the effectiveness of the training and development system were slightly unfavorable. The analysis of the data in the existing database indicated that respondents' perceptions of the status and effectiveness of the training and development system contributed in a statistically significant way to their perceptions of the value of training and development. Perceptions of the status of the training and development system contributed more significantly to perceptions of the value of training and development than did perceptions of the effectiveness of the training and development system.

Analysis also revealed that employee groups differed in their perceptions of the status and effectiveness of the training and development system and in their perceptions of the value of training and development. Executives and managers viewed the status and effectiveness of the training and development system and the value of training and development more favorably than did supervisors, professional/administrative staff, and technical/clerical staff.

Chapter V discusses the findings and presents conclusions and recommendations based on the findings.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

Measuring the quality and impact of an organization's training and development system is a complex undertaking. Questions of what, who, and how to measure arise in order to arrive at meaningful information. Typically what is measured are the amount of training being offered, the amount of money being spent, and the distribution of training among employee groups. One of the largest recent surveys is the National Center on the Educational Quality of the Workforce National Survey. The survey queried employers with over 20 employees about how much training they offered their employees and who received it (Lynch and Black, 1996).

Surveys designed to measure hard data such as amount and distribution of training and development often produce contradictory results. Zemsky and Shapiro (1996) studied 25 major national surveys sponsored by the federal government from 1973-1991 that queried employees on the amount of work-related training they had received. They found contradictory estimates of the self-reported incidence of training. Numbers of people who reported receiving training ranged from 20 percent to 55 percent to 70 percent depending on the data source and its operational definition of training. Lynch and Black (1996) describe the apparent paradox between the Department of Labor's 1994 survey finding that 70 percent of U.S. organizations offer some type of formal training and the 1991 Current Population Survey in which over 16 percent of workers said they had never received any formal training from their current employers.

Information on the amount of money spent, training offered, and distribution of training is important to help practitioners and policy makers understand the nature of training and development in U.S. organizations or to help an individual organization understand data about its training and development activities. However, surveys on the amount and incidence of training and development do not provide a complete picture of a training and development system.

Largely missing from training and development evaluation data are other kinds of measures of the quality and impact of training and development, such as calculating the impact

of training and development on organizational productivity or gauging **employees'** perceptions of the training and development system. Different kinds of data from a variety of sources offer the possibility of a more complete snapshot of the training and development system within an organization.

This study provides a highly focused scrutiny of the training and development system in a large federal government agency. It is a systematic examination of employees' perceptions of three constructs whose indicators are generally agreed upon as important in the consideration of a well-functioning training and development system. The constructs are: the status of the training and development system, the effectiveness of the training and development system, and the value of training and development.

Summary of Methodology

The database upon which this study was based contained responses to a 68-item survey of employees' perceptions about the training and development system. The survey was distributed to executives, managers, supervisors, professional/ administrative and technical/clerical staff at the Department of Justice.

Recipients were asked to respond on a Likert scale to items that centered around the following areas:

- Overall satisfaction with training;
- Preferred training methods;
- Training content; and
- Best practice elements in training and development practice.

The best practice elements in training and development practice, based on Human Technology's Training and Development Framework: Best Practices model (Human Technology, 1993), were the following:

- Integration of the training and development system into the organization's strategic goals and mission

- Existence of explicit administrative policies and procedures governing training and development
- Formal procedures for the assessment of learning needs
- Formal procedures for assuring the transfer of training to the job
- Systematic, multilayered training evaluation
- Formal procedures for assuring continuous improvement of the training and development system.

The first research question called for an exploratory factor analysis of the survey data to examine the items in the survey and determine if a more efficacious way of looking at the data might exist, rather than the groupings assumed by the original survey designers. The factor analysis resulted in the development of three reliable subscales. These scales suggested that the survey data could more accurately be described as assessing employees' perceptions of the following:

- The status of the training and development system;
- The effectiveness of the training and development system; and
- The value of training and development.

These constructs became the basis of the analysis of the original survey results captured in the database.

Summary of Findings

The remaining research questions addressed the relationships among the three new constructs that the factor analysis had revealed were measured in the survey and the differences in perceptions of the constructs among employee groups. Following is a discussion of the findings around each of the constructs and the relationships among the constructs.

Value of Training and Development

In this study, value refers to employees' perceptions of how valuable training and development activities are to them and their successful job performance. The value of training and development in the context of this study differs from the construct as it is often used by training and development practitioners. Typically, value refers to the benefits that accrue to an organization from successful training and development programs. These benefits can be

measured by looking at the return on investment or the value added to organizational productivity through training and development activities.

Respondents' perceptions of the value of training and development, as measured in this study, centered around whether they thought time spent in training and development activities was well spent and worth the money and time invested by the organization in them, and whether learning was practical for use on the job and valuable for reward and promotion. Respondents' perceptions of training and development activities were not exceedingly favorable. The average of 3.6 for all employee groups' perceptions of the value of training and development was midway between "neither agree nor disagree" and "somewhat agree" on the five-point Likert scale.

Analysis of the data revealed that perceptions of the value of training and development varied among the five employee groups in the survey. Means for executives' perceptions of the value of training and development were highest, followed by managers, supervisors, professional/administrative and technical/clerical staff. Additional analysis of the mean scores showed the following statistically significant differences: executives' and managers' perceptions differed from perceptions of supervisors, professional/administrative and technical/clerical staff and the perceptions of supervisors differed from those of technical/clerical staff.

Status of the Training and Development System

The status of the training and development system in this study included the elements from the original design that centered around the integration of training and development into the strategic goals and mission of the organization and the organization's efforts to continuously improve the training and development system. Crucial indicators of the strategic role of the training and development system included top managers' visible commitment to and support of the system.

Respondents' perceptions of the status of the training and development system were less favorable than their perceptions of its value. Respondents averaged 3.15 in their perceptions of the status of the training and development system. Again, analysis of the data showed that perceptions of the status of the training and development system varied among employee

positions in the same way as did perceptions of the value of training and development. Means for executives' perceptions of the status of the training and development system were highest, followed by managers, supervisors, technical/ clerical staff and professional/administrative staff. Additional analysis of the data showed that differences in the means on the perceptions of the status of the training and development system were statistically significant across all employee groups.

Effectiveness of the Training and Development System

The effectiveness of the training and development system as described in this study dealt with issues of what is commonly called transfer of training: the degree to which what is learned in training and development activities is transferred to improved job performance. Indicators of effectiveness included formal mechanisms for building transfer into the job, such as employee accountability for using new knowledge and skills on the job and for providing feedback of training's effectiveness and worth.

Respondents' overall average perception of 2.67 on the effectiveness of the training and development system is lower than their perceptions of the value of training and development and the status of the training and development system. Again, analysis of the data showed that average perceptions of the effectiveness of the training and development system varied among employee positions. Managers' perceptions of the effectiveness of the training and development system were highest, followed by executives, supervisors, professional/administrative and technical/ clerical staff. Additional analysis of the mean scores showed the following differences were statistically significant:

- Executives differed from professional/administrative and technical/clerical staff;
- Managers differed from supervisors and professional/administrative and technical/clerical staff;
- Supervisors differed from managers and professional/administrative and technical/clerical staff;
- Professional/administrative and technical/clerical staff differed from executives, managers, and supervisors.

Relationships Among the Status of the Training and Development System, the Effectiveness of the Training and Development System, and the Value of Training and Development

This study indicated that respondents' perceptions of the value of the training and development system is influenced by their perceptions of the effectiveness of the training and development system and the status of the training and development system. Perceptions of both the status of the training and development system and the effectiveness of the training and development system made a statistically significant contribution to respondents' perceptions of the value of training and development. Respondents' perceptions of the status of the training and development system explained a larger part of the variance in respondents' perceptions of the value of training and development than did their perceptions of the effectiveness of the training and development system.

The effect size on perceptions of the value of training and development of the perceptions of the status and effectiveness of the training and development system was not large when measured by the conventional means outlined by Cohen (1988). However, the effect size of the status of the training and development system was over twice as large as that of the effectiveness of the training and development system.

Conclusions

This study makes an important contribution to the growing body of training and development literature that addresses the way an effective, well-functioning training and development system can make significant contributions to the strategy and goals of an organization. It does so by examining employees' perceptions about the status and effectiveness of the training and development system and their perceptions of the value of training and development, in the process uniting theoretical and practical perceptions .

The major conclusions of this study are the following:

- Respondents to this survey did not place high value on the training and development within their organization. They did not believe that the training and development system enjoyed a very high status within the organization. They did not think that the training and development system was effective in helping them on the job.

- Perceptions of the status of the training and development system and the effectiveness of the training and development system had an impact on how valuable respondents perceived training and development to be.
- Employee groups in this sample differed in their perceptions of the status and effectiveness of the training and development system and the value of training and development within the organization. Management staff (executives, managers, and supervisors) viewed the constructs more favorably than did professional/ administrative and technical/clerical staff.

Following is a discussion of the conclusions around each of the findings presented above and a discussion of a possible new reordering of the critical elements of a training and development system, based on the results of this study.

Perceptions of the Value of Training and Development

Many training and development practitioners contend that an effective training and development system that is aligned with an organization's strategic goals can have an impact on employee productivity and organizational success. The results of this study suggest that such qualities in a training and development system has an impact on another indicator of success: employee perceptions of the value of training and development.

Brinkerhoff and Gill (1992) argue that "[h]igh-quality training is training that provides the greatest value to training customers, including trainees. . ." (p. 123). Yet little empirical evidence exists to suggest that employees who value training and development will perform better on the job. Research is limited and links between the degree to which an individual values training and development and improved performance are difficult to establish. Therefore, reaction measures must be viewed cautiously (Cascio, 1994). Two limited studies have established some links between employees' perceptions of the value of training and performance. Mathieu, Tannebaum, and Salas (1992) in a limited study found that trainees performed best when they were motivated to learn and reacted positively to training. Morton (1993) found that employees who were satisfied with their learning experiences had higher levels of commitment and job satisfaction.

Individuals are motivated by the things that they value. If employees perceive training and development to be of little value, they will be less motivated to learn or to use what is offered in training and development activities. Maier (1973) argues that performance in training will be poor if motivation is low or absent. Conversely, it might be argued that employees who value training and development, believe that it enjoys high status in the organization, and see its effectiveness in their everyday work lives, are more likely to be motivated to use what they learn in training and development activities on the job. Further, trainee perspectives on training and development, are important to an organization from a practical perspective, for “[a]lthough positive reactions do not guarantee organizational support, negative reactions can often have an adverse effect on the training department” (Alliger, Tannenbaum, Bennett, Traver, and Shotland, 1997, page 9).

Status of the Training and Development System

The fact that respondents in this study believe that the training and development system enjoys a relatively low status in the organization echoes the opinions of both training and development directors in the organization from which the survey was drawn (Human Technology, March 1994) and of training experts who argue that in the majority of organizations, the training and development system does not enjoy high status.

The status of the training and development system within an organization has been a major area of concern for training and development practitioners for a number of years (Brinkerhoff and Gill, 1994; Human Technology, 1993; Robinson and Robinson, 1990). Many critics argue that the most critical factor for a successful training and development system is that it must be elevated to a position in the organization from which it can make a significant contribution to helping the organization achieve its strategic goals. The areas that are so often the subject of discussion and research in the field of training and development--training needs assessment, training evaluation, content, methods--are the tools and processes for helping the training and development fulfill a strategic organizational role.

As organizations undergo change, critics argue, their training and development systems must also change to help employees meet the challenges of a new work environment. Organizations, the arguments go, must elevate the status of the training and development

system in order to make it a tool for organizational change. As Brinkerhoff and Gill (1994) argue, it is no longer enough for the training and development system to be merely the source of a menu of courses that bear little if any relevance to what the organization needs employees to know and be able to do; it must instead be an instrument of change. To be an instrument of change, top managers must be involved in the process, for “. . .without their involvement, it is impossible to make the changes that are necessary for highly effective training” (Brinkerhoff and Gill, 1994, p. 163).

Effectiveness of the Training and Development System

Organizations can no longer afford to provide training that has not been evaluated for its contribution to the organization’s strategic goals and mission and its effectiveness and use on the job to achieve those goals (Brinkerhoff and Gill, 1994; Human Technology, 1994;). Yet this study confirms what practitioners and experts have long recognized as a weakness in training and development: the effort to make sure that training knowledge and skills transfer to the job (Broad, and Newstrom, 1992; Brinkerhoff and Gill, 1994).

Respondents’ negative perceptions of the effectiveness of training and development offered by the organization is perhaps the most serious of the findings for the organization. Effectiveness goes to the heart of what training and development are all about in an organization: giving employees the knowledge and skills they need to perform their jobs effectively (Rothwell and Kazanas, 1994).

An effective training and development system has an impact on employees’ behavior on the job. Many factors contribute to whether what is learned in training and development activities leads to improved work performance: employee accountability for applying new learning and manager accountability for making the work place conducive to using new skills and knowledge. Employee perceptions that mechanisms are not in place to help them use what they have learned puts the worth of training and development in question.

Relationships Among Perceptions of the Value of Training and Development and the Status and Effectiveness of Training

The results of this study indicate that their perceptions of the status and effectiveness of the training and development system have a statistically significant effect on the value

respondents place on training and development. Questions could certainly be asked if it matters whether employees value training and development system or if they are competent to accurately assess how effective the training and development system is or discern its status in the organization.

In fact, respondents' largely negative impressions of the value of training and development and the status and effectiveness of the training and development system in the organization are closely aligned with two data sets. One is the opinion of training and development practitioners who argue that for a training and development system to be of value to an organization, it must be elevated to a high status, and it must have built in measures of its effectiveness. Few training and development systems are of value when judged against these criteria, many practitioners believe.

The second data set is the perceptions of training and development managers in the organization in which the survey was conducted. Training and development managers largely concurred with employees' perceptions of the relatively low status of the training and development system. Budget cuts, low involvement of top management, low visibility in the organization all indicated the generally low status of the training and development system in the organization (Human Technology, 1994).

The training and development managers also reported few mechanisms in place, such as maximizing the similarity between training and job context or integrating training and development into other elements of the human resource system, that help to ensure the effectiveness of the training and development system (Human Technology, March 1994). These parallel findings between "expert" opinion and employees' perceptions suggest that employees' perceptions about this organization's training and development system can and should be a source of valuable input when decision makers are deciding how to create a more successful training and development system.

The effect sizes of both perceptions of status (5 percent) and effectiveness (2 percent) of the training and development on perceptions of value were small as measured by the conventional measures established by Cohen (1988). Obviously, many factors contribute to employees' perceptions of the value of training and development besides their perceptions of

the status and effectiveness of the training and development system, from quality of the instruction to temperature of the training classroom.

Both Cohen (1988) and Light and Pillemer (1984) caution against adopting absolute rules for judging the magnitude of effects. Cohen (1988) argues that discussion of comparative magnitude of effect sizes might be in some cases more meaningful than consideration of absolute effect sizes. An organization looking at the results of this study to determine a place to start in its efforts to improve its training and development system might consider starting with efforts to elevate the status of the training and development system.

Differences in Perceptions of the Training and Development System

In this study, important differences exist among employees groups in perceptions of the value of training and development and perception of the status and effectiveness of the training and development system. Differences are most pronounced between the management staff and the support staff. In general, management staff viewed the training and development more favorably than did support staff. Several possible interpretations exist. The study showed that management staff received more training than did professional/ administrative and technical/clerical staff: more training might equate with more satisfied customers of training. Also, management staff might have a greater interest than support staff in representing the training and development system as well-functioning.

Models of Training and Development Systems

Leading training and development practitioners have created several models describing elements of excellence in training and development systems that were described in Chapter II of this study. These include Brinkerhoff and Gill's Highly Effective Training model (1994); Human Technology's Training and Development Framework: Best Practices model (1993); and the ISO model of effective training (Russo and Russo, 1996). Such conceptual models of well-functioning training and development systems are valuable in encouraging systematic thought about what excellence in the practice of training and development means, especially as they encourage practitioners to examine and evaluate the entire training and development system in an organization, in addition to evaluating discrete training events and activities.

Such models are typically based on practitioners' professional experiences in examining and making recommendations for improving organizational training and development systems. Few researchers have gone beyond the models they have described to

- Determine empirically whether the elements in the models do in fact need to be in place in order for a training and development system to have an impact on worker productivity or organization effectiveness;
- Determine if they do in fact describe excellence in a training and development system;
- Examine the relationships among the elements of the training and development system models they have created, to analyze how each contributes to the others or how a change in one part of the system (for example, integrating training and development into the strategy of the organization) affects other parts.

The survey data that was examined in the study was grounded in the elements of the Training and Development Framework: Best Practices model. Analysis of the data suggested a new way of looking at the structure of a training and development system that is perhaps an improvement upon the description of a well-functioning training and development system. The new structure is illustrated in Figure 5.1. From the survey data, three constructs emerged that regrouped the indicators of effective training and development practice. The restructuring of the data places processes that stood alone in the model, such as needs assessment, evaluation, content, methods, and continuous improvement more properly under the larger "umbrella" of status of the training and development system and the processes of transfer and evaluation under the umbrella of the effectiveness of the training and development system. The logic of such a structure for a training and development system model is that, with management commitment to an effective training and development system that enjoys high status within the organization, processes and procedures will follow from that commitment. The structure also suggests that the monitoring the value of training and development is central to a well-functioning system. Value was measured in this study through employee perceptions. Employee perceptions of value is one measure. Value might be continuously measured in other ways as well, such as financial return on the investment in training and development and increased productivity that results from training and development.



Figure 5.1

Excellence in a Training and Development System

Recommendations

Following are recommendations for further study to inform the practice of adult education and for practical applications for evaluating and improving training and development systems.

Recommendations for Further Study

The large body of theoretical literature on models of excellent training and development systems, built with an underlying premise that elements of excellence described in the models make a difference for practice, cries out for more research of the models to determine their underlying constructs and their practical value for building more effective training and development systems.

The revised model presented in this study suggests that value is an important criterion for evaluating the strengths and weaknesses of a training and development system and should be further explored. Value was measured in this study subjectively through employees' perceptions. By examining different sources of information (for example, managers, supervisors, and training directors) and types of information (return on investment figures, increased productivity data, turnover), future researchers might get a more complete picture of the value of effective training and development practice. Training content and methods might also be explored to examine the value they bring to a well-functioning training and development system.

Recommendations for Practice

Although the data in this study represent a large and complex government agency, their interpretation might be useful for any organization seeking to improve its training and development system, confirming as they do that the status and effectiveness of the training and development system matter in terms of employee attitudes toward them. The findings confirm Bishop's (1993) argument that "...a good deal of effort needs to be devoted to studies conducted at the organizational level which examine how training fits into the organization's overall competitive strategy and affects its profitability" (page 2).

Summary

The finding re-enforces current thinking about the criticality of the status of the training and development system and the importance of increasing its status by:

- Aligning the training and development system with the goals and mission of the organization
- Assessing needs
- Evaluating training and development activities
- Continuously improving the system
- Building transfer into the system.

Processes such as evaluation and needs assessment will evolve as outcomes if the training and development system is elevated to a high place in the organization. Training needs will naturally evolve from the strategy of the organization. Training evaluation will be a crucial piece of efforts to continuously improve the functions.

Results of this study suggest that in order to initiate more effective training, organizations need to look at how the training and development system is aligned with the strategy of the organization and at what is being done to make sure that all training and development activities are effective (i.e., transfer to the job).

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APPENDIX A
TRAINING AND DEVELOPMENT SURVEY

Training and Development Survey

GENERAL INSTRUCTIONS

Last year, as part of Phase One of its Training and Development Project, the Department conducted a survey that asked DOJ employees to provide information on their training and development needs.

This survey is a continuation of that earlier research. The survey asks you to give your views of the Training and Development (T&D) practices in your component organization. Your answers to the survey will be used to help the Department, and its components, improve training and development practices.

Please answer the questions according to the best of your knowledge and understanding. When answering the questions, keep in mind that the survey asks about **both training and development activities**. **In addition to formal courses, T&D includes activities such as on the job training, developmental assignments, and job rotations.**

The survey is confidential and the Department will receive only consolidated data, without names or other personal identifying information.

Please return the completed survey within two weeks of receipt.

Using the envelope provided, send to:

Human Technology, Inc.
6738 Curran Street
McLean, VA 22101

SECTION I

Please complete the following personal and job information.

1. Which of the following best describes your current position (select only one)?
- (1) **Executive** (SES) member
 - (2) **Manager** (You direct and rate the work of others whose positions are formally classified as supervisory, and you are *not* a member of the SES)
 - (3) **First-Level supervisor** (You directly supervise and rate the performance of non-supervisory employees, and you are *not* a member of the SES)
 - (4) **Professional/administrative** (Your position requires knowledge and skills *typically gained* through bachelor's level education or higher or equivalent experience. You are *not* an executive, manager or supervisor who rates the performance of others)
 - (5) **Technical/clerical** (Your position requires knowledge and skills *typically gained through on-the-job experience and/or specific training* (less than that represented by a bachelor's level college education))
2. In which component organization do you work (select only one)?
- | | |
|---|---|
| (01) Federal Prison System | (10) Civil Rights Division |
| (02) Federal Bureau of Investigation | (11) Environment and Natural Resources Division |
| (03) Immigration and Naturalization Service | (12) Tax Division |
| (04) Drug Enforcement Administration | (13) U.S. Trustee's Office or EOUST |
| (05) United States Marshals Service | (14) Executive Office for Immigration Review |
| (06) U.S. Attorney's Office or EOUSA | (15) Office of Justice Programs |
| (07) Antitrust Division | (16) Office of Inspector General |
| (08) Civil Division | (17) Justice Management Division |
| (09) Criminal Division | (18) Other |
3. In which location do you work?
- (1) Headquarters (D.C. metro area)
 - (2) Headquarters (but not in D.C. metro area)
 - (3) Field Office (including those in D.C. metro area)
4. Are you employed in one of the Department's core occupational series (e.g., Attorney, Investigator/Agent, Corrections Official, Deputy Marshal, Immigration Inspector/Examiner)?
- (1) Yes
 - (2) No

5. Estimate the number of days of formal training you received in the last year.
If none, write "0".

6. What category best describes your race/national origin?

- | | |
|--|------------------------------------|
| (1) American Indian or Alaskan Native | (4) Hispanic |
| (2) Asian or Pacific Islander | (5) White (not of Hispanic Origin) |
| (3) Black or African American (not of Hispanic Origin) | |

7. What is your gender? (1) Male (2) Female

SECTION II

Listed below are a number of practices that organizations often use to produce a sound T&D system. This section asks for your feedback on whether these practices are present in your organization.

If possible, base your answers on your knowledge of the component as a whole; otherwise, base your answers on your knowledge of your subcomponent. Consider both formal courses and job based development activities. Circle one number. If you have no knowledge of the question, circle the “?” for “don’t know”.

?	1	2	3	4	5
Don't Know	Definitely Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Definitely Agree

- | | | | | | | |
|--|---|---|---|---|---|---|
| 8. Your component's top managers see training and development (T&D) as an important way of helping the component to achieve its mission. | ? | 1 | 2 | 3 | 4 | 5 |
| 9. Your component's top managers show commitment to T&D by spending time promoting and delivering it. | ? | 1 | 2 | 3 | 4 | 5 |
| 10. Component managers strongly support the development of new skills and knowledge among all levels of employees. | ? | 1 | 2 | 3 | 4 | 5 |
| 11. Even during budget cuts, your component's top managers do all they can to preserve T&D opportunities for their employees. | ? | 1 | 2 | 3 | 4 | 5 |
| 12. The kinds of T&D activities that are encouraged clearly relate to what top managers are trying to accomplish for your component. | ? | 1 | 2 | 3 | 4 | 5 |
| 13. There are some T&D activities (e.g., diversity, ethics, or computer security training) that everyone in the component participates in, regardless of position. | ? | 1 | 2 | 3 | 4 | 5 |
| 14. Following hiring or selection for a new position, there is a requirement to take T&D targeted to the new job. | ? | 1 | 2 | 3 | 4 | 5 |
| 15. Component managers help their employees meet personal T&D goals and needs. | ? | 1 | 2 | 3 | 4 | 5 |
| 16. Your component's top managers are closely involved in determining the direction and goals for the component's T&D activities. | ? | 1 | 2 | 3 | 4 | 5 |
| 17. The component provides a program of T&D activities that meets the needs of employees. | ? | 1 | 2 | 3 | 4 | 5 |

?	1	2	3	4	5
Don't Know	Definitely Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Definitely Agree

- | | | | | | | |
|--|---|---|---|---|---|---|
| 18. Structured learning activities are built into the job so that employees are constantly learning. | ? | 1 | 2 | 3 | 4 | 5 |
| 19. Employees are held accountable for using what they've learned in their T&D activities. | ? | 1 | 2 | 3 | 4 | 5 |
| 20. Managers are held accountable for following up and encouraging their employees to apply what they've learned through their T&D activities. | ? | 1 | 2 | 3 | 4 | 5 |
| 21. T&D activities provide learning that is practical for use on the job. | ? | 1 | 2 | 3 | 4 | 5 |
| 22. Component managers personally provide T&D for their employees. | ? | 1 | 2 | 3 | 4 | 5 |
| 23. T&D gives employees an opportunity to learn the skills and behaviors that will help them to get rewarded and promoted. | ? | 1 | 2 | 3 | 4 | 5 |
| 24. After employees receive T&D, they are asked to provide feedback on how much they learned. | ? | 1 | 2 | 3 | 4 | 5 |
| 25. Subordinates are asked to provide feedback on the effectiveness of the T&D received by their managers. | ? | 1 | 2 | 3 | 4 | 5 |
| 26. Managers are asked to provide feedback on the effectiveness of the T&D received by their subordinates. | ? | 1 | 2 | 3 | 4 | 5 |
| 27. The component continuously updates and improves its T&D programs. | ? | 1 | 2 | 3 | 4 | 5 |
| 28. Individuals are publicly recognized for their T&D accomplishments. | ? | 1 | 2 | 3 | 4 | 5 |
| 29. The component makes available a broad selection of courses and other T&D activities. | ? | 1 | 2 | 3 | 4 | 5 |
| 30. In general, I am satisfied with the range of T&D opportunities available to me. | ? | 1 | 2 | 3 | 4 | 5 |
| 31. The T&D activities supported by the component are worth the time and money spent on them. | ? | 1 | 2 | 3 | 4 | 5 |
| 32. In general, the component supports me in my efforts to continuously improve my knowledge and skills. | ? | 1 | 2 | 3 | 4 | 5 |
| 33. The time I spend on T&D is time well spent. | ? | 1 | 2 | 3 | 4 | 5 |

SECTION III

Methods

A variety of methods can be used to provide T&D. This section asks which methods you would like to see used more.

Indicate the extent to which you would like to see your component or the Department make more use of the stated method for training and development. Circle one number for each item.

1	2	3	4	5
Definitely Not	Probably Not	Not Sure	Probably Yes	Definitely Yes

- | | | | | | |
|---|---|---|---|---|---|
| 34. Classroom instruction | 1 | 2 | 3 | 4 | 5 |
| 35. Structured on-the-job training | 1 | 2 | 3 | 4 | 5 |
| 36. Temporary job assignments that have development as a stated purpose | 1 | 2 | 3 | 4 | 5 |
| 37. Print based self-instruction | 1 | 2 | 3 | 4 | 5 |
| 38. Video based self-instruction | 1 | 2 | 3 | 4 | 5 |
| 39. Computer based self-instruction | 1 | 2 | 3 | 4 | 5 |
| 40. Formal mentoring | 1 | 2 | 3 | 4 | 5 |
| 41. T&D provided to the work team as a whole | 1 | 2 | 3 | 4 | 5 |
| 42. Video-teleconferencing or other telecommunications based T&D | 1 | 2 | 3 | 4 | 5 |
| 43. A formal, planned career path that includes T&D at specific points | 1 | 2 | 3 | 4 | 5 |
| 44. After-hours training (on one's own time) | 1 | 2 | 3 | 4 | 5 |

Content

Listed below are items that were identified as target learning areas during Phase One of the Department's Training and Development Project. This section asks about the T&D experience you have had with these learning areas.

For each area, please respond to questions A, B, and C.

- A) To what extent have you **received** T&D in this learning area since beginning work in your component organization?
- B) To what extent did the T&D provide you with an opportunity **to practice required skills** and **receive feedback on how well you did** (as part of the training)?
- C) To what extent did you find the T&D **useful**?

Circle the appropriate number for each of the three questions. If you have not received T&D in a particular learning area since beginning work in your component organization, circle "1" (not at all) under question A, leave questions B and C blank, and skip to the next item.

1	2	3	4	5
Not at all	Minimal	Moderate	Large	Very Large

Learning Areas	A. T&D received? (if not at all, go to next item)	B. T&D provided opportunity for practice & feedback?	C. T&D Useful?
45. Self-management	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
46. Stress management	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
47. Time/priority management	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
48. Analytical ability	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
49. Problem solving	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
50. Decision making	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
51. Writing	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
52. Making oral presentations	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
53. Technical competence specific to your occupation	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

1 Not at all	2 Minimal	3 Moderate	4 Large	5 Very Large
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If you are a supervisor, manager, or executive who rates the performance of others, complete *only items 54-62*.

All others (professional/administrative and technical/clerical staff), complete *only items 63-68*.

Supervisors, managers, and executives only (54-62)

Learning Areas	A. T&D received? (if not at all, go to next item)	B. T&D provided opportunity for practice & feedback?	C. T&D Useful?
54. Flexibility	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
55. Decisiveness	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
56. Accepting leadership responsibility/accountability	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
57. Interpersonal skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
58. Conflict resolution and negotiation	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
59. Team building	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
60. Motivating others	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
61. Empowering others and delegating	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
62. Managing others' performance	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

1 Not at all	2 Minimal	3 Moderate	4 Large	5 Very Large
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All others (professional/administrative and technical/clerical staff) only (63-68)

Learning Areas	A. T&D received? (if not at all, go to next item)					B. T&D provided opportunity for practice & feedback?					C. T&D Useful?				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
63. Personal development/ learning skills	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
64. Creative thinking	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
65. Reading comprehension	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
66. Listening comprehension	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
67. Automated office skills	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
68. Computer utilization	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Thank you for completing this survey.

APPENDIX B
FACTOR ANALYSIS RESULTS

Table 1

Descriptive Statistics

Item	Mean	Std. Deviation	Analysis N
Q8	3.64	1.42	3638
Q9	3.22	1.40	3638
Q10	3.36	1.40	3638
Q11	2.95	1.48	3638
Q12	3.24	1.40	3638
Q13	3.79	1.43	3638
Q14	3.01	1.58	3638
Q15	3.10	1.30	3638
Q16	2.90	1.47	3638
Q17	3.01	1.33	3638
Q18	2.83	1.30	3638
Q19	3.01	1.33	3638
Q20	2.75	1.37	3638
Q21	3.56	1.18	3638
Q22	2.81	1.33	3638
Q23	3.26	1.34	3638
Q24	3.02	1.39	3638
Q25	2.35	1.41	3638
Q26	2.38	1.47	3638
Q27	2.78	1.43	3638
Q28	2.37	1.35	3638
Q29	2.89	1.41	3638
Q30	2.82	1.44	3638
Q31	3.40	1.41	3638
Q32	3.22	1.35	3638
Q33	3.83	1.27	3638

Table 2

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.595	48.442	48.442	7.288	28.032	28.032
2	1.556	5.984	54.426	5.035	19.367	47.399
3	1.312	5.046	59.472	3.139	12.073	59.472
4	.923	3.550	63.022			
5	.812	3.124	66.146			
6	.753	2.896	69.042			
7	.676	2.601	71.643			
8	.591	2.272	73.915			
9	.567	2.181	76.096			
10	.532	2.046	78.143			
11	.512	1.968	80.111			
12	.469	1.804	81.915			
13	.450	1.732	83.647			
14	.431	1.657	85.303			
15	.410	1.577	86.880			
16	.390	1.498	88.378			
17	.373	1.436	89.814			
18	.357	1.374	91.188			
19	.336	1.293	92.482			
20	.332	1.275	93.757			
21	.316	1.217	94.973			
22	.303	1.164	96.138			
23	.299	1.151	97.288			
24	.268	1.030	98.318			
25	.225	.866	99.184			
26	.212	.816	100.000			

Extraction Method: Principal Component Analysis.

Table 3.

Rotated Component Matrix

	Component		
	1	2	3
Q9	.816	.242	.143
Q10	.787	.234	.176
Q11	.778	.242	.151
Q8	.778	.200	.177
Q30	.693	.285	.321
Q12	.690	.249	.275
Q17	.672	.381	.272
Q32	.642	.246	.454
Q15	.638	.420	.224
Q16	.638	.414	.144
Q29	.625	.285	.298
Q27	.552	.460	.276
Q13	.430	.161	.200
Q26	.198	.751	.108
Q25	.160	.738	8.564E-02
Q20	.316	.706	.176
Q24	.186	.636	.281
Q19	.205	.616	.320
Q28	.429	.567	.131
Q22	.408	.535	.239
Q18	.454	.517	.211
Q14	.376	.498	6.330E-02
Q33	.167	.111	.839
Q31	.299	.201	.753
Q21	.341	.286	.642
Q23	.324	.397	.512

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 6 iterations.

LINDA HOLDER KUNDER

Linda Holder Kunder holds a Bachelor of Arts degree in English from the University of North Carolina at Greensboro and a Master of Arts degree from Appalachian State University in Boone, North Carolina.

Linda has spent her career in education and training. She has been a high school English teacher and an instructor in English Composition and Literature in a number of colleges and universities in North Carolina, Virginia, and Pennsylvania. She has served as an education and program researcher. For the past 12 years, Linda has worked as an Instructional Technologist and training and development project manager, both as an independent consultant and as Vice President at The Learning Group Corporation and as Senior Associate at Booz, Allen & Hamilton, Inc.

Linda grew up in Blowing Rock, North Carolina and now lives in Arlington, Virginia, where she is an active community volunteer.