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# TRAINING FOR THE NEXT ECONOMY:

An ASTD State of the Industry Report on Trends in Employer-Provided  
Training in the United States

*Chris Thompson, Ph.D.*

*Eustace Koon*

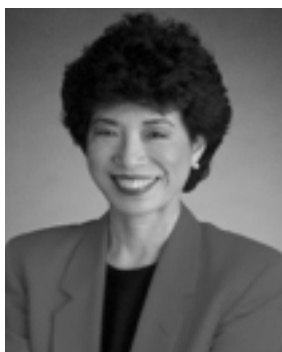
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*Linking People,  
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Welcome to *Training for the Next Economy* — the sixth annual report in the *ASTD State of the Industry* series!

This report gives a window onto a learning and performance world starting to come to terms with the dual shocks of 9/11 and recession. I am delighted that our findings from ASTD Benchmarking Service organizations show workplace learning and performance is holding its own and evolving in this uncertain "Next Economy." Training expenditures as a percent of payroll have not markedly declined but are within the range of fluctuation experienced before 2001. The training dollars invested per employee, the share of the workforce receiving training, and the use of learning technologies are all higher than before. We know we are in a knowledge economy where the skills and abilities that make up an organization's human capital are the greatest asset. What has changed is that there is now a heightened emphasis on linking learning with performance and business results, and a greater need to be able to demonstrate that.

I invite you to digest all the findings in this report, and reflect upon their implications for your own organization and practice if you are a learning-for-performance professional, or for your products and services if you are a supplier or developer. In the Next Economy, will you be called upon to train more people, in more places, at a faster pace, with shorter notice and fewer resources? Will you be turning increasingly to technology to help you succeed? Will you have to justify in hard business terms every extra dollar and body devoted to training? The findings in this report strongly suggest you will. If so, please, do not hesitate to let me know how ASTD might help—through our benchmarking services, our leading edge content, our ASTD networks, and our outstanding dedicated communities of learning-for-performance professionals.

Sincerely,

A handwritten signature in cursive script that reads "Tina Sung".

Tina Sung  
President and CEO  
American Society for Training & Development (ASTD)

## Executive Summary

### About this Report

*Training for the Next Economy: An ASTD State of the Industry Report* continues ASTD's tradition of compiling and providing the most comprehensive set of statistics available regarding employer-provided workplace learning in the United States. This report builds on findings in the 2002 *ASTD State of the Industry Report* by providing information on training trends during the 2001 calendar year, by attempting to set them in the context of wider changes resulting from 9/11 and recession, and by extending its scope into a qualitative review of the key lessons for the workplace learning and performance community from "the training stories" of 2001/2002.

### About the ASTD Benchmarking Service and ASTD Benchmarking Forum

The *ASTD State of the Industry Report* series is based on data from ASTD's Benchmarking Service online *Measurement Kit*, which collects information from all types of organizations on the nature of their training investments and practices. This report analyzes findings from 270 U.S. organizations that input their 2001 data, along with aggregate findings from the annual survey of members of ASTD's Benchmarking Forum, the leading venue for world-class organizations to benchmark and share information on their workplace learning and performance improvement strategies, processes, and best practices.

### Key Findings

**Training holds its own with changes in method.** Despite recession and the events of 9/11, organizations entering their data into the ASTD Benchmarking Service did not, on average, report any marked changes in their training investments and activities between 2000 and 2001. The bulk of any changes may yet appear in subsequent data, but differences in projections for the future made by respondents before and after 9/11 suggest that events served to enhance previous trends, and in particular the shift to e-learning.

**The spending picture is mixed.** Training expenditures dropped from 2.0 percent of payroll in 2000 to 1.9 percent of payroll in 2001, which is a reversal of the upward trend found between 1999 and 2000 but still within the range of values exhibited in recent years. Training expenditures per eligible employee rose 8 percent to \$761, but the share of eligible employees receiving training (78 percent) and their average hours (23.7) were both very close to last year's numbers.

**E-learning reaches record level while classroom share declines.** Over the last several years, the percentage of training time delivered via learning technologies in Benchmarking Service companies has held steady at between 8.5 and 9.1 percent. In 2001, this share increased to 10.5 percent, and the share of expenditures that went to learning technologies increased from 3.7 to 4.6 percent. Conversely, the percentage of training time delivered via the classroom declined slightly, from 79.4 percent in 2000 to 77.1 percent in 2001. Technology may be finding its niche as the solution for the problem of how to do more with less in the "Next Economy."

#### The ASTD Key Ratios for Benchmarking Service Organizations in 2001

|   |       |
|---|-------|
| <i>Total Training Expenditures per Training-Eligible Employee:</i>        | \$761 |
| <i>Total Training Expenditures as % of Payroll:</i>                       | 1.9   |
| <i>Percent of Training-Eligible Employees Trained:</i>                    | 78.5  |
| <i>Training-Eligible Employees to Trainer Ratio:</i>                      | 367   |
| <i>Percent of Training Time via Classroom:</i>                            | 77.1  |
| <i>Percent of Training Time via Learning Technologies:</i>                | 10.5  |
| <i>Payments to Outside Companies as % of Total Training Expenditures:</i> | 20.9  |
| <i>Total Training Hours per Training-Eligible Employee:</i>               | 23.7  |

**Evaluation remains a challenge.** More organizations than ever before are conducting some kind of evaluation of training, and more are attempting the higher levels of evaluation. Yet still only about one in ten organizations are attempting any results-based (Level 4) evaluation.

**Training Investment Leaders aren't just running faster; they're working smarter.** ASTD identifies the top 10 percent of all Benchmarking Service participants as Training Investment Leaders on the basis of their training investments, time, reach, and sophistication. By definition, members of this group have made a significant commitment to developing the abilities of their employees, and are leading the rest of the pack. Interestingly, this year's data show that the Training Investment Leaders are distinguished not only by their levels of investment and training – they spend about twice as much per eligible employee as the Benchmarking Service average and provide more than double the training hours—but also by their differences in emphasis and practice. For example, they are spending a greater share of their training money on front-line supervisors and senior managers, and a smaller share on administrative employees, relative to the larger group. In the area of human performance management, they appear to be moving away from individual development plans, skill certification, and documentation of individual competencies. As for work practices, they are more likely to use self-directed work teams than the rest of the group. They also now place less emphasis on traditional "Reaction" (Level 1) methods of evaluation, and are more likely to attempt the higher levels of evaluation.

**The outsourcing pendulum swings again.** Previous reports found payments to outside training companies as a percentage of total training expenditures were on the rise (from 19.9 percent of training expenditures in 1999 to 22.2 percent in 2000) after an earlier period of decline. Figures for 2001 show a slight decline once again, to 20.9 percent. When outsourcing, Benchmarking Service and Training Investment Leader organizations make more use of 4-year colleges and universities, and community and junior colleges, while Benchmarking Forum companies make more use of private training and consulting companies and contractors.

**9/11-connected training events hold important lessons for the workplace learning and performance community.** Comparison of statistical projections made by respondents before and after 9/11 indicated no dramatic changes in employees to be trained and levels of spending, but that pre-existing shifts to e-learning are likely to be enhanced. To get a better sense of the "training picture" in the wake of 9/11 and recession, ASTD interviewed key players in three training initiatives carried out in the aftermath of the terrorist attacks. These included: the federal government's effort to hire and train 32,000 passenger screeners to staff airport security checkpoints; the U.S. Postal Service's nationwide training initiative aimed at preventing deaths and infections from anthrax-laced mail; and a small nonprofit organization's efforts to help workers dislocated by the Pentagon attack as they shift from New Economy to Next Economy work. Among the lessons learned from these stories are:

1. The stimulus for new thinking and new training approaches can come anytime and from anywhere, without warning. You only get one chance to make a first response.
2. Basic training principles can and should be applied in the modern context.
3. Customer focus is an important element of all training, even if the real substance of the training addresses a more specific problem.
4. Successful modern training and development has to be about more than curriculum and content, and extend its reach to the whole person, building the capacity to learn along with personal resilience. It's not just about the next job: it's about the Next Economy.
5. Technology is more than just a useful tool. It is now central to initial assessment, training delivery and consistency, going to scale, and whole-system preparedness.

## Introduction

### How are Training and Development Coming to Terms With the Next Economy?

Welcome to the sixth consecutive ASTD *State of the Industry Report* (SOIR). This edition continues ASTD's established practice of delivering one of the most detailed pictures available of trends in workplace learning and performance in the United States. The statistics and analyses contained here are based on aggregate data on training investments and practices in 2001 provided by 270 private firms and public organizations to the ASTD Benchmarking Service online *Measurement Kit*, and by members of the ASTD Benchmarking Forum. However, unlike previous SOIR editions situated in a period of steady growth, this report's data straddle a hinge point. The intertwined events of 9/11 and recession were shocks that markedly changed the economic landscape in the United States.<sup>1</sup> This report begins to explore how these events may also be changing the environment for training and development, and how employers' training investments and activities may be adjusting to a shift from the New Economy to the Next Economy.

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### The New Economy Gives Way

A few key statistics sum up just what a difference two years can make. In January 2000, the Dow Jones index was at an all-time record high of 11,722. March 16, 2000 saw the Dow rise by 499 points – its biggest one-day gain ever. Unemployment in September 2000 stood at 3.9 percent nationally, and was even under 2 percent in some prosperous local areas. Employers eagerly welcomed and trained former welfare recipients, while also importing tens of thousands of H1B visa holders from abroad to help fill a national shortage of over a million IT workers in computer science and engineering, systems analysis, and computer programming.<sup>2</sup> The federal government's 2000 current account surplus reached a record \$236 billion, and the Federal Reserve Chairman wondered how to recycle that volume of money back into the private sector for investment.<sup>3</sup> Venture capitalists in the Washington, D.C. metro region alone were doing their part, pumping \$750,000 an hour into fledgling dotcom startups throughout 2000. Washington policy think-tanks issued white papers extolling the virtues of this "New Economy,"<sup>4</sup> which had provided conditions favorable enough for previous *State of the Industry Reports* to find total training expenditures as a percent of payroll rising from 1.5 percent in 1996 to 2.0 percent in 2000.

On September 11, 2001, the United States was attacked. The human losses were terrible and irreplaceable, but the economic consequences were also staggering: an estimated \$83 billion of direct losses (in human life, property damage, emergency response, clean-up, health effects, and temporary assistance) and indirect losses (in personal income, business profits, spending reductions, and tax revenues beyond the immediate sites).<sup>5</sup> Insurance payments were estimated at \$54 billion,<sup>6</sup> or almost three times the most expensive previous natural disaster.<sup>7</sup> When the New York Stock Exchange first re-opened six days later, the Dow had its largest one-day drop in history: the 684-point decline represented over 7 percent of its value. By September 21, 2001, the Dow had dropped to 8,235, and over the next twelve months the Federal Reserve Board cut interest rates 11 times to 1.25 percent, the lowest rate in over 40 years. The federal government's account swung by \$383 billion into a projected deficit of \$157 billion for FY2002.<sup>8</sup>

The civilian labor force in the United States had grown by two and a half million people in the two years between September 2000 and September 2002, but with the dual brakes of 9/11 and recession the actual number of people working remained about the same, at 135.2 million. The unemployment rate increased from 3.9 percent to 5.6 percent. The number of people involuntarily working only part-time and those only marginally attached to the workforce increased by over a million.<sup>9</sup>

Individual sector shifts and regional changes within the national totals were even more pronounced. In the fourth quarter of 2001, for example, New York state lost 125,300 jobs, an estimated 80 percent of them from the attacks.<sup>10</sup> About 60 percent of the workers dislocated by 9/11 worked in low-wage occupations earning \$11 an hour or less,<sup>11</sup> but by the end of 2001 even Silicon Valley had registered 6-percent unemployment.<sup>12</sup> Between September 2000 and September 2002, U.S. manufacturing firms shed 1.7 million jobs, hotels alone lost 200,000 jobs, and airlines laid off over 100,000 workers.<sup>13</sup> Announcements by large corporations with household names that they would be laying off over 10,000 people in a single week became commonplace.

### Enter the Next Economy

The events of 9/11, combined with the recession that we now recognize as having begun a few months before then, ushered the United States into a new, more uncertain period that some have labeled the "Next Economy." Some simple contrasts between the New Economy and the Next Economy are suggested in Table 1. We present them as a backdrop against which *State of the Industry's* survey statistics can be put into perspective, and as a tool for speculating about possible changes for the workplace learning and performance profession that may show up in this and future reports.

- The shift from post-Cold War prosperity and stability in the New Economy to post-9/11 uncertainty and slowdown in the Next Economy means that money is in short supply. Will every training dollar and trainer in the future have to be justified as never before, by presenting a solid business case for expected returns on investment?
- In the New Economy, skill shortages were driven by rapid growth in a few high-tech industries characterized by concentrations of highly-skilled technical occupations. In the Next Economy, will skill shortages be manifest across a much wider variety of occupations and industries – such as nursing, teaching, skilled auto technicians, and prison guards – and be driven more by the demographics of an aging workforce?
- Will the return of higher unemployment in the Next Economy mean employers will be less interested in accepting low-skilled workers and welfare recipients and in providing them with training, because there will now be a greater choice of experienced job candidates? Will employers spend less on basic skills training for fewer entry-level workers?
- Will the aging workforce, together with reduced immigration because of security concerns, lead employers to focus more on the re-training of mid-career incumbent workers, and on encouraging skilled workers to stay at work beyond normal retirement age, in order to counter the new skill shortages?
- What will be the effects of the next generation of technological changes on work patterns? For example, will the development of virtual people backed by expert systems make routine call centers and help desks obsolete? Will the command-driven computerized workstations characterizing the New Economy evolve into voice-based ubiquitous computing in the Next Economy? Will New Economy training provided online through laptops be replaced by shorter, two-minute "training bytes" accessed through a handheld device?
- In the New Economy, training went "just-in-time" for anyone, anywhere. In the Next Economy, will continuing uncertainty coupled with new technological opportunities require and allow "training-in-the-moment"? In other words, will organizations be able to deliver training and measure its success without diverting the trainee away from production activity into a discrete classroom?

Table 1: A Tale of Two Economies

| The "New Economy"<br>(1992-2000)   | The "Next Economy"<br>(2001-?)   |
|--|--|
| <p><b>Macroeconomic and demographic aspects:</b></p> <p>Post-Cold War growth and prosperity peaking with unsustainable stock bubble</p> <p>Healthy budgets</p> <p>Low unemployment</p> <p>Offshore movement of manufacturing activities through increased free trade areas and reductions in transportation costs</p> <p>Dotcom boom: telecommunications, IT, and internet-based businesses attract venture capital</p> <p>Generation X prominent, Baby Boom dominant</p> <p>Critical skill shortages in key high-tech occupations</p> <p>Defense cutbacks</p> | <p><b>Macroeconomic and demographic aspects:</b></p> <p>Post-9/11 uncertainty and instability</p> <p>Tight or no spare money</p> <p>Higher unemployment in near term</p> <p>Offshore movement of services activities through development of internet, and growth of technology clusters in developing nations</p> <p>Technology bust and re-group; biotechnology and security are new growth industries</p> <p>Generation M (for "mobile") prominent, workforce is aging and compressed; war for talent; human capital crisis</p> <p>Demographically-driven shortages in many skilled occupations, esp. health care</p> <p>Remilitarization of society</p> |
| <p><b>Some possible implications for training and development:</b></p> <p>Low-skill, welfare, and entry-level training support</p> <p>Immigrants-with-laptops as the skills shortage solution</p> <p>Signing bonuses and stock options as key benefits</p> <p>Technology supports mass delivery of services by human operators</p> <p>Command-driven computerized work stations</p> <p>Online training through laptops, with modular courses and certificates</p> <p>Skill standards as organizing construct</p> <p>Training just-in-time</p>                  | <p><b>Some possible implications for training and development:</b></p> <p>Incumbent worker mid-career re-training</p> <p>Reduced immigration, with postponement-of-retirement as the skills shortage solution</p> <p>Work/life balance as key benefit</p> <p>Technology replaces human operators in mass service delivery with virtual help characters backed by expert systems</p> <p>Ubiquitous voice-driven computing</p> <p>Brief training bytes through handheld devices</p> <p>Personalized prescriptive learning aligned with business objectives</p> <p>Training in-the-moment</p>   |

Source: Thompson C., Galagan P., and ASTD Research-to-Practice Committee, 2002.

- Will the shift from cash surpluses in the civilian agencies of the federal government over to a federal deficit and vastly increased spending on defense and security result in a re-militarization of society, and thus of training itself? At its current rate of ramp-up, the military is poised once again to be the default national training program. Will private corporate trainers adapt lessons from modern battlefield situations – such as using real-time remote satellite imagery to conduct military engagements through rapidly-deployed specialist teams on the ground half a world away — for private training in their globally distributed organizations? Will executive leadership development in the private sector come to resemble that in the new military?

We invite readers to consider if and how any of the above trends are manifesting themselves within their own organizations, as they make their way through the familiar statistics and format of the *State of the Industry Report*. As in previous years, analyses focus on updating answers to the following questions:

- What changes have occurred in the values of the ASTD key ratios of training since the last *State of the Industry Report*?
- How much training do organizations provide, and what do they spend on it?
- How do they deliver their training?
- What course types do they provide, and to which kinds of employees?
- How is their use of technology changing?
- How much of their training do they out-source, and to which kinds of outside providers?
- How do they evaluate their training?
- What kinds of work practices, compensation practices, and human performance management practices do they use?
- How do these findings vary between different groups of organizations, different industry sectors, and different sizes of company?

As well as presenting our usual survey results, ASTD is using this edition to spotlight some of the lessons that the workplace learning and performance community might find in specific 9/11-related training "events," and that may not show up in the usual aggregate statistics. In separate new training narratives, analogous to business case studies, we profile the key "training stories of 2001/2002" and show:

- How a new federal agency met its deadline of preparing 32,000 new airport security screeners;
- How the U.S. Postal Service prepared its workers to deal with the threat of anthrax; and
- How a small non-profit training program based near the Pentagon found its model of training ideal for helping suddenly-dislocated workers recover and shift from New Economy to Next Economy work.

We believe these specific stories hold questions and lessons for the entire workplace learning and performance community, and not just for the few who had the imperatives of the Next Economy thrust on them without warning.

### About this Report, and Plans for Its Future

To a large extent, survey findings in this report pre-date the bulk of the 9/11 and recession "hinge period." As such, we expect that any training and development response to these tumultuous events and transitions will be only just beginning in these statistics. Yet the very nature of these changes compels ASTD to look ahead at how we can also bring our methodology itself -- developed for earlier times of steadier change -- into the "Next Economy." ASTD has begun to examine better ways of creating more valuable data in the future, through ongoing data capture and rapid turnaround of analysis. This report is thus first of a whole new suite of *State of the Industry* products that will include an annual report for members, periodic white papers, quarterly indices, and smaller monthly trend bytes. We welcome input and feedback from our members on these changes over the coming year.

## A Quick-Study Guide to this Report

**What is the State of the Industry Report?** The SOIR is an annual publication and free member benefit of the American Society for Training and Development (ASTD). The present report is the sixth in what is widely regarded within the industry as the most comprehensive and in-depth source of quantitative benchmarkable data about employer-provided training in the United States.

**What do the data capture?** How much training organizations provide, how much they spend on training, who they train, how they deliver training, whom they use to provide training, their training course types, their use of learning technologies, and trends in these statistics over time, plus information on the prevalence of various work, compensation, and HR management practices. For detailed definitions, see the sidebar on page 11, or refer to explanations in the *Measurement Kit* at: [http://www.astd.org/virtual\\_community/research/measure/mkit2002pdf/MKit2002P1.pdf](http://www.astd.org/virtual_community/research/measure/mkit2002pdf/MKit2002P1.pdf)

**Who supplies the data?** Public and private enterprises, non-profit organizations, government agencies, and sub-divisions of larger firms, who submit their data to ASTD's Benchmarking Service online *Measurement Kit* at: [http://www.astd.org/virtual\\_community/research/measure/bnch\\_svcs.html](http://www.astd.org/virtual_community/research/measure/bnch_svcs.html) Additional information comes from members of ASTD's Benchmarking Forum. The Forum is the world's leading venue for the world-class organizations to benchmark and share information on their training, learning, and performance improvement strategies, processes, and best practices. Members tend to be larger organizations, frequently with international operations.

**How reliable is the data?** Questions and definitions were originally devised and validated by corporate learning practitioners and academic experts in the training, HR, and OD fields. Actual numbers entered by organizations reflect respondent accuracy. The sum result is a survey of the workplace learning and performance landscape compiled from a self-selecting respondent sample that may change in composition from year to year. Experience with the stability of findings and corroboration with other surveys over a number of years suggest this report succeeds in capturing the pulse and direction of change in the training world.

**What are the most used parts of the data?** User feedback indicates the media frequently quotes the trend in "total training expenditures as a percent of payroll," while the training practitioner and performance consulting communities frequently incorporate the "ASTD Key Ratios" from Table 3 in their own work and training plans.

**Can I replay these SOIR data and charts in my own presentations?** Yes, so long as these are individual selections for personal use, and are not for resale. They should also carry appropriate attribution, and should not be substantial parts of this report. For all other uses, including reprinting in other publications, please contact ASTD for permission.

**Can I get other data not shown in the SOIR?** Some finer-grained disaggregations and tables not included with this printed report may be available for a fee from ASTD Research.

**Whom do I contact for more information about the SOIR?** For questions about the findings, data, and *Measurement Kit*, contact ASTD Research at 703/683-7258. For questions from the media, contact Jennifer Homer at 703/683-8123, or [jhomer@astd.org](mailto:jhomer@astd.org).

**FORECAST:**  
Training  
Expenditures

2001   
2002   
2003 

## How Much Training Do Organizations Provide?

The amount of training that organizations provide can be measured in a number of ways. In this section, we measure the volume of training in terms of dollars, people, and time.

### Overall Expenditures

While the dollar amount that an organization spends on training says nothing about the quality of the training it provides, an assessment of training expenditures can provide important clues about the relative emphasis on training and employee development across organizations and industries. Table 2 shows that the typical organization in ASTD’s Benchmarking Service spent about \$3.6 million on training in 2001, whereas the average Benchmarking Forum company spent more than \$101 million.

**Table 2: Training Expenditure Distributions**

|                             | Average Total Training Expenditures (\$ millions) | Wages and Salaries of Full-and Part-Time Training Staff as % of Expenditures | Payments to Outside Companies as % of Expenditures | Tuition Reimbursements as % of Expenditures | % Expenditures on Learning Technologies | Other Expenses as % of Expenditures |
|-----------------------------|---|--|--|---|---|-------------------------------------|
| Benchmarking Service        | 3.6   | 49.5   | 20.9   | 12.2  | 4.6                                     | 12.8                                |
| Training Investment Leaders | 11.1  | 53.4   | 21.5   | 11.9  | 4.1                                     | 9.1                                 |
| Benchmarking Forum          | 101.7   | 25.1   | 39.5   | 13.7  | NA                                      | 21.7                                |

**The Benchmarking Service.** Since overall expenditures are heavily dependent on an organization’s size, we compare an organization’s expenditures on training with the total payroll to obtain a reliable measure of year-to-year changes in expenditures—as well as of differences across organizations and industries. A review of these changes over the six straight years of comparable data gathered by ASTD’s Benchmarking Service can help spotlight industry trends that merit attention.

Table 3 shows that for the average Benchmarking Service participant, total training expenditures as a percent of payroll declined slightly, from 2.0 percent in 2000 to 1.9 percent in 2001. This change is still within the envelope of year-to-year fluctuations observed since 1997. At the industry group level, finance, insurance, and real estate continues to lead, with its average training expenditures at 2.7 percent of payroll. Durable manufacturing continues to spend the least relative to payroll, at 1.2 percent.

Total training expenditures per training-eligible employee in Benchmarking Service organizations rose, though, from an average of \$704 per employee in 2000 to \$761 in 2001. Again, there was considerable variation among different industries: at the upper end, firms in the technology sector provided an average of \$1,367 of training per employee, while firms in health care provided \$411 per employee. However, the health care sector did show the greatest percentage gain in its total expenditures as a share of payroll, relative to its 2000 level.

## What's Included – and What's Not – in These Numbers?

Tables and charts of key ratios and trends in this report are built from the training data that organizations enter into ASTD's Benchmarking Service online *Measurement Kit*. To ensure comparability of data about such variables as "costs" and "trainers" across different organizations and industries, ASTD gives specific guidance on what to include and exclude for most variables. For a few variables, the decision is left to the company, and the database then captures "ground truth" from the company's point of view.

### "Total training expenditures" includes:

- wages and salaries of full-time personnel (and part-timers spending all their time in training-related activities), not including their benefit costs;
- payments to outside trainers and training companies;
- tuition for courses employees took at educational institutions (whether paid to the provider or reimbursed to the employee);
- expenditures on learning technologies purchased primarily for the purpose of formal training;
- "other" costs (including training facility expenses, course materials produced internally, catalogs, marketing, travel of training staff, and training administration).

### but excludes:

- training participants' travel expenses;
- training participants' conference expenses, fees, and travel.

"Total annual payroll" of the organization includes wages and salaries without benefits.

"Eligible employees" are those whose employers decided could receive some form of training (whether they actually did or not).

"Trainers" include full-time-equivalent employees on the organization's training staff (including training managers, support staff, and technical support) and FTEs from departments other than the training unit who spend their time on training services or who have some responsibility for training. This category excludes contractors working on-site and other outside training consultants.

**Organization size:** "Small" organizations are defined here as those with fewer than 500 employees, while "medium-sized" ones have 500-1,999 employees, and "large" organizations have 2,000 or more employees.

For other definitional information, see the Benchmarking Service online *Measurement Kit, Part I*, at:  
[http://www.astd.org/virtual\\_community/research/measure/mkit2002pdf/MKit2002P1.pdf](http://www.astd.org/virtual_community/research/measure/mkit2002pdf/MKit2002P1.pdf)

Table 3: The ASTD Key Ratios

|  | Total Training Expenditures per Training-Eligible Employee (\$) | Total Training Expenditures as % of Payroll | Percent of Training-Eligible Employees Trained | Training-Eligible Employees to Trainer Ratio | Percent of Training Time via Classroom | Percent of Training Time via Learning Technologies | Payments to Outside Companies as % of Expenditures | Total Training Hours per Training-Eligible Employee |
|--|---|---|--|--|--|--|--|---|
| <b>Benchmarking Service</b>                    |   |   |  |  |  |  |  |   |
| 2001   | 761   | 1.9   | 78.5   | 367  | 77.1                                   | 10.5   | 20.9   | 23.7  |
| 2000   | 704   | 2.0   | 77.5   | 351  | 79.4                                   | 8.8  | 22.2   | 23.5  |
| 1999   | 677   | 1.8   | 78.6   | 370  | 79.9                                   | 8.4  | 19.9   | 26.3  |
| 1998   | 770   | 2.0   | 75.9   | 317  | 78.4                                   | 8.5  | 24.4   | 29.0  |
| 1997   | NA  | 1.8   | NA   | NA   | 77.6                                   | 9.1  | 27.1   | NA  |
| 1996   | NA  | 1.5   | NA   | NA   | 83.8                                   | 5.8  | 27.3   | NA  |
| 2001 (Median)                                  | 598   | 1.4   | 95.0   | 196  | 85.0                                   | 5.0  | 12.8   | 16.0  |
| 2000 (Median)                                  | 473   | 1.3   | 90.0   | 206  | 87.0                                   | 5.0  | 13.0   | 16.5  |
| 1999 (Median)                                  | 550   | 1.3   | 85.0   | 200  | 90.0                                   | 5.0  | 15.8   | 16.9  |
| 1998 (Median)                                  | 522   | 1.4   | 85.0   | 199  | 85.0                                   | 5.0  | 15.8   | 20.0  |
| <b>Training Investment Leaders</b>             |   |   |  |  |  |  |  |   |
| 2001   | 1647  | 3.6   | 91.0   | 77   | 61.7                                   | 27.4   | 21.5   | 57.0  |
| 2000   | 1574  | 3.2   | 98.5   | 154  | 71.0                                   | 18.7   | 23.3   | 64.0  |
| 1999   | 1655  | 3.5   | 98.4   | 155  | 77.0                                   | 14.9   | 17.6   | 62.5  |
| 1998   | 1616  | 3.6   | 96.9   | 146  | 70.3                                   | 18.3   | 25.6   | 58.0  |
| 2001 (Median)                                  | 1465  | 3.8   | 100  | 57   | 60.0                                   | 25.0   | 11.1   | 59.0  |
| 2000 (Median)                                  | 1688  | 3.1   | 100  | 108  | 75.0                                   | 15.0   | 10.2   | 47.1  |
| 1999 (Median)                                  | 1225  | 2.8   | 100  | 98   | 80.0                                   | 13.0   | 13.5   | 53.2  |
| 1998 (Median)                                  | 1360  | 3.4   | 100  | 86   | 75.0                                   | 15.0   | 24.6   | 56.0  |
| <b>Benchmarking Forum</b>                      |   |   |  |  |  |  |  |   |
| 2001   | 1457  | 2.8   | 86.7   | 417  | 61.8                                   | 21.8   | 31.9   | 38.7  |
| 2000   | 1429  | 2.6   | 84.2   | 310  | NA                                     | NA   | 32.2   | 47.0  |
| 1999   | 1153  | 2.7   | 82.0   | 499  | 79.1                                   | 13.8   | 30.4   | 37.0  |
| 1998   | 1147  | 2.6   | 81.2   | 361  | 78.7                                   | 12.3   | 25.0   | 36.0  |
| 1997   | NA  | 2.3   | NA   | NA   | 66.1                                   | NA   | NA   | NA  |
| 1996   | NA  | 2.4   | NA   | NA   | NA                                     | NA   | NA   | NA  |
| 2001 (Median)                                  | 1346  | 3.0   | 95.0   | 156  | 61.5                                   | 17.5   | 28.8   | 35.4  |
| 2000 (Median)                                  | 1087  | 2.1   | 98.0   | 216  | NA                                     | NA   | 29.2   | 26.3  |
| 1999 (Median)                                  | 1005  | 2.4   | 95.0   | 187  | 80.0                                   | 10.0   | 27.1   | 28.1  |
| 1998 (Median)                                  | 1021  | 2.4   | 85.0   | 174  | 80.0                                   | 10.0   | 23.1   | 31.0  |
| <b>Benchmarking Service By Size (2001)</b>     |   |   |  |  |  |  |  |   |
| 1-499  | 1027  | 2.6   | 79.8   | 149  | 75.3                                   | 11.8   | 24.0   | 26.0  |
| 500-1999                                       | 569   | 1.4   | 76.4   | 363  | 81.3                                   | 7.1  | 20.9   | 23.3  |
| 2000+  | 660   | 1.6   | 78.9   | 553  | 76.0                                   | 11.5   | 21.5   | 21.5  |
| <b>Benchmarking Service by Industry (2001)</b> |   |   |  |  |  |  |  |   |
| AMC  | NA  | NA  | NA   | NA   | NA                                     | NA   | NA   | NA  |
| Technology                                     | 1367  | 2.4   | 74.9   | 223  | 76.2                                   | 13.3   | 23.4   | 26.6  |
| Nondurables                                    | 486   | 1.4   | 87.3   | 406  | 73.5                                   | 13.5   | 29.0   | 37.5  |
| Durables                                       | 499   | 1.2   | 76.1   | 499  | 71.3                                   | 6.4  | 25.3   | 23.4  |
| TPU  | 758   | 1.4   | 79.7   | 253  | 73.9                                   | 9.9  | 15.8   | 22.9  |
| Trade  | 377   | 1.6   | 76.9   | 580  | 82.1                                   | 5.9  | 11.1   | 22.8  |
| FIRE   | 1047  | 2.7   | 84.1   | 213  | 82.3                                   | 10.4   | 19.7   | 22.8  |
| Services                                       | 621   | 1.8   | 75.7   | 570  | 73.4                                   | 10.1   | 18.5   | 18.1  |
| Health Care                                    | 411   | 1.4   | 93.7   | 240  | 72.9                                   | 11.4   | 18.6   | 25.5  |
| Government                                     | 695   | 1.8   | 72.1   | 344  | 87.0                                   | 7.9  | 22.4   | 22.4  |

## The ASTD Key Ratios

Each year we calculate eight key ratios that offer a quick snapshot of training investments and practices across organizations. These calculations illustrate the level of spending on training, the amount of training provided, the size of the training staff, the pervasiveness of outsourcing, and the amount of traditional, classroom-based training versus technology-delivered training. We created ratios (or percentages) for each of these measures to enable us to provide statistics that are comparable across the wide variety of different sized organizations around the world that participate in the ASTD Benchmarking Service and the ASTD Benchmarking Forum. (See Table 9 in the Appendix for key ratios calculated using all employees as the denominator, rather than just employees eligible for training.)

Tables 2 and 3 also show that there were some shifts by Benchmarking Service companies in the shares of total training expenditures going to different categories of spending. Between 2000 and 2001, the shares that went to training staff salaries and to payments for outside companies were both down, while the shares for tuition reimbursements and learning technologies were both up.

In previous years, large Benchmarking Service organizations (with 2,000 or more employees) were seen to spend less on training (whether measured as a percentage of their payroll or per eligible employee). This year's findings (in Table 3) show that large companies increased both their total training expenditures per training-eligible employee and their total training expenditures as a percent of payroll to levels beyond those of the medium-sized companies (with 500-1,999 employees), whose average figures declined compared to 2000 levels. Small organizations (with 1-499 employees) continued to lead firms in the other two size categories on both measures, spending an average of \$1,027 per employee, or 2.6 percent of payroll, on training.

When asked about anticipated increases in training expenditures between 2001 and 2002, Benchmarking Service participants projected a 30 percent jump on average. This is slightly below last year's 37 percent (see Figure 1). Across industries, the organizations projecting the largest increases in total training expenditures between 2001 and 2002 were in the services and transportation sectors (43 percent each) (see Table 11 in the Appendix).

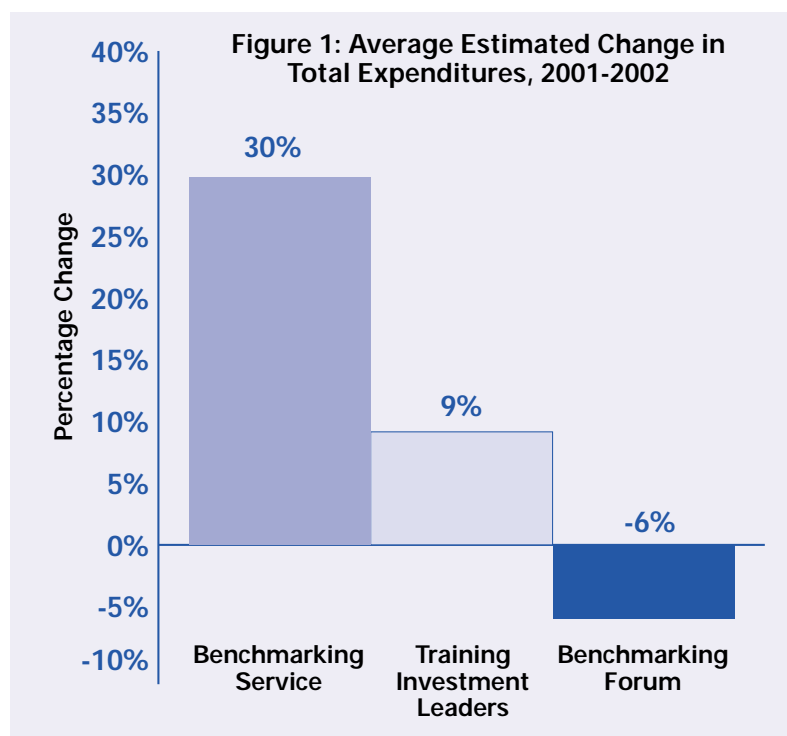
## Identifying "Training Investment Leaders"

Many of the major trends identified for the larger group of Benchmarking Service participants also are reflected in data provided by a select group of participants that ASTD identified as Training Investment Leaders. These were organizations that provided data to ASTD indicating that they had made a dedicated commitment in 2001 to developing the knowledge, skills, and abilities of their employees.

To identify the Training Investment Leaders, ASTD ranked all U.S. firms with sufficient data in the Benchmarking Service and Benchmarking Forum in the following four categories of training measures:

- Investment—a combination of two measures, weighted equally: 2001 training expenditures as a percentage of payroll and 2001 training expenditures per employee eligible for training (maximum: 25 points)
- Time—total training hours per employee eligible for training in 2001 (maximum: 25 points)
- Reach—percentage of employees eligible for training who received training in 2001 (maximum: 25 points)
- Sophistication—percentage of training time in 2001 delivered using learning technologies (maximum: 25 points)

The 10 percent of organizations with the highest combined scores across the four categories (out of a total maximum score of 100 points) were identified as Training Investment Leaders. On the basis of the number of firms submitting data in 2001, we identified 27 Training Investment Leaders. Data from this group are used throughout this report as an indication of what it takes for an organization to "separate itself from the pack" and make learning a central focus of efforts to stay competitive.



Last year, the services sector led with projections of an average increase of 49 percent. Six of the nine sectors projected smaller increases in training expenditures between 2001 and 2002 than they had projected for the 2000-2001 period. Technology had the greatest decline in projection (43 to 26 percent), and only transportation, finance, insurance and real estate, and health had higher projections of changes in total expenditures than last year.

Our fourth quarter 2001 follow-up survey of a sample of Benchmarking Service participants found that, despite the economic recession that descended upon the country in 2001, spending on training did not decline. The respondents indicated that their training expenditures had actually risen from 2000, somewhere in the range of 5 to 10 percent on average. While some had cut spending, others reported increases as high as 25 to 30 percent.<sup>15</sup> The preliminary picture for 2002 training expenditures for these companies was not terribly gloomy at that time either. When asked about their expenditures, 41 percent of the companies in our follow-up survey expected spending to rise in 2002, whereas only 27 percent expected decreases.

**Training Investment Leaders.** As expected, ASTD’s Training Investment Leaders significantly outpaced their Benchmarking Service counterparts in spending on training in 2001. On average, the Training Investment Leaders each spent \$11.1 million to train their employees (in great part because these companies tended to be larger than other participant companies). While training accounted for 1.9 percent of payroll for the average Benchmarking Service participant, for Training Investment Leaders the figure was 3.6 percent (see Table 3.) This marked an increase from 2000, when Training Investment Leaders spent 3.2 percent of payroll on training.

This year’s Training Investment Leaders reported spending more per employee than last year’s group, and more than twice the amount that Benchmarking Service organizations spent on average. Training Investment Leaders spent an average of \$1,647 on training per eligible employee in 2001, compared with \$1,574 a year earlier. By comparison, the average Benchmarking Service organization spent \$761 on training per eligible employee in 2001. Training Investment Leaders anticipated a 9-percent increase in spending on training between 2001 and 2002 (see Figure 1).

**The Benchmarking Forum.** Members of ASTD’s Benchmarking Forum, true to their billing as organizations dedicated to enhancing their training efforts, again spent significant sums on training in 2001. The average Benchmarking Forum organization reported total training expenditures of over \$101 million in 2001, or more than 28 times the average for Benchmarking Service organizations.

For Benchmarking Forum members, training expenditures were 2.8 percent of payroll, which was above the average for Benchmarking Service participants (1.9 percent) and above the average for the Service’s large organizations of 2,000 or more employees (1.6 percent). Still, the Benchmarking Forum average on this score fell short of the average for the Training Investment Leaders (3.6 percent).

The average Benchmarking Forum member spent \$1,457 per eligible employee on training in 2001, which was much more than the \$761 spent by the average Benchmarking Service participant, but less than the \$1,647 spent by the average Training Investment Leader.

## ASTD is Looking for a Few Good Companies . . .

In order to bring members the latest information on key trends, ASTD is recruiting 100 individuals in private companies to agree to send us a small subset of their training data every quarter. ASTD will use this information to compile the "ASTD-100 Index" – an authoritative snapshot of what's happening in training that no economy-watcher in the U.S. will want to miss!

In return, individual participants providing data will get:

- one year's free classic individual membership in ASTD for each continuous four quarters of information supplied!
- an exclusive "first glance" at results from all ASTD-100 Index companies each quarter—Impress your superiors that you know the trends before they are public!
- special briefing sessions for participants only, at the ASTD International Conference and Exposition—Quiz experts and other members of the ASTD-100 about what these data mean for your organization's training future!
- exposure for your company—ASTD will publicize the quarterly results in news releases and encourage the media to follow up with your organization for additional information and interviews because of your participation in this key reference group!

To find out more about how your organization can become part of the ASTD-100, call ASTD Research at 703/683-7258, or e-mail [cthompson@astd.org](mailto:cthompson@astd.org).

## Other Measures

Among the other key ratios ASTD uses to track the extent of employer-provided training in organizations are the percentage of eligible employees who receive training, the ratio of training-eligible employees to trainers, and the hours of training per training-eligible employee (see Table 3).

**Percentage of Eligible Employees Trained.** In 2001, the average Benchmarking Service organization provided training for 78 percent of eligible employees. This was about the same amount as the year before. The average Benchmarking Forum organization did somewhat better on this score, providing training to almost 87 percent of eligible employees. The Training Investment Leaders provided training for 91 percent of eligible employees in their organizations, but this is less than the 98 percent levels of the previous two years.

Across industry sectors, there was an even mix of reductions and increases in the percent of training-eligible employees trained. Technology, durable manufacturing, transportation/public utilities, and government all showed declines in percent trained. Nondurable manufacturing, finance, insurance and real estate, services, and health care all showed increases. The largest increase was from 69 percent to 87 percent in nondurable manufacturing, which in 2000 had trained the smallest percentage of eligible employees of any industry sector.

Across size categories within the Benchmarking Service group of respondents, there is little variation (76.4 to 79.8) in the percent of training-eligible employees trained in 2001. However, larger companies (2,000+ employees) trained a higher percentage of employees in 2001 than they did in 2000, and medium-sized companies trained a slightly smaller percentage.

**Training-Eligible Employees to Trainer Ratio.** The average Benchmarking Service organization had 367 training-eligible employees for every trainer in 2001, which is about a 4-percent increase over the previous year. Among Training Investment Leaders, the number of eligible employees per trainer (77) was almost 300 employees fewer than the total for the whole Benchmarking Service. By comparison, the average ratio for Benchmarking Forum members was 417:1, or about a 34-percent increase over the 2000 level.

### FORECAST: Percentage of Employees Trained

|      |   |
|------|---|
| 2001 | ↑ |
| 2002 | ↑ |
| 2003 | ↑ |

The industry sectors reporting the smallest number of training-eligible employees per trainer, on average, were finance, insurance, and real estate (213:1) and technology (223:1). Those reporting the largest ratios were trade (580:1) and services (570:1).

Not surprisingly, the training-eligible employee-to-trainer ratio also varied by size category of organization in 2001. Small companies had, on average, 149 employees per trainer, compared to 363 in medium-sized companies, and 553 in large organizations. Small and medium-sized organizations reduced their number of employees per trainer between 2000 and 2001, while large ones increased it.

Results from our fourth quarter 2001 follow-up survey showed that, on average, Benchmarking Service participants lowered the ratio even further in 2001, by somewhere between 5 and 10 percent. The information they shared leads us to believe that the decrease in the ratio came not from adding more training staff but from reducing their workforces. Nearly two-thirds reported layoffs in 2001, with an average reduction of employees, again, at around 5 to 10 percent. Most companies did not expect the size of their training staff to grow in 2002.

**Hours of Training per Eligible Employee.** On average, Benchmarking Service organizations provided 23.7 hours of training per eligible employee in 2001, which was up slightly from 23.5 in 2000. The comparable figures for Training Investment Leaders and Benchmarking Forum members were 57.0 hours and 38.7 hours, respectively. These figures marked declines of 10.9 percent for Training Investment Leaders and 17 percent for Benchmarking Forum members.

The industry sectors providing the most hours of training per eligible employee, on average, were durable manufacturing (37.5 hours), technology (26.6 hours), and health care (25.5 hours). Services provided the fewest hours of training per employee (18.1).

### How Did 9/11 Affect Plans for the Future?

Typically, organizations complete the ASTD Benchmarking Service's online *Measurement Kit* in the spring of each year by entering their data for the previous calendar year. The foundation database for this report thus covers the whole of 2001, most of which had passed by the time the recession became noticeable in the United States and 9/11 happened. As a result, the full impact of these two intertwined developments on training budgets and activities would not be expected to be revealed until the next (2003) *State of the Industry Report* presents analyses based on calendar 2002 data.

Nevertheless, we might find more impacts today by comparing the projections being made about the future by respondents entering their data before 9/11 with those made by respondents after 9/11. Unlike responses to our questions on completed annual budgets, these projections can be more speculative and open to continuous revision in the mind of the respondent. Hence, they may be "leading indicators," revealing changes in thinking today that may translate into real trends tomorrow.

Four "projection" questions appear in the ASTD Benchmarking Service online *Measurement Kit*.<sup>14</sup> These asked respondents in 2001 about their future trainees, spending, outsourcing, and delivery methods. The results of looking for differences between the two groups – one entering projections before 9/11 and one after — are:

- Respondents entering data after 9/11 anticipated a slightly higher percentage of their employees would receive training in 2002 than did those making projections before 9/11 (83.6 percent versus 79.1 percent);

- Almost the same percentage of respondents before and after 9/11 projected increases in the amount of money to be spent on training in 2002 (29.3 percent compared to 30.7 percent);
- A higher percentage of post-9/11 respondents anticipated that more of their training money would be spent on outside sources in 2002 than in the pre-9/11 group (29.3 percent compared to 22.9 percent);
- Post-9/11 respondents anticipated a lower percentage of training time would be delivered through classroom settings than those entering their projections pre-9/11 (60.1 percent compared to 64.3 percent); post-9/11 respondents also projected a slightly higher percentage of training time would be delivered through learning technologies than did pre-9/11 respondents (25.6 percent compared to 22.3 percent).

The nature of the sampling precludes us from testing whether these findings are statistically significant or not. Those respondents entering data after 9/11 were also likely to have had a clearer picture of what their 2002 budgets and activities would be than did those entering projections much earlier in 2001. However, these results do suggest that the 9/11 divide was not itself associated with any dramatic changes in the way respondents were thinking about their future shares of employees to be trained and their future levels of spending. Results also suggest that pre-existing trends in the changing balance between classroom and learning technologies for delivery method will likely be continued and enhanced, at least among this sample of organizations.

## How Are Organizations Delivering Training?

### Major Expenditure Categories

Figures from the Benchmarking Service organizations show similar findings between Benchmarking Service participants and the select group of Training Investment Leaders in terms of how training expenditures were allocated across major spending categories. As in years past, much more was spent by both groups on wages and salaries of training staff than on payments to outside companies in 2001 (see Table 2). Benchmarking Service participants reported spending 49.5 percent of training expenditures on wages and salaries; the comparable figure for Training Investment Leaders was 53.4 percent. Both groups routed about 21 percent of expenditures to outside companies. By comparison, members of ASTD's Benchmarking Forum reported spending only 25.1 percent of training expenditures on wages and salaries, compared to 39.5 percent on payments to outside companies. In 2001, unlike 2000, Benchmarking Service companies routed a higher share of their total training expenditures to learning technologies than did the Training Investment Leaders (4.6 percent, compared to 4.1 percent).

### Trends in Outsourcing

After three years of decline in outsourcing overall between 1996 and 1999 (from 27.3 percent to 19.9 percent), and then what appeared to be a reversal in 2000 (up to 22.2 percent), Benchmarking Service companies showed a slight drop again in the share of their payments going to outside companies in 2001, to 20.9 percent (see Table 3). The analogous shares for Training Investment Leader and Benchmarking Forum companies also showed slight declines, compared to their values in 2000. Benchmarking Forum organizations continue to do more outsourcing than the Benchmarking Service and Training Investment Leader groups (31.9 percent, compared to 20.9 percent and 21.5 percent, respectively).

Across the size spectrum, both small and large organizations showed slight declines in outsourcing spending in 2001—a marked change in direction from the especially noticeable growth in outsourcing shown by these groups in 2000. In medium-sized organizations, however, the share of total expenditures spent on outside companies in 2001 remained about the same.

**FORECAST:  
Outsourcing**

2001 ↑

2002 ↑

2003 ↓

Projections made concerning the level of outsourcing are shown in Figure 2. Benchmarking Service participants forecasted large increases in outsourcing between 2001 and 2002 (28 percent, on average), while Training Investment Leaders and Benchmarking Forum companies predicted much lower levels (6 percent and -4 percent, respectively). The Benchmarking Forum number is a turnaround from the 2001 projection of +4 percent made last year.

Across industries, respondents in 7 of 9 sectors reduced the shares of their training dollars on average to outside contractors in 2001 (see Table 3). Only finance, insurance and real estate, together with healthcare, increased their outsourcing.

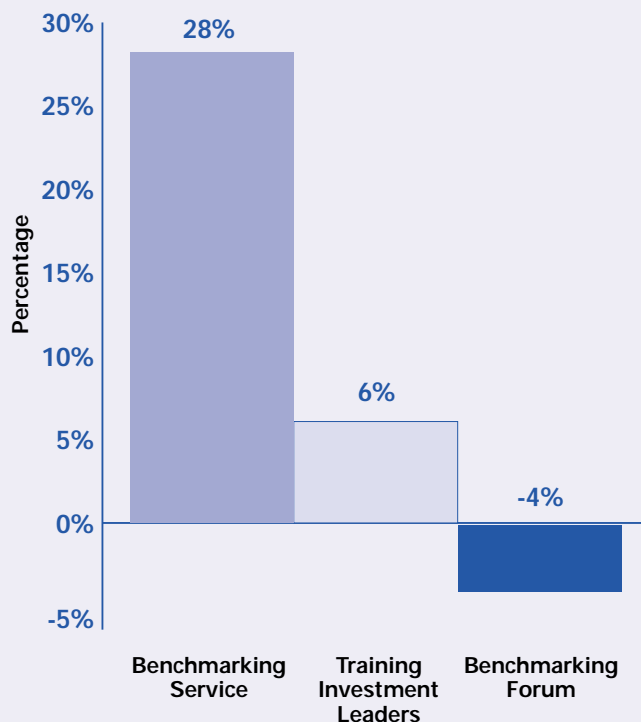
**Types of Outsourcing.** When asked what types of outside training providers they use, Benchmarking Service organizations indicated some changes between 2000 and 2001 (see Table 4) and some significant differences from the Training Investment Leader and Benchmarking Forum companies.

The percentage of all Benchmarking Service companies using other training providers increased for half of the eight different categories of provider in 2001 (see Table 4). A higher share of Benchmarking Service companies used 4-year colleges and universities, community and junior colleges, union-trade-professional associations, and government organizations, compared to 2000. Of these four groups, government saw the largest relative increase, from 25.6 percent to 33.6 percent. The other four categories — technical and vocational institutions, product suppliers, other firms (including private training and consulting companies), and independent training consultants or contractors — were all used by a smaller share of Benchmarking Service organizations than a year earlier. Of these four categories, independent training consultants or contractors showed the biggest decline in use by Benchmarking Service organizations, from 76.7 percent in 2000 to 65.5 percent in 2001.

For Training Investment Leaders, seven of the eight categories of other training providers witnessed a decline, and markedly fewer Training Investment Leaders used technical and vocational institutions this year than a year ago (26.7 percent compared to 45.2 percent). Their use of unions, trade or professional associations also declined (to 26.7 percent compared to 51.6 percent a year ago). Likewise, the Benchmarking Forum group of organizations exhibited a decline in the percentage using other training providers, with seven of the eight categories of provider witnessing a decline. Only "other firms, including private training and consulting companies," were used by a higher share of Benchmarking Forum companies in 2001 than in 2000 (96.4 percent compared to 84.4 percent).

The largest differences between Training Investment Leaders and Benchmarking Forum organizations, in terms of the percentages using the different categories of other providers, occurred in their use of 4-year colleges and universities, community and junior colleges, and government organizations, all of which were used by a higher share of Training Investment Leaders than Benchmarking Forum organizations. The Benchmarking Forum companies lean much more towards private training and consulting companies, and independent training consultants or contractors.

Figure 2: Average Estimated Change in Outside Payments, 2000-2001



**Table 4: Use of Other Training Providers**

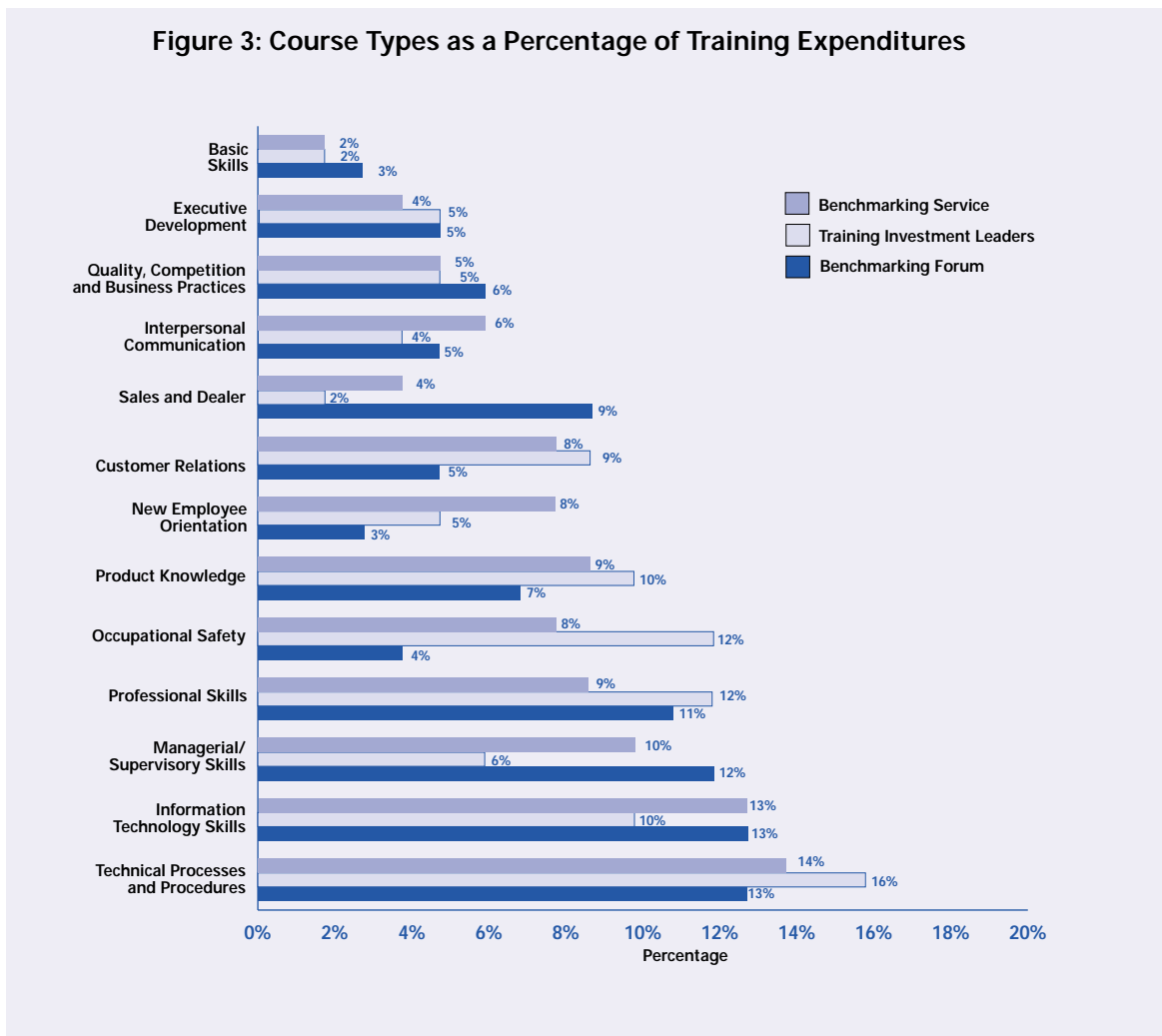
| Percent of Organizations Using:                                  | Benchmarking Service | Training Investment Leaders | Benchmarking Forum |
|--|----------------------|-----------------------------|--------------------|
| 4-Year Colleges and Universities                                 | 73.3                 | 86.7                        | 59.3               |
| Community and Junior Colleges                                    | 61.2                 | 60.0                        | 40.7               |
| Technical and Vocational Institutions                            | 44.0                 | 26.7                        | 29.6               |
| Product Suppliers  | 65.5                 | 66.7                        | 63.0               |
| Other Firms, Including Private Training and Consulting Companies | 77.6                 | 73.3                        | 96.4               |
| Independent Training Consultants or Contractors                  | 65.5                 | 53.3                        | 81.5               |
| Unions, Trade or Professional Associations                       | 31.0                 | 26.7                        | 33.3               |
| Government Organizations   | 33.6                 | 46.7                        | 11.1               |

**Course Type Expenditures.** A different way to gauge how organizations are dividing their training dollars is to examine the subject matter, or types of course, on which the dollars are spent. (See the Glossary for a full list of the course types with their descriptions.) As shown in Figure 3, the largest share of the typical Benchmarking Service firm’s training expenditures for 2001 went to training in technical processes and procedures (14 percent) and information technology (IT) skills (13 percent).

Coming in next among the course types benefiting from a relatively high level of investment in 2001 were training in managerial/supervisory skills, professional skills, and product knowledge, all at 9 percent of expenditures or higher. Executive development and basic skills received the smallest percentages (4 percent and 2 percent, respectively) of the 13 course types. Table 16 in the Appendix shows how the top five course types have changed over time for Benchmarking Service firms. The statistics show the rankings to be fairly consistent since 1998, with technical, IT, and managerial skills dominating.

In 2001, the spending pattern across course types was generally similar for Benchmarking Service, Training Investment Leaders and Benchmarking Forum organizations, with a few key differences. All three groups spent the highest percentage of their training expenditures on technical processes and procedures, and the lowest percentage on basic skills. Training Investment Leaders on average spent a smaller percentage of their training expenditures than the other two groups on IT skills, managerial/supervisory skills, and sales and dealer training, and a higher percentage on occupational safety. Benchmarking Forum companies, on average, spent smaller percentages than the other two groups on occupational safety, new employee orientation, and customer relations, and a higher percentage on managerial/supervisory skills.

Figure 3: Course Types as a Percentage of Training Expenditures



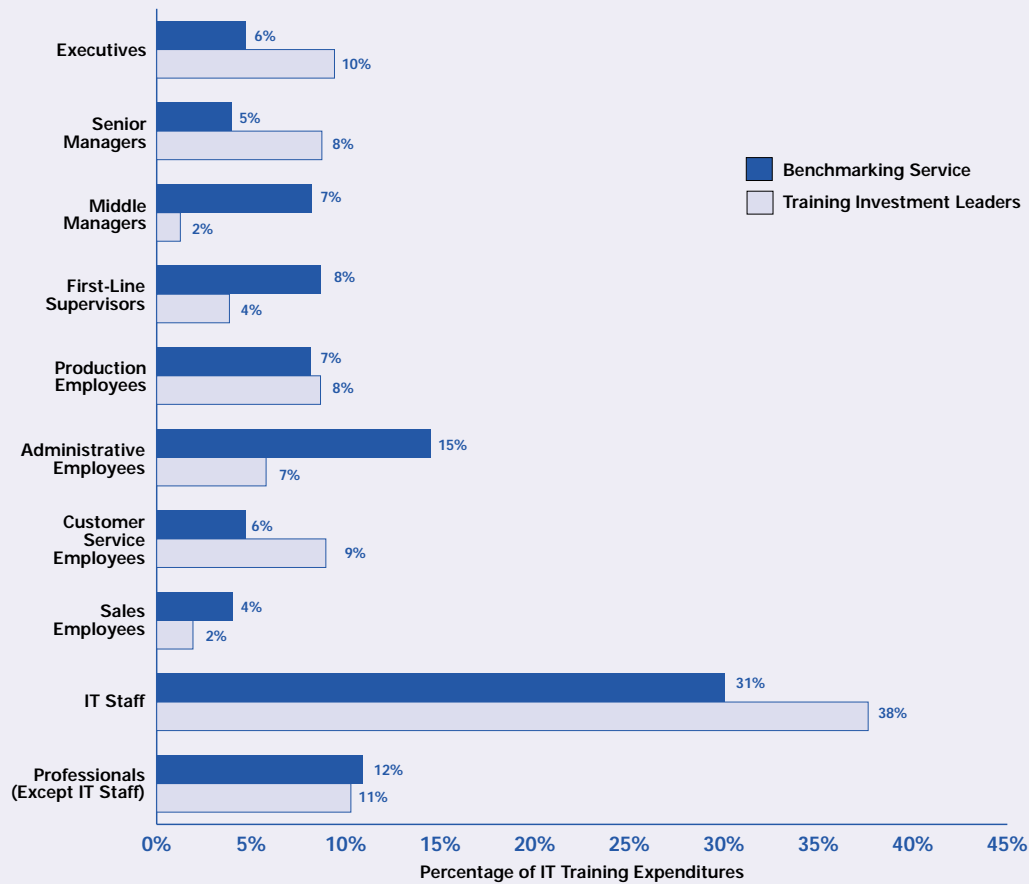
### Spending on IT Training

Among Benchmarking Service participants, the share of dollars going to IT skills training (see Table 3 and Table 16) increased over two percentage points between 2000 and 2001 (from 11 to 13 percent). The industry sector spending the largest share of its training expenditures on IT training was government (23.7 percent).

Benchmarking Service participants and Training Investment Leaders were also asked how they divided their spending on IT skills training among specific employee groups (see Figure 4). Predictably, we found that the employees getting by far the most IT training as measured by expenditures in both groups were IT staff, followed by professional employees and administrative employees.

Results from Benchmarking Service companies and Training Investment Leaders for spending on IT training generally correspond across the different employee groups, except for spending on administrative employees and executives (see Figure 4). Benchmarking Service companies spent 15 percent of their IT training budget on administrative staff, whereas the Training Investment leaders spent only 7 percent. Benchmarking Service companies spent 6 percent of their IT training money on their executives, compared to the 10 percent spent by Training Investment Leader companies. Benchmarking Service organizations spent 31 percent of their IT training expenditures on their IT staff. Benchmarking Forum companies spent 38 percent.

Figure 4: Spending on IT Training by Employee Group



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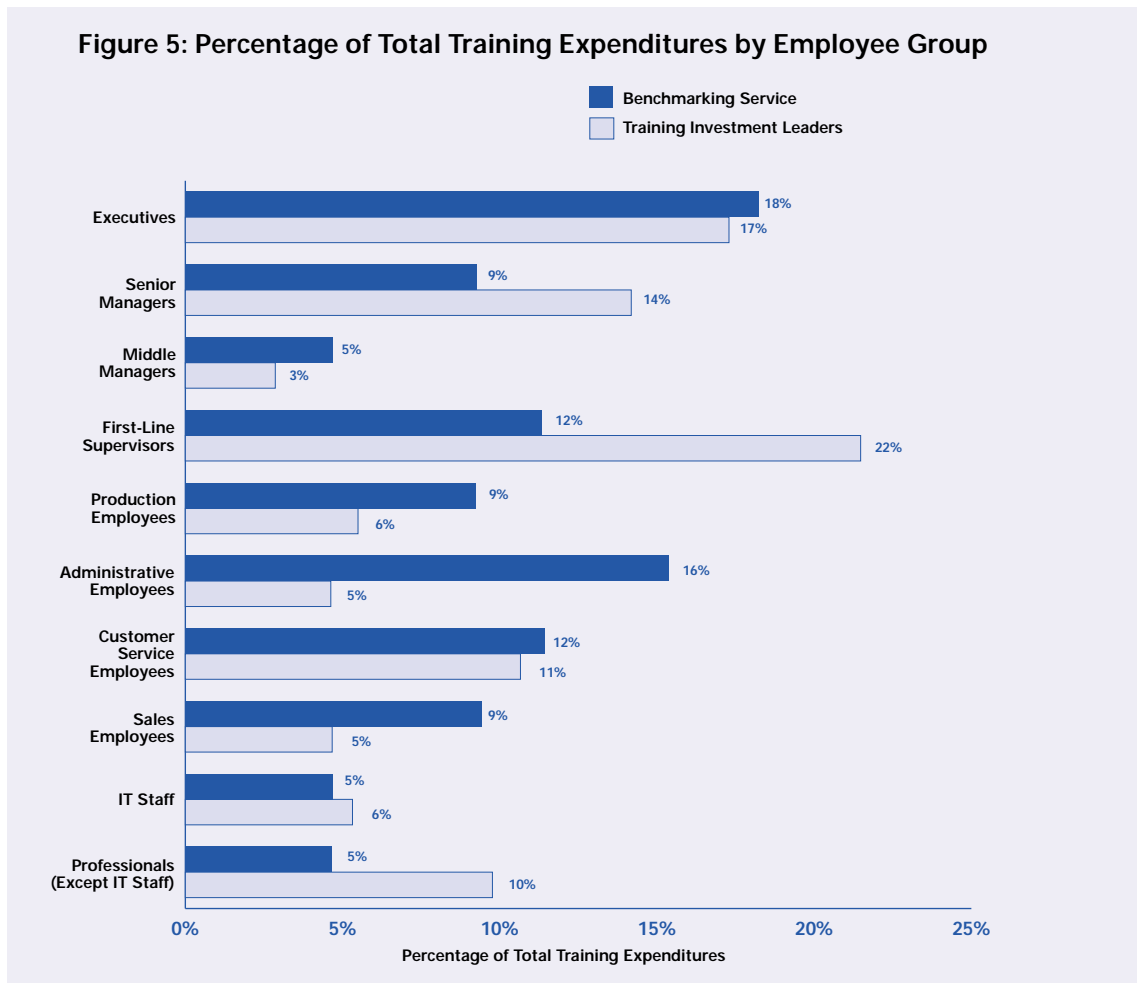
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Figure 5: Percentage of Total Training Expenditures by Employee Group



### Overall Spending, by Employee Group

Benchmarking Service participants and Training Investment Leaders were also asked how they divided their total spending on training across specific employee groups (see Figure 5). This information sheds more light on why certain types of courses received more training dollars than others. It must be read carefully, however, because the distribution of spending is likely to mirror the distribution of types of employees in U.S. companies.

For Benchmarking Service companies, the largest share of training dollars went to executives (18 percent), administrative employees (16 percent), and customer service employees (12 percent). This is a change in ranking from results in the previous year, when production and non-IT professionals received the largest shares. In contrast, the largest share of expenditures made by Training Investment Leaders was on first-line supervisors (22 percent compared to only 12 percent on this group by Benchmarking Service companies). Training Investment Leaders also spent only 5 percent on administrative employees, compared to 16 percent by Benchmarking Service companies. The next largest categories for Training Investment Leaders, as with Benchmarking Service organizations, were executives (17 percent), and customer service employees (11 percent). Training Investment Leaders spent a larger share than Benchmarking Service companies on senior managers (14 percent versus 9 percent) and on non-IT professionals (10 percent versus 5 percent). The category of employee receiving the smallest share among Training Investment Leaders was middle managers, who received 3 percent of total training expenditures.

**FORECAST:**  
Learning Technologies

2001

2002

2004

## E-Learning

For several years, the ASTD *State of the Industry Report* has found organizations projecting that they will be delivering less of their training in the classroom, with corresponding increases in technology-delivered training or “e-learning.” The growth of e-learning and the decline of instructor-led classroom training has also been widely heralded elsewhere. Indeed, 1998 participants in the Benchmarking Service predicted that, on average, 23 percent of all training time would be delivered via e-learning in 2000, although the actual figure turned out to be 8.8 percent.

In previous *State of the Industry Reports*, we concluded that perhaps the rise of e-learning was on hold. In 1999, for example, some firms indicated that they held the amount of e-learning steady while making significant new investments in e-learning systems and courseware. These firms told us that their e-learning levels would grow in 2000, which did in fact happen. Given the stability of these estimates, it appeared that e-learning in the typical firm would settle in at 20 percent of all training (versus 65 percent in the classroom), but that it would take some years to get there.

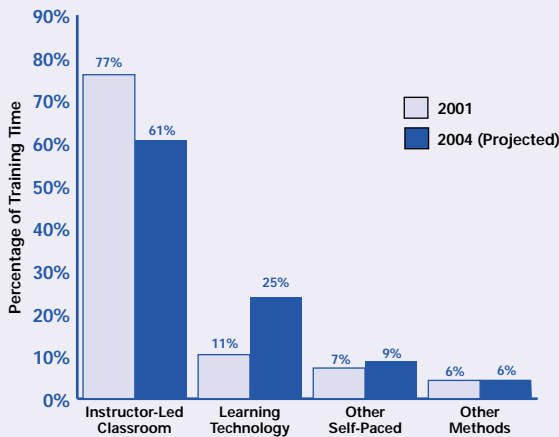
What actually happened with e-learning in 2001 is shown in Figures 6.1 through 6.3. Both Benchmarking Service and Training Investment Leader groups, on average, increased their percent of training time delivered via learning technologies between 2000 and 2001 (see Table 3). The Training Investment Leaders increased by more, delivering 27.4 percent of their training hours this way in 2001, compared to 18.7 percent in 2000 and 14.9 percent in 1999. Benchmarking Service organizations increased from 8.8 percent in 2000 to 10.5 percent in 2001.

E-learning projections for 2004, three years out from the survey year, continue to show large increases for all groups, as shown in Figures 6.1 through 6.3. Projections for 2004 are 25 percent of training time for Benchmarking Service companies (compared to 22 percent projected in 2000 for 2003), 39 percent for Training Investment Leaders (compared to 27 percent previously), and 26 percent for Benchmarking Forum organizations (compared to 23 percent previously). The degree of projected increase over the present actual level is greatest for Benchmarking Service companies, where the percentage of training time to be delivered via e-learning is expected to more than double (from 11 percent to 25 percent) by 2004.

However, the actual 2001 level of e-learning in Benchmarking Service organizations (as measured by the key ratio “percentage of training time via learning technologies”) is roughly half the level it is in the other two groups, as it was in 2000 as well. The Training Investment Leader and Benchmarking Forum groups are characterized, on average, by larger members. As in last year’s report, this lends support to the general notion that growth in e-learning is still occurring in larger organizations. This differential in the use of e-learning may be because, given the present forms of e-learning, the balance of advantages and costs most favors the larger firms. They are the ones more likely to have distributed organizations over which they need to ensure consistency in training. They also are the ones most able to absorb the initial capital investment costs in order to reap the later economies of scale in training large numbers of employees.

When examined by industry (see Table 3), ASTD’s data show that the sectors reporting the highest levels of e-learning included organizations in the non-durables sector (at 13.5 percent, or almost double last year’s level for this group) and the technology sector (13.3 percent). Six of the nine industry groupings raised their level of e-learning time in 2001, compared to their previous year’s results. The industry group with the lowest level for 2001, as in the previous year, was trade, at 5.9 percent.

**Figure 6.1: Use of Delivery Methods, Benchmarking Service**

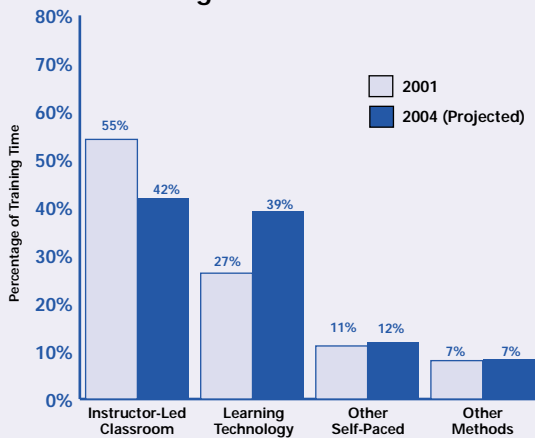


E-learning level also varies by size of company. Midsize organizations continue to lag small and large ones. Small companies have increased their level of e-learning from 7.5 percent of training time in 2000 to 11.8 percent in 2001, exceeding the 11.5 percent level in large companies, which experienced a slight decline from their 12 percent level in 2000.

**Blended Learning.** We urge caution when using the e-learning estimates reported above. In last year’s report, we observed that our methodology for collecting this information made it difficult for companies to report on training that blended e-learning with more traditional forms of training. To explore this possibility, we asked a modified set of questions of Benchmarking Forum companies, allowing them to report on blended training as well as pure e-learning, classroom training, and other methods (see Figure 6.3).

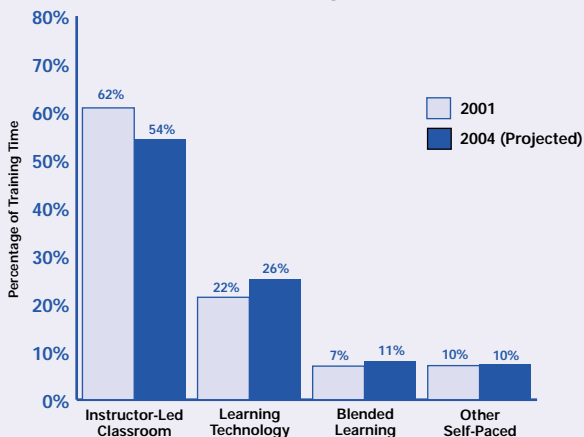
For 2000, Benchmarking Forum companies reported that, on average, 17.4 percent of their training was delivered via learning technologies, 69.8 percent was instructor-led classroom training, and 5.1 percent was blended learning. Using the same categories in 2001, 22 percent was e-learning, 7 percent was blended learning, and only 62 percent was classroom training. In short, as we suspected last year, blended learning was previously being reported as classroom training.

**Figure 6.2: Use of Delivery Methods, Training Investment Leaders**



**E-Learning in 2001 and Beyond.** For reasons of both cost savings and security, organizations were reportedly sending fewer employees to classroom courses and opting for e-learning instead. Our fourth quarter 2001 follow-up survey of Benchmarking Service participants and Benchmarking Forum companies confirmed this shift, especially among the latter group. Approximately three-quarters (77 percent) of Benchmarking Forum companies responding to the follow-up survey said that they had increased their use of e-learning since September 11. By contrast, only a small percentage of Benchmarking Service firms (less than 15 percent) reported that they had increased their use of e-learning during that period.

**Figure 6.3: Use of Delivery Methods, Benchmarking Forum**



We also find signs that the rise in e-learning will continue into 2002 and beyond. More than 80 percent of Benchmarking Forum companies reporting more e-learning in 2001 said that they expected the increases to be long-term changes, not just short-term responses to their present situation. Likewise, Benchmarking Service firms, on average, gave higher projections regarding e-learning for 2003 in the follow-up survey in the fourth quarter of 2001 than they did when we surveyed them in the spring of 2001.

## Which Types of Learning Technologies are Organizations Using?

In addition to measuring the extent to which organizations are using learning technologies, ASTD’s Benchmarking Service data reveal what *types* of technologies are being used (see Table 5 and Tables 13, 14, and 15 in the Appendix). For clarity’s sake, we have split learning technologies into two categories. The first includes technologies that relate to the format in which training is presented, or “presentation methods,” such as computer-based training and multimedia. The second includes technologies that are used to distribute training, or “distribution methods.” Examples are cable TV, CD-ROM, and company intranets.

As shown in Table 5, the most popular technology among the presentation methods remained multimedia—used by 81.3 percent of Benchmarking Service organizations in 2001. This was closely followed by text-only computer-based training applications (61.5 percent). Training Investment Leaders also reported these two categories as their top presentation technologies, although the percentage of these companies using either technology was slightly higher (85.7 and 38.5 percent, respectively).

Among distribution methods, the most frequently mentioned technology among all Benchmarking Service participants remained CD-ROMs. These were used by 67.7 percent of organizations, compared to 57.8 in 2000. Coming in next were e-mail (54.8 percent) and intranets (52.7 percent). The use of the top four distribution methods grew between 2000 and 2001, while the number of Benchmarking Service organizations using the internet barely changed (38.5 percent to 38.7 percent).

Projections made to three years ahead by respondents showed that, as with last year, more Benchmarking Service companies expect to be using intranets than expect to be using CD-ROMS in the future. In 2001, the company intranet was used by 52.7 percent of Benchmarking Service companies. By comparison, intranet was already the most common distribution method among both the Benchmarking Forum group and the Training Investment Leader group in 2001, with usage rates of 83.7 percent and 81.5 percent, respectively.

**Table 5: Use of Learning Technologies**

| Percentage of Organizations Using: | Benchmarking Service, 2001 | Projected by Benchmarking Service, 2004 | Training Investment Leaders, 2001* | Projected by Training Investment Leaders, 2004 | Benchmarking Forum, 2001 | Projected by Benchmarking Forum, 2004 |
|------------------------------------|----------------------------|---|------------------------------------|--|--------------------------|---------------------------------------|
| <b>Top 4 Presentation Methods</b>  |                            |   |                                    |  |                          |                                       |
| Multimedia                         | 81.3                       | 85.9                                    | 85.7                               | 100  | NA                       | NA                                    |
| Computer-Based Training            | 61.5                       | 69.6                                    | 64.3                               | 53.8   | NA                       | NA                                    |
| Teleconferencing                   | 47.9                       | 60.9                                    | 50.0                               | 61.5   | NA                       | NA                                    |
| Groupware                          | 36.5                       | 54.3                                    | NA                                 | NA   | NA                       | NA                                    |
| <b>Top 5 Distribution Methods</b>  |                            |   |                                    |  |                          |                                       |
| CD-ROM                             | 67.7                       | 75.8                                    | 76.9                               | 76.9   | 79.1                     | 74.4                                  |
| Email                              | 54.8                       | 72.5                                    | 74.1                               | 61.5   | NA                       | NA                                    |
| Intranet                           | 52.7                       | 76.9                                    | 81.5                               | 61.5   | 83.7                     | 79.1                                  |
| Local Area Network                 | 47.3                       | 54.9                                    | 53.8                               | 61.5   | 58.1                     | 60.5                                  |
| Internet                           | 38.7                       | 48.4                                    | 84.6                               | 84.6   | 76.7                     | 83.7                                  |

\*The top five distribution methods for Training Investment leaders were: Internet (85%), Intranet (82%), CD-ROM (77%), E-Mail (74%), and Local Area Network (54%)

### Get Inspired! Get Connected! Get Results!

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Leading visionaries will discuss future trends, and legendary workplace learning pioneers will share insights into the core principles with which you work. Choose from more than 300 lively educational sessions, and share your own ideas and experiences with over 8,000 professional colleagues from over 80 countries.

Keynote speakers will include Malcolm Gladwell, Frances Hesselbein, and Danny Glover. Participating in the Legends series will be Ken Blanchard, Margaret Wheatley, Peter Block, and Donald Kirkpatrick.

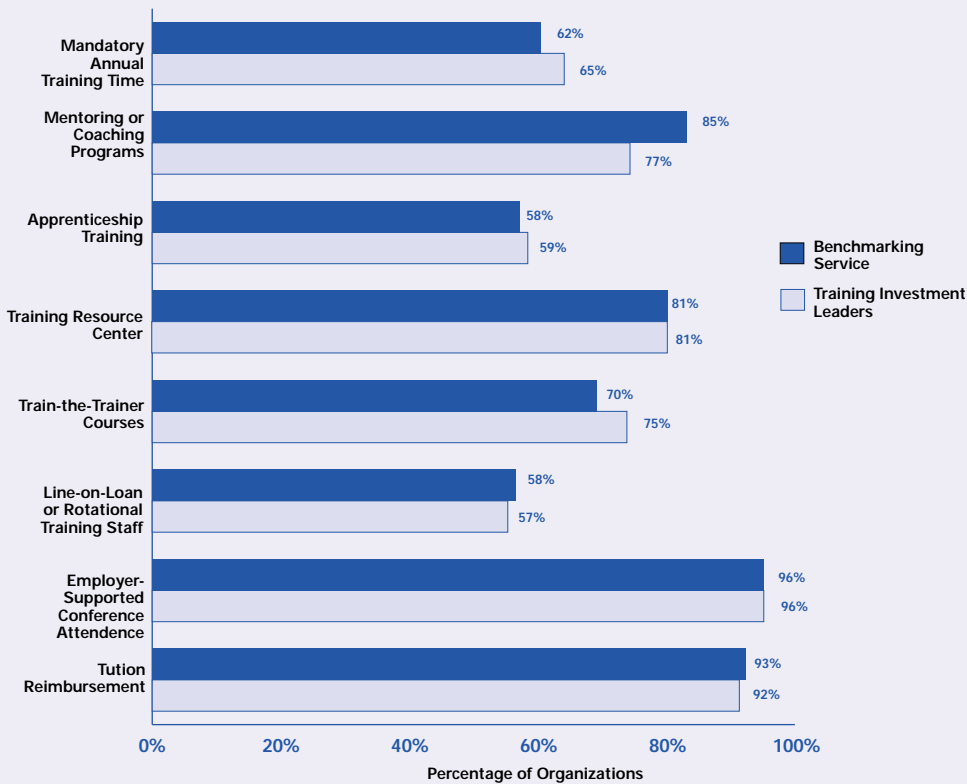
Pre-conference workshops will run May 15-17, main conference sessions May 18-22, EXPO May 19-21, and Post-Conference Workshop May 22-23, 2003. Mark your calendar today!

For more information: Visit [www.astd.org/ICE2003](http://www.astd.org/ICE2003), or call toll free in the U.S. **1-800/628-2783** (outside the U.S. **703/683-8100**).

While Training Investment Leaders generally parallel Benchmarking Service companies in their use of different *presentation* methods, they and the Benchmarking Forum organizations do exhibit markedly different patterns of use of *distribution* methods. A higher percentage of Training Investment Leaders and Benchmarking Forum companies make use of each of the top distribution technologies when compared to Benchmarking Service organizations. Among Training Investment Leaders, the internet was the most popular of the five distribution technologies. Among Benchmarking Forum companies, the company intranet and CD-ROM were more widely used, but internet was still used by 76.7 percent of the Benchmarking Forum group.

Projections for 2004 made by Benchmarking Service and Training Investment Leader organizations suggest that the percentage of organizations within these groups using the top presentation and distribution technologies will, in general, increase. The exception is computer-based training. In 2001, a smaller percentage of Training Investment Leaders anticipated using computer-based training in 2004, compared to their predictions in 2000 for 2003.

Figure 7: Use of Training Practices



## Use of Training Practices

Another important indication of how organizations approach the challenge of training their employees is the extent to which they use various training practices, such as providing tuition reimbursement or sponsoring mentoring or coaching programs. As in previous years, ASTD asked Benchmarking Service participants which training practices they used.

As shown in Figure 7, the training practices most often used were employer-supported conference attendance (used by 96 percent of Benchmarking Service participants) and tuition reimbursement (93 percent). Also used by over 80 percent of the organizations were mentoring or coaching programs and training resource centers. The training practice showing the greatest increase in usage from last year is mentoring/coaching: only 69 percent of Benchmarking Service companies reported using this practice in 2000, but 85 percent used it in 2001. The use of tuition reimbursement also increased, from 87 percent of Benchmarking Service respondents last year to 93 percent in 2001. The practice with the greatest decline in usage between 2000 and 2001 is apprenticeship training, which fell from 74 percent to 58 percent.

For 2001, the pattern of usage across different practices is very similar for the Benchmarking Service companies and the Training Investment Leader group. Last year, the Training Investment Leaders were much more likely than the Benchmarking Service group to use a training resource center or mentoring/coaching. Clearly, the leaders were innovators last year, but they are being matched by the general group this year.

## The Training Stories of 2001/2002

*What would you do if you were in a brand new organization and faced with hiring and training 32,000 new employees for over 400 locations across the nation in the span of a year? What about the challenge of educating tens of thousands of front-line workers in how to protect themselves in the event of a biological attack? Or the challenge of retraining workers traumatized and instantly displaced by the events of 9/11 for completely different jobs?*

*These are some of the challenges that faced the Transportation Security Administration, the U.S. Postal Service, and a small nonprofit organization called Training Futures – and probably many other organizations in the weeks and months after 9/11. The three cases we have chosen to profile as the "training stories of 2001/2002" show how organizations can respond to, rise to, and meet such challenges. They hold important lessons for the entire workplace learning and performance community, as we all move into the Next Economy.*

### The Transportation Security Administration Hires and Trains 32,000 Airport Passenger Screeners — and All in One Year

It is the most intensive civilian training effort in modern history.

Under federal legislation passed just two months after the September 11th attacks on America, the newly created Transportation Security Administration (TSA) was given one year to hire and train nearly 32,000 passenger screeners. Their job: to serve as the front line of America's efforts to prevent additional terror attacks by staffing security checkpoints in airports across the country.

Overseeing the unprecedented--and ongoing--training effort is Gale Rossides, who joined TSA after coordinating training programs for the federal Bureau of Alcohol, Tobacco and Firearms (ATF). According to Rossides, the new passenger screeners were not the only ones who learned from the experience. She and her TSA colleagues, Rossides says, developed a fresh understanding of what makes training work, where training is going, and how to deliver training results overnight.

**New Law Sets Training Effort in Motion** TSA came into being as a result of the Aviation and Transportation Security Act (ATSA), which for the first time made aviation security the responsibility of the federal government and called on the new agency to manage the passenger screening process in more than 400 commercial airports. While the law itself was the product of several weeks of often-contentious negotiations involving the White House and Congress, no one debated the need for intensive training for the nation's airport security workforce.

"The new security force will be well-trained," President George W. Bush stated at the November 19, 2001, event where he signed the ATSA into law.

Within one month of the President's approval of the measure, Rossides and a small core of TSA's first hires were hard at work designing the training program for the passenger screeners. Although the law was fairly explicit in defining the training

requirements for the passenger screeners--40 hours of classroom training, 60 hours of on-the-job-training, and a passing grade on what Secretary of Transportation Norm Mineta called "a tough final exam"—Rossides and company had a lot of decisions to make about the design and content of the training.

"The challenge wasn't just a matter of the timeframe we had to do this—one year—but there was also the issue that TSA didn't exist at the time. We had no operating policies and procedures we could base the training on," Rossides says. As a result, the training effort became the driver for policy development and the vehicle for testing what would and would not work.

By February 2002, Rossides and her colleagues had designed a training course based on a train-the-trainer model. And, in March, TSA hired and began training 600 screeners who would become the agency's "mobile screening force." The job of the mobile force was to move from airport to airport and staff security checkpoints while the agency hired and trained screeners at each location.

At the same time that all of this was happening, TSA was processing more than 1 million job applications. As part of the hiring effort, TSA established assessment centers throughout the country where applicants were required to undergo a series of tests. Candidates for the screening jobs were assessed based on a range of physical and aptitude skills—everything from reading comprehension and x-ray image interpretation to the ability to lift and carry weighted articles.

According to Rossides, the assessment effort played a critical role in the agency's ability to ensure a sufficient supply of well trained passenger screeners by the law's November 19, 2002, deadline. "Because we invested so much in the assessment, we were able to create a training effort with a minimal failure rate," she says.

**Private Sector Brought in to Manage Training, Provide Advice** On April 24, 2002, Transportation Secretary Mineta announced that a team led by Lockheed Martin Services had been awarded a contract of up to \$105 million to begin the training of the 32,000-strong airport passenger screener force. The job of the Lockheed Martin team, according to Elmer Nelson, the company's Director of Homeland Security Programs, was to handle all aspects of training delivery, from scheduling and logistics to quality assurance and evaluation.

One key to the success of the training effort, according to Nelson, was a commitment by both TSA and Lockheed to keep things flexible. "We've had joint meetings throughout this process with their quality assurance people and ours to take a hard look at what's working and what needed to be changed," Nelson says. "And, when something needed to be changed, we went ahead and changed it."

When TSA became concerned about the procedures screeners were using with hand wand devices, for example, Lockheed Martin worked to incorporate new wand standards into the training.

"Considering the scale of what we're doing, standardization becomes very critical," Nelson observes. At its busiest, he added, Lockheed Martin's training effort involved as many as 5,500 students at more than 65 sites across the country in a single week. Each of the screener classes, he adds, generally consisted of 24 trainees learning from three instructors--an 8-to-1 trainee-to-trainer ratio.

Lockheed Martin is not the only private sector entity that has played a part in TSA's training efforts. According to Rossides, the agency has had "great support" from a wide range of companies with training expertise. Executives from the Marriott Corporation and Southwest Airlines, for example, played a key role in developing the customer-service components of the training for TSA passenger screeners.

**Looking Ahead** In November 2002, TSA officials announced that they had met the deadline set by the ATSA for having all of the passenger screeners trained and in place. But the agency's training effort was far from over, according to Rossides. Currently, she says, the agency is in the process of developing a learning management system that will provide a platform for distance learning and e-learning activities, while at the same time tracking each employee's participation in internal and external training.

"The vision is that screeners will be able to log on and take modules of training that we put out across the system," Rossides says. The continuing training will cover everything from screening people with disabilities to identifying various types of weapons.

While none of the TSA training to date has been delivered electronically—mostly because of a lack of IT infrastructure—Rossides anticipates that the e-learning share will rise to "as much as 80 percent" in the years ahead.

TSA also is hard at work developing new methods for evaluating training results. Currently, the agency uses a Level One evaluation at the completion of screener training, but officials are in the process of designing Level Two and Level Three evaluations. TSA also measures training results by establishing agency-wide performance metrics. The agency's national goal, for example, is to have passengers get through a security checkpoint in 10 minutes, and screener training is a key element in making that happen.

According to Rossides, the TSA approach to training and the full range of HR issues is founded on the principles of Human Performance Technology (HPT). "By focusing on the full range of systems and factors that affect human performance, we are able to create a larger system that delivers results--not just for TSA and its employees but for the entire country," she says.

For more information, contact: **Gale Rossides, Transportation Security Administration, 202/385-1480, or visit <http://www.tsa.dot.gov/public/index.jsp>**

### Lessons from the TSA Experience

#### Training is most successful when . . .

- It is driven by a clear sense of the organization's mission—in TSA's case, protecting the safety of the nation's air transport system.
- It is closely coordinated with organizational policies and procedures, with training providing an opportunity to test and refine those policies and procedures.
- It is supported by a rigorous employee screening process.
- It draws on expertise from inside and outside the organization.
- It is focused on results and the measurement of training's impact on employee performance.
- It is based on a recognition that improving the performance of the human component is the key to overall system performance.
- It recognizes the importance of customer satisfaction, even if training is driven by other concerns—e.g., improved security.

## The United States Postal Service Responds to the Anthrax Mailings with a Nationwide Employee Education Effort

When letters containing anthrax bacteria killed five Americans, including two postal workers, in October 2001, the U.S. Postal Service (USPS) launched a nationwide training effort aimed at preventing additional deaths and infections. The goal of the training, according to Safety Performance Management Manager Sam Pulcrano, was to get as much information as possible to USPS's 750,000 employees about how to protect themselves, as well as how to respond to terrorist acts.

"We had an Emergency Management Fundamentals course already in the planning stages when this happened," Pulcrano says, noting that the course was slated to include training in proper response to terrorist and bioterrorist acts. "So, fortunately, we actually had a head start in thinking about what we needed to be doing."

**"Safety Talks" Become the Focus** As a first step in the training process, the USPS provided all District Managers with a mandatory "safety talk" and talking points answering many of the most pressing questions employees were asking in the days immediately following the anthrax attacks. These included: What is anthrax? How is it transmitted? How can infection be prevented? And how is anthrax treated? At the same time that USPS officials were getting this information out, they issued a memo to the field asking managers to make sure: 1) that they had detailed emergency action plans in place; and 2) that employees had the information and the training they needed to carry those plans to fruition, if necessary. USPS officials also called on managers to give safety talks to their employees on the content of the emergency action plans. The safety talks on anthrax and emergency planning were just the first in a series of such talks prepared and/or recommended by USPS for delivery in the field. "We determined that safety talks were the quickest way to reach most of our employees, and similar information was carried in our management communications," Pulcrano says.

### A Wide-Ranging Outreach and Training Effort

In addition to the safety talks, USPS officials made full use of a variety of internal communication vehicles to spread the word about everything from the characteristics of suspicious packages to how to use respirators and gloves. The information was presented in guidance documents, how-to videos, and news updates that could be posted in facilities. The service also used e-mail and faxes to get information out as quickly as possible, and the USPS's internal and external websites became avenues for keeping both employees and customers informed. USPS officials set up a national operations center as the official channel to deliver information quickly to area operations centers. "The idea was to ensure the widest possible reach for all of the information

we were getting to the field, and that meant using as many different media as possible," Pulcrano says, adding that employee polls and focus groups indicated that employees were pleased with USPS's communications during the anthrax crisis. In other activities, USPS provided hands-on training for individuals expected to take leadership positions in responding to bioterror incidents and similar events. Much of this training, which began in the spring of 2002, was based on the Emergency Management Fundamentals course that had been in development when the anthrax attacks were launched. USPS also provided training for maintenance employees on revised cleaning methods, with the curriculum including a video on how to empty the special high-efficiency particulate air (HEPA) vacuums used to clean facilities and equipment.

**Flexibility as a Fundamental** Pulcrano says that one of the major challenges in designing the USPS's bioterror-related training initiatives was the fact that all training had to be coordinated with the Centers for Disease Control and Prevention, as well as other federal agencies. "We had to prepare training based on their guidance, which changed almost daily as new information on anthrax came to light," he says. As a result, Pulcrano and others gained a fresh understanding of the importance of remaining flexible and being able to change training content on the fly. They also gained a new appreciation of the role of union and management representatives in keeping everyone fully informed. "We decided from the start that we were going to work very closely with both the union representatives and management to help spread the word about current and planned training efforts," Pulcrano says. "That way, we could be sure the whole organization was working together to ensure our employees' safety."

For more information, contact: **Sam Pulcrano, United States Post Service, 202/268-6393, or visit <http://www.usps.com/news/2001/press/serviceupdates.htm>**

## Lessons from the USPS Experience

### Training is most successful when . . .

- Union and management representatives are kept informed about current and planned training efforts and enlisted as partners.
- Key employees are trained before emergencies strike; they need to be able to step in and deal with crises as they happen. The bottom line: You only get one chance to make a first response.
- A variety of media are used to reach employees with key messages and information and to reinforce training content in numerous settings.
- The organization is able to revise content quickly in response to new information and changing circumstances.

### Training Futures

*The previous two initiatives dealt with institutional responses to threats at large scales. By contrast, the human side of 9/11 – the sudden and highly-concentrated job dislocation disproportionately affecting low-income service workers – required a more human scale of response. This training story is of a small non-profit program in the right place at the right time with a "training-plus" model.*

September 11th introduced a new sense of vulnerability to American workers. As much as they were made newly aware of the physical threat posed by terrorist attacks, many workers—particularly those in the transportation and hospitality sectors—saw how a seemingly random and senseless act could indirectly affect their livelihoods, their jobs. It was enough to prompt some of them to seek the training they needed to move to less tenuous careers.

Just ask Bill Browning, Program Director for Training Futures. A program of Northern Virginia Family Service, Training Futures was established in 1996 to provide unemployed and underemployed individuals with the skills they need to find decent-paying jobs. Between 2001 and 2002, according to Browning, Training Futures provided training to at least 40 people who had been affected by the September 11th attacks.

"In many cases, they didn't lose jobs, but they realized how vulnerable they were in the jobs they had," said Browning.

Consider the case of Fasil Demissie, an immigrant cab driver from Ethiopia who made a living ferrying people to and from Reagan National Airport. After the airport closed for three weeks following the attacks, Demissie's income took a major hit. As a result, he turned to Training Futures to learn more about accounting and computers and hopes to find a more stable job as an office worker.

Then there's Barbara Blanton Lohr, a former U.S. Marine Corps Officer who had left the Corps years ago to raise her daughter. After her husband died in 1995 at 49 years of age, she stayed busy for several years with volunteer work until it became clear that she needed more income than she was receiving from a small annuity. And, just as her job search was beginning in earnest, September 11th struck. "After that, you couldn't even find a job at a bookstore," she said. "Nobody was hiring."

Lohr was referred to Training Futures by the family services office at a local military base. She enrolled for the 22-week program and, shortly after graduation, took a job at a law firm.

"My skills were really outdated," she said. "So I was able to learn about Microsoft Office Suite at the same time that I was getting a lot of positive reinforcement from people who believed in me."

According to Browning, Training Futures uses a cohort training model to create a sense of community and shared purpose among enrollees. The program combines training in computer skills with a "business office environment" in which trainees are expected to dress for work, arrive on time, complete office assignments, and receive performance reviews. Training Futures also provides individualized counseling and job search assistance.

The results of the program speak for themselves. Since 1996, Training Futures has helped nearly 500 low-income Northern Virginians transform their lives. The program's 90-percent placement rate is one of the highest for a program of its kind. Its 2001 graduates increased their wages by more than 40 percent after participating in Training Futures.

Browning said that one secret to the success of Training Futures is the program's emphasis on what he calls "training plus." "This is about giving people an opportunity to succeed in a work-like setting and to address personal issues that aren't dealt with in skills training."

For more information, contact: **David Browning, Training Futures, 703/913-5478, or visit <http://www.nvfs.org/training-futures.htm>**

### Lessons from the Training Futures experience

#### Training is most successful when . . .

- An array of training providers with different models is available, including business-guided non-profits who can develop innovative programs at the smaller scales for the typically underserved.
- It prepares people with technology skills for jobs in future demand by employers.
- Training settings and expectations replicate and reinforce real work settings and expectations.
- It includes job-readiness and soft skills.
- It takes the whole person into account.
- It is about being competitive in the Next Economy, not just the next job.

### Use of Evaluation Methods

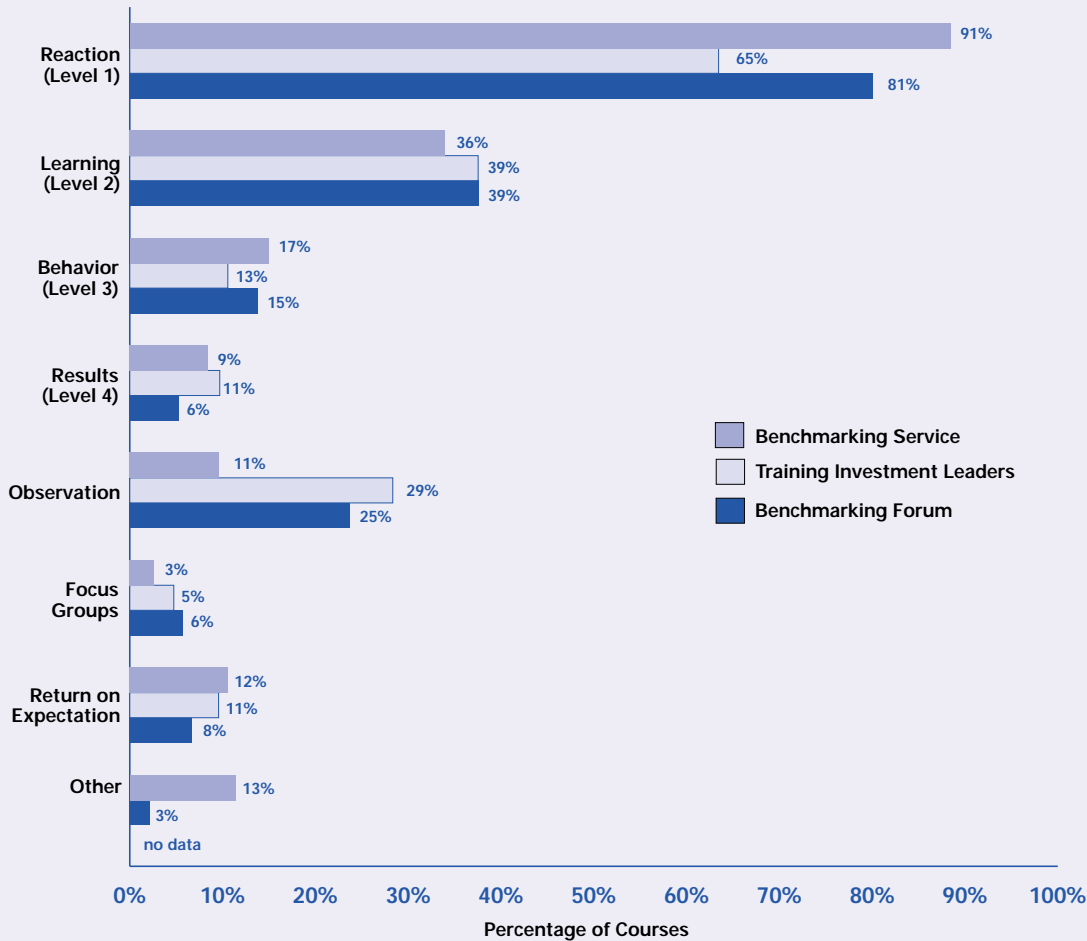
As part of its effort to assess how organizations respond to the training challenge, ASTD regularly asks Benchmarking Service and Benchmarking Forum participants to report on their evaluation methods (see Figure 8).

As was the case in several previous years, the degree of usage of evaluation methods within Benchmarking Service, Benchmarking Forum, and Training Investment Leader groups declines rapidly with increasing "Kirkpatrick levels" (see Figure 8). By far the most common evaluation option chosen, present in over 90 percent of Benchmarking Service companies, is "Reaction"/Level 1 (up from 78 percent of Benchmarking Service companies last year). "Learning"/Level 2 measures were used by just over a third of respondents in 2001, while "Behavior"/Level 3 methods were used by 17 percent. "Results"/Level 4 methods were used by under 10 percent of Benchmarking Service companies. Of the other techniques listed, use of observation methods of evaluation decreased from 22 percent in 2000 to 11 percent of Benchmarking Service companies in 2001, while use of "Return on Expectations" increased from 7 percent to 12 percent.

Evaluation method usage by Training Investment Leaders departed from trends in the general Benchmarking Service group. Last year, for example, Training Investment Leaders were more likely to use Level 1 measures than Benchmarking Service companies. In 2001, however, only 65 percent of Training Investment Leaders used Level 1 measures, compared to 85 percent in 2000. Meanwhile, 91 percent of Benchmarking Service companies used Level 1 measures in 2001. Training Investment Leaders therefore seem to be placing less emphasis on traditional "reaction" methods than do Benchmarking Service companies, and are now more likely than the latter group to be basing their evaluation efforts on Level 4 measures, observation, and focus groups.

As a result, the general picture of evaluation usage is mixed, from the point of view of workplace learning and performance. The good news is that if Level 1 can be considered the most basic form of evaluation, then a higher percentage of organizations is now practicing some form of evaluation than in years past. The share of organizations attempting the more sophisticated levels of evaluation is also higher than before. Yet, still barely one in ten organizations – and even only 11 percent of Training Investment Leaders – reported using results-based (Level 4) evaluation practices in 2001. Of course, it must be remembered that not all training programs are appropriate to measure at the highest level. It is often expensive and resource-intensive to perform this level of evaluation, and in some cases not much would be done with resulting data. ASTD's ROI experts suggest this is a level to be encouraged with training initiatives that are expensive, large, and visible. Future *State of the Industry Reports* will explore in greater depth the use of ROI/"Level 5" evaluation strategies.

Figure 8: Evaluation Methods



### ASTD ROI Network will HELP YOU SHOW RESULTS!

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For more information: contact Dawn Baron, ASTD's ROI Project Manager, at [dbaron@astd.org](mailto:dbaron@astd.org), or 703/693-8170, and visit [www.roi.astd.org](http://www.roi.astd.org) today!

### Work Practices

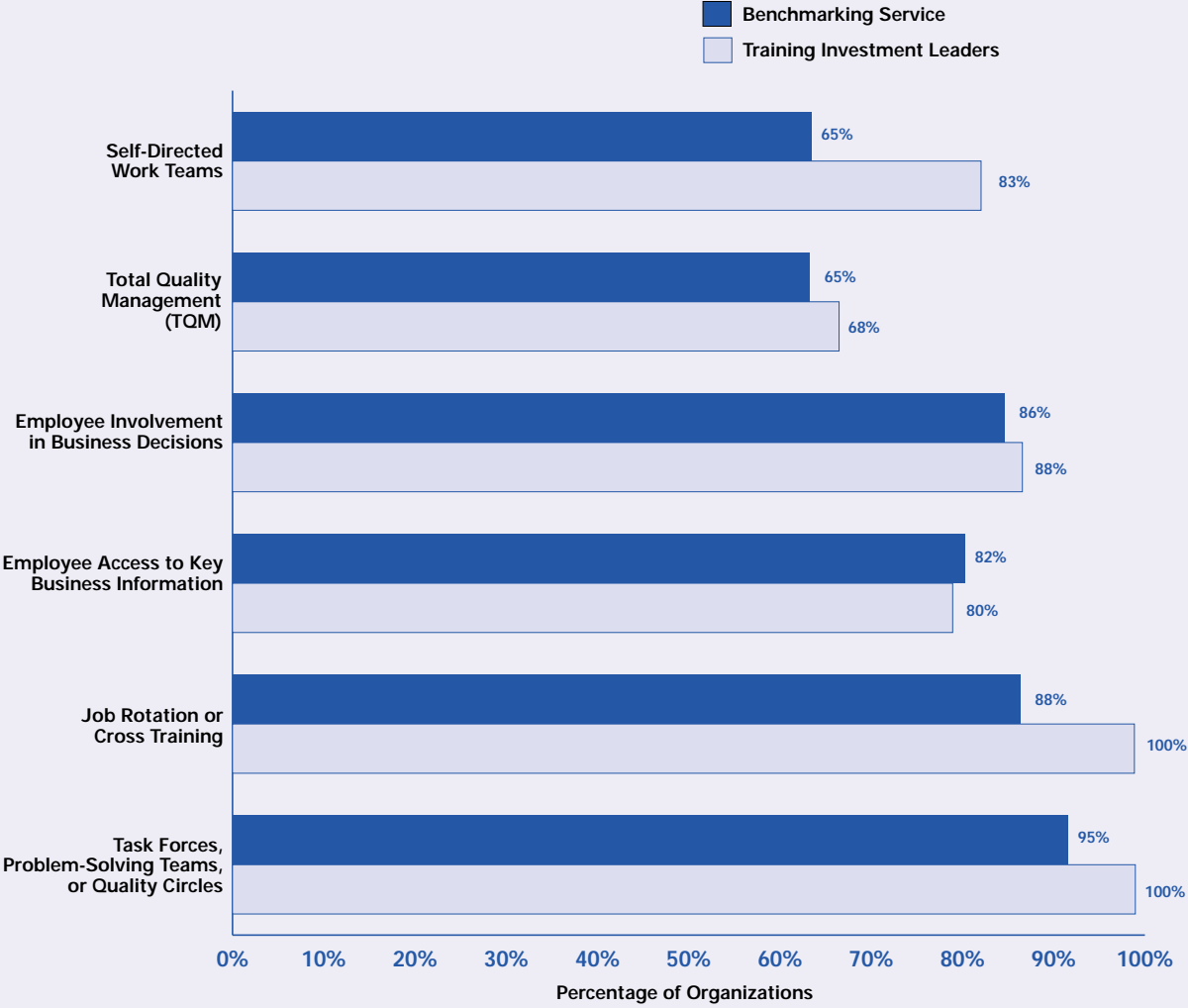
Every year, we find that companies report extensive use of a variety of work practices designed to boost employee and organizational performance. This year was no exception. In 2001, four of the six work practices listed in Figure 9 were used by 80 percent or more of both Benchmarking Service and Training Investment Leader respondents. The two work practices most widely used by participants in the Benchmarking Service in 2001 were creating task forces, problem-solving teams, or quality circles, and using job rotation or cross-training. This year, employee involvement in business decisions was the third most prevalent work practice, edging employee access to key business information from the third place it held in 2000 (see Figure 9). The least widely used of the six work practices in 2001 were self-directed work teams and total quality management, although these were still practiced in 65 percent of the Benchmarking Service organizations. Total quality management was the only work practice to witness a reduction in the percentage of Benchmarking Service companies using it (down from 70 percent in 2000 to 65 percent in 2001).

Generally, the pattern of work practice usage among Training Investment Leaders aligned closely with that of Benchmarking Service companies, except that all of the Training Investment Leaders responding to this question used task forces/problem-solving teams/quality circles and job rotation/cross-training, and a higher proportion of Training Investment Leaders made use of self-directed work teams than did Benchmarking Service companies (83 percent compared to 65 percent). Across Benchmarking Service companies, the use of self-directed work teams is up from 56 percent last year, indicating that even this sixth practice is becoming more widespread.

### Receive a Customized Training Analysis Free!

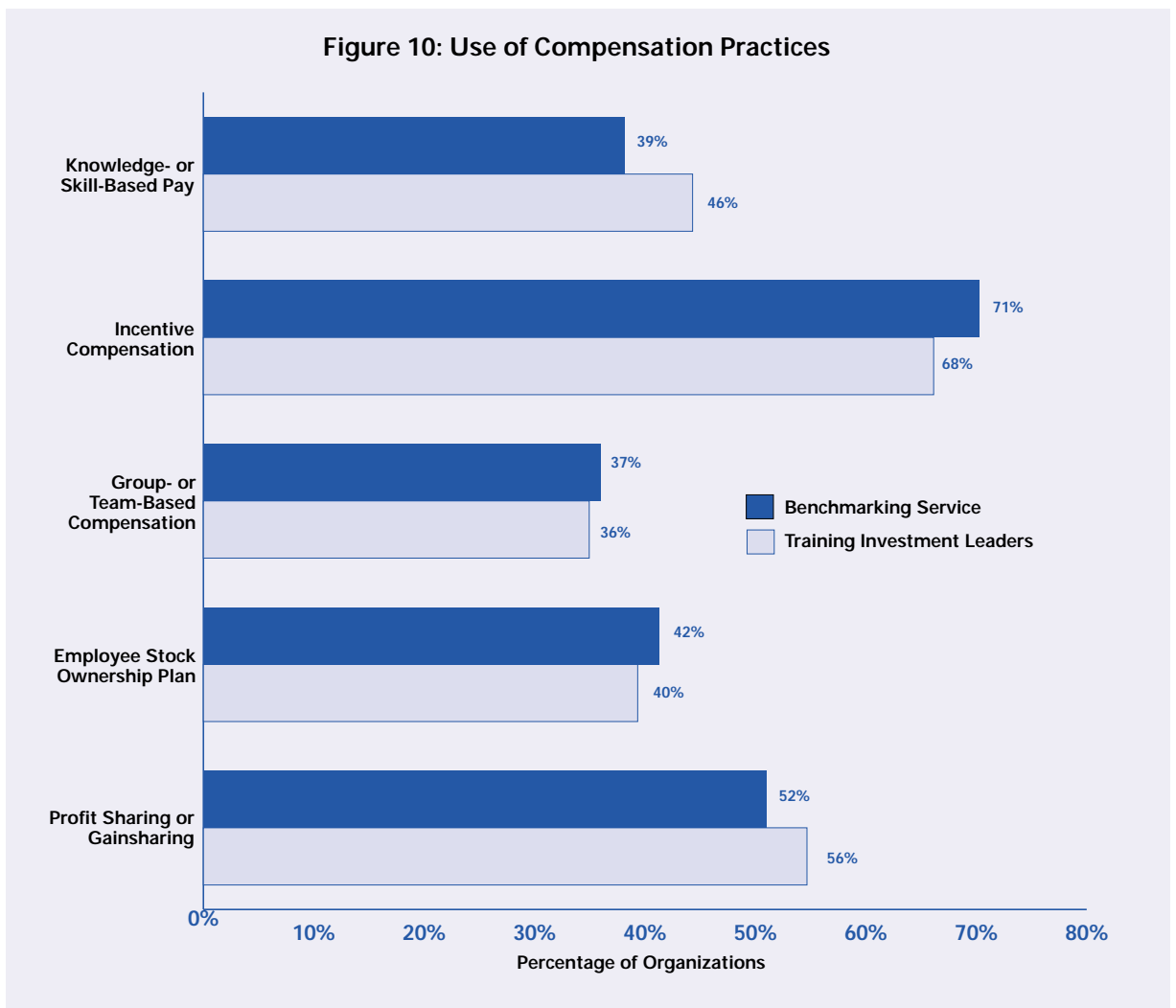
Be sure to join the more than 4,500 organizations that have already participated (free!) in ASTD's confidential Benchmarking Service. Participating organizations providing data to ASTD on their training investments, practices, and/or outcomes (using the ASTD *Measurement Kit*<sup>TM</sup>) rapidly receive a detailed customized benchmarking report that normally sells for \$300 or more. The report shows how their training efforts stack up against as many as three other comparison groups and, for selected statistics, the top 10 percent of all participating companies. This report can be received almost instantaneously via e-mail if data submission is completed electronically at [www.astd.org](http://www.astd.org). (Note: U.S.-based organizations are required to submit their data electronically. Organizations outside the United States are encouraged to submit electronically, but may submit data on paper.) All data at the individual organization level are kept strictly confidential. Call or e-mail today to receive additional information on how to participate. Telephone 703/838-5841; e-mail [benchservice@astd.org](mailto:benchservice@astd.org). Companies participating before May 31, 2003, will receive a complimentary copy of the next ASTD *State of the Industry Report*.

Figure 9: Use of Work Practices



### Compensation Practices

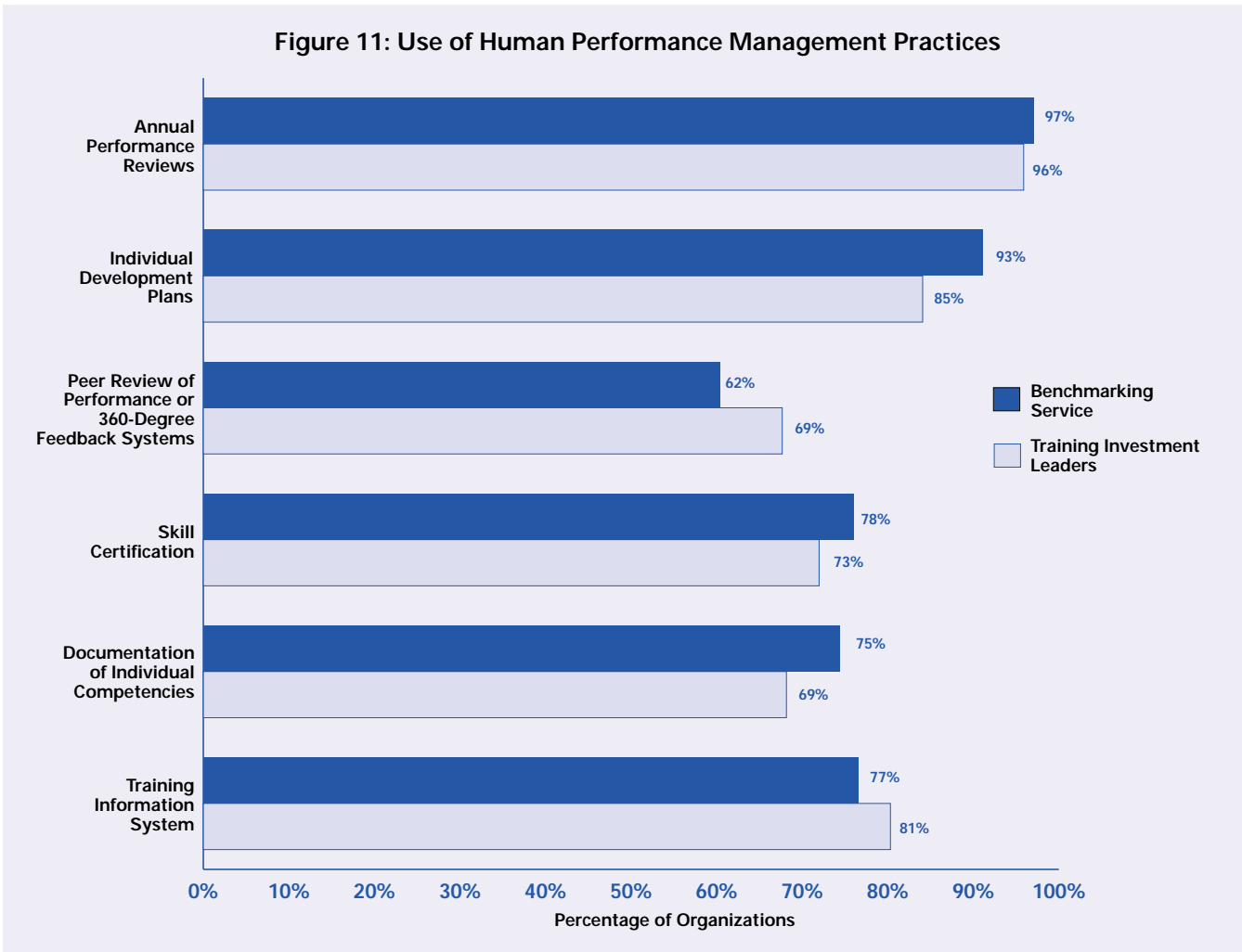
As was the case with work practices, data from the ASTD Benchmarking Service produced fairly similar year-to-year rankings of compensation practices (see Figure 10). Ranking first and second were incentive compensation and profit sharing or gainsharing. The least used practice among Benchmarking Service companies in 2001 was, as in 2000, group- or team-based compensation. In 2001, Benchmarking Service organizations were more likely than Training Investment Leaders to use every compensation practice except profit sharing/gainsharing and knowledge/skill-based pay.



## Human Performance Management Practices

In the same way that their use of work and compensation practices has held steady, the 2001 Benchmarking Service participants show little change in their use of different human performance management practices compared to previous years (see Figure 11). The most widely used practice in 2001 was annual performance reviews, which took place in 97 percent of Benchmarking Service companies, followed by individual development plans, occurring in 93 percent. Skill certification was the third most widely used practice, in 78 percent of companies, followed by training information systems, in 77 percent. This is the same ranking for these four practices as was found in 2000.

The biggest changes from 2000: among the Training Investment Leader group, individual development plans are used less widely (down from 100 percent of Training Investment Leaders in 2000 to 85 percent in 2001), as are skill certification (down from 85 percent to 73 percent) and documentation of individual competencies (down from 81 percent to 69 percent). Considering that the use of these three human performance management practices in Benchmarking Service companies is on the rise, the Training Investment Leader group may be signaling a slight move away from what the larger general Benchmarking Service group is adopting.



### Create Bottom-Line Results with Performance: Enroll in the ASTD “Human Performance Improvement” (HPI) Certificate Program

**Performance is a reality, not a fad.** In today’s business climate, change is constant and can be tumultuous. Organizations are going through rapid transformations and individuals cannot afford to stand still. ASTD provides the only five-course HPI certificate program, giving you the full toolkit for putting HPI concepts into practice and achieving results. Courses are presented in an engaging, interactive, hands-on style in several different cities each year within the US and in some overseas locations, and are led by veteran performance practitioners who in many cases are themselves originators in the field.

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- Recognition--enhance your reputation for providing results-oriented solutions.
- Credibility—use tested systematic approaches to sort through chaotic environments and shine the light on the road to higher performance by all levels of the organization.

For more information on ASTD’s HPI Certificate Program, go to [www.astd.org](http://www.astd.org), or contact Elizabeth Hannah, HPI Manager, at 703/683-8104, or [ehannah@astd.org](mailto:ehannah@astd.org).

## Linking Training to Your Bottom Line

Data in this *State of the Industry Report* show the measurable outcomes of earlier investment decisions. The biggest challenge for organizations lies not necessarily in making sure that training is occurring at a significantly high volume, but rather that the right skills – those with the greatest organizational impact – are being learned and strategically applied in service of organization-wide business goals.

How to make sure your training investments, levels, activities, and practices best further your organization's goals is a central theme of ASTD products and services. If you need to develop a compelling business case for training, create a framework for designing more powerful training interventions, track impacts, and educate trainers, managers, and executives about the potential impacts of training and the causal relationships involved — in short, link training to your bottom line – then ASTD shows you several ways how. The most direct way is to enroll in ASTD's Human Performance Improvement (HPI) certificate program and experience first-hand a range of approaches and tools. The Training Results Measurement (TRM) model, for example, can help your company bridge the gap between Level 3 (application) and Level 4 (business results). TRM does this through five analytic steps:

- organization mapping;
- performance measure analysis;
- causal chain analysis;
- training benefit/cost analysis; and
- training investment analysis.

By following these steps, you have a powerful needs assessment and business case development methodology for linking people, learning, and performance.

Source: *Link Training to Your Bottom Line*, an ASTD 'Info-Line' by Dean Spitzer and Malcolm Conway, January 2002/Issue 0201, available from [www.astd.org](http://www.astd.org)

## R2P's "Common Ground" for the Future:

In June 2001, ASTD's Research-to-Practice Committee (R2P) convened a cross-section of 64 key internal and external practitioners, researchers, CEOs, line employees, adult educators, HRM professionals, and students. Together, they worked through a structured "Future Search" process to explore the past, present, and future of training issues. Their examination of the possible futures of workplace learning and performance generated eleven "common ground" statements:

1. Create synergy between research and practice.
2. Leverage available technology without losing the human touch and social component of learning.
3. Strike a healthy balance between work and personal life.
4. Strive to create humane workplaces.
5. Recognize intellectual capital as the life blood of the organization -- the true "bottom line".
6. Develop a sense of social responsibility.
7. Embrace globalization and multiculturalism.
8. Recognize the fundamentally changing role for K-16 schooling.
9. Effectively manage knowledge and learning.
10. Develop partnerships and collaborations internal and external to the organization.
11. Foster lifelong learning.

For more info, visit: [http://www.astd.org/virtual\\_community/futuresearch/eleven.htm](http://www.astd.org/virtual_community/futuresearch/eleven.htm)

### Into the Future

We began this report by suggesting we have witnessed a "hinge period" where we are shifting from the New Economy where steady growth and prosperity was the norm, to the Next Economy, characterized by uncertainty and a shortage of resources. We speculated this shift might have implications for the workplace learning and performance community, and that any responses might start to show in our data on 2001 training investments and practices in Benchmarking Service organizations. Would we find a story about the beginnings of a catastrophic decline in training investment as companies scrambled to cut expenditures? Would training get de-emphasized in organizational priorities once major strategic changes took place, and once layoffs and higher unemployment presented employers with a new array of options?

Fortunately, neither of these storylines are apparent in our results. Workplace learning is holding its own and moving forward. What we have found is that total training expenditures dropped from 2.0 percent of payroll in 2000 to 1.9 percent of payroll in 2001, which is indeed a reversal of the previous trend. Yet it is still within the range of variation exhibited over the previous four years. The absolute amount of money spent on training still rose, and training expenditures per eligible employee rose 8 percent, to \$761, in 2001. The share of eligible employees receiving training (78 percent) and their average hours of training (23.7) were both very close to last year's numbers. Meanwhile, the percentage of training delivered via learning technologies (which has held steady between 8.5 and 9.1 percent over the last few years) in 2001 increased to 10.5 percent. The share of total training expenditures that went to learning technologies increased from 3.7 to 4.6 percent, while the percentage of training time delivered via the classroom declined from 79.1 percent in 2000 to 77.1 percent in 2001.

The story we have found, therefore, at least from the data provided by these organizations, is that training is very much holding its own during the turbulence, and that technology is finding its niche as the organization's solution to the puzzle of how to do the more that is required, with the less that is available, in the Next Economy. Given that finding, it is clear that the link between learning and performance becomes even more important. By strengthening this link, the workplace learning and performance community can go a long way towards justifying increased learning expenditures. The link then needs to be put into operational practice to drive real performance outcomes, and it needs to be measured and evaluated to provide further justification and continuous improvement opportunities for the next round.

Of course, critics may assert that the organizations in our database are, by definition, a self-selected sample of those continuing in business, and who are training-oriented enough to begin with that they want to benchmark themselves against others in their industry. It is easy for them to show increases; in the shift to the Next Economy, they are the survivors. But isn't that what all organizations want to be? It is easy to cut expenditures and race to the bottom, but these organizations have shown it is a much sounder strategy to learn to perform your way to the top. The questions for the reader are: Will you and your organization also develop training that will improve your performance and be aligned with an overall business goal of staying competitive in the Next Economy? Will you become a learning-for-performance organization at all levels – individual, group, process, business unit, and enterprise-wide? Or, will you be looking in the other direction when the Next Economy impacts you without warning?

## Endnotes

- <sup>1</sup> U.S. General Accounting Office, *Impact of Terrorist Attacks on the World Trade Center*, and *Review of the Studies of the Economic Impact of the September 11, 2001, Terrorist Attacks on the World Trade Center*, Report GAO-02-700R, May 29, 2002.
- <sup>2</sup> U.S. Dept. of Commerce, Office of Technology Policy, *Update: America's New Deficit*, Washington DC, January 1998; <http://www.ta.doc.gov/PReI/ANDII.PDF>
- <sup>3</sup> Congressional Budget Office's *Monthly Budget Review* and *Historical Budget Data*.
- <sup>4</sup> *State Strategies for the New Economy*, National Governors' Association, Center for Best Practices, Washington DC, 2000.
- <sup>5</sup> U.S. General Accounting Office, *Impact of Terrorist Attacks on the World Trade Center*, Report GAO-02-700R, May 29, 2002, p 2.
- <sup>6</sup> New York State Senate Finance Committee, *Financial Impact of the World Trade Center Attack*, prepared by DRI-WEFA, January 2002.
- <sup>7</sup> Joint Economic Committee, *Background Material on the Potential Economic Impacts of the Terrorist Attacks*, Prepared by the Democratic Staff for the use of the Vice-Chairman and Democratic Members, October 5, 2001.
- <sup>8</sup> Congressional Budget Office's *Monthly Budget Review* and *Historical Budget Data*.
- <sup>9</sup> US Bureau of Labor Statistics, <http://www.bls.gov/news.release/pdf/empsit.pdf>, using *Current Population Survey*, and *Current Employment Statistics Survey*.
- <sup>10</sup> New York State Assembly Ways and Means Committee, *New York State Economic Report*, March 2002.
- <sup>11</sup> Fiscal Policy Institute, *World Trade Center Job Impacts Take a Heavy Toll on Low Wage Workers*, Nov 5, 2001.
- <sup>12</sup> "Fear and Slowdown in the Valley", Shiels M., *BBC News Online*, November 23, 2001.
- <sup>13</sup> Joint Economic Committee, *Background Material on the Potential Economic Impacts of the Terrorist Attacks*, Prepared by the Democratic Staff for the use of the Vice-Chairman and Democratic Members, October 5, 2001.
- <sup>14</sup> See [http://www.astd.org/virtual\\_community/research/measure/mkit2002pdf/MKit2002P1.pdf](http://www.astd.org/virtual_community/research/measure/mkit2002pdf/MKit2002P1.pdf) for a full list of questions and categories of possible response. The "projections" questions are 15, 16, 22a through d, and 23.
- <sup>15</sup> In November 2001, preliminary data were gathered from a sample of approximately 50 companies that participated in the 2001 Benchmarking Service. At the time of the survey, these companies were asked to estimate their 2001 year-end numbers. Statistical tests show that this subset of Benchmarking Service companies did not differ in any significant way from the other participating companies, allowing us to be confident that they represent what the whole set of companies may have done in 2001. Because of the small size of the sample, however, we do not present their statistics in the report. Instead, we use their information to gauge the direction of the trends in the statistics in 2001.

# Glossary

## Course Types

**basic skills.** Development or remedial training fundamental to the workplace; courses such as literacy, reading comprehension, writing, math, English as a second language, and learning how to learn.

**customer relations.** Training on how to improve customer relations and provide customer service. Includes client-relations training for customer service/telephone/call center operators.

**executive development.** Training to develop the leadership skills and vision of current and potential senior executives. Such programs focus on responsibilities and challenges for leading corporate wide initiatives or major business units. Includes strategic planning, policy, and goal setting.

**information technology skills.** Training in the use of the company's information technology and systems, including off-the-shelf and company-specific software such as word processing, spreadsheets, databases, graphics, and communications. Also includes training for information technology professionals on the programming, support, maintenance, and administration of internal systems.

**interpersonal communication.** Training in communication and cooperation among individuals and groups, including conflict resolution, stress management, diversity training, teamwork, and group dynamics.

**managerial/supervisory skills.** Training to improve the ability and effectiveness of employees to lead, manage, and supervise projects and teams or groups. Topics include human resource management, project management, process management, and planning and budgeting.

**new employee orientation.** Training to provide new employees with uniform introductory information about the company, its organization, mission, functions and policies, compensation, benefits, services, work requirements, standards, rules, safe work habits, and desirable employee-management relations.

**occupational safety/compliance.** Training provided to meet Environmental Health & Safety requirements, Equal Employment Opportunity and Affirmative Action requirements, right-to-know, and government-mandated training.

**product knowledge.** Training about the products and services of the company.

**professional skills.** Training in a specialized body of knowledge or expertise such as accounting, banking, chemistry, consulting, electronics, engineering, financial services, legal, manufacturing systems, materials science, mechanics, medical, optics, and physics. Such training is discipline or industry specific.

**quality, competition, and business practices.** Training in Total Quality Management, business process re-engineering, change management, benchmarking, resource planning, business ethics, business fundamentals, and time management courses.

**sales and dealer.** Training provided to the sales force, franchises, and dealers to develop the attitudes, skills, and habits needed to demonstrate the effectiveness of their products and services and to influence the purchasing decisions of prospects and customers.

**technical processes and procedures.** Training that focuses on the company's processes and procedures to create and maintain its products and deliver its services. Includes training provided to employees who operate, maintain, and use machinery, except information technology.

## Employee Categories

**all employees.** The sum of all employees (full-time and part-time) at a given organization, regardless of training eligibility.

**eligible employees.** Those employees (full-time and part-time) who are considered eligible to receive training by their employer. It is not necessary that they actually receive training—only that they are eligible to receive it.

## Industry Sectors

**Agriculture/Mining/Construction (AMC).** Organizations such as agriculture producers; mining, oil exploration, and extraction companies; construction companies; fisheries; and forestry.

**Finance/Insurance/Real Estate (FIRE).** Organizations such as banks and other credit institutions, insurance companies, securities brokers, and real estate companies.

**Government.** Federal, state, and local government organizations or agencies (except public education).

**Health Care.** Organizations such as hospitals, clinics, doctors' offices, and home care companies.

**Manufacturing (Durables).** Manufacturers of durable goods such as wood products, stone and glass products, fabricated metal products, machines and electrical equipment, and transportation equipment.

**Manufacturing (Nondurables).** Manufacturers of nondurable goods such as food and beverages, apparel, textiles, plastics and chemicals, paper and pulp, rubber, petroleum products, and leather. Also includes printers, publishers, and refineries.

**Services.** Organizations such as hotels; business and personal services; automotive repair companies; professional services; educational institutions (public and private); legal, social, and other consumer services.

**Technology.** Organizations such as computer, electronics, and communications equipment manufacturers; software designers; telecommunications services; information technology services and consulting firms; and manufacturers of medical equipment and other precision instruments.

**Trade.** Organizations such as retail and food stores; home furnishings and equipment stores; general merchandise stores; food and beverage facilities; apparel and accessory stores; building materials, hardware, garden supply, and mobile home dealers; and wholesale trade or distributors.

**Transportation and Public Utilities (TPU).** Organizations such as power, water, and gas utilities; trucking and warehousing companies; airlines and railroads; water transportation companies; and parcel services.

(For a list of individual industries in these sectors, see Appendix A of the Benchmarking Service online *Measurement Kit* at [http://www.astd.org/virtual\\_community/research/measure/mkit2002pdf/MIkit2002P1.pdf](http://www.astd.org/virtual_community/research/measure/mkit2002pdf/MIkit2002P1.pdf))

### Learning Technologies

**cable TV.** The transmission of television signals via cable technology.

**CBT (text only).** Computer-based training. Any learning event that is text-based and computer-delivered.

**CD-ROM.** A format and system for recording, storing, and retrieving electronic information on a compact disc that is read using an optical drive.

**electronic mail (email).** The exchange of messages through computers.

**electronic performance support system (EPSS).** An integrated computer application that uses any combination of expert systems, hypertext, embedded animation, and hypermedia to help a user perform a task in real time quickly and with a minimum of support by other people.

**extranet.** A collaborative network that uses Internet technology to link organizations with their suppliers, customers, or other organizations that share common goals or information.

**groupware.** An integrated computer application that supports collaborative group efforts through the sharing of calendars for project management and scheduling, collective document preparation, email handling, shared database access, electronic meetings, and other activities.

**interactive TV.** One-way video combined with two-way audio or other electronic response system.

**Internet.** A loose confederation of computer networks around the world connected through several primary networks.

**intranet.** A general term describing any network contained within an organization; used to refer primarily to networks that use Internet technology.

**learning technologies.** General term for electronic technologies that deliver information and facilitate the development of skills and knowledge.

**local area network (LAN).** A network of computers sharing the resources of a single processor or server within a relatively small geographic area.

**multimedia.** A computer application that uses any combination of text, graphics, audio, animation, and full-motion video.

**satellite TV.** The transmission of television signals via satellite.

**simulator.** A device or system that replicates or imitates a real device or system.

**teleconferencing.** The instantaneous exchange of audio, video, or text between two or more individuals or groups at two or more locations.

**virtual reality.** A computer application that provides an interactive, immersive, and three-dimensional learning experience through fully functional realistic models.

**voicemail.** An automated electronic telephone answering system.

**wide area network (WAN).** A network of computers sharing the resources of one or more processors or servers over a relatively large geographic area.

**World Wide Web.** All of the resources and users on the Internet using Hypertext Transport Protocol (HTTP), a set of rules for exchanging files.

## Human Performance Practices

**annual performance review.** A systematic, periodic review and analysis of an employee's job performance by a superior to compare that performance to a set of predetermined standards, identify strengths and weaknesses, and develop a plan to improve the employee's performance.

**apprenticeship training.** A formal process by which individuals learn their jobs through a combination of classroom instruction and on-the-job training from a skilled expert in that job.

**documentation of individual competencies.** A formal record of the knowledge, skills, and abilities of an organization's employees in key predefined areas.

**employee access to key business information.** An organizational policy in which all employees are given access to certain financial and market information about the competitive position of the firm.

**employee involvement with management in business decisions.** An organizational policy in which nonmanagement employees have a say in decisions, including equipment purchases, market strategy, and management initiatives, that affect the firm.

**employee stock ownership plan (ESOP).** A plan under which the company credits shares of company stock to participating employees. The amount may be available immediately or at retirement.

**employer-supported conference attendance.** Paid time off or payment of employee travel, hotel, fees, and other expenses for employees attending an off-site conference or training class.

**group- or team-based compensation.** An alternative pay system in which employees receive all or a portion of compensation depending on the performance of their particular team or work unit.

**incentive compensation.** An alternative pay system in which employees receive all or a portion of compensation depending on their own performance. Examples of incentive compensation systems include piece-rates, sales commissions, and pay-for-performance.

**individual development plan.** A specific course of action designed jointly by an employee and a supervisor to outline the employee's career development objectives and associated training needs.

**job rotation or cross training.** A program in which employees are trained to do multiple jobs, or in which employees rotate among different jobs.

**knowledge- or skill-based pay.** An alternative pay system in which compensation is linked to the mastery of certain skills or work-related information, rather than employee position or length of tenure.

**line-on-loan or rotational training staff.** A formal process in which non-training personnel are assigned training duties such as instruction or course design on a temporary basis.

**mandatory annual training time.** An organizational policy stating a minimum requirement for the amount of training that certain employees must receive in a given year.

**mentoring or coaching program.** A formal process in which more-experienced workers are matched with less-experienced workers to provide assistance and instruction on an as-needed basis.

**peer review of performance (or 360-degree feedback system).** A performance appraisal system in which an employee's work performance is evaluated (at least in part) by co-workers.

**profit-sharing or gainsharing.** Plans under which the company credits shares of company profits or growth to participating employees. The amount may be available immediately or at retirement.

**self-directed work team.** A group of employees with complete responsibility for the quality and quantity of their outputs. A self-directed work team may have responsibility for work schedules, performance appraisals, personnel management, budgeting, or setting performance targets and production quotas.

**skill certification.** A formal process used to ascertain and distinguish the mastery for a set of skills according to predefined standards. May be linked either to a particular occupation or trade, or a particular job or process.

**task force, problem-solving team, or quality circle.** A group of employees who meet regularly to come up with solutions to problems concerning people and productivity.

**Total Quality Management (TQM).** An integrated approach to organizational improvement and increasing production and service quality whose core ideas include doing things right the first time, striving for continuous improvement, and a devotion to understanding and meeting customer needs.

**train-the-trainer course.** A course that teaches nontraditional training staff members such as managers, subject matter experts, team leaders, and others training skills such as instructional design and group facilitation to enable them to deliver formal training to other employees.

**training information system.** A computer-based system for assessing, tracking, and improving employee performance. The system may include employee training history reports, training course scheduling and registration, individual development plans, and training expenditure tracking.

**training resource center.** A designated area within an establishment where training personnel, materials, and information are located.

**tuition reimbursement.** Partial or full payment for courses that employees take at educational institutions (can be paid to the institutions or reimbursed to employees).

**Table 6: Company Demographics**

|   | Average Number of Employees/Number of Eligible Employees | Average Payroll (\$ millions) | Percent Profit-Making |
|---|--|-------------------------------|-----------------------|
| <b>Benchmarking Service</b>             |  |                               |                       |
| 2001                                    | 4,961/4,598  | 222                           | 57.8                  |
| 2000                                    | 3,859 / 3,455  | 161                           | 58.6                  |
| 1999                                    | 2,672 / 2,549  | 98                            | 62.5                  |
| 1998                                    | 3,418  | 126                           | 66.7                  |
| 1997                                    | 5,147  | 140                           | 78.0                  |
| 1996                                    | 3,281  | 109                           | 73.4                  |
| 2001 (Median)                           | 1,050  | 39                            | NA                    |
| 2000 (Median)                           | 849  | 21                            | NA                    |
| 1999 (Median)                           | 800  | 28                            | NA                    |
| 1998 (Median)                           | 717  | 24                            | NA                    |
| <b>Training Investment Leaders</b>      |  |                               |                       |
| 2001                                    | 8,072/7,981  | 370                           | 51.9                  |
| 2000                                    | 18,383 / 17,501  | 1,129                         | 66.7                  |
| 1999                                    | 16,028 / 15,999  | 962                           | 62.2                  |
| 1998                                    | 9,313  | 315                           | 74.1                  |
| 2001 (Median)                           | 490  | 23                            | NA                    |
| 2000 (Median)                           | 2,000  | 100                           | NA                    |
| 1999 (Median)                           | 1,700  | 95                            | NA                    |
| 1998 (Median)                           | 751  | 29                            | NA                    |
| <b>Benchmarking Forum</b>               |  |                               |                       |
| 2001                                    | 77,732/77,338  | 4,209                         | 48.8                  |
| 2000                                    | 80,168 / 77,338  | 2,605                         | 81.0                  |
| 1999                                    | 55,019 / 54,748  | 2,827                         | 69.0                  |
| 1998                                    | 44,817   | 2,048                         | 75.5                  |
| 1997                                    | 26,790   | 1,400                         | NA                    |
| 2001 (Median)                           | 29,349   | 2,005                         | NA                    |
| 2000 (Median)                           | 29,756   | 1,400                         | NA                    |
| 1999 (Median)                           | 16,116   | 823                           | NA                    |
| 1998 (Median)                           | 20,937   | 946                           | NA                    |
| <b>Benchmarking Service By Size</b>     |  |                               |                       |
| 1-499 employees                         | 211  | 11                            | 60.8                  |
| 500-1999 employees                      | 1,900  | 42                            | 53.3                  |
| 2000 or more employees                  | 13,060   | 582                           | 61.1                  |
| <b>Benchmarking Service By Industry</b> |  |                               |                       |
| AMC                                     | NA   | NA                            | NA                    |
| Technology                              | 7,961  | 418                           | 85.7                  |
| Nondurables                             | 4,437  | 221                           | 93.3                  |
| Durables                                | 1,768  | 90                            | 83.3                  |
| TPU                                     | 9,728  | 801                           | 66.7                  |
| Trade                                   | 4,679  | 108                           | 92.9                  |
| FIRE                                    | 4,065  | 160                           | 61.9                  |
| Services                                | 2,755  | 100                           | 40.4                  |
| Health Care                             | 1,633  | 52                            | 18.2                  |
| Government                              | 8,509  | 321                           | NA                    |

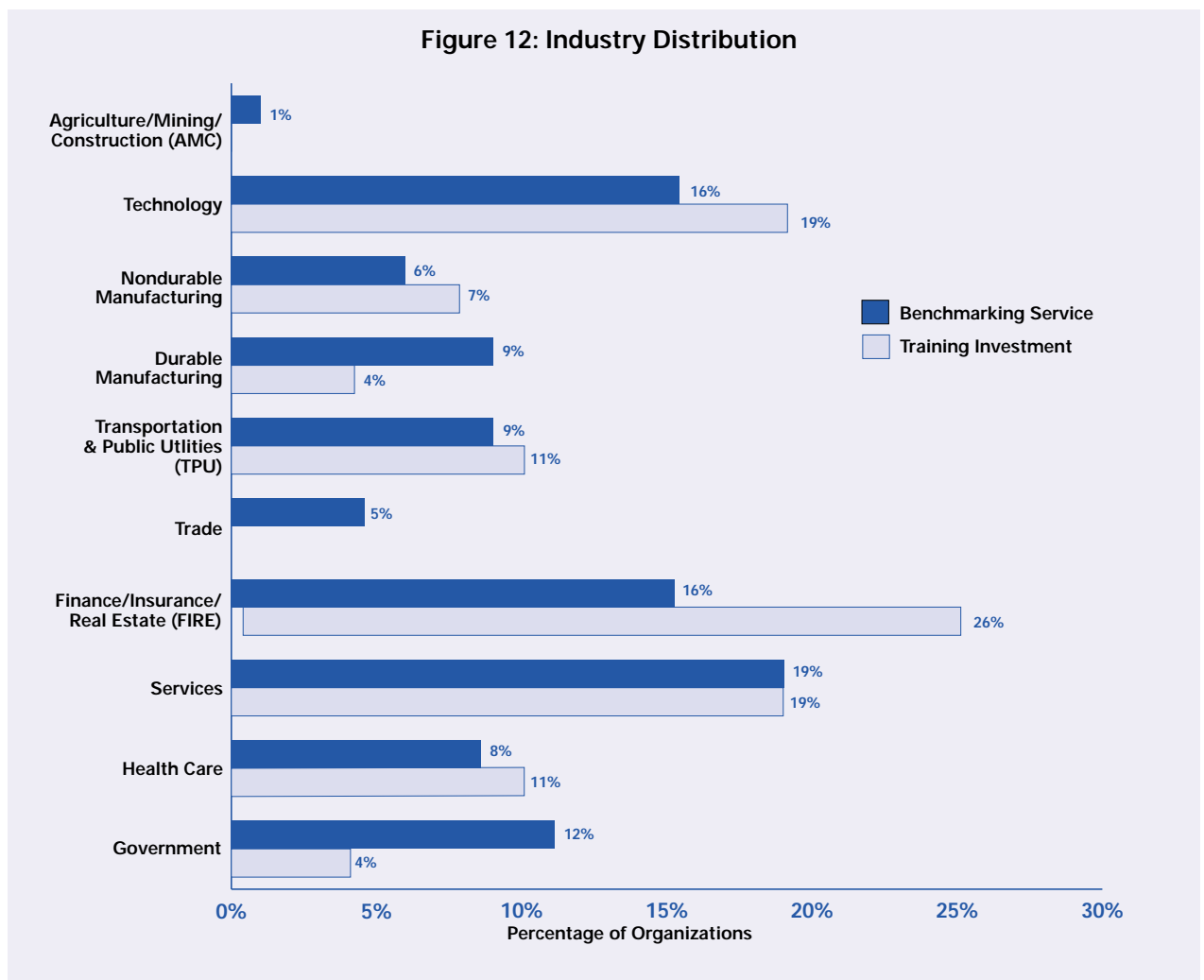
## Appendix

### Company Demographics

**The Benchmarking Service.** The Benchmarking Service companies provide the most general picture of training. In 2002, 270 U.S. organizations were eligible for inclusion in this report and provided sufficient data to be included in the analysis.

The average Benchmarking Service participant employed 4,968 people in 2001, of whom 4,598 (or 90 percent) were eligible for training (see Table 6). The average payroll of Benchmarking Service participants increased between 2000 and 2001, from \$161 million to \$222 million.

As seen in Figure 12, the largest industry sector among the Benchmarking Service participants was the service sector (18 percent of participants), followed by technology and finance, insurance, and real estate (16 percent each). This industrial distribution is very similar to last year's.

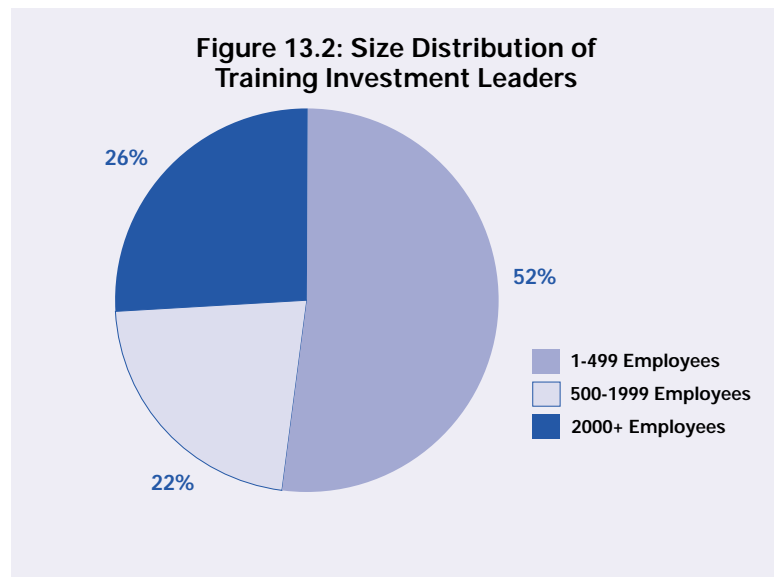
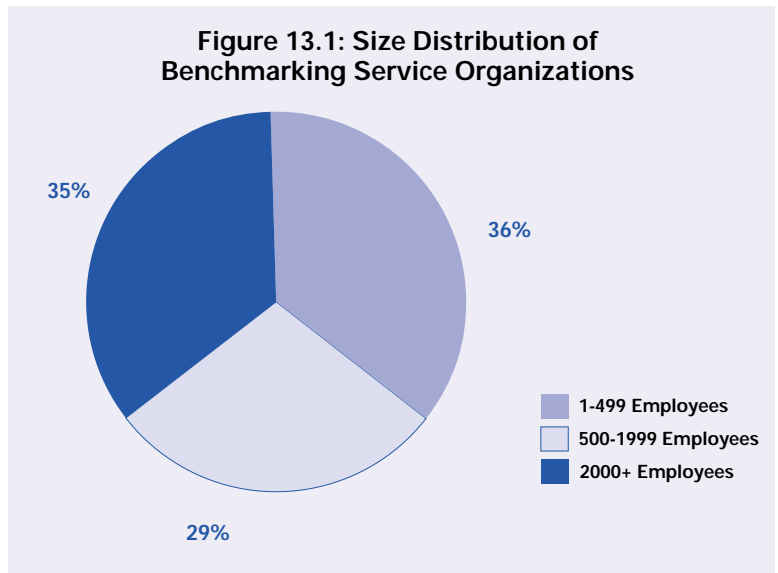


**The Benchmarking Forum.** Benchmarking Forum companies most closely resemble large Fortune 500 companies, and many have operations and sales around the world. Forty-three organizations or subunits reporting data to the ASTD Benchmarking Forum on their 2001 training investments and practices were included in this report. As shown in Table 6, the average Benchmarking Forum participant employed almost 78,000 people in 2001 and had an annual payroll of more than \$4.2 billion, making these organizations significantly larger on average than Benchmarking Service organizations. Among 2001 Benchmarking Forum participants, just under half were for-profit companies.

**Training Investment Leaders.** Training Investment Leaders are a mix of Benchmarking Service and Benchmarking Forum organizations. The 27 firms identified as Training Investment Leaders for 2001 employed 8,000 employees on average and had an annual payroll of \$370 million. The average Training Investment Leader in 2001 was much smaller than its counterpart from a year earlier, when the average member of this group employed over 18,000 employees.

In addition to showing a high level of commitment to training, the Training Investment Leaders differ from the larger sample of Benchmarking Service participants in two important ways:

- A higher proportion is in: finance, insurance, and real estate; technology; durable manufacturing; and government.
- There was a smaller percentage of large companies and a larger percentage of small companies among the Training Investment Leaders compared to the Benchmarking Forum (see Figures 13.1 and 13.2).



**Table 7: Industry Distribution (Percent)**

|                                     | Agriculture,<br>Mining,<br>Construction<br>(AMC) | Technology | Nondurables | Durables | Transporta-<br>tion,<br>Public<br>Utilities<br>(TPU) | Trade | Finance,<br>Insurance,<br>Real Estate<br>(FIRE) | Services | Health<br>Care | Government |
|-------------------------------------|--|------------|-------------|----------|--|-------|---|----------|----------------|------------|
| <b>Benchmarking Service</b>         |  |            |             |          |  |       |   |          |                |            |
| 2001                                | 0.8  | 16.0       | 5.7         | 9.1      | 6.8  | 5.3   | 16.0  | 19.8     | 8.4            | 12.2       |
| 2000                                | 1.1  | 17.3       | 6.0         | 10.4     | 6.8  | 4.1   | 16.4  | 17.8     | 10.1           | 9.9        |
| 1999                                | 1.6  | 17.0       | 7.7         | 11.5     | 6.0  | 4.4   | 16.2  | 18.9     | 9.3            | 8.2        |
| 1998                                | 1.0  | 14.9       | 8.9         | 11.7     | 8.0  | 7.2   | 17.9  | 14.1     | 7.0            | 9.3        |
| 1997                                | 2.0  | 15.0       | 9.0         | 10.0     | 8.0  | 5.0   | 14.0  | 18.0     | 10.0           | 7.0        |
| <b>Training Investment Leaders</b>  |  |            |             |          |  |       |   |          |                |            |
| 2001                                | 0.0  | 18.5       | 7.4         | 3.7      | 7.4  | 0.0   | 25.9  | 18.5     | 11.1           | 3.7        |
| 2000                                | 0.0  | 20.5       | 2.6         | 7.7      | 25.6   | 2.6   | 10.3  | 23.1     | 2.6            | 5.1        |
| 1999                                | 2.7  | 27.0       | 8.1         | 5.5      | 18.9   | 0.0   | 8.1   | 16.2     | 2.7            | 10.8       |
| 1998                                | 1.8  | 20.0       | 18.2        | 9.1      | 12.7   | 5.5   | 12.7  | 10.9     | 1.8            | 7.3        |
| <b>Benchmarking Forum</b>           |  |            |             |          |  |       |   |          |                |            |
| 2001                                | 0.0  | 41.2       | 11.8        | 5.9      | 5.9  | 5.9   | 14.7  | 2.9      | 0.0            | 0.0        |
| 2000                                | 0.0  | 31.8       | 4.5         | 15.9     | 11.4   | 4.5   | 11.4  | 9.1      | 2.3            | 9.1        |
| 1999                                | 0.0  | 33.3       | 9.5         | 14.3     | 16.7   | 0.0   | 14.3  | 9.5      | 0.0            | 2.3        |
| 1998                                | 2.2  | 19.6       | 17.5        | 15.2     | 6.5  | 2.2   | 19.6  | 8.7      | 0.0            | 8.7        |
| <b>Benchmarking Service By Size</b> |  |            |             |          |  |       |   |          |                |            |
| 1-499 employees                     | 1.4  | 17.4       | 4.3         | 10.1     | 2.9  | 4.3   | 21.7  | 24.4     | 5.8            | 7.2        |
| 500-1999 employees                  | 0.0  | 11.7       | 8.3         | 15.0     | 8.3  | 5.0   | 13.3  | 18.3     | 11.7           | 8.3        |
| 2000+ employees                     | 1.4  | 12.7       | 5.6         | 4.2      | 9.9  | 9.9   | 16.9  | 14.1     | 8.5            | 16.9       |

**Table 8: Size Distribution (Percent)**

|   | 1-499<br>Employees | 500-1999<br>Employees | 2000+<br>Employees |
|---|--------------------|-----------------------|--------------------|
| <b>Benchmarking Service</b>             |                    |                       |                    |
| 2001                                    | 35.9               | 29.1                  | 35.0               |
| 2000                                    | 39.4               | 30.9                  | 29.7               |
| 1999                                    | 36.0               | 36.0                  | 28.0               |
| 1998                                    | 39.2               | 34.5                  | 26.3               |
| 1997                                    | 39.0               | 31.7                  | 29.3               |
| 1996                                    | 32.8               | 33.0                  | 34.2               |
| <b>Training Investment Leaders</b>      |                    |                       |                    |
| 2001                                    | 51.8               | 22.2                  | 26.0               |
| 2000                                    | 30.8               | 17.9                  | 51.3               |
| 1999                                    | 40.5               | 10.8                  | 48.6               |
| 1998                                    | 36.4               | 29.1                  | 34.5               |
| <b>Benchmarking Forum</b>               |                    |                       |                    |
| 2001                                    | 0.0                | 2.9                   | 97.1               |
| 2000                                    | 6.8                | 2.3                   | 90.9               |
| 1999                                    | 2.3                | 2.3                   | 95.2               |
| 1998                                    | 2.0                | 10.0                  | 88.0               |
| <b>Benchmarking Service By Industry</b> |                    |                       |                    |
| AMC                                     | 50.0               | 0.0                   | 50.0               |
| Technology                              | 42.9               | 25.0                  | 32.1               |
| Nondurables                             | 25.0               | 41.7                  | 33.3               |
| Durables                                | 36.8               | 47.7                  | 15.8               |
| TPU                                     | 14.3               | 35.7                  | 50.0               |
| Trade                                   | 23.1               | 23.1                  | 53.8               |
| FIRE                                    | 42.9               | 22.9                  | 34.3               |
| Services                                | 44.7               | 28.9                  | 26.3               |
| Health Care                             | 23.5               | 41.2                  | 35.3               |
| Government                              | 22.7               | 22.7                  | 54.5               |

**Table 9: Key Ratios for All Employees**

|   | Total Training Expenditures per Employee (\$) | Total Training Expenditures as Percentage of Payroll | Percentage of Employees Trained | Employee-to-Trainer ratio | Percentage of Training Time via Classroom | Percentage of Training Time via Learning Technologies | Payments to Outside Companies as Percentage of Expenditures |
|---|---|--|---------------------------------|---------------------------|---|---|---|
| <b>Benchmarking Service</b>             |   |  |                                 |                           |   |   |   |
| 2001                                    | 734   | 1.9  | 75.8                            | 383                       | 77.1                                      | 10.5  | 20.9  |
| 2000                                    | 649   | 2.0  | 73.4                            | 418                       | 79.4                                      | 8.8   | 22.2  |
| 1999                                    | 645   | 1.8  | 76.6                            | 452                       | 79.9                                      | 8.4   | 19.9  |
| 1998                                    | 725   | 2.0  | NA                              | 347                       | 78.4                                      | 8.5   | 24.4  |
| 1997                                    | 649   | 1.8  | 74.3                            | 394                       | 77.6                                      | 9.1   | 27.1  |
| 1996                                    | 499   | 1.5  | 68.7                            | 492                       | 83.8                                      | 5.8   | 27.3  |
| 2001 (Median)                           | 580   | 1.4  | 88.0                            | 200                       | 85.0                                      | 5.0   | 12.8  |
| 2000 (Median)                           | 422   | 1.3  | 85.0                            | 225                       | 87.0                                      | 5.0   | 13.0  |
| 1999 (Median)                           | 448   | 1.3  | 85.0                            | 213                       | 90.0                                      | 5.0   | 15.8  |
| 1998 (Median)                           | 483   | 1.4  | NA                              | 220                       | 85.0                                      | 5.0   | 15.8  |
| <b>Training Investment Leaders</b>      |   |  |                                 |                           |   |   |   |
| 2001                                    | 1647  | 3.6  | 54.5                            | 83                        | 61.7                                      | 32.2  | 21.5  |
| 2000                                    | 1550  | 3.2  | 95.7                            | 186                       | 71.0                                      | 18.7  | 23.3  |
| 1999                                    | 1641  | 3.5  | 97.7                            | 156                       | 77.0                                      | 14.9  | 17.6  |
| 1998                                    | 1586  | 3.6  | NA                              | 157                       | 70.3                                      | 18.3  | 25.6  |
| 2001 (Median)                           | 1465  | 3.8  | 100                             | 59                        | 60.0                                      | 25.0  | 11.1  |
| 2000 (Median)                           | 1530  | 3.1  | 100                             | 108                       | 75.0                                      | 15.0  | 20.1  |
| 1999 (Median)                           | 1225  | 2.8  | 100                             | 98                        | 80.0                                      | 13.0  | 13.5  |
| 1998 (Median)                           | 1204  | 3.4  | NA                              | 86                        | 75.0                                      | 15.0  | 24.6  |
| <b>Benchmarking Forum</b>               |   |  |                                 |                           |   |   |   |
| 2001                                    | 1358  | 2.8  | 86.6                            | 545                       | 61.8                                      | 21.8  | 36.6  |
| 2000                                    | 1223  | 2.6  | 80.7                            | 385                       | NA  | NA  | 32.2  |
| 1999                                    | 1152  | 2.7  | 81.2                            | 502                       | 79.1                                      | 13.8  | 30.4  |
| 1998                                    | 1118  | 2.6  | NA                              | 364                       | 78.7                                      | 12.3  | 25.0  |
| 1997                                    | 1198  | 2.3  | NA                              | 312                       | 66.1                                      | NA  | NA  |
| 1996                                    | 1245  | 2.4  | NA                              | 334                       | NA  | NA  | NA  |
| 2001 (Median)                           | 1270  | 3.0  | 95.0                            | 300                       | 63.0                                      | 17.0  | 37.0  |
| 2000 (Median)                           | 1025  | 2.1  | 95.0                            | 218                       | NA  | NA  | 29.2  |
| 1999 (Median)                           | 969   | 2.4  | 95.0                            | 187                       | 80.0                                      | 10.0  | 27.1  |
| 1998 (Median)                           | 1021  | 2.4  | NA                              | 174                       | 80.0                                      | 10.0  | 23.2  |
| <b>Benchmarking Service By Size</b>     |   |  |                                 |                           |   |   |   |
| 1-499 employees                         | 1002  | 2.6  | 77.3                            | 151                       | 75.3                                      | 11.8  | 24.0  |
| 500-1999 employees                      | 519   | 1.4  | 72.8                            | 373                       | 81.3                                      | 7.1   | 20.9  |
| 2000+ employees                         | 661   | 1.6  | 76.6                            | 586                       | 76.0                                      | 11.5  | 21.5  |
| <b>Benchmarking Service By Industry</b> |   |  |                                 |                           |   |   |   |
| AMC                                     | NA  | NA   | NA                              | NA                        | NA  | NA  | NA  |
| Technology                              | 1357  | 2.4  | 73.9                            | 225                       | 76.2                                      | 13.3  | 23.4  |
| Nondurables                             | 482   | 1.4  | 78.4                            | 413                       | 73.5                                      | 13.5  | 29.0  |
| Durables                                | 489   | 1.2  | 75.2                            | 548                       | 71.3                                      | 6.4   | 25.3  |
| TPU                                     | 751   | 1.4  | 79.0                            | 254                       | 73.9                                      | 9.9   | 15.8  |
| Trade                                   | 338   | 1.6  | 75.0                            | 725                       | 82.1                                      | 5.9   | 11.1  |
| FIRE                                    | 951   | 2.7  | 82.3                            | 216                       | 83.2                                      | 10.4  | 19.7  |
| Services                                | 587   | 1.8  | 72.3                            | 584                       | 73.4                                      | 10.1  | 18.5  |
| Health Care                             | 397   | 1.4  | 91.0                            | 253                       | 72.9                                      | 11.4  | 18.6  |
| Government                              | 740   | 1.8  | 68.9                            | 328                       | 87.0                                      | 7.9   | 22.4  |

**Table 10: Training Expenditure Distributions**

|   | Percentage of Total Expenditures on Wages | Percentage of Total Expenditures on Outside Payments | Percentage of Total Expenditures on Tuition Reimbursements | Percentage of Total Expenditures on Learning Technologies | Percentage of Total Expenditures on Other Training Expenditures |
|---|---|--|--|---|---|
| <b>Benchmarking Service</b>             |   |  |  |   |   |
| 2001                                    | 49.5                                      | 20.9   | 12.2   | 4.6   | 12.8  |
| 2000                                    | 50.8                                      | 22.2   | 11.0   | 3.7   | 12.3  |
| 1999                                    | 50.0                                      | 19.9   | 12.5   | 3.5   | 14.3  |
| 1998                                    | 45.6                                      | 24.4   | 12.3   | 4.0   | 14.0  |
| 1997                                    | 41.4                                      | 27.1   | 13.3   | NA  | 18.3  |
| 1996                                    | 35.8                                      | 27.3   | 12.8   | NA  | 24.4  |
| 2001 (Median)                           | 47.6                                      | 12.8   | 7.5  | 1.0   | 7.5   |
| 2000 (Median)                           | 50.8                                      | 22.2   | 11.0   | 3.7   | 12.3  |
| 1999 (Median)                           | 47.8                                      | 10.2   | 6.6  | 0.8   | 7.5   |
| 1998 (Median)                           | 44.8                                      | 15.8   | 7.1  | 1.2   | 8.1   |
| <b>Training Investment Leaders</b>      |   |  |  |   |   |
| 2001                                    | 55.8                                      | 22.4   | 13.0   | 5.8   | 12.9  |
| 2000                                    | 49.1                                      | 23.3   | 12.1   | 6.0   | 17.9  |
| 1999                                    | 50.2                                      | 17.6   | 9.3  | 2.3   | 20.0  |
| 1998                                    | 47.1                                      | 25.4   | 5.5  | 4.2   | 18.1  |
| 2001 (Median)                           | 56.2                                      | 11.9   | 12.4   | 3.4   | 6.2   |
| 2000 (Median)                           | 48.4                                      | 20.1   | 8.4  | 1.8   | 10.2  |
| 1999 (Median)                           | 49.7                                      | 13.5   | 6.7  | 1.1   | 12.8  |
| 1998 (Median)                           | 49.7                                      | 24.6   | 3.8  | 1.4   | 10.7  |
| <b>Benchmarking Forum</b>               |   |  |  |   |   |
| 2001                                    | 25.5                                      | 36.6   | 13.7   | 2.3   | 33.0  |
| 2000                                    | 35.8                                      | 32.2   | 12.8   | NA  | 27.3  |
| 1999                                    | 38.1                                      | 31.2   | 15.1   | 6.0   | 20.6  |
| 1998                                    | 35.6                                      | 25.0   | 12.8   | 3.8   | 22.9  |
| 1997                                    | 36.7                                      | NA   | 11.6   | NA  | NA  |
| 2001 (Median)                           | 25.2                                      | 37.0   | 9.8  | 1.0   | 19.0  |
| 2000 (Median)                           | 33.3                                      | 29.2   | 8.8  | NA  | 20.7  |
| 1999 (Median)                           | 37.2                                      | 27.6   | 10.0   | 3.5   | 14.9  |
| 1998 (Median)                           | 33.4                                      | 23.2   | 9.3  | 1.7   | 15.6  |
| <b>Benchmarking Service By Size</b>     |   |  |  |   |   |
| 1-499 employees                         | 46.7                                      | 24.0   | 15.0   | 3.1   | 10.3  |
| 500-1999 employees                      | 54.5                                      | 20.9   | 11.2   | 3.2   | 10.1  |
| 2000+ employees                         | 43.4                                      | 21.5   | 12.6   | 4.1   | 18.4  |
| <b>Benchmarking Service By Industry</b> |   |  |  |   |   |
| AMC                                     | NA  | NA   | NA   | NA  | NA  |
| Technology                              | 44.1                                      | 23.4   | 13.8   | 7.1   | 10.5  |
| Nondurables                             | 39.1                                      | 29.0   | 10.9   | 6.7   | 12.9  |
| Durables                                | 42.2                                      | 25.6   | 19.1   | 3.2   | 10.2  |
| TPU                                     | 56.0                                      | 15.8   | 8.7  | 4.4   | 14.6  |
| Trade                                   | 57.5                                      | 11.1   | 4.3  | 2.9   | 24.1  |
| FIRE                                    | 58.9                                      | 19.7   | 7.7  | 2.2   | 11.5  |
| Services                                | 51.8                                      | 18.5   | 14.2   | 3.8   | 11.6  |
| Health Care                             | 57.4                                      | 18.6   | 12.8   | 2.1   | 9.2   |
| Government                              | 42.6                                      | 22.4   | 12.7   | 6.0   | 15.4  |

**Table 11: Projected Change in Total Expenditures and Outside Expenditures, 2001-2002**

|   | Projected Change<br>in Total<br>Expenditures | Projected Change<br>in Outside<br>Expenditures |
|---|--|--|
| <b>Benchmarking Service</b>                         |  |  |
| 2001-2002   | 30.4   | 28.0   |
| 2000-2001   | 37.2   | 29.1   |
| 1999-2000   | 27.7   | 28.7   |
| 1998-1999   | 13.5   | 9.4  |
| 1997-1998   | 20.0   | 13.0   |
| <b>Training Investment Leaders</b>                  |  |  |
| 2001-2002   | 8.9  | 3.7  |
| 2000-2001   | 20.0   | 20.1   |
| 1999-2000   | 3.2  | 5.5  |
| 1998-1999   | 4.6  | -2.3   |
| <b>Benchmarking Forum</b>                           |  |  |
| 2001-2002   | -5.7   | -4.0   |
| 2000-2001   | -0.5   | 4.1  |
| 1999-2000   | 3.0  | 3.8  |
| 1998-1999   | 5.4  | 6.7  |
| <b>Benchmarking Service By Size (2001-2002)</b>     |  |  |
| 1-499 employees                                     | 32.3   | 32.5   |
| 500-1999 employees                                  | 34.3   | 29.3   |
| 2000+ employees                                     | 16.5   | 22.5   |
| <b>Benchmarking Service By Industry (2000-2001)</b> |  |  |
| AMC   | NA   | NA   |
| Technology  | 25.9   | 30.8   |
| Nondurables   | 22.6   | 18.6   |
| Durables  | 39.3   | 53.3   |
| TPU   | 43.5   | 14.9   |
| Trade   | 10.2   | 28.1   |
| FIRE  | 32.3   | 12.0   |
| Services  | 43.2   | 42.9   |
| Health Care   | 34.6   | 31.2   |
| Government  | 10.2   | 10.3   |

**Table 12: Delivery via Classroom and Learning Technologies  
(% of Training Time)**

|   | Classroom,<br>2001 | Classroom,<br>+ 3 Years | Learning<br>Technologies,<br>2001 | Learning<br>Technologies,<br>+ 3 Years |
|---|--------------------|-------------------------|-----------------------------------|--|
| <b>Benchmarking Service</b>             |                    |                         |                                   |  |
| 2001                                    | 77.1               | 60.1                    | 10.5                              | 25.0                                   |
| 2000                                    | 79.4               | 65.7                    | 8.8                               | 21.6                                   |
| 1999                                    | 79.9               | 67.5                    | 8.4                               | 18.2                                   |
| 1998                                    | 78.4               | 64.5                    | 8.5                               | 19.8                                   |
| 1997                                    | 77.6               | 61.0                    | 9.1                               | 23.0                                   |
| 2001 (Median)                           | 85.0               | 65.0                    | 5.0                               | 20.0                                   |
| 2000 (Median)                           | 87.0               | 70.0                    | 5.0                               | 20.0                                   |
| 1999 (Median)                           | 90.0               | 70.0                    | 5.0                               | 15.0                                   |
| 1998 (Median)                           | 85.0               | 70.0                    | 5.0                               | 15.0                                   |
| <b>Training Investment Leaders</b>      |                    |                         |                                   |  |
| 2001                                    | 54.8               | 42.1                    | 27.4                              | 39.1                                   |
| 2000                                    | 71.0               | 58.0                    | 18.7                              | 26.6                                   |
| 1999                                    | 77.0               | 66.0                    | 14.9                              | 24.4                                   |
| 1998                                    | 70.3               | 56.9                    | 18.3                              | 30.3                                   |
| 2001 (Median)                           | 55.0               | 40.0                    | 25.0                              | 40.0                                   |
| 2000 (Median)                           | 75.0               | 59.0                    | 15.0                              | 25.0                                   |
| 1999 (Median)                           | 80.0               | 70.0                    | 13.0                              | 20.0                                   |
| 1998 (Median)                           | 75.0               | 58.0                    | 15.0                              | 30.0                                   |
| <b>Benchmarking Forum</b>               |                    |                         |                                   |  |
| 2001                                    | 61.8               | 53.6                    | 21.8                              | 25.6                                   |
| 2000                                    | NA                 | NA                      | NA                                | NA                                     |
| 1999                                    | 79.1               | 62.2                    | 13.8                              | 27.4                                   |
| 1998                                    | 78.7               | 61.5                    | 12.3                              | 25.2                                   |
| 2001 (Median)                           | 61.5               | 58.5                    | 17.5                              | 20.0                                   |
| 2000 (Median)                           | NA                 | NA                      | NA                                | NA                                     |
| 1999 (Median)                           | 80.0               | 60.0                    | 10.0                              | 25.0                                   |
| 1998 (Median)                           | 80.0               | 60.0                    | 10.0                              | 20.0                                   |
| <b>Benchmarking Service By Size</b>     |                    |                         |                                   |  |
| 1-499 employees                         | 75.3               | 60.0                    | 11.8                              | 25.2                                   |
| 500-1999 employees                      | 81.3               | 63.2                    | 7.1                               | 23.3                                   |
| 2000+ employees                         | 76.0               | 60.4                    | 11.5                              | 26.0                                   |
| <b>Benchmarking Service By Industry</b> |                    |                         |                                   |  |
| AMC                                     | NA                 | NA                      | NA                                | NA                                     |
| Technology                              | 76.2               | 55.3                    | 13.3                              | 34.1                                   |
| Nondurables                             | 73.5               | 61.1                    | 13.5                              | 27.2                                   |
| Durables                                | 71.3               | 60.1                    | 6.4                               | 16.0                                   |
| TPU                                     | 73.9               | 63.4                    | 9.9                               | 21.0                                   |
| Trade                                   | 82.1               | 67.7                    | 5.9                               | 18.1                                   |
| FIRE                                    | 83.2               | 59.4                    | 10.4                              | 28.5                                   |
| Services                                | 73.4               | 59.6                    | 10.1                              | 23.3                                   |
| Health Care                             | 72.9               | 55.9                    | 11.4                              | 27.9                                   |
| Government                              | 87.0               | 72.0                    | 7.9                               | 19.0                                   |

**Table 13: Percentage of Organizations and Courses Using Learning Technologies**

| Percentage of Organizations (Courses) Using: | Benchmarking Service, 2000 | Projected Benchmarking Service, 2003 | Training Investment Leaders, 2000 | Projected Training Investment Leaders, 2003 | Benchmarking Forum, 2000 | Projected Benchmarking Forum, 2003 |
|--|----------------------------|--------------------------------------|-----------------------------------|---|--------------------------|------------------------------------|
| <b>Presentation Methods</b>                  |                            |                                      |                                   |   |                          |                                    |
| Computer-Based Training                      | 61.7<br>(10.0)             | 69.6<br>(14.3)                       | 64.3<br>(7.9)                     | 53.8<br>(13.6)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Multimedia                                   | 81.2<br>(25.3)             | 85.9<br>(30.5)                       | 85.7<br>(30.6)                    | 100<br>(24.8)                               | NA<br>(NA)               | (NA)                               |
| Interactive TV                               | 22.9<br>(5.5)              | 32.6<br>(8.7)                        | 28.6<br>(5.5)                     | 46.2<br>(11.5)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Teleconferencing                             | 47.9<br>(7.0)              | 60.9<br>(10.7)                       | 50.0<br>(9.9)                     | 61.5<br>(16.0)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Groupware                                    | 36.5<br>(9.2)              | 54.3<br>(15.7)                       | 21.4<br>(5.3)                     | 38.5<br>(13.5)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Virtual Reality                              | 8.3<br>(8.1)               | 25.0<br>(11.5)                       | 14.3<br>(20.5)                    | 30.8<br>(15.3)                              | NA<br>(NA)               | NA<br>(NA)                         |
| EPSS   | 23.0<br>(9.0)              | 46.7<br>(12.1)                       | 42.9<br>(11.3)                    | 76.9<br>(13.5)                              | NA<br>(NA)               | NA<br>(NA)                         |
| <b>Distribution Methods</b>                  |                            |                                      |                                   |   |                          |                                    |
| Cable TV                                     | 17.2<br>(9.9)              | 24.2<br>(8.4)                        | 30.8<br>(16.8)                    | 30.8<br>(16.8)                              | NA<br>(NA)               | NA<br>(NA)                         |
| CD-ROM                                       | 67.7<br>(10.1)             | 75.8<br>(14.9)                       | 76.9<br>(21.7)                    | 76.9<br>(21.3)                              | 90.0<br>(18.2)           | 89.7<br>(11.1)                     |
| Email  | 47.3<br>(8.8)              | 54.9<br>(11.2)                       | 46.2<br>(5.0)                     | 61.5<br>(7.4)                               | NA<br>(NA)               | NA<br>(NA)                         |
| Extranet                                     | 19.4<br>(5.7)              | 39.6<br>(11.6)                       | 15.4<br>(3.0)                     | 38.5<br>(10.6)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Internet                                     | 54.8<br>(9.9)              | 72.5<br>(18.1)                       | 84.6<br>(14.1)                    | 84.6<br>(20.6)                              | 72.4<br>(20.6)           | 86.2<br>(29.5)                     |
| Intranet                                     | 52.7<br>(15.2)             | 76.9<br>(23.3)                       | 61.5<br>(11.6)                    | 61.5<br>(19.8)                              | 80.0<br>(40.7)           | 86.2<br>(46.6)                     |
| Local Area Network                           | 38.7<br>(16.0)             | 48.4<br>(18.0)                       | 53.8<br>(9.0)                     | 61.5<br>(15.9)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Satellite TV                                 | 22.6<br>(13.0)             | 28.6<br>(8.6)                        | 23.1<br>(12.7)                    | 23.1<br>(21.7)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Simulator                                    | 22.6<br>(13.0)             | 34.1<br>(12.7)                       | 38.5<br>(14.6)                    | 61.5<br>(14.6)                              | NA<br>(NA)               | NA<br>(NA)                         |
| Voice Mail                                   | 10.8<br>(6.9)              | 12.1<br>(8.5)                        | 7.7<br>(1.0)                      | 7.7<br>(1.0)                                | NA<br>(NA)               | NA<br>(NA)                         |
| Wide Area Networks                           | 19.4<br>(9.1)              | 28.6<br>(15.1)                       | 46.2<br>(8.2)                     | 46.2<br>(14.5)                              | NA<br>(NA)               | NA<br>(NA)                         |

**Table 14: Top Three Presentation Methods by Use**

|   | Percentage of Organizations Using Multimedia, 2001 | Projected Percentage of Organizations Using Multimedia, 2004 | Percentage of Organizations Using CBT, 2001 | Projected Percentage of Organizations Using CBT, 2004 | Percentage of Organizations Using Teleconferencing, 2001 | Projected Percentage of Organizations Using Teleconferencing, 2004 |
|---|--|--|---|---|--|--|
| <b>Benchmarking Service</b>             |  |  |   |   |  |  |
| 2001                                    | 81.3   | 85.9   | 61.5  | 69.6  | 47.9   | 60.9   |
| 2000                                    | 73.9   | 91.9   | 56.8  | 81.1  | 39.6   | 64.9   |
| 1999                                    | 64.9   | 90.9   | 64.6  | 79.7  | 35.7   | 62.5   |
| 1998                                    | 35.1   | 91.2   | 53.4  | 81.2  | 30.0   | 63.2   |
| <b>Training Investment Leaders</b>      |  |  |   |   |  |  |
| 2001                                    | 85.7   | 100  | 64.3  | 53.8  | 50.0   | 61.5   |
| 2000                                    | 88.2   | 88.2   | 82.4  | 70.6  | 58.8   | 52.9   |
| 1999                                    | 80.0   | 92.0   | 80.0  | 83.3  | 44.0   | 65.2   |
| 1998                                    | 82.9   | 100  | 82.9  | 80.5  | 42.5   | 71.8   |
| <b>Benchmarking Forum</b>               |  |  |   |   |  |  |
| 2001                                    | NA   | NA   | NA  | NA  | NA   | NA   |
| 2000                                    | NA   | NA   | NA  | NA  | NA   | NA   |
| 1999                                    | 88.1   | 100  | 78.6  | 76.2  | 66.7   | 76.1   |
| 1998                                    | 90.0   | 100  | 79.5  | 84.6  | 57.9   | 84.2   |
| <b>Benchmarking Service By Size</b>     |  |  |   |   |  |  |
| 1-499 employees                         | 81.2   | 90.0   | 46.9  | 53.3  | 31.2   | 50.0   |
| 500-1999 employees                      | 78.3   | 78.3   | 54.5  | 69.6  | 52.5   | 65.2   |
| 2000+ employees                         | 84.6   | 89.2   | 74.4  | 81.1  | 61.5   | 67.6   |
| <b>Benchmarking Service By Industry</b> |  |  |   |   |  |  |
| AMC                                     | NA   | NA   | NA  | NA  | NA   | NA   |
| Technology                              | 93.3   | 92.9   | 53.3  | 50.0  | 26.7   | 57.1   |
| Nondurables                             | 88.9   | 87.5   | 44.4  | 62.5  | 66.7   | 75.0   |
| Durables                                | 70.0   | 80.0   | 60.0  | 60.0  | 50.0   | 60.0   |
| TPU                                     | 80.0   | 80.0   | 60.0  | 80.0  | 20.0   | 60.0   |
| Trade                                   | 83.3   | 83.3   | 83.3  | 83.3  | 50.0   | 66.7   |
| FIRE                                    | 73.3   | 93.3   | 53.3  | 66.7  | 53.3   | 66.7   |
| Services                                | 92.3   | 81.8   | 61.5  | 90.9  | 30.8   | 36.4   |
| Health Care                             | 77.8   | 88.9   | 66.7  | 77.8  | 66.7   | 66.7   |
| Government                              | 54.5   | 58.3   | 81.8  | 66.7  | 72.7   | 75.0   |

**Table 15: Top Five Distribution Methods by Use**

|   | Percentage of Organizations Using CD-ROM, 2001 | Projected Percentage Use of CD-ROM, + 3 years | Percentage of Organizations Using Email, 2001 | Projected Percentage Use of Email, + 3 years | Percentage of Organizations Using Intranet, 2001 | Projected Percentage Use of Intranet, + 3 years | Percentage of Organizations Using LAN, 2001 | Projected Percentage Use of LAN, + 3 years | Percentage of Organizations Using Internet, 2001 | Projected Percentage Use of Internet, + 3 years |
|---|--|---|---|--|--|---|---|--|--|---|
| <b>Benchmarking Service</b>             |  |   |   |  |  |   |   |  |  |   |
| 2001                                    | 67.7   | 75.8  | 54.8  | 72.5   | 52.7   | 76.9  | 47.3  | 54.9                                       | 38.7   | 48.4  |
| 2000                                    | 57.8   | 79.1  | 51.4  | 57.3   | 47.7   | 85.5  | 40.4  | 50.0                                       | 38.5   | 64.5  |
| 1999                                    | 61.7   | 83.2  | 46.4  | 61.5   | 39.7   | 83.1  | 40.7  | 61.4                                       | 37.9   | 70.0  |
| 1998                                    | 56.3   | 87.0  | 40.6  | 62.4   | 32.2   | 77.1  | 40.2  | 59.1                                       | 22.4   | 61.1  |
| <b>Training Investment Leaders</b>      |  |   |   |  |  |   |   |  |  |   |
| 2001                                    | 76.9   | 76.9  | 74.1  | 61.5   | 81.5   | 61.5  | 53.8  | 61.5                                       | 84.6   | 84.6  |
| 2000                                    | 88.0   | 92.0  | 28.0  | 28.0   | 72.0   | 88.0  | 28.0  | 28.0                                       | 52.0   | 64.0  |
| 1999                                    | 84.0   | 83.3  | 32.0  | 39.1   | 60.0   | 91.7  | 45.8  | 45.5                                       | 36.0   | 63.6  |
| 1998                                    | 85.7   | 95.0  | 39.5  | 51.3   | 56.1   | 95.0  | 63.4  | 70.0                                       | 25.0   | 65.9  |
| <b>Benchmarking Forum</b>               |  |   |   |  |  |   |   |  |  |   |
| 2001                                    | 79.1   | 74.4  | NA  | NA   | 83.7   | 79.1  | 58.1  | 60.5                                       | 76.7   | 83.7  |
| 2000                                    | 81.0   | 78.6  | NA  | NA   | 85.7   | 90.5  | NA  | NA   | 66.7   | 76.2  |
| 1999                                    | 87.5   | 92.5  | 40.0  | 52.5   | 65.0   | 97.5  | 52.5  | 55.0                                       | 42.5   | 80.0  |
| 1998                                    | 92.1   | 94.6  | 46.2  | 52.6   | 78.9   | 100   | 51.3  | 68.4                                       | 26.3   | 63.9  |
| <b>Benchmarking Service By Size</b>     |  |   |   |  |  |   |   |  |  |   |
| 1-499 employees                         | 61.3   | 80.0  | 32.3  | 43.3   | 38.7   | 60.0  | 29.0  | 50.0                                       | 58.1   | 73.3  |
| 500-1999 employees                      | 70.8   | 73.9  | 54.2  | 60.9   | 50.0   | 91.3  | 33.3  | 39.1                                       | 58.3   | 73.9  |
| 2000+ employees                         | 72.2   | 75.0  | 55.6  | 61.1   | 66.7   | 80.6  | 50.0  | 52.8                                       | 50.0   | 72.2  |
| <b>Benchmarking Service By Industry</b> |  |   |   |  |  |   |   |  |  |   |
| AMC                                     | NA   | NA  | NA  | NA   | NA   | NA  | NA  | NA   | NA   | NA  |
| Technology                              | 71.4   | 66.7  | 57.1  | 60.0   | 71.4   | 80.0  | 42.9  | 46.7                                       | 42.9   | 53.3  |
| Nondurables                             | 88.9   | 87.5  | 55.6  | 50.0   | 55.6   | 62.5  | 55.6  | 62.5                                       | 66.7   | 75.0  |
| Durables                                | 60.0   | 80.0  | 50.0  | 50.0   | 60.0   | 80.0  | 30.0  | 50.0                                       | 50.0   | 60.0  |
| TPU                                     | 80.0   | 80.0  | 20.0  | 40.0   | 40.0   | 80.0  | 0.0   | 0.0  | 40.0   | 40.0  |
| Trade                                   | 33.3   | 50.0  | 16.7  | 33.3   | 16.7   | 83.3  | 50.0  | 66.7                                       | 33.3   | 83.3  |
| FIRE                                    | 42.9   | 64.3  | 57.1  | 71.4   | 57.1   | 71.4  | 42.9  | 57.1                                       | 78.6   | 78.6  |
| Services                                | 53.8   | 72.7  | 23.1  | 36.4   | 53.8   | 81.8  | 30.8  | 54.5                                       | 46.2   | 72.7  |
| Health Care                             | 77.8   | 77.8  | 66.7  | 88.9   | 55.6   | 88.9  | 44.4  | 55.6                                       | 77.8   | 88.9  |
| Government                              | 90.0   | 81.8  | 60.0  | 54.5   | 40.0   | 72.7  | 40.0  | 27.3                                       | 60.0   | 81.8  |

**Table 16: Top Five Course Types Ranked by Percentage of Training Expenditures, 1998 to 2001<sup>a</sup>**

|   | #1 Course Type (%) |        | #2 Course Type (%) |        | #3 Course Type (%) |        | #4 Course Type (%) |        | #5 Course Type (%) |        |
|---|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|
| <b>Benchmarking Service</b>                   |                    |        |                    |        |                    |        |                    |        |                    |        |
| 2001  | Technical          | (13.6) | IT Skills          | (13.3) | Managerial         | (10.2) | Professional       | (9.4)  | Product            | (8.9)  |
| 2000  | Technical          | (13.5) | IT Skills          | (11.1) | Managerial         | (10.4) | Safety             | (9.5)  | Product            | (9.1)  |
| 1999  | Technical          | (13.1) | Professional       | (11.1) | IT Skills          | (8.8)  | Orientation        | (8.7)  | Interpersonal      | (8.6)  |
| 1998  | Technical          | (13.1) | IT Skills          | (12.6) | Managerial         | (11.3) | Safety             | (9.1)  | Professional       | (9.0)  |
| <b>Training Investment Leaders</b>            |                    |        |                    |        |                    |        |                    |        |                    |        |
| 2001  | Technical          | (16.4) | Safety             | (11.9) | Professional       | (11.5) | IT Skills          | (10.4) | Product            | (10.1) |
| 2000  | Technical          | (20.0) | IT Skills          | (13.1) | Professional       | (9.7)  | Safety             | (9.2)  | Product            | (7.4)  |
| 1999  | Technical          | (14.7) | Professional       | (12.5) | IT Skills          | (10.5) | Orientation        | (7.9)  | Customer           | (7.6)  |
| 1998  | Technical          | (21.7) | Safety             | (13.0) | IT Skills          | (10.9) | Product            | (8.4)  | Managerial         | (8.0)  |
| <b>Benchmarking Forum</b>                     |                    |        |                    |        |                    |        |                    |        |                    |        |
| 2001  | Technical          | (13.4) | IT Skills          | (12.9) | Managerial         | (11.4) | Professional       | (10.6) | Sales              | (7.4)  |
| 2000  | IT Skills          | (14.4) | Managerial         | (13.3) | Professional       | (12.5) | Sales              | (12.4) | Technical          | (10.3) |
| 1999  | IT Skills          | (14.4) | Technical          | (13.0) | Professional       | (11.7) | Managerial         | (9.5)  | Product            | (9.4)  |
| 1998  | Technical          | (19.0) | IT Skills          | (13.7) | Professional       | (11.3) | Managerial         | (9.3)  | Product            | (7.5)  |
| <b>Benchmarking Service By Size, 2000</b>     |                    |        |                    |        |                    |        |                    |        |                    |        |
| 1-499 employees                               | Technical          | (12.9) | Professional       | (12.1) | Product            | (11.4) | IT Skills          | (11.3) | Managerial         | (9.9)  |
| 500-1999 employees                            | Managerial         | (12.9) | Orientation        | (11.5) | IT Skills          | (11.0) | Technical          | (10.1) | Safety             | (9.4)  |
| 2000+ employees                               | IT Skills          | (16.5) | Technical          | (16.5) | Safety             | (9.4)  | Managerial         | (8.9)  | Customer           | (8.1)  |
| <b>Benchmarking Service By Industry, 2001</b> |                    |        |                    |        |                    |        |                    |        |                    |        |
| AMC   | NA                 | (NA)   | NA                 | (NA)   | NA                 | (NA)   | NA                 | (NA)   | NA                 | (NA)   |
| Technology                                    | Technical          | (19.6) | IT Skills          | (15.7) | Product            | (15.3) | Managerial         | (8.8)  | Professional       | (7.6)  |
| Nondurables                                   | Technical          | (25.3) | Safety             | (11.4) | Managerial         | (11.3) | Quality            | (9.3)  | IT Skills          | (9.3)  |
| Durables                                      | Managerial         | (18.4) | Safety             | (17.1) | Technical          | (10.7) | Product            | (8.7)  | IT Skills          | (8.3)  |
| TPU   | Technical          | (38.3) | Safety             | (10.0) | Customer           | (10.0) | Managerial         | (6.7)  | Executive          | (6.7)  |
| Trade   | Product            | (20.3) | Sales              | (14.6) | IT Skills          | (11.4) | Customer           | (10.0) | Safety             | (8.1)  |
| FIRE  | Technical          | (19.0) | Product            | (12.7) | IT Skills          | (11.1) | Customer           | (9.7)  | Interpersonal      | (8.2)  |
| Services                                      | IT Skills          | (19.1) | Technical          | (11.2) | Safety             | (11.1) | Managerial         | (9.1)  | Executive          | (8.8)  |
| Health Care                                   | Professional       | (23.1) | Orientation        | (15.0) | Customer           | (10.9) | Safety             | (10.7) | Managerial         | (9.4)  |
| Government                                    | IT Skills          | (23.7) | Professional       | (17.3) | Managerial         | (10.3) | Technical          | (9.5)  | Customer           | (7.3)  |

<sup>a</sup>Abbreviations: Customer = Customer relations; Sales = Sales and dealer; Product = Product knowledge; Quality = Quality, competition and business practices; Managerial = Managerial/supervisory skills; Safety = Occupational safety/compliance; Interpersonal = Interpersonal communication; IT Skills = Informational technology skills; Technical = Technical processes and procedures; Orientation = New employee orientation; Professional = Professional skills."

**Table 17: Top Three Training Practices by Use**

|   | Employer-Supported<br>Conference Attendance | Tuition Reimbursement | Training Resource Center |
|---|---|-----------------------|--------------------------|
| <b>Benchmarking Service</b>             |   |                       |                          |
| 2001                                    | 96.3  | 91.7                  | 80.6                     |
| 2000                                    | 94.6  | 87.2                  | 80.3                     |
| 1999                                    | 96.6  | 90.0                  | 79.3                     |
| 1998                                    | 99.4  | 93.3                  | 78.7                     |
| 1997                                    | 97.5  | 91.6                  | 74.0                     |
| <b>Training Investment Leaders</b>      |   |                       |                          |
| 2001                                    | 96.2  | 92.6                  | 81.5                     |
| 2000                                    | 100   | 96.4                  | 96.4                     |
| 1999                                    | 94.4  | 97.2                  | 97.2                     |
| 1998                                    | 100   | 96.0                  | 89.0                     |
| <b>Benchmarking Forum</b>               |   |                       |                          |
| 2001                                    | NA  | NA                    | NA                       |
| 2000                                    | NA  | NA                    | NA                       |
| 1999                                    | 100   | 100                   | 95.2                     |
| 1998                                    | 100   | 100                   | 91.7                     |
| <b>Benchmarking Service By Size</b>     |   |                       |                          |
| 1-499 employees                         | 94.3  | 88.6                  | 66.7                     |
| 500-1999 employees                      | 94.3  | 88.6                  | 66.7                     |
| 2000+ employees                         | 98.5  | 94.2                  | 92.6                     |
| <b>Benchmarking Service By Industry</b> |   |                       |                          |
| AMC                                     | 100   | 100                   | 100                      |
| Technology                              | 92.0  | 77.8                  | 69.2                     |
| Nondurables                             | 100   | 100                   | 100                      |
| Durables                                | 100   | 100                   | 100                      |
| TPU                                     | 100   | 100                   | 90.9                     |
| Trade                                   | 100   | 72.7                  | 90.0                     |
| FIRE                                    | 100   | 100                   | 88.6                     |
| Services                                | 93.9  | 90.9                  | 69.7                     |
| Health Care                             | 100   | 94.1                  | 94.1                     |
| Government                              | 95.5  | 95.5                  | 86.4                     |

**Table 18: Top Three Work Practices by Use**

|   | Task Forces,<br>Problem-Solving Teams,<br>or Quality Circles | Job Rotation or<br>Cross-Training | Employee Access to<br>Key Business<br>Information |
|---|--|-----------------------------------|---|
| <b>Benchmarking Service</b>             |  |                                   |   |
| 2001                                    | 95.3   | 88.0                              | 82.4  |
| 2000                                    | 90.0   | 86.7                              | 82.4  |
| 1999                                    | 91.0   | 87.8                              | 84.0  |
| 1998                                    | 93.0   | 86.9                              | 83.7  |
| 1997                                    | 89.7   | 87.0                              | 79.8  |
| <b>Training Investment Leaders</b>      |  |                                   |   |
| 2001                                    | 100  | 100                               | 80.0  |
| 2000                                    | 96.4   | 85.7                              | 88.9  |
| 1999                                    | 97.2   | 91.7                              | 91.7  |
| 1998                                    | 93.0   | 89.0                              | 89.3  |
| <b>Benchmarking Forum</b>               |  |                                   |   |
| 2001                                    | NA   | NA                                | NA  |
| 2000                                    | NA   | NA                                | NA  |
| 1999                                    | 97.6   | 97.6                              | 92.9  |
| 1998                                    | 98.0   | 89.8                              | 89.8  |
| <b>Benchmarking Service By Size</b>     |  |                                   |   |
| 1-499 employees                         | 92.9   | 82.9                              | 84.5  |
| 500-1999 employees                      | 96.2   | 84.9                              | 81.6  |
| 2000+ employees                         | 96.9   | 95.5                              | 80.3  |
| <b>Benchmarking Service By Industry</b> |  |                                   |   |
| AMC                                     | NA   | NA                                | NA  |
| Technology                              | 100  | 92.0                              | 100   |
| Nondurables                             | 100  | 100                               | 90.0  |
| Durables                                | 94.4   | 94.4                              | 88.9  |
| TPU                                     | 91.7   | 83.3                              | 83.3  |
| Trade                                   | 91.7   | 83.3                              | 75.0  |
| FIRE                                    | 94.1   | 88.6                              | 82.9  |
| Services                                | 97.0   | 84.8                              | 82.8  |
| Health Care                             | 100  | 88.2                              | 82.4  |
| Government                              | 95.5   | 86.4                              | 59.1  |

**Table 19: Top Three Employee Compensation Practices by Use**

|   | Incentive Compensation | Profit Sharing Gainsharing | Knowledge- or Skill-Based Pay |
|---|------------------------|----------------------------|-------------------------------|
| <b>Benchmarking Service</b>             |                        |                            |                               |
| 2001                                    | 71.0                   | 51.9                       | 39.5                          |
| 2000                                    | 68.6                   | 57.1                       | 43.5                          |
| 1999                                    | 71.6                   | 52.3                       | 34.5                          |
| 1998                                    | 81.3                   | 56.1                       | 40.8                          |
| 1997                                    | 64.4                   | 52.2                       | 38.6                          |
| <b>Training Investment Leaders</b>      |                        |                            |                               |
| 2001                                    | 68.0                   | 56.0                       | 45.8                          |
| 2000                                    | 71.4                   | 42.9                       | 50.0                          |
| 1999                                    | 65.7                   | 63.9                       | 48.1                          |
| 1998                                    | 67.0                   | 66.7                       | 43.9                          |
| <b>Benchmarking Forum</b>               |                        |                            |                               |
| 2001                                    | NA                     | NA                         | NA                            |
| 2000                                    | NA                     | NA                         | NA                            |
| 1999                                    | 85.7                   | 66.7                       | 52.1                          |
| 1998                                    | 81.3                   | 62.5                       | 52.1                          |
| <b>Benchmarking Service By Size</b>     |                        |                            |                               |
| 1-499 employees                         | 64.3                   | 47.1                       | 38.6                          |
| 500-1999 employees                      | 68.7                   | 59.6                       | 33.3                          |
| 2000+ employees                         | 81.8                   | 51.5                       | 44.6                          |
| <b>Benchmarking Service By Industry</b> |                        |                            |                               |
| AMC                                     | NA                     | NA                         | NA                            |
| Technology                              | 88.9                   | 65.4                       | 32.0                          |
| Nondurables                             | 77.8                   | 100                        | 33.3                          |
| Durables                                | 66.7                   | 72.2                       | 44.4                          |
| TPU                                     | 100                    | 50.0                       | 66.7                          |
| Trade                                   | 81.8                   | 72.7                       | 45.5                          |
| FIRE                                    | 91.4                   | 65.7                       | 48.6                          |
| Services                                | 70.0                   | 32.3                       | 43.3                          |
| Health Care                             | 52.0                   | 46.7                       | 11.8                          |
| Government                              | 31.8                   | 0.0                        | 40.9                          |

**Table 20: Top Three Human Performance Management Practices by Use**

|   | Annual Performance Reviews | Individual Development Plans | Skill Certification |
|---|----------------------------|------------------------------|---------------------|
| <b>Benchmarking Service</b>             |                            |                              |                     |
| 2001                                    | 96.9                       | 92.7                         | 77.8                |
| 2000                                    | 98.3                       | 92.5                         | 76.3                |
| 1999                                    | 97.9                       | 89.6                         | 70.9                |
| 1998                                    | 97.5                       | 91.2                         | 72.8                |
| 1997                                    | 97.9                       | 89.3                         | 68.7                |
| <b>Training Investment Leaders</b>      |                            |                              |                     |
| 2001                                    | 96.3                       | 85.2                         | 73.1                |
| 2000                                    | 92.6                       | 100                          | 85.2                |
| 1999                                    | 97.2                       | 91.7                         | 75.9                |
| 1998                                    | 94.7                       | 96.0                         | 80.6                |
| <b>Benchmarking Forum</b>               |                            |                              |                     |
| 2001                                    | NA                         | NA                           | NA                  |
| 2000                                    | NA                         | NA                           | NA                  |
| 1999                                    | 100                        | 100                          | 95.7                |
| 1998                                    | 100                        | 100                          | 95.7                |
| <b>Benchmarking Service By Size</b>     |                            |                              |                     |
| 1-499 employees                         | 94.3                       | 91.4                         | 70.0                |
| 500-1999 employees                      | 98.1                       | 92.3                         | 82.4                |
| 2000+ employees                         | 98.5                       | 94.1                         | 81.8                |
| <b>Benchmarking Service By Industry</b> |                            |                              |                     |
| AMC                                     | NA                         | NA                           | NA                  |
| Technology                              | 100                        | 92.6                         | 88.0                |
| Nondurables                             | 100                        | 100                          | 80.0                |
| Durables                                | 100                        | 89.5                         | 89.5                |
| TPU                                     | 100                        | 100                          | 72.7                |
| Trade                                   | 100                        | 100                          | 90.9                |
| FIRE                                    | 100                        | 97.1                         | 71.4                |
| Services                                | 93.7                       | 90.6                         | 68.7                |
| Health Care                             | 100                        | 88.2                         | 94.1                |
| Government                              | 90.9                       | 86.4                         | 61.9                |

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