

LESSON 39

TRAINING PRACTICES

This lesson provides statistics about training practices based on comprehensive research work.

BLS Reports on Employer-Provided Formal Training

1995 Survey of Employer Provided Training-Employee Results

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BLS REPORTS ON THE AMOUNT OF FORMAL AND INFORMAL TRAINING RECEIVED BY EMPLOYEES

Employees who work in establishments with 50 or more workers received an average of 44.5 hours of training in the period May-October 1995, according to a survey of employees conducted by the Bureau of Labor Statistics of the U.S. Department of Labor. Of these total training hours, 70 percent, or 31.1 hours, were spent receiving informal training, while 13.4 hours were in formal training. The survey also found that in the May-October 1995 period, an estimated \$647 per employee was spent on wage and salary costs of training, with about 65 percent of the amount spent on informal training.

The 1995 Survey of Employer-Provided Training (SEPT95) was sponsored by the Employment Training Administration of the U.S. Department of Labor and involved two major components: (1) a survey of establishments and (2) a survey of randomly-selected employees in the surveyed establishments. In an earlier news release (July 10, 1996, USDL#96-268), BLS reported on findings from the SEPT95 establishment survey, focusing on the amount of formal training provided and selected costs of formal training. This news release provides results from the employee survey, including information on the amount of formal and informal training received and the wage and salary cost of the time that employees spent in both formal and informal training.

Over 1,000 employees were surveyed from May through October 1995. Each employee had a personal-visit interview and provided information on his/her age, sex, race/ethnicity, occupation, education, earnings, and tenure, as well as information on his/her past training and its benefits. In addition to this background information, employees were asked to answer a series of questions on the new skills or information

they learned each day over a 10- day period. Information was collected on the nature, length, and type of each learning activity. These learning activities were then categorized by BLS as either formal training, informal training, or self learning. (See technical note for additional details on data collection and measurement methods.)

Training by type and delivery method

While working for their current employers, 84 percent of employees received some kind of formal training and 96 percent received some kind of informal training. (See table 1.) During the six-month survey period, employees received an average of 44.5 hours of training, of which 13.4 hours were spent in formal training and 31.1 hours in informal training. (See table 2.) In other words, 70 percent of the training was conducted through informal instruction.

Job-skills training. Computer training, both formal and informal, was the most commonly received type of job-skills training. Thirty-eight percent of employees received formal computer training and 54 percent received informal training in computers while working for their current employer. Professional- and technical-skills training, management training, and sales and customer-relations training also were common types of training: between 27 and 31 percent of employees received these types of formal training while working for their current employer. In terms of informal training, computer training was followed by production- and construction-related training, management training, sales and customer-relations training, and clerical and administrative support skills training. Between 30 and 34 percent of employees received each of these types of informal training while working for their current employer.

During May-October 1995, employees received more hours of computer training and production- and construction- related training than any other type of job-skills training. On average, employees received 11.8 hours of computer training during this period. About 5.1 hours, or 43 percent, of computer training was conducted formally, compared with an average of 30 percent for all types of training. In contrast, only 19 percent of the 10.6 hours of production- and construction-related training received was spent in formal training. Clerical, sales, and service- related training also had higher-than-average shares of training that were conducted informally.

General-skills training. Among the types of general-skills training, occupational-safety training was the most common with 58 percent of employees receiving formal training in this area while working for their current employer. Communications, employee-development, and quality training was the next most common at 40 percent. The percentages for receipt of informal training were 48 and 33 percent, respectively. The receipt of basic-skills training (i.e., training in elementary reading, writing, arithmetic, and English language skills) was much less common. Only 7 percent of employees received formal training and 3 percent received informal training in basic skills while working for their current employer.

In May-October 1995, employees received roughly 2-1/2 hours of training in both occupational-safety and communications, employee-development, and quality training compared with only 18 minutes of basic-skills training. Communications, employee-development, and quality training stood out as the only type of general-skills training where the majority of the training was conducted formally rather than informally.

Training by demographic characteristics

Age. The youngest and oldest workers were less likely to have received formal training during the last 12 months than were workers ages 25 to 54. (See table 3.) Similarly, the total hours of training during the May-October 1995 period were lowest for the youngest and oldest workers. Workers 24 years of age or younger and workers 55 years or older received about half as many hours of total training as prime-aged workers. (See table 4.) This general pattern is in evidence for both hours of formal and informal training, but particularly for hours of formal training. The relatively low hours of formal training among the very young provides some support for the idea that employers and/or employees may be delaying their investment in training until they are sure the employment arrangement is likely to last. The low hours of training for workers 24 years or younger may also be influenced by the fact that very young workers tend to change jobs frequently and may not have settled into their chosen career. **Sex.** Men received an estimated 48 hours of training during the six-month survey period compared with 42 hours for women. However, this difference is too small relative to the precision of the estimates to conclude that the hours of training are substantially different between men and women.

Race and ethnicity. In general, white workers tended to receive more hours of training (48.5 hours) over the six-month period than either black (27.7 hours) or Hispanic workers (32.7 hours). While blacks received about the same number of hours of formal training as white workers, they received significantly fewer hours of informal training.

Educational attainment. Employees with a high-school education or less were not as likely to have received formal training during the last 12 months as more educated counterparts. About 60 percent of those with a high-school diploma or less received formal training during the last 12 months, compared with 90 percent of those with a bachelor's degree or higher. Hours of training in May-October 1995 also were smallest for the least-educated group, though the differences in hours of training per employee across different educational attainment groups were not substantial.

Training by employment characteristics

Tenure. The number of total training hours per employee over the May-October 1995 period appears to follow a U-shaped pattern with respect to tenure with current employer. For instance, employees with fewer than two years of tenure received an average of 65 hours of training; workers with more than two years but fewer than five

years at the establishment received an average of 24 hours, and those with 5-10 years of tenure received 47 hours. (See table 6.)

Full- or part-time. Full-time workers (35 or more hours per week) were more likely to have received formal training in the last 12 months than were part-time workers (72 percent versus 56 percent). (See table 5.) Similarly, during the May-October 1995 period, full-time workers received an average of 49 hours of training, versus 13 hours for part-time workers. Full-time workers received nearly five times as much informal training (34 hours for full- versus 8 hours for part-time workers) and three times as much formal training (15 hours versus 5 hours).

Occupation. Service workers are less likely than those in other occupations to have received formal training during the last 12 months. Professional and technical workers received the highest number of hours of both formal and informal training in May-October 1995. For formal training alone, there was a considerable gap between the number of hours of training received by professional and technical workers (22 hours) and the number received by employees in most other occupations, particularly managers (4 hours) and service workers (6 hours).

Earnings quartiles. Those in the bottom quartile of the earnings distribution were less likely to receive formal training and received fewer hours of formal training than higher earners. Sixty-two percent of those in the bottom quartile received formal training in the last 12 months compared with 84 percent of those in the top quartile. Low earners received 4 hours of formal training during the six-month survey period versus 23 hours for the top quartile. For informal training, however, significant differences across earnings quartiles are not observed.

Training by establishment characteristics

Establishment size. Employees in small establishments (50- 99 employees) were less likely to have received formal training than those in larger ones. Some 62 percent of those in small establishments received formal training in the last 12 months, versus 73 percent of those in establishments with 100-499 employees and 71 percent in establishments with 500 or more employees. (See table 7.)

Hours of formal training per employee increased with size, ranging from 8 hours for small establishments and 17 hours for large ones (500 or more employees) between May and October, 1995. There is no clear relationship between establishment size and the hours of informal training per employee. (See table 8.)

Industry. The amount of training received by employees ranged from a low of 34 hours per employee in wholesale trade to a high of 51 hours per employee in durable manufacturing during the six-month survey period. Industries varied in the extent to which they relied upon formal training, with the proportion of total hours of training spent in formal training spanning from a low of 12 percent for retail trade to a high of 59 percent for durable manufacturing.

Benefits. Employees at establishments providing a greater number of the selected benefits listed in our questionnaire were more likely to have received formal training

during the last 12 months. For instance, 77 percent of workers in establishments with eight or more of the selected benefits received formal training in the last 12 months, versus 57 percent in establishments with fewer than four of the selected benefits.

Contract workers. Employees in establishments that used some contract workers were more likely to have received formal training during the last 12 months than employees in establishments that did not (77 percent versus 66 percent). They also received more formal training during the six-month survey period (19 hours per employee) than employees in establishments that did not use contract workers (9 hours per employee).

Employee Turnover. A relatively small proportion of employees in high-turnover establishments received formal training in the last 12 months (61 percent compared with 75 percent for medium-turnover and 78 percent for low-turnover establishments). The amount of total training received by employees over the May-October 1995 period does not vary much on the basis of an establishment's turnover rate as measured over the three months preceding the survey date. However, workers at establishments with high rates of turnover received less formal training than those with medium or low levels.

Benefits employees received from training

Among those employees who received formal training while working for their current employer, about 14 percent indicated that they received a promotion when the training was satisfactorily completed or soon thereafter, and 19 percent received a higher rate of pay or bonus. Less than one percent of trained employees indicated that they received no benefits from their formal training. The most commonly cited benefit was that employees "learned a valuable skill that improved their job performance", chosen by 78 percent of trainees. (See table 9.)

How formal training is delivered

Classes or workshops conducted by company training personnel were the most common types of formal training activities in which employees participated; 76 percent of those receiving formal training reported this activity. This activity was followed by "classes or workshops conducted by outside trainers" and "attending lectures, conferences or seminars" at 48 and 36 percent, respectively. Only 17 percent of those who received formal training in the last 12 months indicated that they had taken courses at educational institutions. (See table 10.)

Wage and salary costs of training by establishment characteristics

The wages and salaries that employees receive while in training represents an indirect cost to employers of providing training, as the time that employees spend in training is time that could have been spent working at their jobs. The value of that time can be estimated by multiplying an employee's hourly wage by the hours he/she spent in training. This measure is referred to as the wage and salary costs of training. Over the

May-October 1995 period, small establishments spent \$462 per employee for wage and salary costs, versus \$654 for medium-sized establishments and \$754 for large ones. The lower spending levels of small establishments were primarily the result of less spending on formal training. Retail trade employers spent the least per employee--\$49 per employee as compared with \$149 for wholesale trade (the next lowest) and \$418 for mining (the highest). (See table 11.)

An estimated total of \$37 billion was spent on the indirect wage and salary costs of training during May- October 1995. Establishments with 100-499 employees accounted for the largest share of the total (\$16.7 billion), compared with \$14.6 billion for establishments with 500 or more employees and \$5.7 billion for those with 50-99 employees. The service industry spent the most on training, \$12.5 billion, primarily reflecting its large share of employment. Mining, with the smallest share of employment, accounted for the least spending, about \$306 million. (See table 12.)

TECHNICAL NOTE

Scope of the survey

The data presented in this release represent the universe of employees in private establishments in the 50 states and the District of Columbia that had 50 or more employees during the fourth quarter of 1993 and were classifiable into one of the following 2-digit Standard Industrial Classifications (SIC) based on the 1987 Standard Industrial Classification Manual:

Industry	SIC code
Mining	10, 12 - 14
Construction	15 - 17
Nondurable manufacturing	20 - 23, 26 - 31
Durable manufacturing	24, 25, 32 - 39
Transportation and public utilities	41, 42, 44 - 49
Wholesale trade	50, 51
Retail trade	52 - 59
Finance, insurance, and real estate	60 - 65, 67
Services	07, 70, 72, 73, 75, 76, 78 - 84, 86, 87, 89.

Major definitions and concepts

A broad view of training is adopted in the employee portion of the 1995 Survey of Employer-Provided Training (SEPT95). A training activity may occur any time employees are taught a skill or provided with information to help them do their jobs

better. The skill or information may be learned through formal or informal training methods.

Formal training is defined in the survey as training that is planned in advance and has a structured format and defined curriculum. Examples include attending a class conducted by an employee of the company, attending a seminar given by a professional trainer, or watching a planned audio-visual presentation.

Informal training is unstructured, unplanned, and easily adapted to situations or individuals. Examples include having a co-worker show you how to use a piece of equipment or having a supervisor teach you a skill related to your job.

Job-skills training refers to training that upgrades employee skills, extends employee skills, or qualifies workers for a job.

Management training is training in supervising employees and in implementing employment practices. Examples include training in conducting employee appraisals, managing employees, resolving conflicts, following selection/hiring practices, and implementing regulations and policies.

Professional and technical skills training is training in professional areas such as engineering, nursing, accounting, science, law, medicine, training, education, and business; or in technical areas such as drafting, electronics, and medical technology.

Computer procedures, programming, and software training includes training in computer literacy, security, programming, use of standard commercial and other software, and methods for developing software applications.

Clerical and administrative support skills training is training in areas such as typing, data entry, filing, business correspondence, and administrative record keeping, including budget and payroll.

Sales and customer relations training is training in areas ranging from how to maintain or improve customer relations to specific selling techniques. Examples include training in how to deal with angry customers and information about specific product lines.

Service-related training includes training in the traditional service occupations-food, cleaning, protective, or personal services. Examples include training in waiting tables, preparing food, using cleaning equipment, conducting security work, providing care for children or the elderly, tailoring, and barbering.

Production- and construction-related training is training in areas such as operating or repairing machinery and equipment; manufacturing, assembling, distributing, installing, or inspecting goods; and constructing, altering, or maintaining buildings and other structures.

General-skills training refers to training that is not closely tied to specific job-related skills and/or training that is usually provided to a wide range of workers. It includes: basic skills; occupational safety; employee health and wellness; orientation; awareness; and communications, employee development, or quality training.

Basic skills training is training in elementary reading, writing, arithmetic, and English language skills, including English as a second language.

Occupational safety training provides information on safety hazards, procedures, and regulations.

Employee health and wellness training provides information and guidance on personal health issues such as stress management, substance abuse, nutrition, and smoking cessation.

Orientation training introduces new employees to personnel and workplace practices and to overall company policies. Awareness training provides information on policies and practices that affect employee relations or the work environment, including Equal Employment Opportunity practices (EEO), affirmative action, workplace diversity, sexual harassment, and AIDS awareness.

Communications, employee development, and quality training is training in public speaking, conducting meetings, writing, time management, leadership, working in groups or teams, employee involvement, total quality management, and job reengineering.

An establishment is an economic unit which produces goods or services. It is usually at a single physical location and is engaged predominantly in one type of economic activity.

The list of establishment benefits included: Paid vacation, paid sick leave, health-care plan, employee-assistance program, employee-wellness program, pension plan, profit sharing, flexible work schedules, flexible work site or telecommuting, employer-financed child care, and paid parental/family leave.

The list of establishment workplace practices included: Pay increases directly linked to mastering new skills, employee involvement in technology and equipment decisions, job redesign or reengineering, job rotation, just-in-time inventories, co-worker review of employee performance, quality circles, total quality management, and self-directed work teams.

Labor turnover is measured by computing the ratio of hires and separations in a three-month period to average employment levels.

Employment change is measured by computing the ratio of change over a three-month period to the average employment over those three months.

Data collection procedures

The employee component of SEPT95 was conducted in tandem with the employer survey. (For technical information on the employer survey, see USDL#96-268.) Two survey instruments were utilized--an employee questionnaire and an employee training log. The employee questionnaire focused on employment and demographic characteristics. Questions were included on job, employer and occupational tenure, income, weeks and hours worked, education, sex, age, race and ethnicity, marital status, and number of children. In addition, the employee questionnaire included general questions on types of training provided by the employer during the employee's tenure and in the last 12 months and on the benefits of training. The employee log collected detailed information on all training and learning activities the employee participated in over a 10-day period. The requested information on the activity included a description, its duration, who was involved, and what type of training medium was used.

Experienced field economists in the BLS regional offices requested permission from establishment representatives to randomly sample and interview two employees. During the interview, field economists administered the employee questionnaire to the respondent using computer-assisted personal interviewing (CAPI). The field economist then collected the employee log via paper and pencil for the three-day period prior to the day of the interview and left behind a training log for the employee to complete over the next seven days and mail back to the field economist.

Sampling Procedures

The sampling frame for the employee survey was a listing (usually a payroll listing) of employees supplied by the establishment respondent. The total number of employees on the listing was required to match that reported by the establishment respondent. Field economists used a computer-generated random number program based on a simple random selection method to randomly sample two employees from all of the employees in the establishment. If one or more of the employees was unavailable, the field economists could generate up to six random numbers to try to secure the participation of two employees. For the Employee Questionnaire, each participating employee was assigned an Employee Sampling Factor equal to the total number of employees in the establishment divided by the number of participating employees in that establishment. For the Employee Training Log, each participating employee was assigned a Day Sampling Factor which was equal to the number of days in the survey's reference period (184) divided by the number of days (3 to 10) on the employee training log.

Response

Of the 1,543 establishments selected, 1,433 were eligible for survey participation (excluding those out-of-business or out-of-scope), and 1,062 participated in the employer survey. The desired employee sample size for the employee survey was 2,866 (two employees from each of the 1,433 eligible sampled establishments). Usable employee questionnaires were collected from 1,074 employees for a response rate of 37.5 percent. Usable employee logs were collected from 1,013 employees for a response rate of 35.3 percent. Using the 1,062 establishments that participated in the employer survey as the

eligible pool for employees, the number of eligible employees changes to 2,214, and the response rate changes to 50.6 percent for the employee questionnaire and 47.7 percent for the employee log.

Estimation

Missing data. Weighting class non-response adjustment procedures were used for each of the survey's instruments-- the employee questionnaire and the employee training log-- and account for the number of sampled establishments that did not provide any data for the instrument or provided data for only one employee. For otherwise usable instruments, a hot-deck procedure was used to impute a value for any item on the instrument for which the establishment or employee could not provide data.

Benchmarking. To increase the precision of the estimates, the weights of the usable instruments were adjusted to make the weighted occupational distribution of the instruments the same as the weighted occupational distribution in the BLS Occupational Employment Survey.

Weighting. Each of the usable employee instruments has a Final Weight associated with it. For the Employee Questionnaires, the Final Weight is the product of the Establishment Sampling Weight, Subsampling Factor, Employee Sampling Factor, Questionnaire Nonresponse Adjustments, and Questionnaire Benchmark Adjustment. For the Employee Training Log, the Final Weight is the product of the Establishment Sampling Weight, Subsampling Factor, Employee Sampling Factor, Day Sampling Factor, Log Nonresponse Adjustments, and Log Benchmark Adjustment. For technical information on weighting for the employer survey, see news release USDL#96-268.

Estimates. For this release, the population total for a variable of interest is estimated by summing, over all usable instruments, the product of an instrument's Final Weight and the instrument's value for the variable of interest. Proportions are estimated by dividing the estimated total for the variable in the numerator by the estimated population count. Rates are estimated by dividing the estimated total for the variable in the numerator by the estimated total for the variable in the denominator. For subpopulation estimates, the summation is over only the instruments that fall within the subpopulation.

Reliability of estimates

The estimates in this release are based on a probability sample rather than a census of the population. The samples selected for the employer and employee survey were one of many possible samples, each of which could have produced different estimates that may have differed from the results obtained from a census of the population. This "sampling error" or the variation in the sample estimates across all possible samples that could have been selected is measured by the standard error. The standard error of each of the estimates given in this release was calculated using balanced repeated replication.

Non-sampling error and quality control measures

In addition to sampling errors, estimates are subject to non-sampling errors that can be attributed to many sources: definitional difficulties; differences in the interpretation of questions; errors in recording, coding, or processing the data, etc. Several processes were used in the survey to reduce the non-sampling errors.

Survey development. The survey instruments were developed and tested by BLS. There were a number of major testing activities involving the employee survey. The employee questionnaire and log was tested in four focus groups involving 48 employees, 24 one-on-one in-depth interviews, and 10 establishment site visits. Final survey procedures were tested in a 25-establishment field test of the employer/employee survey conducted by BLS field economists.

Validation and review. Survey participation was validated for approximately 5 percent of establishments. The establishments contacted for the validation were randomly selected and survey respondents were contacted by telephone to verify participation in the employer and employee components of the survey. Since this was the first time SEPT95 had been conducted, 100 percent of the individual and summarized data were subject to professional review to verify the accuracy and reasonableness of the data. In addition, edit checks were programmed into the CAPI system used by the field economist and also were carried out on the aggregate survey data.

A detailed comparison was conducted of training-related characteristics of establishments that did and did not give us permission to interview employees. The comparison indicated that this source of nonresponse bias was not large enough to substantially affect estimates.

An analysis of estimates generated using only employees that were selected with the first two random numbers (418 employees) and of estimates generated using employees selected with the first through sixth random numbers (1,074 employees) demonstrated that using the larger sample to generate estimates did not introduce significant bias into the estimates but did significantly reduce the sampling errors of the estimates.

Additional information

BLS plans to issue a report that provides more detailed information and analysis of SEPT95. For further information, please contact (202) 606-7386.

Table 2. Hours of training per employee by type of training, May-October 1995

Table 2. Hours of training per employee by type of training,
May-October 1995

Hours of Training

Characteristic	Total	Formal	Informal
Total All employed*	44.5	13.4	31.1
Job skills			
Management	1.7	.6	1.1
Professional and technical skills	6.2	1.9	4.3
Computer procedures, programming, and software	11.8	5.1	6.8
Clerical administrative support skills	3.4	.6	2.8
Sales and customer relations	3.2	.6	2.6
Service-related	2.1	.3	1.8
Production and construction-related	10.6	2.0	8.6
General skills			
Basic skills	.3	.0	.2
Occupational safety	2.4	.6	1.8
Communications, employee development, and quality training	2.6	1.5	1.2
Other	.2	.2	.0

*Employees working in establishments of 50 or more employees.

Table 11. Wage and salary costs of training per employee by selected establishment characteristics, May-October 1995

Table 11. Wage and salary costs of training per employee by selected establishment characteristics, May-October 1995

Characteristics	Wage and salary costs		
	Total training	Formal training	Informal
TOTAL			

All employees ¹	\$ 646.9	\$ 224.1	\$422.8
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Industry

Mining	741.9	418.0	323.8
Construction	746.5	195.0	551.6
Manufacturing:			
Durables goods	815.2	346.5	468.6
Nondurables goods	591.9	353.8	238.1
Transportation, communications,and public utilities	471.3	236.8	234.5
Wholesale trade	542.6	149.4	393.1
Retail trade	463.4	49.1	414.2
Finance,insurance, and real estate	878.9	235.3	643.6
Services	718.1	252.4	465.7

Establishment size

50 to 99 employees	462.0	110.2	351.8
100 to 499 employees	654.3	215.3	439.0
500 employees or more	753.5	307.5	446.0

Number of selected
establishment
benefits²

Fewer than 4	704.2	52.8	651.4
4 or 5	451.2	167.9	283.3
6 or 7	575.8	249.1	326.7
8 or more	890.0	274.3	615.7

Number of selected
establishment
work practices³

0	814.0	181.2	632.8
1 or 2	356.1	73.7	282.5
3 or 4	730.6	231.3	499.3
5 or 6	685.4	321.9	363.5
7 or more	846.3	380.1	466.2

Presence of contract
employees

None	512.8	142.0	370.8
Some	797.1	316.1	481.0

Turnover rate⁴

Low	886.6	546.2	340.4
Medium	712.4	243.4	469.0
High	501.6	137.7	364.0

Employment change over
the last 3 months

Declining	643.5	205.9	437.6
Stable	528.4	184.1	344.3
Increasing	687.1	244.9	442.2

Part-time employment

None	724.3	247.6	476.7
Some, but less than 10%	651.0	253.5	397.5
10 percent or more	607.4	191.4	416.0

- 1 Employees working in establishments of 50 or more employees.
- 2 The survey questionnaire asked respondents of the establishment to select which, if any, of 11 listed benefits they provided to their employees.
- 3 The survey questionnaire asked respondents of the establishment to select which, if any, of nine listed workplace practices they used at their establishment.
- 4 A turnover rate of less than 1.0 percent of average employment over the prior three months was defined as low, 1 to 25 percent was considered medium, and 25 percent or

Table 3. Percent of employees who received training by selected demographic characteristics

Table 3. Percent of employees who received training by selected demographic characteristics

Characteristic	Received formal training		
	While with current employer	While with current employer last 12 months	While with current employer within the last 12 months
	Received	Received	Received
	informal	informal	informal

employer

Total			
All employed*	84.4	69.8	95.8
Age			
24 years and younger	81.6	63.4	100.0
25 to 34 years	91.3	78.5	96.9
35 to 44 years	88.1	74.7	97.7
45 to 54 years	77.9	64.7	93.7
55 years and over	74.4	50.7	89.9
Sex			
Men	81.7	66.5	96.2
Women	87.2	73.1	95.4
Race and origin			
White	85.2	70.4	95.5
Black	82.6	70.6	96.4
Hispanic origin	90.8	73.7	96.9
Educational attainment			
High school graduates or less	82.3	60.1	95.0
Some college	79.1	67.8	96.2
Bachelor's degree or higher	96.8	89.7	96.6

*Employees working in establishments of 50 or more employees.

Table 5. Percent of employees who received training by selected employment characteristics

Table 5. Percent of employees who received training by selected employment characteristics

Characteristic	Received formal training		
	While with current employer	Received within the last 12 months	Received informal training while with current

employer

Total

All employed*	84.4	69.8	95.8
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Usual hours worked

Under 35 hours	68.5	56.1	98.9
35 hours or more	86.6	71.6	95.4

Earnings

First quartile	76.7	61.8	97.9
Second quartile	87.6	74.5	96.7
Third quartile	77.8	62.0	92.4
Fourth quartile	98.5	84.0	97.1

Occupation

Managerial and administrative	87.1	80.2	89.6
Professional, paraprofessional, and technical	95.3	84.8	93.4
Sales, clerical, and administrative support	89.3	72.5	97.6
Service	70.7	49.8	93.6
Production, construction, operating, maintenance, and material handling	80.0	66.3	98.4

Tenure with current employer

Up to 2 years	73.3	67.5	95.7
More than 2, up to 5	74.8	56.8	94.0
More than 5, up to 10	96.0	79.7	96.8
More than 10 years	94.0	75.3	96.9

Tenure in current occupation

Up to 2 years	81.3	73.4	99.2
More than 2, up to 5	87.3	68.4	91.3
More than 5, up to 10	84.1	68.9	98.5
More than 10 years	84.6	69.2	95.1

Tenure in current job

Up to 2 years	81.5	73.4	97.2
More than 2, up to 5	80.5	59.7	91.2
More than 5, up to 10	92.1	78.1	98.8
More than 10 years	94.2	66.5	97.7

*Employees working in establishments of 50 or more employees.

Table 6. Hours of training per employee by selected employment characteristics, May-October 1995

Table 6. Hours of training per employee by selected employment characteristics, May-October 1995

Characteristic	Hours of Training		
	Total	Formal	Informal
Total All employed*	44.5	13.4	31.1
Usual hours worked			
Under 35 hours	12.5	4.8	7.7
35 hours or more	48.8	14.6	34.2
Earnings			
First quartile	34.7	4.1	30.6
Second quartile	42.1	11.6	30.5
Third quartile	55.5	15.9	39.6
Fourth quartile	43.9	22.8	21.1
Occupation			
Managerial and administrative	26.7	4.3	22.4
Professional, paraprofessional, and technical	61.1	22.3	38.7
Sales, clerical, and	33.3	10.2	23.2

administrative support			
Service	27.7	5.6	22.1
Production, construction, operating, maintenance, and material handling	53.7	15.2	38.5

Tenure with current employer

Up to 2 years	65.3	8.9	56.5
More than 2, up to 5	24.1	4.5	19.5
More than 5, up to 10	46.5	19.5	27.0
More than 10 years	41.6	21.1	20.5

Tenure in current occupation

Up to 2 years	77.2	12.5	64.7
More than 2, up to 5	29.9	7.5	22.4
More than 5, up to 10	29.5	9.6	20.0
More than 10 years	43.8	19.4	24.4

Tenure in current job

Up to 2 years	62.1	13.2	48.9
More than 2, up to 5	24.9	4.6	20.3
More than 5, up to 10	36.9	22.6	14.4
More than 10 years	37.3	23.6	13.7

*Employees working in establishments of 50 or more employees.

Table 7. Percent of employees who received training by selected establishment characteristics

Table 7. Percent of employees who received training by selected establishment characteristics

	Received formal training		
	Received		
Characteristic	While with current employer	Within the last 12 months	informal training while with current employer

Total			
All employed ¹	84.4	69.8	95.8

Industry

Mining	98.0	94.7	98.8
Construction	88.8	71.2	92.5
Manufacturing:			
Durables goods	94.1	78.3	99.0
Nondurables goods	93.7	85.4	96.9
Transportation, communications, and public utilities	93.2	81.4	98.1
Wholesale trade	79.7	68.1	94.2
Retail trade	70.0	48.8	91.4
Finance, insurance, and real estate	91.6	87.4	96.4
Services	84.3	70.7	97.3

Establishment size

50 to 99 employees	78.9	61.6	97.1
100 to 499 employees	84.7	73.0	95.0
500 employees or more	87.7	71.0	96.1

Number of selected
establishment benefits²

Fewer than 4	71.0	57.2	88.5
4 or 5	70.0	57.8	93.4
6 or 7	91.5	74.4	95.6
8 or more	90.3	76.5	99.7

Number of selected
establishment
work practices³

0	71.8	57.4	94.6
1 or 2	84.0	66.5	97.7
3 or 4	75.8	66.8	96.5
5 or 6	94.9	80.5	97.9
7 or more	95.0	74.6	88.9

Presence of contract
employees

None	79.5	63.6	95.9
Some	90.1	77.0	95.8

Turnover rate⁴

Low	87.4	78.0	98.0
Medium	89.8	74.7	97.3
High	75.5	60.7	93.2

Employment change over
the last 3 months

Declining	82.6	70.3	98.6
Stable	88.3	74.3	94.9
Increasing	83.9	68.0	95.0

Part-time employment

None	88.1	73.5	96.7
Some, but less than 10%	90.4	72.8	95.0
10 percent or more	78.3	65.8	96.1

1 Employees working in establishments of 50 or more employees.

2 The survey questionnaire asked respondents of the establishment to select which, if any, of 11 listed benefits they provided to their employees.

3 The survey questionnaire asked respondents of the establishment to select which, if any, of nine listed workplace practices they used at their establishment.

4 A turnover rate of less than 1.0 percent of average employment over the prior three months was defined as low, 1 to 25 percent was considered medium, and 25 percent or greater was considered high.

Table 8. Hours of training per employee by selected establishment characteristics, May-October 1995

Table 8. Hours of training per employee by selected establishment characteristics, May-October 1995

Characteristic	Hours of Training		
	Total	Formal	Informal
Total			

All employed ¹	44.5	13.4	31.1
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Industry

Mining	36.1	17.2	18.9
Construction	47.5	11.4	36.1
Manufacturing:			
Durables goods	51.1	20.8	30.3
Nondurables goods	40.2	21.7	18.5
Transportation, communications, and public utilities	37.2	17.6	19.7
Wholesale trade	33.8	8.3	25.4
Retail trade	36.8	4.2	32.6
Finance, insurance, and real estate	50.5	15.9	34.7
Services	50.2	13.2	37.0

Establishment size

50 to 99 employees	40.1	8.2	31.9
100 to 499 employees	48.0	13.5	34.5
500 employees or more	42.6	16.6	26.0

Number of selected
establishment
benefits²

Fewer than 4	58.4	5.9	52.6
4 or 5	42.5	12.8	29.7
6 or 7	38.7	13.9	24.8
8 or more	50.6	14.8	35.9

Number of selected
establishment
work practices³

0	57.8	14.7	43.0
1 or 2	29.8	5.8	24.0
3 or 4	57.6	15.9	41.7
5 or 6	36.7	15.3	21.4
7 or more	49.0	19.1	29.9

Presence of contract
employees

None	41.9	8.7	33.2
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Some	47.4	18.7	28.7
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Turnover rate⁴

Low	46.3	27.3	19.0
Medium	45.9	15.6	30.4
High	41.8	7.6	34.2

Employment change over
the last 3 months

Declining	52.0	13.3	38.6
Stable	34.7	10.9	23.9
Increasing	44.5	14.3	30.2

Part-time employment

None	57.6	14.7	42.9
Some, but less than 10%	43.0	15.8	27.2
10 percent or more	39.4	11.0	28.3

¹ Employees working in establishments of 50 or more employees.

² The survey questionnaire asked respondents of the establishment to select which, if any, of 11 listed benefits they provided to their employees.

³ The survey questionnaire asked respondents of the establishment to select which, if any, of nine listed workplace practices they used at their establishment.

⁴ A turnover rate of less than 1.0 percent of average employment over the prior three months was defined as low, 1 to 25 percent was considered medium, and 25 percent or greater was considered high.

Table 10. Percent of trained employees participating in any of the following formal training activities within the last 12 months by selected demographic characteristics

Table 10. Percent of trained employees participating in any of the following formal training activities within the last 12 months by selected demographic characteristics

Classes or workshops Conducted by	Courses Conducted	Attended paid for	lectures,
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Table 12. Total wage and salary costs of training by industry and size class, May-October 1995
(In thousands of dollars)

Wage and salary costs

Characteristic	Total training	Formal training	Informal training
All employees*	\$37,061,259	\$12,838,575	\$24,221,982
Industry			
Mining	305,571	172,181	133,390
Construction	1,321,935	345,217	976,718
Manufacturing:			
Durables goods	7,655,647	3,254,112	4,400,978
Nondurables goods	3,668,602	2,192,938	1,475,664
Transportation, communications, and public utilities	1,614,793	811,305	803,444
Wholesale trade	1,278,848	352,234	926,614
Retail trade	6,285,244	666,128	5,619,116
Finance, insurance, and real estate	2,425,810	649,319	1,776,391
Services	12,504,809	4,395,142	8,109,667
Establishment size			
50 to 99 employees	5,652,306	1,348,650	4,303,656
100 to 499 employees	16,781,558	5,521,417	11,260,007
500 employees or more	14,627,394	5,968,508	8,658,319

*Employees working in establishments of 50 or more employees.

OTHER PRACTICES

Technical Information: (202) 606-7386 USDL 96-515

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Thursday, December 19, 1996

BLS REPORTS ON THE AMOUNT OF FORMAL AND INFORMAL TRAINING RECEIVED BY EMPLOYEES

Employees who work in establishments with 50 or more workers received an average of 44.5 hours of training in the period May-October 1995, according to a survey of employees conducted by the Bureau of Labor Statistics of the U.S. Department of Labor. Of these total training hours, 70 percent, or 31.1 hours, were spent receiving informal training, while 13.4 hours were in formal training. The survey also found that in the May-October 1995 period, an estimated \$647 per employee was spent on wage and salary costs of training, with about 65 percent of the amount spent on informal training.

The 1995 Survey of Employer-Provided Training (SEPT95) was sponsored by the Employment Training Administration of the U.S. Department of Labor and involved two major components: (1) a survey of establishments and (2) a survey of randomly-selected employees in the surveyed establishments. In an earlier news release (July 10, 1996, USDL#96-268), BLS reported on findings from the SEPT95 establishment survey, focusing on the amount of formal training provided and selected costs of formal training. This news release provides results from the employee survey, including information on the amount of formal and informal training received and the wage and salary cost of the time that employees spent in both formal and informal training.

Over 1,000 employees were surveyed from May through October 1995. Each employee had a personal-visit interview and provided information on his/her age, sex, race/ethnicity, occupation, education, earnings, and tenure, as well as information on his/her past training and its benefits. In addition to this background information, employees were asked to answer a series of questions on the new skills or information they learned each day over a 10- day period. Information was collected on the nature, length, and type of each learning activity. These learning activities were then categorized by BLS as either formal training, informal training, or self learning. (See technical note for additional details on data collection and measurement methods.)

Training by type and delivery method

While working for their current employers, 84 percent of employees received some kind of formal training and 96 percent received some kind of informal training. (See table 1.) During the six-month survey period, employees received an average of 44.5 hours of training, of which 13.4 hours were spent in formal training and 31.1 hours in informal training. (See table 2.) In other words, 70 percent of the training was conducted through informal instruction.

Job-skills training. Computer training, both formal and informal, was the most commonly received type of job-skills training. Thirty-eight percent of employees received formal computer training and 54 percent received informal training in computers while working for their current employer. Professional- and technical-skills training, management training, and sales and customer-relations training also were common types

of training: between 27 and 31 percent of employees received these types of formal training while working for their current employer. In terms of informal training, computer training was followed by production- and construction-related training, management training, sales and customer-relations training, and clerical and administrative support skills training. Between 30 and 34 percent of employees received each of these types of informal training while working for their current employer.

During May-October 1995, employees received more hours of computer training and production- and construction- related training than any other type of job-skills training. On average, employees received 11.8 hours of computer training during this period. About 5.1 hours, or 43 percent, of computer training was conducted formally, compared with an average of 30 percent for all types of training. In contrast, only 19 percent of the 10.6 hours of production- and construction-related training received was spent in formal training. Clerical, sales, and service- related training also had higher-than-average shares of training that were conducted informally.

General-skills training. Among the types of general-skills training, occupational-safety training was the most common with 58 percent of employees receiving formal training in this area while working for their current employer. Communications, employee-development, and quality training was the next most common at 40 percent. The percentages for receipt of informal training were 48 and 33 percent, respectively. The receipt of basic-skills training (i.e., training in elementary reading, writing, arithmetic, and English language skills) was much less common. Only 7 percent of employees received formal training and 3 percent received informal training in basic skills while working for their current employer.

In May-October 1995, employees received roughly 2-1/2 hours of training in both occupational-safety and communications, employee-development, and quality training compared with only 18 minutes of basic-skills training. Communications, employee-development, and quality training stood out as the only type of general-skills training where the majority of the training was conducted formally rather than informally.

Training by demographic characteristics

Age. The youngest and oldest workers were less likely to have received formal training during the last 12 months than were workers ages 25 to 54. (See table 3.) Similarly, the total hours of training during the May-October 1995 period were lowest for the youngest and oldest workers. Workers 24 years of age or younger and workers 55 years or older received about half as many hours of total training as prime- aged workers. (See table 4.) This general pattern is in evidence for both hours of formal and informal training, but particularly for hours of formal training. The relatively low hours of formal training among the very young provides some support for the idea that employers and/or employees may be delaying their investment in training until they are sure the employment arrangement is likely to last. The low hours of training for workers 24 years or younger may also be influenced by the fact that very young workers tend to change jobs frequently and may not have settled into their chosen career.

Sex. Men received an estimated 48 hours of training during the six-month survey period compared with 42 hours for women. However, this difference is too small relative to the precision of the estimates to conclude that the hours of training are substantially different between men and women.

Race and ethnicity. In general, white workers tended to receive more hours of training (48.5 hours) over the six-month period than either black (27.7 hours) or Hispanic workers (32.7 hours). While blacks received about the same number of hours of formal training as white workers, they received significantly fewer hours of informal training.

Educational attainment. Employees with a high-school education or less were not as likely to have received formal training during the last 12 months as more educated counterparts. About 60 percent of those with a high-school diploma or less received formal training during the last 12 months, compared with 90 percent of those with a bachelor's degree or higher. Hours of training in May-October 1995 also were smallest for the least-educated group, though the differences in hours of training per employee across different educational attainment groups were not substantial.

Training by employment characteristics

Tenure. The number of total training hours per employee over the May-October 1995 period appears to follow a U-shaped pattern with respect to tenure with current employer. For instance, employees with fewer than two years of tenure received an average of 65 hours of training; workers with more than two years but fewer than five years at the establishment received an average of 24 hours, and those with 5-10 years of tenure received 47 hours. (See table 6.)

Full- or part-time. Full-time workers (35 or more hours per week) were more likely to have received formal training in the last 12 months than were part-time workers (72 percent versus 56 percent). (See table 5.) Similarly, during the May-October 1995 period, full-time workers received an average of 49 hours of training, versus 13 hours for part-time workers. Full-time workers received nearly five times much informal training (34 hours for full- versus 8 hours for part-time workers) and three times as much formal training (15 hours versus 5 hours).

Occupation. Service workers are less likely than those in other occupations to have received formal training during the last 12 months. Professional and technical workers received the highest number of hours of both formal and informal training in May-October 1995. For formal training alone, there was a considerable gap between the number of hours of training received by professional and technical workers (22 hours) and the number received by employees in most other occupations, particularly managers (4 hours) and service workers (6 hours).

Earnings quartiles. Those in the bottom quartile of the earnings distribution were less likely to receive formal training and received fewer hours of formal training than higher earners. Sixty-two percent of those in the bottom quartile received formal training in the

last 12 months compared with 84 percent of those in the top quartile. Low earners received 4 hours of formal training during the six-month survey period versus 23 hours for the top quartile. For informal training, however, significant differences across earnings quartiles are not observed.

Training by establishment characteristics

Establishment size. Employees in small establishments (50- 99 employees) were less likely to have received formal training than those in larger ones. Some 62 percent of those in small establishments received formal training in the last 12 months, versus 73 percent of those in establishments with 100-499 employees and 71 percent in establishments with 500 or more employees. (See table 7.)

Hours of formal training per employee increased with size, ranging from 8 hours for small establishments and 17 hours for large ones (500 or more employees) between May and October, 1995. There is no clear relationship between establishment size and the hours of informal training per employee. (See table 8.)

Industry. The amount of training received by employees ranged from a low of 34 hours per employee in wholesale trade to a high of 51 hours per employee in durable manufacturing during the six-month survey period. Industries varied in the extent to which they relied upon formal training, with the proportion of total hours of training spent in formal training spanning from a low of 12 percent for retail trade to a high of 59 percent for durable manufacturing.

Benefits. Employees at establishments providing a greater number of the selected benefits listed in our questionnaire were more likely to have received formal training during the last 12 months. For instance, 77 percent of workers in establishments with eight or more of the selected benefits received formal training in the last 12 months, versus 57 percent in establishments with fewer than four of the selected benefits.

Contract workers. Employees in establishments that used some contract workers were more likely to have received formal training during the last 12 months than employees in establishments that did not (77 percent versus 66 percent). They also received more formal training during the six-month survey period (19 hours per employee) than employees in establishments that did not use contract workers (9 hours per employee).

Employee Turnover. A relatively small proportion of employees in high-turnover establishments received formal training in the last 12 months (61 percent compared with 75 percent for medium-turnover and 78 percent for low-turnover establishments). The amount of total training received by employees over the May-October 1995 period does not vary much on the basis of an establishment's turnover rate as measured over the three months preceding the survey date. However, workers at establishments with high rates of turnover received less formal training than those with medium or low levels.

Benefits employees received from training

Among those employees who received formal training while working for their current employer, about 14 percent indicated that they received a promotion when the training was satisfactorily completed or soon thereafter, and 19 percent received a higher rate of pay or bonus. Less than one percent of trained employees indicated that they received no benefits from their formal training. The most commonly cited benefit was that employees "learned a valuable skill that improved their job performance", chosen by 78 percent of trainees. (See table 9.)

How formal training is delivered

Classes or workshops conducted by company training personnel were the most common types of formal training activities in which employees participated; 76 percent of those receiving formal training reported this activity. This activity was followed by "classes or workshops conducted by outside trainers" and "attending lectures, conferences or seminars" at 48 and 36 percent, respectively. Only 17 percent of those who received formal training in the last 12 months indicated that they had taken courses at educational institutions. (See table 10.)

Wage and salary costs of training by establishment characteristics

The wages and salaries that employees receive while in training represents an indirect cost to employers of providing training, as the time that employees spend in training is time that could have been spent working at their jobs. The value of that time can be estimated by multiplying an employee's hourly wage by the hours he/she spent in training. This measure is referred to as the wage and salary costs of training. Over the May-October 1995 period, small establishments spent \$462 per employee for wage and salary costs, versus \$654 for medium-sized establishments and \$754 for large ones. The lower spending levels of small establishments were primarily the result of less spending on formal training. Retail trade employers spent the least per employee--\$49 per employee as compared with \$149 for wholesale trade (the next lowest) and \$418 for mining (the highest). (See table 11.)

An estimated total of \$37 billion was spent on the indirect wage and salary costs of training during May-October 1995. Establishments with 100-499 employees accounted for the largest share of the total (\$16.7 billion), compared with \$14.6 billion for establishments with 500 or more employees and \$5.7 billion for those with 50-99 employees. The service industry spent the most on training, \$12.5 billion, primarily reflecting its large share of employment. Mining, with the smallest share of employment, accounted for the least spending, about \$306 million. (See table 12.)

TECHNICAL NOTE

Scope of the survey

The data presented in this release represent the universe of employees in private establishments in the 50 states and the District of Columbia that had 50 or more employees during the fourth quarter of 1993 and were classifiable into one of the

following 2-digit Standard Industrial Classifications (SIC) based on the 1987 Standard Industrial Classification Manual:

Industry	SIC code
Mining	10, 12 - 14
Construction	15 - 17
Nondurable manufacturing	20 - 23, 26 - 31
Durable manufacturing	24, 25, 32 - 39
Transportation and public utilities	41, 42, 44 - 49
Wholesale trade	50, 51
Retail trade	52 - 59
Finance, insurance, and real estate	60 - 65, 67
Services	07, 70, 72, 73, 75, 76, 78 - 84, 86, 87, 89.

Major definitions and concepts

A broad view of training is adopted in the employee portion of the 1995 Survey of Employer-Provided Training (SEPT95). A training activity may occur any time employees are taught a skill or provided with information to help them do their jobs better. The skill or information may be learned through formal or informal training methods.

Formal training is defined in the survey as training that is planned in advance and has a structured format and defined curriculum. Examples include attending a class conducted by an employee of the company, attending a seminar given by a professional trainer, or watching a planned audio-visual presentation.

Informal training is unstructured, unplanned, and easily adapted to situations or individuals. Examples include having a co-worker show you how to use a piece of equipment or having a supervisor teach you a skill related to your job.

Job-skills training refers to training that upgrades employee skills, extends employee skills, or qualifies workers for a job.

Management training is training in supervising employees and in implementing employment practices. Examples include training in conducting employee appraisals, managing employees, resolving conflicts, following selection/hiring practices, and implementing regulations and policies.

Professional and technical skills training is training in professional areas such as engineering, nursing, accounting, science, law, medicine, training, education, and business; or in technical areas such as drafting, electronics, and medical technology.

Computer procedures, programming, and software training includes training in computer literacy, security, programming, use of standard commercial and other software, and methods for developing software applications.

Clerical and administrative support skills training is training in areas such as typing, data entry, filing, business correspondence, and administrative recordkeeping, including budget and payroll. Sales and customer relations training is training in areas ranging from how to maintain or improve customer relations to specific selling techniques. Examples include training in how to deal with angry customers and information about specific product lines.

Service-related training includes training in the traditional service occupations—food, cleaning, protective, or personal services. Examples include training in waiting tables, preparing food, using cleaning equipment, conducting security work, providing care for children or the elderly, tailoring, and barbering.

Production- and construction-related training is training in areas such as operating or repairing machinery and equipment; manufacturing, assembling, distributing, installing, or inspecting goods; and constructing, altering, or maintaining buildings and other structures.

General-skills training refers to training that is not closely tied to specific job-related skills and/or training that is usually provided to a wide range of workers. It includes: basic skills; occupational safety; employee health and wellness; orientation; awareness; and communications, employee development, or quality training.

Basic skills training is training in elementary reading, writing, arithmetic, and English language skills, including English as a second language.

Occupational safety training provides information on safety hazards, procedures, and regulations.

Employee health and wellness training provides information and guidance on personal health issues such as stress management, substance abuse, nutrition, and smoking cessation.

Orientation training introduces new employees to personnel and workplace practices and to overall company policies.

Awareness training provides information on policies and practices that affect employee relations or the work environment, including Equal Employment Opportunity practices (EEO), affirmative action, workplace diversity, sexual harassment, and AIDS awareness.

Communications, employee development, and quality training is training in public speaking, conducting meetings, writing, time management, leadership, working in groups or teams, employee involvement, total quality management, and job reengineering.

An establishment is an economic unit which produces goods or services. It is usually at a single physical location and is engaged predominantly in one type of economic activity.

The list of establishment benefits included: Paid vacation, paid sick leave, health-care plan, employee-assistance program, employee-wellness program, pension plan, profit sharing, flexible work schedules, flexible work site or telecommuting, employer-financed child care, and paid parental/family leave.

The list of establishment workplace practices included: Pay increases directly linked to mastering new skills, employee involvement in technology and equipment decisions, job redesign or reengineering, job rotation, just-in-time inventories, co-worker review of employee performance, quality circles, total quality management, and self-directed work teams.

Labor turnover is measured by computing the ratio of hires and separations in a three-month period to average employment levels.

Employment change is measured by computing the ratio of change over a three-month period to the average employment over those three months.

Data collection procedures

The employee component of SEPT95 was conducted in tandem with the employer survey. (For technical information on the employer survey, see USDL#96-268.) Two survey instruments were utilized--an employee questionnaire and an employee training log. The employee questionnaire focused on employment and demographic characteristics. Questions were included on job, employer and occupational tenure, income, weeks and hours worked, education, sex, age, race and ethnicity, marital status, and number of children. In addition, the employee questionnaire included general questions on types of training provided by the employer during the employee's tenure and in the last 12 months and on the benefits of training. The employee log collected detailed information on all training and learning activities the employee participated in over a 10-day period. The requested information on the activity included a description, its duration, who was involved, and what type of training medium was used.

Experienced field economists in the BLS regional offices requested permission from establishment representatives to randomly sample and interview two employees. During the interview, field economists administered the employee questionnaire to the respondent using computer-assisted personal interviewing (CAPI). The field economist then collected the employee log via paper and pencil for the three-day period prior to the day of the interview and left behind a training log for the employee to complete over the next seven days and mail back to the field economist.

Sampling Procedures

The sampling frame for the employee survey was a listing (usually a payroll listing) of employees supplied by the establishment respondent. The total number of employees on the listing was required to match that reported by the establishment respondent. Field economists used a computer-generated random number program based on a simple random selection method to randomly sample two employees from all of the employees in the establishment. If one or more of the employees was unavailable, the field economists could generate up to six random numbers to try to secure the participation of two employees. For the Employee Questionnaire, each participating employee was assigned an Employee Sampling Factor equal to the total number of employees in the establishment divided by the number of participating employees in that establishment. For the Employee Training Log, each participating employee was assigned a Day Sampling Factor which was equal to the number of days in the survey's reference period (184) divided by the number of days (3 to 10) on the employee training log.

Response

Of the 1,543 establishments selected, 1,433 were eligible for survey participation (excluding those out-of-business or out-of-scope), and 1,062 participated in the employer survey. The desired employee sample size for the employee survey was 2,866 (two employees from each of the 1,433 eligible sampled establishments). Usable employee questionnaires were collected from 1,074 employees for a response rate of 37.5 percent. Usable employee logs were collected from 1,013 employees for a response rate of 35.3 percent. Using the 1,062 establishments that participated in the employer survey as the eligible pool for employees, the number of eligible employees changes to 2,214, and the response rate changes to 50.6 percent for the employee questionnaire and 47.7 percent for the employee log.

Estimation

Missing data. Weighting class non-response adjustment procedures were used for each of the survey's instruments-- the employee questionnaire and the employee training log-- and account for the number of sampled establishments that did not provide any data for the instrument or provided data for only one employee. For otherwise usable instruments, a hot-deck procedure was used to impute a value for any item on the instrument for which the establishment or employee could not provide data.

Benchmarking. To increase the precision of the estimates, the weights of the usable instruments were adjusted to make the weighted occupational distribution of the instruments the same as the weighted occupational distribution in the BLS Occupational Employment Survey.

Weighting. Each of the usable employee instruments has a Final Weight associated with it. For the Employee Questionnaires, the Final Weight is the product of the Establishment Sampling Weight, Subsampling Factor, Employee Sampling Factor, Questionnaire Nonresponse Adjustments, and Questionnaire Benchmark Adjustment.

For the Employee Training Log, the Final Weight is the product of the Establishment Sampling Weight, Subsampling Factor, Employee Sampling Factor, Day Sampling Factor, Log Nonresponse Adjustments, and Log Benchmark Adjustment. For technical information on weighting for the employer survey, see news release USDL#96-268.

Estimates. For this release, the population total for a variable of interest is estimated by summing, over all usable instruments, the product of an instrument's Final Weight and the instrument's value for the variable of interest. Proportions are estimated by dividing the estimated total for the variable in the numerator by the estimated population count. Rates are estimated by dividing the estimated total for the variable in the numerator by the estimated total for the variable in the denominator. For subpopulation estimates, the summation is over only the instruments that fall within the subpopulation.

Reliability of estimates

The estimates in this release are based on a probability sample rather than a census of the population. The samples selected for the employer and employee survey were one of many possible samples, each of which could have produced different estimates that may have differed from the results obtained from a census of the population. This "sampling error" or the variation in the sample estimates across all possible samples that could have been selected is measured by the standard error. The standard error of each of the estimates given in this release was calculated using balanced repeated replication.

Non-sampling error and quality control measures

In addition to sampling errors, estimates are subject to non-sampling errors that can be attributed to many sources: definitional difficulties; differences in the interpretation of questions; errors in recording, coding, or processing the data, etc. Several processes were used in the survey to reduce the non-sampling errors.

Survey development. The survey instruments were developed and tested by BLS. There were a number of major testing activities involving the employee survey. The employee questionnaire and log was tested in four focus groups involving 48 employees, 24 one-on-one in-depth interviews, and 10 establishment site visits. Final survey procedures were tested in a 25-establishment field test of the employer/employee survey conducted by BLS field economists.

Validation and review. Survey participation was validated for approximately 5 percent of establishments. The establishments contacted for the validation were randomly selected and survey respondents were contacted by telephone to verify participation in the employer and employee components of the survey. Since this was the first time SEPT95 had been conducted, 100 percent of the individual and summarized data were subject to professional review to verify the accuracy and reasonableness of the data. In addition, edit checks were programmed into the CAPI system used by the field economist and also were carried out on the aggregate survey data.

A detailed comparison was conducted of training-related characteristics of establishments that did and did not give us permission to interview employees. The comparison indicated that this source of nonresponse bias was not large enough to substantially affect estimates.

An analysis of estimates generated using only employees that were selected with the first two random numbers (418 employees) and of estimates generated using employees selected with the first through sixth random numbers (1,074 employees) demonstrated that using the larger sample to generate estimates did not introduce significant bias into the estimates but did significantly reduce the sampling errors of the estimates.

Additional information

BLS plans to issue a report that provides more detailed information and analysis of SEPT95. For further information, please contact (202) 606-7386.

Table 1. Percent of employees who received training by type of training

Characteristic	Received formal training		
	While with current employer	Received within the last 12 months while with current employer	Received informal training while with current employer
Total			
All employed*	84.4	69.8	95.8
Job skills			
Management	28.4	16.3	32.3
Professional and technical skills	30.9	21.4	27.7
Computer procedures, programming, and software	38.4	23.5	54.3
Clerical and administrative support skills	18.7	8.4	30.1
Sales and customer relations	26.6	15.1	30.9
Service-related	12.5	5.9	14.7
Production and construction-related	21.0	11.3	34.1
General skills			
Basic skills	6.7	2.3	2.9
Occupational safety	58.0	42.8	47.7

Communications, employee development, and quality training	40.2	22.8	32.6
Other	3.4	1.4	.8

*Employees working in establishments of 50 or more employees.

Table 2. Hours of training per employee by type of training, May-October 1995

Characteristic	Hours of Training		
	Total	Formal	Informal
Total			
All employed*	44.5	13.4	31.1
Job skills			
Management	1.7	.6	1.1
Professional and technical skills	6.2	1.9	4.3
Computer procedures, programming, and software	11.8	5.1	6.8
Clerical administrative support skills	3.4	.6	2.8
Sales and customer relations	3.2	.6	2.6
Service-related	2.1	.3	1.8
Production and construction-related	10.6	2.0	8.6
General skills			
Basic skills	.3	.0	.2
Occupational safety	2.4	.6	1.8
Communications, employee development, and quality training	2.6	1.5	1.2
Other	.2	.2	.0

*Employees working in establishments of 50 or more employees.

Table 3. Percent of employees who received training by selected demographic characteristics

Characteristic	Received formal training		
	While with	Within the	informal

	current employer	last 12 months	training while with current employer
Total			
All employed*	84.4	69.8	95.8
Age			
24 years and younger	81.6	63.4	100.0
25 to 34 years	91.3	78.5	96.9
35 to 44 years	88.1	74.7	97.7
45 to 54 years	77.9	64.7	93.7
55 years and over	74.4	50.7	89.9
Sex			
Men	81.7	66.5	96.2
Women	87.2	73.1	95.4
Race and origin			
White	85.2	70.4	95.5
Black	82.6	70.6	96.4
Hispanic origin	90.8	73.7	96.9
Educational attainment			
High school graduates or less	82.3	60.1	95.0
Some college	79.1	67.8	96.2
Bachelor's degree or higher	96.8	89.7	96.6

*Employees working in establishments of 50 or more employees.

Table 4. Hours of training per employee by selected demographic characteristics, May-October 1995

Characteristic	Hours of Training		
	Total	Formal	Informal
Total			
All employed*	44.5	13.4	31.1
Age			
24 years and younger	24.1	2.7	21.4
25 to 34 years	46.5	14.0	32.5
35 to 44 years	45.7	15.4	30.3

45 to 54 years	56.2	17.2	39.0
55 years and over	22.9	5.7	17.1

Sex

Men	47.6	12.2	35.4
Women	41.5	14.6	26.9

Race and origin

White	48.5	13.6	35.0
Black	27.7	13.8	13.9
Hispanic origin	32.7	11.0	21.7

Educational attainment

High school graduates or less	35.7	10.9	24.8
Some college	51.2	14.3	37.0
Bachelor's degree or higher	47.9	16.1	31.8

*Employees working in establishments of 50 or more employees.

Table 5. Percent of employees who received training by selected employment characteristics

Characteristic	Received formal training		
	While with current employer	Within the last 12 months while with current employer	Received informal training while with current employer
Total			
All employed*	84.4	69.8	95.8
Usual hours worked			
Under 35 hours	68.5	56.1	98.9
35 hours or more	86.6	71.6	95.4
Earnings			
First quartile	76.7	61.8	97.9
Second quartile	87.6	74.5	96.7
Third quartile	77.8	62.0	92.4
Fourth quartile	98.5	84.0	97.1

Occupation

Managerial and administrative	87.1	80.2	89.6
Professional, paraprofessional, and technical	95.3	84.8	93.4
Sales, clerical, and administrative support	89.3	72.5	97.6
Service	70.7	49.8	93.6
Production, construction, operating, maintenance, and material handling	80.0	66.3	98.4

Tenure with current employer

Up to 2 years	73.3	67.5	95.7
More than 2, up to 5	74.8	56.8	94.0
More than 5, up to 10	96.0	79.7	96.8
More than 10 years	94.0	75.3	96.9

Tenure in current occupation

Up to 2 years	81.3	73.4	99.2
More than 2, up to 5	87.3	68.4	91.3
More than 5, up to 10	84.1	68.9	98.5
More than 10 years	84.6	69.2	95.1

Tenure in current job

Up to 2 years	81.5	73.4	97.2
More than 2, up to 5	80.5	59.7	91.2
More than 5, up to 10	92.1	78.1	98.8
More than 10 years	94.2	66.5	97.7

*Employees working in establishments of 50 or more employees.

Table 6. Hours of training per employee by selected employment characteristics, May-October 1995

Characteristic	Hours of Training		
	Total	Formal	Informal
Total All employed*	44.5	13.4	31.1

Usual hours worked

Under 35 hours	12.5	4.8	7.7
35 hours or more	48.8	14.6	34.2

Earnings

First quartile	34.7	4.1	30.6
Second quartile	42.1	11.6	30.5
Third quartile	55.5	15.9	39.6
Fourth quartile	43.9	22.8	21.1

Occupation

Managerial and administrative	26.7	4.3	22.4
Professional, paraprofessional, and technical	61.1	22.3	38.7
Sales, clerical, and administrative support	33.3	10.2	23.2
Service	27.7	5.6	22.1
Production, construction, operating, maintenance, and material handling	53.7	15.2	38.5

Tenure with current employer

Up to 2 years	65.3	8.9	56.5
More than 2, up to 5	24.1	4.5	19.5
More than 5, up to 10	46.5	19.5	27.0
More than 10 years	41.6	21.1	20.5

Tenure in current occupation

Up to 2 years	77.2	12.5	64.7
More than 2, up to 5	29.9	7.5	22.4
More than 5, up to 10	29.5	9.6	20.0
More than 10 years	43.8	19.4	24.4

Tenure in current job

Up to 2 years	62.1	13.2	48.9
More than 2, up to 5	24.9	4.6	20.3

More than 5, up to 10	36.9	22.6	14.4
More than 10 years	37.3	23.6	13.7

*Employees working in establishments of 50 or more employees.

Table 7. Percent of employees who received training by selected establishment characteristics

Characteristic	Received formal training		
	While with current employer	Received within the last 12 months while with current employer	Received informal training while with current employer
Total			
All employed ¹	84.4	69.8	95.8
Industry			
Mining	98.0	94.7	98.8
Construction	88.8	71.2	92.5
Manufacturing:			
Durables goods	94.1	78.3	99.0
Nondurables goods	93.7	85.4	96.9
Transportation, communications, and public utilities	93.2	81.4	98.1
Wholesale trade	79.7	68.1	94.2
Retail trade	70.0	48.8	91.4
Finance, insurance, and real estate	91.6	87.4	96.4
Services	84.3	70.7	97.3
Establishment size			
50 to 99 employees	78.9	61.6	97.1
100 to 499 employees	84.7	73.0	95.0
500 employees or more	87.7	71.0	96.1
Number of selected establishment benefits ²			
Fewer than 4	71.0	57.2	88.5

4 or 5	70.0	57.8	93.4
6 or 7	91.5	74.4	95.6
8 or more	90.3	76.5	99.7

Number of selected
establishment
work practices³

0	71.8	57.4	94.6
1 or 2	84.0	66.5	97.7
3 or 4	75.8	66.8	96.5
5 or 6	94.9	80.5	97.9
7 or more	95.0	74.6	88.9

Presence of contract
employees

None	79.5	63.6	95.9
Some	90.1	77.0	95.8

Turnover rate⁴

Low	87.4	78.0	98.0
Medium	89.8	74.7	97.3
High	75.5	60.7	93.2

Employment change over
the last 3 months

Declining	82.6	70.3	98.6
Stable	88.3	74.3	94.9
Increasing	83.9	68.0	95.0

Part-time employment

None	88.1	73.5	96.7
Some, but less than 10%	90.4	72.8	95.0
10 percent or more	78.3	65.8	96.1

1 Employees working in establishments of 50 or more employees.

2 The survey questionnaire asked respondents of the establishment to select which, if any, of 11 listed benefits they provided to their employees.

3 The survey questionnaire asked respondents of the establishment to select which, if any, of nine listed workplace practices they used at their establishment.

4 A turnover rate of less than 1.0 percent of average employment over the prior three months was defined as low, 1 to 25 percent was considered medium, and 25 percent or greater was considered high.

Table 8. Hours of training per employee by selected establishment characteristics, May-October 1995

Characteristic	Hours of Training		
	Total	Formal	Informal
Total All employed ¹	44.5	13.4	31.1
Industry			
Mining	36.1	17.2	18.9
Construction	47.5	11.4	36.1
Manufacturing:			
Durables goods	51.1	20.8	30.3
Nondurables goods	40.2	21.7	18.5
Transportation, communications, and public utilities	37.2	17.6	19.7
Wholesale trade	33.8	8.3	25.4
Retail trade	36.8	4.2	32.6
Finance, insurance, and real estate	50.5	15.9	34.7
Services	50.2	13.2	37.0
Establishment size			
50 to 99 employees	40.1	8.2	31.9
100 to 499 employees	48.0	13.5	34.5
500 employees or more	42.6	16.6	26.0
Number of selected establishment benefits ²			
Fewer than 4	58.4	5.9	52.6
4 or 5	42.5	12.8	29.7
6 or 7	38.7	13.9	24.8
8 or more	50.6	14.8	35.9
Number of selected establishment work practices ³			

satisfactorily completed	14.0
Received a higher pay rate or bonus	19.0
Completion certificate placed in file	47.9
Training was necessary for future advancement	40.1
Training was mandatory	70.0
Learned valuable skill that improved job performance	78.1
Helped employee stay current with new regulations,laws, and/or technologies	66.1
Other	2.7
No benefits	0.8

* Employees working in establishments of 50 or more employees.
Table 10. Percent of trained employees participating in any of the following formal training activities within the last 12 months by selected demographic characteristics

Characteristic	Classes or workshops Conducted by company personnel educational or	institutions on work time	Courses Conducted by outside trainer taken at	paid for by employer or seminars	Attended lectures, conferences, trainers
TOTAL					
All employees*	75.7	48.3	17.1	36.3	
Age					
24 years and younger	81.1	23.4	11.4	24.6	
25 to 34 years	79.0	44.1	15.9	30.7	
35 to 44 years	70.9	58.6	19.6	41.7	
45 to 54 years	74.5	52.7	20.4	43.9	

55 years and over	78.5	38.9	7.3	27.0
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Sex

Men	70.3	50.0	11.2	30.1
Women	80.7	46.7	22.6	42.0

Race and origin

White	74.8	50.4	18.5	41.1
Black	76.0	38.2	7.1	13.6
Hispanic origin	85.9	41.6	12.2	17.5

Educational attainment

High school graduates, or less	80.9	34.0	8.1	19.9
Some college	78.1	49.0	21.5	43.9
Bachelor's degree, or higher	66.7	63.9	21.8	45.5

*Employees working in establishments of size 50 or more employees who received formal training within the last 12 months.

Table 11. Wage and salary costs of training per employee by selected establishment characteristics, May-October 1995

Wage and salary costs

Characteristics	Total training	Formal training	Informal training
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TOTAL

All employees ¹	\$ 646.9	\$ 224.1	\$422.8
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Industry

Mining	741.9	418.0	323.8
Construction	746.5	195.0	551.6
Manufacturing:			
Durables goods	815.2	346.5	468.6
Nondurables goods	591.9	353.8	238.1
Transportation, communications, and	471.3	236.8	234.5

public utilities			
Wholesale trade	542.6	149.4	393.1
Retail trade	463.4	49.1	414.2
Finance, insurance, and real estate	878.9	235.3	643.6
Services	718.1	252.4	465.7

Establishment size

50 to 99 employees	462.0	110.2	351.8
100 to 499 employees	654.3	215.3	439.0
500 employees or more	753.5	307.5	446.0

Number of selected
establishment
benefits²

Fewer than 4	704.2	52.8	651.4
4 or 5	451.2	167.9	283.3
6 or 7	575.8	249.1	326.7
8 or more	890.0	274.3	615.7

Number of selected
establishment
work practices³

0	814.0	181.2	632.8
1 or 2	356.1	73.7	282.5
3 or 4	730.6	231.3	499.3
5 or 6	685.4	321.9	363.5
7 or more	846.3	380.1	466.2

Presence of contract
employees

None	512.8	142.0	370.8
Some	797.1	316.1	481.0

Turnover rate⁴

Low	886.6	546.2	340.4
Medium	712.4	243.4	469.0
High	501.6	137.7	364.0

Employment change over
the last 3 months

Declining	643.5	205.9	437.6
Stable	528.4	184.1	344.3
Increasing	687.1	244.9	442.2

Part-time employment

None	724.3	247.6	476.7
Some, but less than 10%	651.0	253.5	397.5
10 percent or more	607.4	191.4	416.0

1 Employees working in establishments of 50 or more employees.

2 The survey questionnaire asked respondents of the establishment to select which, if any, of 11 listed benefits they provided to their employees.

3 The survey questionnaire asked respondents of the establishment to select which, if any, of nine listed workplace practices they used at their establishment.

4 A turnover rate of less than 1.0 percent of average employment over the prior three months was defined as low, 1 to 25 percent was considered medium, and 25 percent or greater was considered high.

Table 12. Total wage and salary costs of training by industry and size class, May-October 1995
(In thousands of dollars)

Wage and salary costs

Characteristic	Total	Formal training	Informal training
All employees*	\$37,061,259	\$12,838,575	\$24,221,982

Industry

Mining	305,571	172,181	133,390
Construction	1,321,935	345,217	976,718
Manufacturing:			
Durables goods	7,655,647	3,254,112	4,400,978
Nondurables goods	3,668,602	2,192,938	1,475,664
Transportation, communications, and public utilities	1,614,793	811,305	803,444
Wholesale trade	1,278,848	352,234	926,614
Retail trade	6,285,244	666,128	5,619,116
Finance, insurance, and real estate	2,425,810	649,319	1,776,391
Services	12,504,809	4,395,142	8,109,667

Establishment size

50 to 99 employees	5,652,306	1,348,650	4,303,656
100 to 499 employees	16,781,558	5,521,417	11,260,007
500 employees or more	14,627,394	5,968,508	8,658,319

*Employees working in establishments of 50 or more employees.