

Employer-supported training - it varies by occupation

Susan Crompton

The skills requirements of many occupations are changing rapidly. Few areas in the private or public sectors have not yet been challenged by the wholesale introduction of new technologies designed to enhance job performance, or by the increasingly complex demands of their client groups.

As occupations evolve, the workers in them must evolve too. In some cases, brushing up existing skills may suffice; in others, a complete overhaul may be necessary. The reasons for taking employment related training often colour the type of training taken: preparing for promotion to another job may require a different approach from that of improving the skills or knowledge needed in the present one. Whatever the reason, many workers are anxious to acquire new skills. And many of their employers are willing to help.

Almost one-third of all full-time workers aged 20 to 69 took employer-supported education or training in 1991, but rates of training varied greatly depending on the worker's occupation ([Chart A](#)). ⁽¹⁾ Almost half (46%) of all workers in white-collar occupations received such training; on the other hand, just over one-quarter of service workers and one-fifth of blue-collar workers received employer-supported training (see [Data source and definitions](#)).



Chart A In 1991, workers in white-collar occupations were more likely to receive employer supported training.*

* *Includes all courses, programs and on-the-job training.*

Training courses versus education programs

Employers provide support for three types of training: on-the-job, where the worker learns by doing and seeking the advice or assistance of co-workers; structured training courses, where the worker is taught in a formal setting such as a workshop, seminar or tutorial; and education programs, where the worker attends an educational institution and is pursuing studies that will lead to a certificate, diploma or degree. Since it can be argued that everyone receives on-the-job training, this study restricts itself to the two types of structured training, that is, training courses and education programs.

This article examines full-time workers aged 20 to 69 [\(2\)](#) who spent a total of more than 35 hours taking training courses during 1991, or who had enrolled in an education program that year. The "over 35 hours" selection criterion was chosen since longer training hours, even when spread out over several courses, imply that the employer considered the training sufficiently worthwhile to justify supporting it. The training may have been taken during regular working hours or on the worker's own time.

Training courses

Almost 7% of full-time workers aged 20 to 69 - over 665,000 - spent over 35 hours taking employer-supported training courses in 1991. These over-35-hour trainees took an average of two courses in 1993. [\(3\)](#)

Workers in white-collar occupations were more likely to be beneficiaries of employer-supported training (see [Data source and definitions](#)) for a description of white-collar, service and blue-collar occupations as used in this article). Over 1 in 10 (11%) spent a total of more than 35 hours "on course," compared with fewer than 1 in 20 service or blue-collar workers ([Table](#)). Among the specific occupations themselves, workers in the natural sciences topped the list of active course-goers: 19% of them had taken courses totalling over 35 hours, a rate more than double the 7% overall average. Managers and administrators recorded the second highest rate, at 12%. With the notable exception of machining and fabricating (6%), relatively few workers in blue-collar occupations (4% or less) had a total of over 35 hours of training in 1991.



Table **Proportion of full-time workers taking employer-supported training courses, by industry and occupation***

* *Includes only those who took over 35 hours of training courses in 1991. Estimates for the construction industry are too small to be released separately.*

White-collar workers ask for training

Time after time, studies on training show that better-educated workers get more training than those with less formal schooling. (4) "Better-educated" is generally a synonym for "white-collar" or "professional," which is certainly the case here; but it may also mean "better-informed" about training opportunities or about the general need for training.

Although employers were the principal initiators of course training for all over-35-hour trainees regardless of occupation, they played a much smaller role in prompting white-collar workers to take training. Slightly more than two-thirds (69%) of the courses taken by workers in white-collar occupations had been suggested by their employer; in the remaining instances, the request for training came most often from the employees themselves. (5) On the other hand, a far higher proportion of blue-collar trainees (86%) were explicitly asked by their employer to go on course; in fact, in machining and fabricating - the blue-collar occupation most likely to receive training - nine in ten courses had been initiated by the employer. (6)

Not only were white-collar workers more active in seeking out training opportunities, their numbers were the highest among the training population. The lower level of employer direction may also indicate that some of the courses taken by white-collar workers were more discretionary than those provided to workers in blue-collar jobs. (7)

But whether or not workers in a certain occupation are receiving training can be an indicator, albeit simplistic, of the importance that the employer attaches to a specific set of skills. It can also show a more general trend towards training in some specific occupations. For example, management and administrative workers are over-represented in the trainee population; that is, they account for 17% of all full-time workers aged 20 to 69 but 29% of over-35-hour trainees. Workers in natural science occupations are even more "favoured," in that they make up less than 5% of the working population but 12% of the trainees.

On the other hand, 16% of all workers are employed in clerical occupations, but only 12% of trainees have these kinds of jobs. Blue-collar workers are also under-represented, making up 30% of the employed population aged 20 to 69 but only 19% of trainees. Only machining and fabricating has a training profile that challenges the low rates recorded by the other blue-collar occupations: workers in machining and fabricating make up 10% of the workforce and about 9% of trainees ([Chart B](#)).



Chart B White-collar workers accounted for more than their share of trainees in both courses and programs.

Industry of employment is a factor in training

It is extremely difficult to disentangle the influence of industry on occupation: the interdependence of the two suggests that the industry shapes the nature of the workers' functions. Thus, technological evolution in an industry often demands new skills of the workers it employs. For example, without the introduction of complex electronic equipment in most motor vehicles, few garage mechanics would now need to be proficient in the computer-assisted diagnosis of car trouble.

Some industries do show a marked propensity to train their workers. Public administration, where 13% of full-time workers spent a total of over 35 hours on course during 1991, recorded the highest training rates. Finance, insurance and real estate (10%) vied with transportation, communication and utilities (10%) for second position, while in manufacturing, almost 8% of employees spent at least 35 hours taking courses. [\(8\)](#)

Over half of trainees take commerce or engineering technologies

It may be assumed that the subjects studied by employer-supported trainees reflect the types of skills and knowledge the employer believes are necessary to perform the job. As such, they must point to the new demands of an occupation (or, alternatively, to the skills lacking in the existing workforce). It would appear that jobs in general are becoming more managerial, more technologically complex, and more concerned with occupational health and safety, since three fields of study accounted for almost two-thirds of all courses taken by all over-35-hour employer-supported trainees in 1991: commerce, management and business administration (31%); engineering and applied science technologies and trades, including data processing and computer science (24%); and health professions, sciences and technologies (10%). (See [Appendix](#) for a list of subjects comprising each field of study.)

Of course, the trainee's occupation was frequently associated with the particular field of study. For instance, 55% of courses taken by those in management and administration occupations were selected from the commerce, management and business administration field of study. Similarly, engineering and applied science technologies and trades (40%) dominated the courses taken by workers in machining and fabricating.

Support means the employer pays [\(9\)](#)

The type of support the over-35-hour trainees received from their employers took a number of guises. The most common type was payment of fees, as employers paid for 84% of all employer-supported courses. Giving time off (77%) and providing premises or supplies (64%) ranked second and third. Since granting time off was so common, it would appear that most training was done during working hours ([Chart C](#)).



Chart C **Employer support of course trainees* took a variety of forms.**

* *Workers who took over 35 hours of training courses in 1991.*

Many employers actually offered the training themselves; in fact, this was the fourth most common type of employer support, characterizing 51% of all courses taken by the over-35-hour trainees. Trainees in blue-collar occupations were more likely to find themselves being taught this way, at almost 6 out of 10 courses.

But although the companies offered half the over-35-hour courses, company employees were involved in conducting only about 40% of them. Consultants gave 44% of the courses; educational institutions, about 21%; and "someone else" (such as a recreation association or church), about 22%.⁽¹⁰⁾ This reliance on "outsiders" may be due to a number of reasons. For example, it could be more cost-effective, especially for small- and medium-sized firms, to hire trainers on contract as needed. Also, since equipment suppliers often provide training to their customers as part of the purchase package, some workers may learn to use new equipment from the manufacturer, not from their own employer.

New recruits least likely to get more than 35 hours of training

Since a well-trained worker may take his or her new knowledge to another company, it is often argued that employers are more willing to train a worker with some seniority than a new recruit. This position receives tepid support with respect to over-35-hour training. About 7% of all full-time workers with more than one year's tenure received over 35 hours of employer-supported training courses in 1991, compared with 5% of those with 12 months or less. It may be that recruits join the firm with the skills necessary for the job (many may be recent graduates), while older workers need retraining to keep up to date.⁽¹¹⁾

Some confirmation of this may be provided by the trainees themselves, about one-tenth of whom (11%) had 12 months or less job tenure, while almost 40% had more than 10 years. This is nowhere more startling than in the blue-collar occupations, where over half (56%) of over-35-hour trainees had more than 10 years' seniority with the same employer; by contrast, just over 42% of all blue-collar workers had the same length of service.⁽¹²⁾

Was it worth it?

By the end of 1991, over-35-hour trainees had completed about 91% of their courses and their opinion of them was, on the whole, favourable. Most (88%) were satisfied with the quality of their courses,

characterizing the training they had received as adequate or very adequate.

Education programs

In 1991, employers supported about 408,000 full-time workers aged 20 to 69 taking education programs (excluding elementary or secondary school). These workers accounted for 4.2% of all full-time workers in that age group.

With respect to most labour market characteristics, there are no significant differences between workers who took training courses and those who took education programs with their employer's support. White-collar workers enrolled in education programs were more likely to receive employer support than workers in most service or blue-collar occupations; trainees came mainly from public administration, community services, or manufacturing industries; and the large majority studied either commerce, management and business administration or engineering and applied science technologies and trades. Even the relative sizes of the two groups were not that dissimilar, with those spending over 35 hours on course training accounting for 6.9% of full-time workers aged 20 to 69 and those taking education programs, for 4.2%. The remainder of this article therefore focuses mainly on those characteristics in which the two groups of trainees differ.

Program trainees more likely to take initiative

Perhaps the most important difference lies in what might be called employer attitude. Employers adopted an altogether more active role in the matter of training courses - being the principal initiators of course enrolment - but they were less inclined to send their workers on education programs. They suggested education programs for 56% of program trainees, significantly less than the 74% reported for course trainees. In the remaining cases, where employers had not explicitly suggested enrolling in an education program, almost 9 out of 10 program trainees received support because they had requested it.

Employers may be reluctant to provide support to employees wanting to take degree, diploma or certificate programs if they question the program's relevance to the type of work the company does (for example, does an engineering firm need a sociologist?); they may also hesitate because academic programs generally take several years to complete, they may be more costly, and the employee may not remain with the company very long. In fact, employer-initiated support varied greatly depending on the type of program. Almost 70% of program trainees in trades-oriented programs were there at their employer's request. The proportion dropped to 59% for trainees in college and 35% for those in university. The kind of support employers provided to workers who took education programs also differed somewhat from that offered to those on training courses. Employers paid the fees for 83% of programs (the same proportion as courses) but were less prepared to give time off (56%) or provide course materials (57%).

Wider array of subjects studied in academic programs

Occupation largely determined the type of institution in which trainees took their program. Almost three-quarters (73%) of blue-collar trainees were enrolled in apprenticeship programs or trade/vocational schools; meanwhile, 70% of all white-collar and 61% of all service program trainees were enrolled in college or university.

Two fields of study dominated the trades programs: engineering and applied science technologies and trades; and commerce, management and business administration (offered by trade/vocational schools). Among the academic programs, commerce, management and business administration accounted for the largest group of trainees, but the range of remaining fields of study was quite diverse: social science, education, engineering technologies, and health.

Majority of trainees in trades finished program

As of January 1992, 55% of the trainees in trades programs had received their certificate or diploma. Those enrolled in trade/vocational programs (59%) were more likely than those taking apprenticeships (48%) to have completed their qualifications.

As one would expect, given the generally longer duration of the academic programs, only 30% of trainees in these types of programs had finished their degree or diploma by the end of 1991. About 40% of college and 23% of university program trainees graduated that year.

Summary

The training profiles of the various major occupations shown here confirm the findings of other studies and much of the anecdotal evidence. White-collar workers, on the frontline of the fast-growing and highly computerized "information economy," have high rates of employer-supported training. Blue-collar workers are also hard-pressed by computerization and automation, but they are less likely to receive training.

Two fields of study accounted for the majority of employer-supported training received in 1991: commerce, management and business administration, and engineering and applied science technologies and trades. Health sciences was also a common choice, especially among over-35-hour course trainees. The subject matter of employer-supported training confirms what everyone in the workplace has observed in recent years: that jobs are becoming more technology-driven and more complex.

Data source and definitions

The 1992 Adult Education and Training Survey (AETS), a supplement to the January 1992 Labour Force Survey, was sponsored by Employment and Immigration Canada (now Human Resources Development). Respondents aged 17 and older, in over 45,000 households, were asked to identify any structured education or training they had taken during 1991. The AETS collected data on the subject matter and other characteristics of up to five courses, and on five types of education programs: elementary or secondary school, apprenticeship training, trade or vocational school, community college, and university.

Since all labour force and demographic data from the AETS are derived from the January 1992 Labour Force Survey (LFS), which followed the reference period for the AETS (January 1991 to December 1991), some variables may not reflect the situation current at the time the training was taken. For example, by 1992, respondents may have been employed in an occupation different than that held during their training, and it is entirely possible that the training precipitated the change in occupation.

Workers: Persons aged 20 to 69 who were working full time at the time of the survey in January 1992. This category includes both paid employees and the self-employed.

Employer-supported training: Training or education for which the employer paid fees or tuition, paid for course materials, provided time off or educational leave, provided premises for learning or supplies, provided transportation or accommodation so the employee could attend training, gave the training, or provided other support.

Courses: This category includes workshops, seminars and tutorials, as well as courses.

Education programs: A combination of courses usually taken for credit toward a certificate, diploma or degree. Programs could be at the apprenticeship, trade/vocational, community college, or university level. High school programs are excluded from the analysis for two reasons: first, information about particular subjects cannot be obtained because the field of study for all high school completion is listed as "no specialization"; and second, so few full-time workers took employer-supported high school programs that the estimate did not meet data quality requirements.

Trades programs: To meet sample size requirements for some variables, apprenticeship and trade/vocational programs are aggregated.

Academic programs: To meet sample size requirements for some variables, college and university programs are aggregated.

Trainees: Workers who took structured employer-supported training - either education programs, courses or both - between January and December 1991.

White-collar occupations (trainees): the management, administrative, natural science, social science, teaching, medicine, artistic and recreation occupations.

Service occupations (trainees): the clerical, sales and service occupations.

Blue-collar occupations (trainees): the primary, processing, machining, fabricating, construction, transportation, material handling and other crafts occupations.

Over-35-hour trainees: Trainees who spent a total of more than 35 hours taking courses in 1991.

Program trainees: Trainees who enrolled in an education program in 1991, excluding elementary or secondary school.

Field of study: A highly aggregated grouping of related subject areas studied by course or program trainees. For example, the field of study "commerce, management and business administration" comprises the following subjects: business and commerce; financial management; industrial management and administration; institutional management and administration; marketing, merchandising, retailing and sales; and secretarial science - general fields. (See [Appendix](#) for the classification of subjects into fields of study.)

Subject: A topic studied by the course or program trainees, for example, library and record science, chemical technology, or public health.

Notes

Note 1

The data in this paragraph and in Chart A include on-the-job training as well as structured training courses and education programs supported by the employer. All other charts, tables and data quoted in this article refer to structured training courses and education programs only.

Note 2

The 65 to 69 age group was included in order to capture more of the self-employed, 7.1% of whom are 65 or older compared with 1.3% of the paid workforce (1991 Census of Canada). People in this age group accounted for less than 1% of full-time workers receiving employer-supported training.

Note 3

The AETS collected data for as many as five employer-supported courses taken during 1991. This captures virtually all such training, since the number of workers took six or more courses was likely very small.

Note 4

A review of training surveys conducted in a number of countries was undertaken by the Organisation for

Economic Cooperation and Development. Results can be found in Chapter 5 of the OECD [*Employment Outlook*](#) (1991). See also [*Crompton*](#) (1992).

Note 5

If the employer had not suggested the training, respondents were asked who had initiated it: "you or other employees requested it"; "written in the collective agreement"; "union recommended or provided it"; "legal or professional requirement"; "other"; or "don't know."

Note 6

Only a negligible percentage of blue-collar over-35-hour trainees reported that their course enrolment had been initiated by their union or terms of collective agreement. However, trainees might respond that their employer had suggested the training if they were not aware that the employer was obliged to provide it by the union or collective agreement (the primary initiator).

Note 7

It is possible that service and blue-collar workers face higher barriers to training than white-collar workers. Only 4.4%, or 421,000, of full-time workers had not taken training they felt they needed for career- or job-related reasons. Blue-collar workers (5%) were more likely than either white-collar (4%) or service (4%) workers to have needed but not taken training. The three most common reasons for not taking job-related training were: too busy (41%), training programs not offered (29%), and too expensive/have no money (24%). Service workers (33%) were most likely to report that training had not been offered. Blue-collar (28%) and white-collar workers (26%) were more likely than service workers (18%) to cite expense as a barrier to training.

Note 8

Since manufacturing is currently undergoing considerable restructuring, it is not surprising that the workers it trained spent many hours studying. But even though manufacturing claimed 48% of over-35-hour trainees in blue-collar jobs (the large majority of whom were in machining and fabricating occupations), less than 6% of all blue-collar workers in manufacturing received over 35 hours of employer-supported training. Taken together, these data seem to support the common contention (for example, [*Gera et al.*](#), 1993) that although manufacturing in the 1990s demands workers with greater skills, it requires fewer of them.

Note 9

Respondents were presented with a choice of seven types of employer support: paying for fees or tuition; paying for course materials; providing time off or educational leave; providing premises or supplies; providing transportation or accommodation; giving the training; and providing any other support. Multiple answers were accepted; therefore, percentages will add to more than 100.

Note 10

Multiple answers were accepted for this question; therefore, percentages will add to more than 100.

Note 11

Restricting the hours of training to more than 35 during the year cuts down the number of new recruits whose "welcome to the firm" orientation sessions might otherwise be captured as training.

Note 12

This may also reflect union rules about seniority. The difference in distribution among white-collar and service workers was less marked. The gap was almost non-existent among white-collar workers - 36% of all and 34% of over-35-hour trainees had over 10 years service - and was slightly higher among service workers - 33% of all and 38% of over-35-hour trainees had more than 10 years with the same employer.

References

- Crompton, S. "[Studying on the job.](#)" *Perspectives on Labour and Income* (Statistics Canada, Catalogue 75-001E) 4, no. 2 (Summer 1992): 30-38
 - Gera, S., D. Caldwell and D. Ferguson. *Industrial Restructuring in Canadian Manufacturing: A Comparison Between the Early 1980s and 1990s*. Draft. Paper presented to the Canadian Employment Research Forum / Statistics Canada joint Conference. Ottawa: Industry, Science and Technology Canada, March 5, 1993.
 - Organisation for Economic Co-operation and Development (OECD). *Employment Outlook*. Paris, 1991.
-

Author

Susan Crompton is with the Labour and Household Surveys Analysis Division of Statistics Canada.

Source

Perspectives on Labour and Income, Spring 1994, Vol. 6, No. 1 (Statistics Canada, Catalogue 75-001E). This is the first of seven articles in the issue.

Appendix

Components of fields of study

Educational, recreational and counselling services

General education; elementary and primary education; secondary education; special education; non-teaching educational fields, counselling services and personal development; physical education, health and recreation; other education.

Fine and applied arts

Fine arts; music; other performing arts; commercial, promotional, graphic and audio-visual arts; creative and design arts; other applied arts.

Humanities and related fields

Classics, classical and dead languages; history; library and records science; mass media studies; English, French and other languages and literature; philosophy; religious studies; other humanities and related fields.

Social sciences and related fields

Anthropology; archaeology; area studies; economics; geography; law and jurisprudence; man and environmental studies; political science; psychology; sociology; social work and social services; war and military studies; other social sciences and related fields.

Commerce, management and business administration

Business and commerce; financial management; industrial management and administration; institutional management and administration; marketing, merchandising, retailing and sales; secretarial science - general fields.

Agricultural and biological sciences and technologies

Agricultural science and technology; animal science technologies; biochemistry, biology and biophysics; botany; household science and related fields; veterinary medicine and science; zoology; other agricultural and biological sciences and technologies.

Engineering and applied sciences

Architecture and architectural engineering; aeronautical and aerospace engineering; biological and chemical engineering; civil engineering; design and systems engineering; electrical and electronic

engineering; industrial engineering; mechanical engineering; mining, metallurgical and petroleum engineering; resources and environmental engineering; engineering science and engineering, n.e.c. (not elsewhere classified); forestry; landscape architecture.

Engineering and applied science technologies and trades

Architectural technology; chemical technology; building technologies; data processing and computer science technology; electronic and electrical technologies; environmental and conservation technologies; general and civil engineering technologies; industrial engineering technologies; mechanical engineering technologies; primary industries and resource processing technologies; transportation technologies; other engineering and applied science technologies, n.e.c.

Health professions, sciences and technologies

Dentistry; general and basic medical science; medical specializations (non-surgical); paraclinical sciences; surgery and surgical specializations; nursing and nursing assistance; optometry; pharmacy and pharmaceutical sciences; public health; rehabilitation medicine; medical laboratory and diagnostic technology and medical treatment technologies; medical equipment and prosthetics; other health professions, sciences and technologies, n.e.c.

Mathematics and physical sciences

Actuarial science; applied mathematics; chemistry; geology and related fields; mathematical statistics and mathematics; metallurgy and materials science; meteorology; oceanography and marine sciences; physics; general science.

Miscellaneous

Upgrading; personal development; recreational activity.

[▶ HIGHLIGHTS](#) [▶ TABLE OF CONTENTS](#) [▶ SUBJECT INDEX](#) [▶ AUTHOR INDEX](#) [▶ FRANÇAIS](#)

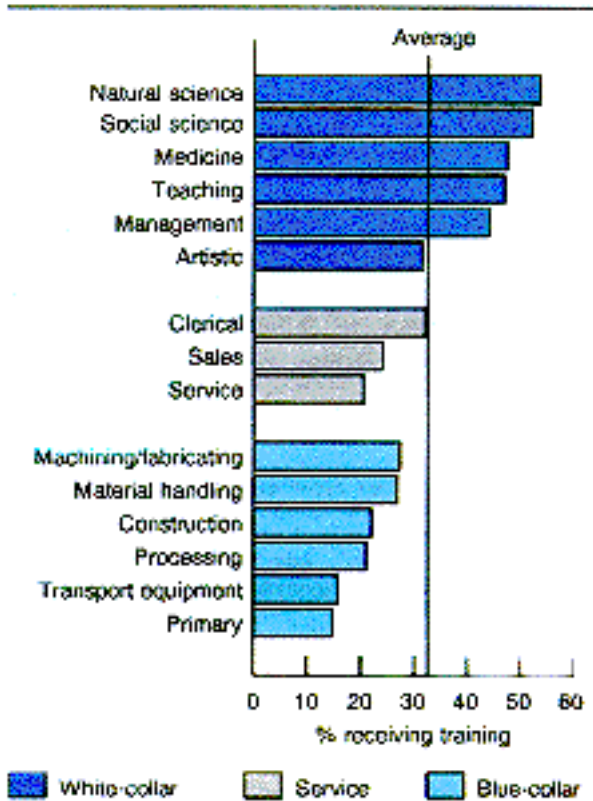
[▶ HELP](#)

[▶ HOME](#)



Chart A

In 1991, workers in white-collar occupations were more likely to receive employer-supported training.*



Source: *Adult Education and Training Survey, 1992*

* Includes all courses, programs and on-the-job training.

Proportion of full time workers taking employer supported training courses, by industry and occupation*

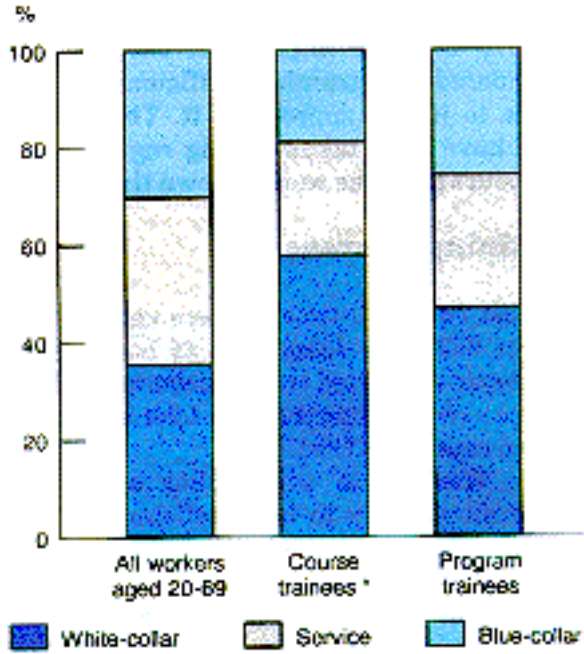
	All course trainees	White collar	Service	Blue collar
	%			
All industries	6.9	11.3	4.6	4.3
Agriculture and other primary industries	5	--	--	--
Manufacturing	7.7	15.3	--	5.7
Transportation, communication and utilities	9.7	17.5	--	7.5
Trade	3.7	7.7	2.8	--
Finance, insurance and real estate	9.8	16.5	6	--
Community services	6.7	8.4	--	--
Business, personal and miscellaneous services	4.9	8.8	--	--
Public administration	13.5	17.7	11.5	--

Source: Adult Education and Training Survey, 1992

** Includes only those who took over 35 hours of training courses in 1991. Estimates for the construction industry are too small to be released separately.*

Chart B

White-collar workers accounted for more than their share of trainees in both courses and programs.

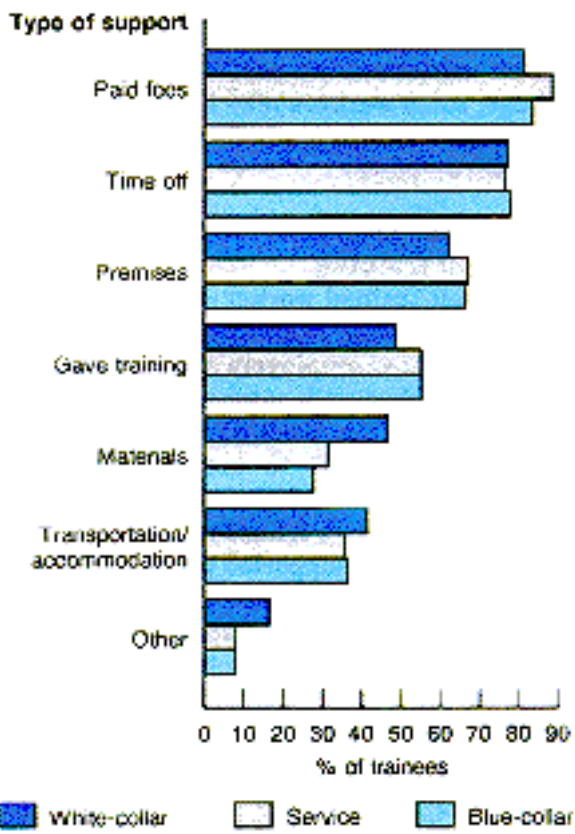


Source: *Adult Education and Training Survey, 1992*

* Workers who took over 35 hours of training courses in 1991.

Chart C

**Employer support of course trainees*
took a variety of forms.**



Source: *Adult Education and Training Survey, 1992*

* Workers who took over 35 hours of training courses in 1991.